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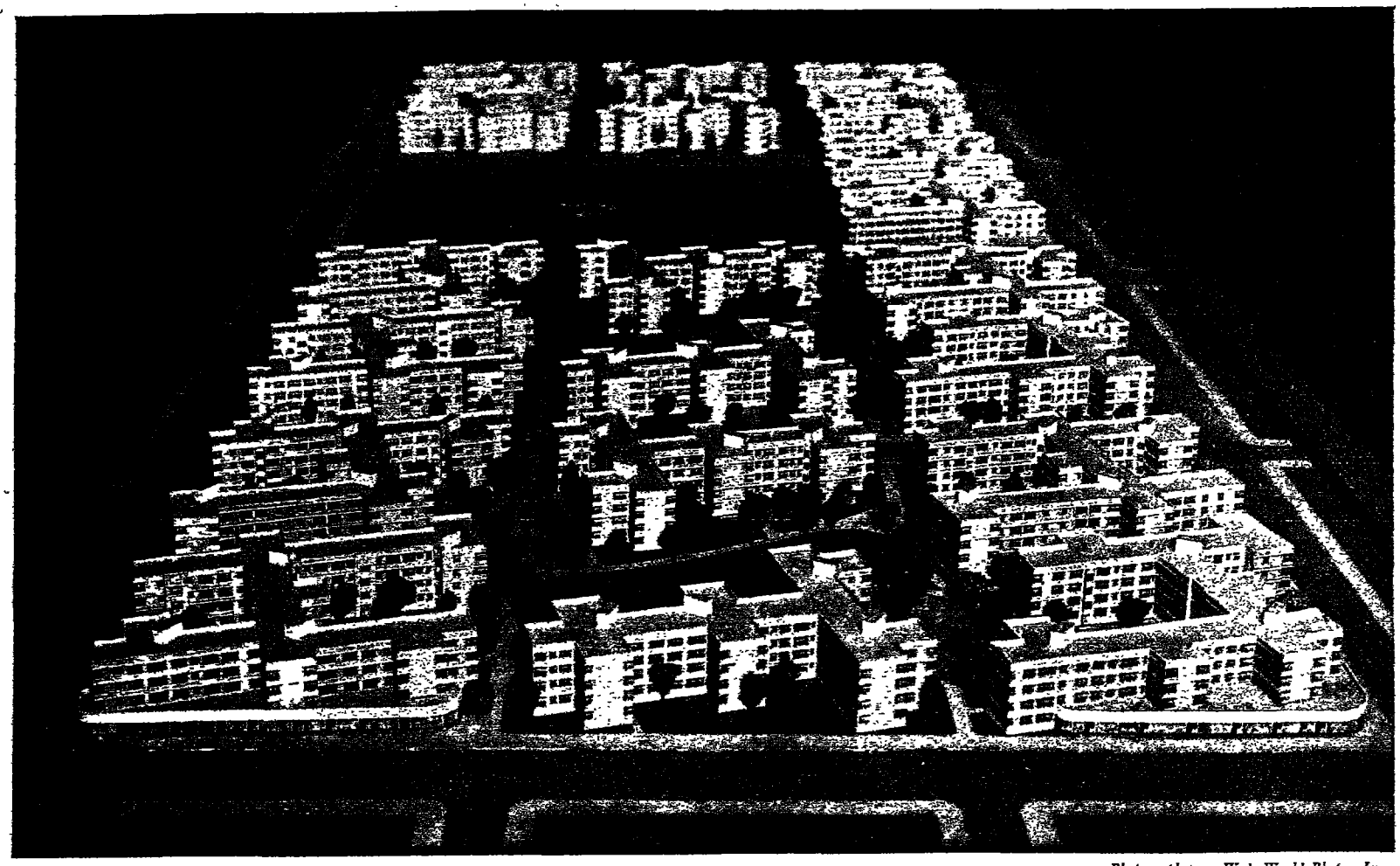
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SLUMS AND HOUSING

VOLUME II

LONDON : HUMPHREY MILFORD
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Model of Ten Eyck Houses, Williamsburg, Federal (PWA) slum-clearance project covering twelve blocks bounded by Bushwick Avenue and Scholes, Maujer, and Leonard Streets, and estimated to cost $12,783,000. View looking west from Bushwick Avenue. See also Figure 131 and Appendix, Pl. 28, A.

SLUMS AND HOUSING

WITH SPECIAL REFERENCE TO NEW YORK CITY

HISTORY · CONDITIONS · POLICY

by

JAMES FORD

with the collaboration of

Katherine Morrow and George N. Thompson

and

AN APPENDIX

MAINLY ARCHITECTURAL

by

I. N. PHELPS STOKES

Prepared and Published under the Auspices of the

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PART IV

ELIMINATION OF PRESENT SLUMS

CHAPTER XXV

DEMOLITION EXISTING PRACTICES IN NEW YORK CITY

NEW YORK is often described as a city continuously in the making, in which comparatively young buildings are ruthlessly destroyed to make way for others of greater height and more modern equipment. This may be true for office buildings, factories, and other commercial structures, but most of its tenements show an astonishing longevity. When it is recalled that of the 82,652 old-law tenements standing in 1900 there yet remain some 67,000, it is easy to see that the process of removal has its difficulties [1]

There are many reasons why old tenement buildings eventually disappear. Sometimes they are so situated that a wave of fashion surges in their direction, as has happened in various parts of the Upper East Side, and they can be replaced profitably with more modern structures. Sometimes the straightening out of kinks in the traffic system of the city, the widening of streets, the construction of bridges, the establishment of parks or playgrounds, or other public improvements in whose path they stand, account for their demolition. Frequently if they are buttressed by solid blocks of similar buildings in all directions they present a distinct neighborhood character, as to economic status and sometimes as to race of tenant, which discourages new construction. The amount of demolition that has been attempted with the deliberate intent of slum clearance is extremely small, and the amount of new construction provided within the means of the displaced tenants even smaller.

Some idea of the rate at which old-law tenements have passed out of existence in recent years can be gained from the table on the following page.

In many a smaller city these figures would be impressive, but in New York they represent a very small degree of improvement.

Without provision for better quarters at nearly the same rents it was perhaps just as well that extensive demolition did not take place, for the old buildings, undesirable though they may be, at least still provide a measure of shelter.

Before the population drop in the districts where old-law tenements are most numerous, these tenements were already old, but they remained because they returned an excellent income on the investment. This investment was often only

1. For detailed figures of decrease in number of old-law tenements, see the annual reports of the Tenement House Department, also *Report of the State Board of Housing*, 1932, table 11, p 13.

a small equity supplemented by an array of mortgages. When population declined and vacancies began to cut into profits, the tenements still held on because there was no alternative. Unless whole blocks were remodelled, a class of tenants which could pay the increased rentals necessary to yield the desired profits could not be permanently attracted. Owners could sometimes be goaded by city departments into making minor changes in the interest of safety, but this was about the limit of activity. So a kind of paralysis developed, relieved only by the bringing forward of elaborate rehousing schemes, none of which have as yet come to fruition.

DEMOLITION OF OLD-LAW TENEMENTS: MANHATTAN [1]

Year	No of buildings	No of apartments
1918	55	493
1919	183	1,442
1920	167	1,349
1921	67	488
1922	147	1,163
1923	81	587
1924	356	2,889
1925	441	3,733
1926	417	3,811
1927	470	4,620
1928	550	5,334
1929	467	5,191
1930	665	7,580
1931	311	3,355
1932	145	1,562
1933	175	2,467
1934	334	3,934
1935 (to October 1)	275	3,168

In the exercise of its police power the city may raze old tenements that are unsafe or uninhabitable, but in fact it seldom does so. Specific authority for the municipal officials to step in and condemn buildings is to be found in the City Charter and in the Building Code and Tenement House Act.

Sections 1299 and 1300 of the Charter grant power to the Board of Health, which has been succeeded in jurisdiction over tenements by the Tenement House Department, to deal with buildings unfit for human habitation or in an insanitary condition. This power extends to complete destruction of the building, but only with proper compensation to the owner. In other words, an exercise of the police power, which ordinarily does not involve compensation, is coupled with definite requirements for payment. Three methods are provided for — fair rental value, value if put in condition less cost of repairs, and value of materials in the

1. Reports and records of Tenement House Department, 1918–1935.

building - the choice depending on the degree of dilapidation and the possibilities of repair.

Exercise of this power was early discouraged by an adverse decision [1] in which it was held that a building cannot be ordered torn down unless its destruction is the only method by which the nuisance can be abated, and that a building may not be ordered demolished if its unfit condition can be abated in any other way than by its destruction. The report of the Tenement House Department for 1902–1903 states that "The decision of the Court of Appeals in the Dassori case has made it unwise for the department to take steps looking toward the destruction of such houses. The vacation of the buildings is all that can be expected." [2]

This power to vacate is an effective weapon in the hands of an energetic Tenement House Commissioner, but its exercise has been hesitant in the hands of some and has met with further legal impediments. It is also a power that must be used with discretion, particularly in times of housing shortage.

The contrast between New York practice and English practice in ordinary demolition is one so striking that it cannot be passed by. In New York, demolition can be ordered only under considerable difficulties, and then only with compensation to the owner; in England, demolition appears to be brought about with a minimum of difficulty and friction, and no compensation is required if the building is judged by the public authorities to be unfit for human habitation.

Unsafe buildings may be destroyed by the Building Department acting in accordance with the Building Code.[3] The procedure is as follows:

1. An employee of the Building Department reports the building unsafe.

2. The building is entered upon a docket of unsafe buildings and the owner or other person interested is notified to make the building safe or remove it.

3. If the owner consents to act, he must start within twenty-four hours and proceed expeditiously.

4. If the owner refuses or neglects to act, a board of survey is appointed to inspect and report on the condition of the building.

5. If the report of the board of survey finds the building unsafe or dangerous the report is taken to the appropriate court and trial held without delay.

6. If the court finds the building unsafe or dangerous, the superintendent of buildings is directed to correct the condition, or the owner may do so if he acts at once.

7. The superintendent of buildings keeps track of the expense if he does the job himself, and a judgment for the amount is secured against the owner.

1. Health Department *v.* Dassori, 21 App. Div. 348, 47 New York. This also quotes from a previous case (Myers *v.* Gemmel, 10 Barb. 537). "In this country the right of one owner of property to have light and air for his buildings is not recognized, except as it comes to exist by express contract" Older concepts such as this have happily changed.

2. *First Report of the Tenement House Department*, I, 41.

3. See sections 631–638.

8. In case of actual and immediate danger, the superintendent of buildings is empowered to vacate the building and make it temporarily safe pending the usual action.

To those impatient for drastic slum clearance this may seem an elaborate and involved procedure. However, it has apparently been deemed satisfactory, for in the proposed new building code, sponsored by the Merchants' Association, the provisions are incorporated unchanged. Although it may not lend itself to widespread slum clearance, it must be remembered that a building code is not prepared as an instrument for such activity, its function being to provide primarily for safety rather than social betterment.

The Multiple Dwelling Law, administered by the Tenement House Department (so far as existing buildings are concerned), devotes a section [1] to the question of buildings dangerous to life or health. The power to "remove" buildings is included Procedure is as follows:

1. The Department determines that the building or some feature of it is dangerous to life or health.

2. Orders are issued to correct the condition.

3. If after twenty-one days the order is not complied with, the Department may do the work itself and the expense may be a lien on the property.

In addition, the Department has authority to vacate (though not to demolish) any dwelling under its jurisdiction that is in a condition contrary to law.[2]

As already indicated, the power to demolish was weakened early in the history of the Tenement House Department, which fell back on its power to vacate as more acceptable. The same is true of the Health Department, which still has jurisdiction over one- and two-family dwellings.

It is clear that unless some new principle is introduced, little is to be expected from application of the police power in getting rid of unsafe and insanitary buildings. The extent of activities possible under this power is frequently misunderstood. There are other reasons why local officials are moved to caution in exercise of their power, as a recent publication [3] has pointed out.

> Unless the building inspector can make a clear case of actual physical danger or health hazard, he may be subject to a judgment for damages for which he personally (and not the city) will be liable It is not fair to ask him to attempt to stretch his legal powers to a point where he runs this risk.

So much for the purely legalistic phase of demolition. To those impatient for clearing away outmoded structures with certainty and dispatch, it appears to be

1. Section 309.
2. Section 302.
3 *Demolition of Unsafe and Insanitary Housing*, publication of National Association of Housing Officials, April, 1934.

a phase characterized by too many niceties and offering too many loopholes for recalcitrant property owners. Yet it is an outgrowth of typical Anglo-Saxon solicitude for absolute fairness to all parties and guarantees against arbitrary action. It is entirely possible that changing public opinion, to which legislatures and the courts are always sensitive, will eventually make provision for more decisive procedure. Until this is done there is no alternative for public officials but that of following out the method laid down for them.

There is, however, a possibility of negotiating voluntary agreements with owners through which old structures may be removed, and there are other ways of clearing away structures that are at least socially undesirable. Methods having some promise of success have been examined in detail.[1] Included in these is a novel procedure calculated to bring about some progress, which was inaugurated by the Tenement House Department in 1934. With many of the tenements in a state of advanced dilapidation and bringing in little, if any, return, their owners were disposed to listen sympathetically to proposals that would reduce their expenses. Such proposals were worked out in a form offering free demolition and a reduction in taxes on the building amounting to as much as 75 per cent in return for permission to demolish the offending structures. It was possible to do this because of the existence of a large reservoir of workers paid out of Federal funds by the Civil Works Administration and the Emergency Relief Administration.

Bids were invited from second-hand dealers for the material in the buildings, and the amounts received were turned in to the city treasury. Crews of workers under skilled house-wreckers were put to work demolishing the structures. Altogether, voluntary agreements of this nature were made leading to the removal of some 155 buildings up to the latter part of 1934. Some owners agreed to permit the land thus made vacant to be used for playground purposes until it was needed for new construction.

A recapitulation of accomplishments appearing in the press was as follows:[2]

Area	No of projects	No of buildings	No of dwelling units
Downtown	3	13	187
Greenwich Village	3	8	54
Lower East Side	25	63	566
Hell's Kitchen	9	28	230
Harlem	6	21	82
East River, 14th to 94th Street	4	16	154
Brooklyn	2	5	59
Hudson River, 72nd Street	1	1	...
Total	53	155	1,332

1 See *ibid.*

2. In the *Housing Officials' Year Book, 1935*, published by the National Association of Housing Officials, Mr. Charles Abrams, counsel of the New York City Housing Authority,

According to information released by the New York Housing Authority, fourteen of the buildings were schools, factories, warehouses, and other non-residential structures.

This arrangement had a quality of freshness and originality, which had not been evident for some time, in dealing with the problem of old buildings. It was possible, however, only because the expense of tearing down the buildings was absorbed by the Federal Government. Ordinarily the labor cost of doing this would exceed the salvage value of the materials. The net effects were also rather limited and scattered, owing to the chance element of whether or not owners chose to fall in with the procedure. A natural consequence was that some bad buildings were eliminated in neighborhoods where ones in worse condition were permitted to remain.

Demolition costs vary considerably, being influenced by character of construction, current value of salvaged materials, and other factors. In the study entitled *The Rebuilding of Blighted Areas*, issued by the Regional Plan Association in 1933, demolition costs were estimated at one cent per cubic foot. This was for scattered buildings in an outlying district that contained a mixture of single and multi-family dwellings and small commercial occupancies. Estimates for Rutgerstown (Figure 146b and Appendix Plate 20-B), a proposed large development on the Lower East Side, contained a figure of $600,000 for demolition in a total cost for the project of $45,500,000. This would be less than 1½ per cent. It is reported also that demolition of buildings on the two blocks now covered by Knickerbocker Village (Figure 128 and Appendix Plate 24-C) cost $34,000 over such salvage of materials as was possible.

The wiping out of old tenements which has taken place for the above reasons has been uneven in its effects. Some new structures have obliterated all evidence of their predecessors. Other clearance presents an untidy appearance on widened thoroughfares or has left gashes and raw wounds where buildings are only partly demolished. Some clearance has left open lots awaiting the time when a new use will develop. In other cases, disappearance of old tenements has not been clearance at all, but represents a conversion to a use other than that of a tenement.

Public improvements have played a large part in demolition. Such comparatively recent ones as the Holland Tunnel, the Midtown Tunnel, the improvement of the New York Central Railroad on the West Side, and the Triborough Bridge have produced significant results. Street widenings such as the Chrystie-Forsyth [1]

states that arrangements had been completed with owners to demolish more than 600 sub-standard buildings and that about 400 had already been taken down

1. The Chrystie-Forsyth widening was expected to produce significant results in slum clearance and low-rental housing It accomplished the former but contributed nothing to the

and the Allen Street [1] projects have added to the total. Subway extensions and other miscellaneous activities have also had their effect.

The construction of the Holland Tunnel involved considerable clearance, which had to be carried out to provide adequate means of entrance and exit. Streets were widened and property acquired in the vicinity of Canal Street and Sixth Avenue. The number of tenements, however, was not large.

In the case of the Midtown Tunnel, considerable clearance was involved. A new street, extending from 34th to 42nd Street between Ninth and Tenth Avenues, and ample plaza space to prevent choking of traffic at the end of the Tunnel, required the taking of ninety-one tenements housing 949 families. This is real slum clearance, for many of the buildings are old-style tenement houses located in the Hell's Kitchen area of the city.[2]

The New York Central project is part of an extensive programme to improve the West Side by removing dangerous tracks at grade level, either carrying them on an elevated structure or covering them over, from northern Manhattan to Canal Street. Both unsightly and a menace to safety, yet essential to the commercial and industrial life of the city, the tracks skirting Riverside Park and running through the roadbed of Eleventh Avenue and other downtown streets at grade have long offered a problem in city planning. Their rearrangement has required the purchase of tenements, many of them of the oldest type. Here again is an instance of how public improvements planned for an altogether different purpose have been instrumental in removing more obsolete dwellings than have yet been taken out of existence by any direct attack in the way of slum clearance.

Canal Street is also the terminus of another improvement known as the Miller Highway, an elevated roadway that will eventually provide uninterrupted travel beyond the northern limits of Manhattan. Because of its extreme westerly location along the wharves, the path of this improvement has not intercepted any tenement property.

Most recent of large public works is the Triborough Bridge, which is designed to link together Manhattan, Queens and the Bronx. Started and then stopped because of lack of funds, it has been revived through Federal aid and is now on the

latter. Contemporary discussions include articles as follows: "Chrystie and Forsyth Street Plan Linked with Housing," *Building Investment*, September 1928, pp. 11–13, 48, "Land Condemned for Forsyth-Chrystie Street Improvement," as printed in the *City Record, Real Estate News*, July 1929, pp 18–31; "Widening of Forsyth and Chrystie Streets," *Real Estate News*, October 1927, pp. 8–9; and an article by Arthur C. Holden in *Real Estate Record and Builders' Guide*, May 20, 1933, pp. 7–9

The Allen Street widening cut a swath from Delancey Street to Houston Street, a distance of three blocks, along the easterly side of Allen Street It left exposed the ends of buildings on Orchard Street Condemnation cost the city about twice the assessed valuation See "Complete Facts About the Allen Street Assessment," *Real Estate News*, November 1928, pp 9–10; also "Chamber Wins Great Allen Street Victory," *East Side Chamber News*, October 1929, pp 5–7.

As with much other slum clearance, little or no improvement occurred for the inhabitants of the buildings that were demolished These were reported to have settled down for the most part in similar structures in the same general neighborhood

way to completion. Like most bridges, its approaches have demanded the sacrifice of a number of buildings, including tenements. A predecessor, the George Washington Bridge, was responsible for the demolition of twenty apartment houses containing 663 apartments on the New York side of the river.

In reporting to Governor Smith in 1926, the Commission of Housing and Regional Planning was under no illusions as to speedy results in doing away with old tenements. "No substantial improvement," it said, "of conditions here described is possible for many years to come." It went on to trace the progress of demolition since 1909 and estimated that if the rate prevailing in 1911, the year of greatest decrease, were maintained, it would take more than sixty years to rid the city of old-law tenements. If the average of the years 1909 to 1925 were used it would take 138 years. In confirmation of the remarkable staying powers of old tenements, it looked up the status in 1926 of twenty-three tenement structures each covering 100 per cent of the lot, which had been mentioned forty years before by the Commission of 1885. Of the twenty-three buildings, fourteen were still occupied wholly or partially for residential purposes in 1926.[1]

The Commission faced this record courageously and went ahead with the development of a plan that might be expected to accelerate the process of clearance. Although its programme was materially weakened in the form finally passed by the legislature, a distinct step forward was taken by setting up a State Board of Housing empowered to approve and supervise limited-dividend projects enjoying partial tax exemption. Great hopes were entertained for this scheme and a number of markedly superior housing projects resulted, but again only a limited amount of slum demolition took place.

The projects coming under the supervision of the Board are treated most conveniently under two headings, those completed prior to the emergency laws making Federal funds available, and those receiving such funds.[2]

In the first group there were eleven projects, of which five were erected in outlying territory and involved no clearance. Of the remainder, one, the Amalgamated Dwellings (Figure 124 and Appendix Plate 19-A) on the East Side, was erected on the site of an old printing establishment, and five were responsible for actual removal of old tenements, three projects being in Manhattan and two in Brooklyn. All of these five did accomplish a substantial amount of clearance of dilapidated buildings.

Of the three projects under the jurisdiction of the State Board of Housing that have been financed with Federal funds, two involved no clearance. The remain-

1 State of New York, *Message from the Governor transmitting Report of the Commission of Housing and Regional Planning for Permanent Relief*, 1926, pp. 25–28

2 Facts concerning these projects are presented in detail in the annual reports of the Board.

ing one, Knickerbocker Village, removed two blocks of tenements whose unenviable reputation had made them famous in the annals of New York housing. In 1900 this area had a population of 3,688 and 241 cases of tuberculosis. The same buildings were still standing, somewhat improved in internal arrangements, in 1933. Today they are gone. Here was slum clearance as distinguished from low-cost housing.

Private operations have played an inconsiderable part in the reduction in old buildings. Projects representative of limited-dividend or semi-philanthropic activities are those of the Metropolitan Life Insurance Company (Figure 144a and Appendix Plate 16-B), the Dunbar Apartments (Figure 138 and Appendix Plate 18-B) financed by John D. Rockefeller, Jr., the Lavanburg Homes (Appendix Plate 29-F), and the buildings of the City and Suburban Homes Company (Figures 119 and 120 and Appendix Plates 7-C, 7-D, 9-A, 13-A, 13-B, and 15-B). The first, comprising fifty-four buildings to accommodate 9,000 persons, was put upon vacant land and represented low-cost housing rather than slum clearance. The second, covering the entire block bounded by Seventh and Eighth Avenues and West 149th and West 150th Streets, also involved no demolition of slum buildings. Lavanburg Homes replaced a row of old "dumb-bell" tenements. The activities of the City and Suburban Homes Company cover a wide range in time and space. It has been in existence for thirty-nine years and today manages a total of 3,540 apartments, practically all being in the true low-rental class. Yet here again the amount of slum clearance preceding erection of its buildings has been negligible.[1]

The development known as Tudor City is perhaps the most conspicuous example of demolition of old tenements by private enterprise. In the area between 40th and 44th Streets from First to Second Avenue, over three blocks of buildings, in large part old tenements, have been cleared and replaced with modern apartments fronting on private parks. Clearance was literal in that not only buildings but also the tenants were displaced, because the new buildings had a rental scale based frankly on commercial considerations. A development in somewhat the same rental class, London Terrace, also resulted in the destruction of the block of buildings, largely dwellings, between 23rd and 24th Streets and Ninth and Tenth Avenues on the West Side. Here, however, the buildings destroyed had little against them structurally, being low and shallow. They were not slums. Miscellaneous commercial projects in other parts of the city have been responsible for much slum demolition, almost invariably with the substitution of modern

1. This statement is based on information secured from the Company. In certain cases where properties were purchased rather than built, slum clearance may have been involved.

buildings at much higher rentals. Another form of commercial activity that will be discussed at some length elsewhere, that of remodeling,[1] has concealed, if it has not destroyed, a variety of former tenements.

Taken in the aggregate, the destruction of old tenements accomplished by all the methods described has been small in comparison with the great number that remain. Moreover, in the majority of cases the former tenants have been driven deeper into slum areas or have overflowed, creating new ones. No real solution of the problem is accomplished without providing decent quarters for each family dispossessed by demolition. There are in effect two problems involved. One is to accelerate the process of destruction; the other is to keep pace in the matter of substitution.

There is a possibility that toleration of the old buildings will lead to another situation such as prevailed during the pre-War and post-War years. As then, the amount of new residential construction has dropped to a negligible figure for a number of years. Meanwhile there has been until recently a steady increase in population. That this has not been reflected in diminished vacancies, particularly in low-rental apartments, is probably due, at least in part, to doubling up of families and to families leaving the city, temporarily disillusioned about the advantages of urban life. The Commission on Housing and Regional Planning of 1925 records the first stages of this process:

> ... In the year 1916 families began to crowd back into old-law tenements which up to that time were being gradually abandoned as they became unfit for human habitation. Under pressure of increasing rents this movement continued through the following years until in 1921 practically every inch of available dwelling space, regardless of character or fitness was occupied in New York City. ... It was the return of these hitherto abandoned tenements and the crowding of families into them in recent years which justified the verdict of the Tenement House Department that housing progress in New York City has been set back 25 years.[2]

The obvious way to prevent a recurrence of this situation is to bring about drastic removal of sub-standard structures. The way to do this is not so obvious. In England, mild success has been had with a procedure in which no compensation is paid owners for sub-standard buildings in so-called "clearance areas." Even prices for land are held down to those paid for sites for low-cost housing, if the land is actually to be used for that purpose. Another suggestion which has been advanced is called "time zoning";[3] it provides for licensing owners of land so that they may erect buildings for a given period, the buildings to be torn down at

1. See Chapter XXVIII
2. State of New York, *Message from the Governor transmitting Report of the Commission of Housing and Regional Planning for Permanent Relief*, 1926, p. 28.
3. See K Lönberg-Holm, "Time Zoning as a Preventive of Blighted Areas," *Real Estate Record and Builders' Guide*, June 24, 1933, p. 6.

the end of this period if they are deemed a nuisance. Neither of these remedies is likely to meet with favor in the courts, nor are they such as to produce an immediate effect on the situation. They do point, however, to the plain conclusion that if any permanent solution is to be effected of the troublesome problem involved in getting rid of old buildings, our structure of law must be reexamined in the light of the public conscience today. Changes must be effected in an orderly and constitutional way that will recognize the paramount interest of the public when slum demolition is clearly in the public interest. Broadly speaking, the nature of these changes may take the form of automatic depreciation of buildings with age, so far as their value in condemnation proceedings for the purpose of slum clearance is concerned. With a legally adopted scale, known in advance of building, owners would have no reason for failing to apply ordinary business methods in writing off the cost of their buildings within a reasonable time, thus being fully prepared for what, under other circumstances, might appear to be confiscatory measures.

CHAPTER XXVI

LAND ACQUISITION, APPRAISAL, AND CONDEMNATION

THERE is general agreement that getting the land for a low-rental housing project presents one of the most difficult phases of a problem of which no phase is easy. Accurate knowledge of values, coupled with fairness and good judgment, frequently accomplishes the desired result, but there is a different cycle that often appears. It begins with the determination of sincere and high-minded people that squalid quarters have no place in our modern scheme of life and that they should be displaced by modern sanitary buildings. A programme is drawn up involving the use of private or public funds. Overtures are made for the purchase of land, either underlying the sub-standard buildings or in some more remote location.

Frequently those in charge of the programme have little experience with real-estate transactions. They encounter immediately all sorts of reactions from the owners of the desired properties. Some of these owners welcome the proposed change and endeavor to cooperate in fixing what they believe to be a fair value. Others manifest no desire to sell, perhaps because they are deriving a substantial income from the property concerned, or have some sentimental attachment for it, or are skeptical of the soundness of the new scheme. Still others enter the picture as speculators, buying up land quietly in anticipation of turning it over at a good profit.

As the negotiations continue, there is apt to be disillusionment and bitterness on both sides. The sponsors of improved housing gain the conviction, often justified, that they are being made the victims of extortionate demands that jeopardize the success of the whole project. They recognize that some at least of the owners lack social vision and are governed by considerations of selfishness. Public announcements to this effect are made that do not help matters. Owners retort that the promoters of the new housing insist on losses which they themselves would not consent to if the positions were reversed. They feel that a campaign of public disparagement of their holdings is unfair. They question the sincerity of their accusers.

All this is, of course, unfortunate, for it starts off a project in an atmosphere of contention that may not subside for a long time and may prevent united

public support of an important movement for social betterment. The search for a method of compensation that will command universal respect is, therefore, of more than academic interest.

At best, the process of land acquisition is slow. The multiplicity of holdings to be acquired in connection with large projects, complicated as they are by the necessity of unraveling the respective interests of owners, lessors, mortgagees, and others, produces a situation requiring considerable time to solve. A strategy of concealing intentions as to particular areas and of threatening to buy elsewhere if prices go up too much is sometimes developed so convincingly as to outwit the inevitable ambitions of speculators. Federal operations have been conducted with considerable skill, but they have been found to require much time.[1]

Acquisition may proceed more smoothly in localities where land values are relatively low. In cities like New York difficulties are intensified. An impression has grown up in the city that land values must go on rising as population increases and that the surest and safest way to make a large increase in capital investment is to acquire real property and hold on to it. This impression has a powerful effect on the behavior of owners and is reflected in the high prices asked for properties which are in an advanced state of deterioration. There is little use in railing at such an attitude. The surest way to destroy it is to prove it to be ill advised, if it is so.

A glance at history will show that immense profits have been made in land speculation, but not always by those who thought they were going to obtain them. New York land history is a record of successive periods of speculative activity followed by eras of depression and penitence. In view of what is said about excessive land subdivision on the borders of cities today, the following quotations from the *Regional Survey of New York and its Environs*[2] are of interest. In 1837, "for miles beyond New York the ground had been laid out in building lots which have lately during the land mania been bought, and sold for absurd sums. Streets have been marked out ten miles from the present center of the city."

There are analogies in the period after the Civil War to the experiences of the past few years. In 1888 there were vast public works under way. Morningside and Riverside Parks were in process. An era of speculation developed in lots on the Upper East and West Sides. "As early as 1867 the multitude commenced buying lots, calculating the prospective profits by a golden arithmetic which quite

1. "Our experience has been that land accumulation, even with the aid of Federal condemnation, requires from four months in smaller cities to seven months in the larger centers. Condemnation proceedings are usually friendly. The policy of acquiring land through eminent domain is followed only in exceptional cases, principally to terminate any attempted speculation." "How the P. W. A. Housing Division Functions," *Architectural Record*, March 1933, pp. 148–167.

2. II, 56, citing statement by Joseph Biggs of Leicester, England.

displaced the less promising method of business reckoning. . . . The boom of 1868 and the following years were not an investor's market. It was purely speculative."

"Between 1868 and 1873 it is safe to estimate that the value of vacant property north of 59th Street seemingly increased fully 200% and in many cases 300% and 400%."

In the fall of 1874 the inevitable process of liquidation began and continued for fully three years. "For a time there was really no market by which one could discover the plane of prices. There was an avalanche of foreclosing proceedings."[1]

The bottom was reached in 1877. With vast accumulations of funds in banks and other financial institutions and with the development of the elevated railways, a great building movement began again, with speculative builders putting up long rows of tenements and brownstone residences.

Dr. G. B. L. Arner has made a detailed study of the gains and losses experienced in holding land over long periods in New York City.[2] When interest on the investment, taxes, special assessments, and other expenses are taken into consideration, such costs prove to exceed profits in the majority of cases where the land remains vacant. The study offers valuable information to those who may entertain the idea that investment in land in New York City without further improvement is a profitable venture. With suitable improvements, properly maintained on one's own and neighboring properties, the increments of land values occasioned by population growth and demand may become a profit to the owner.

The tradition of ever-increasing land values has been supported until recent times by total assessment figures. When the record of assessments in particular areas is examined an uneven increase is observed.

Separate assessments for land and buildings are available for New York City since 1904. They represent in the aggregate for the whole city a picture of slow growth, followed by a period of spectacular increases, the limit of which has, at least for the moment, been reached. In 1904, land values were well over the three and a half billion mark, and by 1906 four billions had been reached. There followed a long interval during which total land assessments increased slightly at times and decreased at others. It was not until 1923 that the five billion mark was passed. From then on the pace was swift. Only three years were needed to add another billion, in contrast to the seventeen years necessary for a similar increase just before. Between 1926 and 1927 nearly another billion was added. In 1931 the peak of over nine billion was reached, whereupon there commenced the decline that is still in evidence. In the period of eight years between 1923 and 1931 nearly

1. "A History of Real Estate, Building and Architecture in New York City," published by *Real Estate Record and Builders' Guide*, 1894.

2. "Land Values in New York City," *Quarterly Journal of Economics*, August 1922.

two and one-half times as much increase was registered as in the period of nineteen years between 1904 and 1923.

This was for the city as a whole. The boroughs responded differently to the various stimuli that were causing the increase. Between 1904 and 1932, total land values in Manhattan increased 86 per cent, a surprisingly low figure considering the great number of high buildings erected during this period. Brooklyn registered a gain of 273 per cent during the same time, Bronx 299 per cent, Queens 1156 per cent, and Richmond 596 per cent. The spectacular increases shown by previously underdeveloped districts, aided by improvements in rapid transit, are no more worthy of note than the fact that land values in fully developed territory increased very slowly for the district as a whole even though influenced by extraordinary developments in building size and height.

Throughout the period from 1904 to 1932 the region known as the Lower East Side retained to a large extent a residential character which was generally and somewhat loosely described as that of a slum. Its tall and cheerless tenements were fed by a stream of immigration during the first half of this period so that they seldom lacked tenants. In later years this stream has been greatly reduced and many of the more enterprising of its population have moved to other parts of the city. There is value in breaking down the general figures already given to see what was happening in this area. The fluctuations were remarkable. From a total of about $153,000,000 in 1904, values shot up to $187,000,000 in 1912, dropped precipitately to $148,000,000 in 1919, and climbed back to $169,000,000 in 1929.[1] In 1933 they had receded to $145,000,000 or less than the values of 1904. There were various reasons for this that will be discussed later.

It is of interest to take a typical "slum" block, composed almost entirely of tenements, and compare the land values as recorded by assessments of different years. The block chosen is that on the Lower East Side bounded by Pitt, Rivington, Stanton, and Willett Streets. It is 80,000 sq. ft. in area and the buildings have a coverage of about 77 per cent. In 1903 the assessed value of the land was $584,500. Ten years later, this had risen to $700,500. In 1923 there had occurred a drop to $504,000 and in 1933 there was shown a slight recovery to $544,500. This, however, was still well below the value thirty years earlier.

Today, Lower East Side assessments on land[2] are as low as $2 per sq. ft. for occasional areas near the waterfront, but $5 or $6 is common, and values even higher appear here and there. Lower West Side values start at about the $4 mark and increase to the northward. East Harlem values have a low of about $2.60,

1. The figures are taken from charts prepared by Joseph Platzker, Secretary of the East Side Chamber of Commerce, and published in an article entitled "Land Values and Land Uses," *East Side Chamber News*, February 1933

2. See Figure 93d.

with $5 as perhaps the general average. Harlem shows about the same condition. In virtually all cases values along the avenues are much greater than those on the streets.

Outside of Manhattan assessed values are much less. The Navy Yard District in Brooklyn shows figures around $1.50, Greenpoint $1 or even less. There are sections of Queens where values trail off to 15 cents and of Richmond where they are even lower.[1]

Market values are not easy to establish. It is true that daily news of sales, auctions, and other real estate transactions is available, but it does not furnish a clear picture of prices paid by a willing buyer. It is rather through the lore of the experienced dealer and by indirect means that market values are ascertained. In previous periods they have run well ahead of assessments, perhaps to the extent of 25 per cent as a general average, but currently they seem to lie close to the assessment figures. The present inactivity of the real-estate market offers little chance to form conclusive judgment on this relationship, since the few sales that are made are more likely to reflect distress conditions than a free market between buyer and seller.

Some of the factors that influence values are to be clearly discerned and others are not so plain. New York City's rise as the principal municipality on the continent has already been told.[2] Its harbor, its favorable position with respect to trade routes first by canal and then by railroad, and its reputation as the center of keenest business activity and of stimulating culture have all contributed toward building up a pressure on land use that has produced values. More particularly, however, there have been developments that have caused land used for housing to fluctuate in value. Immigration, rapid transit, and the existence of industries in certain areas have played prominent parts.

It is common knowledge that values in tenement sections were built up on housing large numbers of people of small means whose aggregate rentals amounted to very good returns on the investment. A statement of an experienced builder quoted in *The Tenement House Problem* by DeForest and Veiller shows that in 1900 a newly erected, typical old-law tenement might be expected to earn 12 per cent on the owner's equity when the land cost was taken as $8 a sq. ft. This was for an average location on the East Side where immigrants foregathered.[3]

Immigration to this country has shrunk from its high level of 1,285,349 in 1907, a figure very nearly repeated in 1914, to an actual excess of emigrants over immigrants amounting to 67,719 in 1932 — a very definite ebbing of the tide.[4]

1 The values are taken from the *Tentative Land Value Maps of the City of New York, 1934*. Slight changes are sometimes made in final assessments

2. See Part I. 3. I, 379–382.

4 *Annual Report*, Bureau of Immigration, Department of Labor, 1932

Whereas 315,510 entering at all other ports gave New York State as their intended permanent residence in 1905, a year when 788,219 additional arrived at the Port of New York, only 12,200 were so accounted for in 1932. There may be some slight increase in the future with better economic conditions, but quota restrictions have apparently become a fixed policy of the Federal Government and will operate to make the problem of housing the immigrant a minor one. However, the experience of foreign countries having a homogeneous population demonstrates that this will not solve the slum problem.

Without these constant accretions of people who were not accustomed to high living standards, and with increasing age of buildings, the inevitable has occurred. Returns to the owner have diminished, vacancies have increased, and without the support of profitable improvements land values have become uncertain. This is the general picture, but there are still numerous cases where old-law tenements show generous returns on equities even in these times. The process of degeneration is slow, but is apparently inevitable unless new and more suitable uses can be found for the land.

There is another form of immigration, that of Negroes from the South. Unlike foreign immigration, it has not been affected by quota restrictions, and the shadow of race prejudice and other factors tend to limit much of it to rather well defined areas of settlement.

Overcrowding, exploitation by landlords, and other causes tend to hold up land values. Median rentals in Harlem (which include many apartment houses in addition to the tenements of the wage-earning group) for 1930 stood at $56.85 per month as compared with $22.47 for the Lower East Side.[1] With no artificial restrictions on the supply of population, a situation is created very different from that in the fast-emptying tenements of the Lower East Side. Land values are not exposed to the same process of undercutting through gradual disappearance of population and the improvements by which they were sustained.

Immigrants were able to settle in the East Side and other sections because there was a demand for unskilled and semi-skilled labor within comparatively short distances. With the introduction of mechanical devices that minimize the need for unskilled labor and with the unionization of semi-skilled trades, the character of tenants suited to a given neighborhood has changed. Fred F. French, builder and real-estate developer, is apparently convinced that the East Side is potentially a logical neighborhood for white-collar workers and is staking whatever investment he has in Knickerbocker Village on this assumption. The point, so far as land values are concerned, is that without an accurate forecast of the

1 New York Building Congress, *Research Bulletin*, No 1, June 1933.

suitability of a certain area for the income group that most logically is destined to live there, estimates of land values are apt to be considerably in error. Present estimates of values are not necessarily affected by this, but it leaves some justification for owners to entertain hopes of a new use of their land and hence to display reluctance to fall in with assertions that their property is in the midst of a permanent decline.

A mere glance at maps of population distribution in conjunction with transit facilities is sufficient to establish the point that people have been sucked out of the center of the city toward the outskirts. Quantitative proof is furnished by the Cities Census Committee,[1] whose statistics show a constantly decreasing percentage of the city's population in the region within four miles of City Hall; a decline from 53.76 per cent in 1905 to 22.19 per cent in 1930. There has been a decrease not only in relative percentage but also in absolute numbers, bringing the population in the given area down from 2,157,934 in the former year to 1,537,652 in the latter.

Mention has been made of the coming of the elevated railroads about 1878 1880 and their connection with land booms. That the opening of subways in the early part of this century was responsible for much real-estate activity and gains in values is familiar to us today.[2] With over 90 per cent of the city's population ranged within one half mile of its rapid transit lines there is little wonder that this is so.

There remains the acute question of whether further transit lines should be provided at public expense or whether the existing public utilities in deteriorated areas should be used to their full capacity through provision of new housing. It is by no means certain that a reversal of the decentralization trend could not be accomplished if it were held desirable and that as a result land values that are now receding might be sustained. This is not to say that they should be sustained, but rather to point out that predictions of further recession offered with some assurance today may be wrong.

European experts, such as Sir Raymond Unwin, have studied our land-value problem with the detachment possible in those from other countries, and have sensed a change in the upward rush toward even greater land values. They point out that in older countries like England land has ceased to be regarded from the speculative angle and is looked upon as having interest chiefly as a source of steady but moderate return on the investment.[3] They note our reduced immigration, the slowing up in our rate of population increase, and other factors that

1 Laidlaw, *Population of the City of New York, 1890–1930*, p 234.

2. The commonly accepted view that rapid transit creates new values in its path is disputed by E. H Spengler in his book, *Land Values and Transportation*

3 Not all accounts agree on this There is considerable evidence that the disposition to make a good profit from the resale of land has not been eradicated

seem to indicate only disappointment for extravagant hopes of further appreciation in values.

There is also an increasing group that questions whether exploitation of land by permitting an ever-increasing density of population is a process that can or should continue. Zoning has already had some effect in steadying values. There are many signs that point to a slowing up of general increases and perhaps actual recessions in some areas. Judgment must be reserved as to whether these are permanent trends or whether the disposition of some housing enthusiasts to drive hard bargains with owners on the strength of abnormal depression conditions is justified. Certainly there is occasion to question the continued existence of values originally created on the basis of housing standards that are outmoded today.

As for the old tenement buildings that cover from 85 to 100 per cent of lots in slum districts, with an age of from thirty-five to seventy-five years, estimates of value range all the way from nothing to the capitalized value of rents when fully occupied. Here, again, the situation is clouded by extreme opinions vigorously expressed. To some housing enthusiasts these buildings are fire-traps, unfit for human habitation, and the breeding places of disease and immorality. To some owners they are the best that can be offered at the price their tenants can pay. It is frequently pointed out that many of them, by any ordinary system of depreciation, should have been replaced long ago. The view has even been advanced that for future buildings, a license for a definite period, renewable until occupancy becomes a nuisance or liability, would be the appropriate answer to a situation such as is now confronted in the case of these old structures.[1] This view might have much to commend it if the period were long and definite enough to be reassuring to investors, but offers no solution for the immediate problem.

The natural feeling of disgust that comes with the realization that land values may have reached their present level through exploitation of human beings is apt to be a poor preparation for calm and scientific determination of what the value really is. In the long run, fair values are likely to approximate those established through the reasoning of the trained economist who looks at all angles of the situation in a detached manner. In an endeavor to ascertain such a scientific reaction, a request has been made of Dr. Arthur J. Mertzke, former Chief Economist of the Federal Home Loan Bank Board, for a statement embodying his views. This appears below:

Appraising for Multi-Family Housing Projects

In estimating urban land values it is impossible to adhere to a fixed and arbitrary range of values for all communities. As the market for real property is always and necessarily purely

1 K. Lönberg-Holm, "Time Zoning as a Preventive of Blighted Areas," *Real Estate Record and Builders' Guide*, June 24, 1933, p. 6.

local in character, the land values in each community will of necessity be the resultant of local uses of land. The character of the prevailing or reasonably anticipated uses of land represents the basis upon which all land values rest, and accordingly land values vary from neighborhood to neighborhood within each city just as they do from city to city.

The factors that determine urban land values usually embrace nearness to transportation, schools, shopping centers, and so on, but it is very seldom that the true economic significance of these factors is brought out. Land values, like wisdom, tend to increase with age provided there is constant activity in the direction of true maturity. Schools, churches, and shopping centers can be erected anywhere, but the result will bring about no enhancement in the land values of the community unless these developments fill community needs that grow out of something deeper, namely an abundance and diversity of opportunities that will attract people in larger or smaller numbers and incidentally bring about a demand for new schools, stores, streets, public utilities, police and fire protection, adequate and sufficient housing, and so forth.

It is this basic fact of the abundance and diversity of opportunity afforded by a typical acre of land in New York City that gives it greater value than an equally typical acre of land has in Albany, San Antonio, or Spokane. In other words, land in New York has reached a stage of greater usefulness and has, in addition, already been equipped with the requisites for maturity in land utilization such as rapid transportation facilities, streets, ample supply of excellent water, electricity, gas, and sewage facilities, police and fire protection. These costly utilities that have for decades been "plowed into" the land have enormously enriched the usefulness of a typical acre in New York City in serving large numbers of people who avail themselves of the many diverse opportunities that the city has to offer.

While these principles work in precisely the same way in any city, it requires no further argument to prove that they do not apply with equal intensity in all cities, and that the force with which they operate depends upon basic economic factors determining the location and growth of all cities. It is impossible to escape the conclusion, therefore, that large cities like New York must utilize their land supply more intensively than other cities, in order to realize the greatest return on many years of costly investments in the land, as well as for the convenience and saving in time and money to the millions of human beings whose services find a market in the vast number of activities that New York City affords.

Manhattan land values are further augmented by the limited supply or scarcity of land that exists here due to its position as an island. While this is by no means the primary reason for high land values in New York, it should not be overlooked as an important factor, working, as it does, in conjunction with the more potent reasons for high ground values in this city that have already been pointed out.

Hence it follows that land in New York City must necessarily be used more intensively than in any other city in the world in order to realize not only the greatest monetary return on the investment which each block or acre of land represents, but also as a means of giving the benefits of the unusual advantages which the city affords to the greatest possible number of people, with due regard for comfort, health, and safety. Thus, while the most intensive use of residential land in small villages would be single-family dwellings, and hundreds of small cities find three or four-story multiple dwellings to be the most intensive type of development advantageous to them, New York City does not reach the full use of its residential land resources in

the more mature and best located residential sections of the city until a height of twelve, fifteen, or even more stories is reached.[1]

These conclusions depend not upon any arbitrary formula, nor are they deductions drawn from superficial observation of the spectacular skyline of the city. They represent, rather, the findings which an impartial analysis and appraisal of conditions in New York City would discover, based wholly upon the principle of putting the land to its maximum practicable service.

Such an analysis of land values, whether made in New York City or anywhere else, would not set out to prove or disprove the correctness of any preconceived figures relative to square-foot or front-foot values. On the contrary it would begin with an analysis which would determine first the type, height, and design of structures that would represent the maximum economic development of a given site. After the proper type of development for the site has been determined, its reasonable annual earnings can be estimated and from these should first be deducted a fair return and taxes, if any, on the investment in the improvements with a proper reserve for depreciation and obsolescence. The remainder would represent the return attributable to the land, which, after paying a given rate of taxes, would then be valued at a figure obtained by capitalizing the net annual return attributable to the land — or in other words, computing the amount which a purchaser of the land would be warranted in paying for it, in view of the volume of net return which the land, when developed to its highest and best use, would yield to him.

An impartial but economically sound analysis of this nature would undoubtedly demonstrate the fact that in some sections of the city the alleged or commonly accepted square-foot values are too high and that in others they are too low. It would also reveal clearly whether the type of development for each particular site should be four, eight, ten, twelve, fifteen, or any other number of stories. It must be obvious, even to the inexperienced, that small, detached, single-family dwellings would represent too small a development of land on Manhattan Island. On the other hand, it would doubtless be equally unsound, economically, to decide that moderately priced, multi-family dwellings should be carried to a height of forty or fifty stories. Somewhere between these extremes a proper analysis would disclose the correct type and height of the structure best adapted to each location.

No mention has been made so far of the sizes of tracts for developments, but this is a most important factor in the analysis here suggested. Obviously the traditional city lot of 25′ x 100′ represents an almost worthless scrap of land in the construction of modern, multi-family dwellings. Several adjacent lots, at least, are required, and the most practicable results will, in many cases, require the utilization of whole blocks and even groups of blocks with possible replanning of certain streets, difficult and expensive as that would prove to be. Accordingly, the proper size of the site for the most economical development should be determined as a part of the same analysis employed in deciding on the type and height of the structures that are to be erected, and consequently land values will be the result of the net return attributable to the land after the proper size of the site and the right type of improvement have been found.

The results of such an analysis would fix the true value of the land, if developed to its maximum utility. But these results of the analyses need not necessarily be announced while nego-

1. The plea for high buildings is partly based on maximum use of heavy expenditures in land and utilities, and obviously needs to be examined carefully to see that it does not attempt to justify a return on excessive and unwarranted expenditures The high cost of much New York City land was raised to extravagant values, on the reasonable assumption that one could recover if buildings were high enough Social costs were ignored

tiations for assembly and purchase of individual parcels are in progress. They would, however, definitely fix an upper limit to the prices to be paid, whether the properties are obtained through ordinary purchase or through condemnation proceedings

Appraising for Condemnation

The approach to land values indicated here is applicable to improved as well as unimproved land. Not only is the method applicable to improved properties, but it will also disclose whether or not the land is over- or under-improved and the degree to which the existing improvements deviate from the correct type of improvement at the time the appraisal is made.

In appraisal for condemnation purposes, as for any other, the first basic principle to be observed is that of treating each parcel of property purely on its individual merits. Reference has already been made to the fact that an entire block taken as a single unit would generally be more valuable than the sum of the values of a large number of small holdings of which the block may be composed. Accordingly, so long as it remains an individual parcel, each small holding must be appraised as such, since the owner of a small parcel can develop and utilize only as much as he owns and cannot claim a proportionate share of the entire block as if it were owned and developed to the best advantage under a single-unit ownership.

The principle assures at once full and fair consideration of the existing interests of each owner as to the value of both his land and improvements But it also protects low-cost housing and other types of redevelopment projects against exploitation by slum owners because of the superior economic merits which the new developments have over the existing condition of the block or neighborhood.

Proceeding then to the appraisal of slum properties, all of which, let us say, are improved in some manner, and judging each parcel on its own merits, considerable uniformity would be found in ground values of adjacent lots, particularly if all are of the same size but under different ownerships. In other words, the best use of one would be the same for each lot, if held and used separately. Much greater differences would appear in the appraised value of improvements, depending on the net return which they are capable of earning, and the probable remaining economically useful life of each. The range in values attributable to improvements (referring to buildings) would, under ordinary conditions, extend from zero up to the full replacement cost of the improvements. Cases in which the existing improvements ordinarily produce only sufficient earnings to represent a fair return, or less, on the value of the site are frequent. In such instances the value of existing improvements should be appraised at zero. Those properties, on the other hand, that show earnings substantially equal to that which might be expected from the best type of new improvement for the site, are worth, and should be appraised at or near, their full replacement cost.

While this procedure may seem involved and complicated, its application is not as difficult as may appear at first, due to the fairly constant uniformity of the factors that have to be taken into account. On the other hand, it is only fair to every owner, whose life's savings may all be invested in a small property, that he should receive every advantage due him under a sound and accurate method of appraisal, even if it should require hours to work out the solution of the problem instead of the few minutes in which many so-called appraisals are made.[1]

1. While scrupulous fairness to the owner and strict observance of constitutional limitations are fundamental, it is pertinent to point out that in other movements intended for social improvement values have in effect been confiscated. This happened with brewers' property when the Eighteenth Amendment was in force

These fundamental principles, as viewed by an economist, are too apt to be pushed aside in favor of other information more readily arrived at. Thus, sales of similar properties have a respectable standing in appraisal work and assessed valuations are an obvious measure of comparison.

In order to get a clear picture of the relation of assessments to market values it will be worth while to consider briefly the way in which the present assessment system has grown up and the principles upon which it operates.[1]

Since 1892 a system of recording assessments known as the "lot-and-block system" has been in effect.[2] By this, the various boroughs were divided into sections and these, in turn, into blocks of unchangeable boundaries. The section and block numbers are permanent, thus facilitating the tracing of changes in value over a considerable period. Individual pieces of property within blocks are given lot numbers, which change when subdivisions and consolidations take place. In 1902 directions were given to assess land at full value. Previous to this, fractional values were used, and these, coupled with varying policies before the creation of the greater city in 1898, make historical comparisons of land values more or less guess-work. In 1903 land and buildings were required to be assessed separately. In 1909 the first land-value maps appeared. These have continued down to the present day and offer a convenient source for obtaining front-foot valuations.

The present valuation system makes use of block-and-lot tax maps, field books containing detailed information, land-value maps, rules for longer- and shorter-than-standard lots, plottage, etc., and other factors useful in computing building values. It is a system that was built up by able and experienced men.

In arriving at a decision as to value for assessment purposes, numerous factors are taken into account.[3] When the property is adequately improved, mortgage, income, and operating expenses are taken into consideration, and the net return capitalized at a fair rate of interest. Consideration expressed in conveyances at private sale is important, but one sale in a section does not suffice to establish values. Allowance must be made for speculative conditions. Mortgage and interest rates are important factors, particularly in the case of loan by savings banks and other institutions.

Rental values, renewal clauses, and other terms in leases are essential factors when the lessor pays the taxes. Advertising signs are taken into consideration.

1 For an authoritative treatment of assessment, see Lawson Purdy, *The Assessment of Real Estate*, 4th edition, 1929, National Municipal League, Technical Pamphlet Series No 1, also President's Conference on Home Building and Home Ownership, *Home Finance and Taxation*, vol II

2 Joseph D Silverherz, "A Brief History of Real Estate Assessment in New York City," *Real Estate Record and Builders' Guide*, July 18, 1931, pp. 5–7

3 Harold Riegelman, "A Survey of Real Estate Taxation in New York City," *Real Estate Record and Builders' Guide*, October 28, 1933, pp 5–14

Proper account is taken of depth, topography, and proximity to a corner, variation from standard size, and other local conditions.

For Manhattan, Bronx, and Richmond the standard size of a lot is 25 by 100 feet, while in Brooklyn and Queens it is 20 by 100 feet. Corner influence is not held to extend beyond 25 feet from the corner, unlike many cities where this influence is held to extend for 100 feet.

In New York City the practice is to allow a minimum assessment of an obsolete improved property equal to one year's rental.

From this abbreviated account of assessment methods it will be seen that pertinent factors are considered in setting valuations. In any such process involving an entire city, it is not possible for assessments to keep pace with market values. This is especially true because the assessor is supposed to stick to normal values, whereas speculators may pay more because of some feature that appears important to them.

There are other aids that can be utilized in arriving at a just estimate of current values. These include the principles evolving from discussions in the American Institute of Appraisers, which approaches the subject with full appreciation of professional responsibility on the part of those assuming to set fair values.

The National Association of Real Estate Boards, in its *Standards of Appraisal Practice*, divides property into investment, non-investment, and service types. The first is any property producing net earnings, the second includes homes, and the third includes hospitals and schools. A somewhat different appraisal is involved in each case.

Investment property is appraised by estimating future net earnings and the amount which can be obtained for the property at the end of the earning period. Present worth is then determined by suitable capitalization and a tentative value worked out, which is checked by studying the value of the component parts. Non-investment property has to be appraised with principal emphasis on recent sales of comparable parcels, with due attention to similarities and differences, and with a check by component parts. Service properties obviously are in a different class. Cost of improvements less depreciation, and market value of land as if vacant, are indicative, but the sum is not regarded as market value.

All three types are likely to be encountered in purchase or condemnation of land for housing purposes in New York. It is to be presumed that recognized principles will be applied by skilled appraisers in establishing the true values. This will help materially to clarify a situation in which charges of inflation and selfishness are freely made. The justice and good temper with which the problem is approached, and the application of scientific principles, will do much to en-

sure public confidence in the fair-mindedness of proponents of new, low-cost housing.[1]

Records of sales are obtainable as far back as 1868 in the *Real Estate Record and Builders' Guide*. Information on auction sales, mortgages, liens, and other transactions are also given. It is a relatively rare case, however, where the price paid is given. Frequently this can be inferred from the amount of revenue stamps attached to the instrument, but the reliability of such evidence is questionable.[2] Auctions, representing in many cases forced sales, can hardly be taken as evidence of true market value. Nevertheless the evidence disclosed occasionally, and that obtainable confidentially from real-estate brokers and owners, is undoubtedly the best current index of what a willing buyer will pay to a willing seller. Manipulation in anticipation of condemnation proceedings, or for other purposes, must of course be watched.

Prices paid at private sale are available in some instances and provide some index of values of property in certain districts, although the conditions under which the sales were arranged should be kept in mind. Purchases by the Port of New York Authority and the New York Central Railroad, options obtained in connection with proposed low-cost housing projects, and values at which land has been accepted in connection with the State Board of Housing under Federal approval, all have a bearing.

The Port of New York Authority obtains land both through private purchase and by condemnation. In its private purchases, it sometimes buys in its own name and sometimes in the name of subsidiary corporations set up for the special purpose. Its policy appears to be as liberal in its treatment of owners as is consistent with its obligations in the expenditure of public funds.

In recent testimony, in connection with condemnation proceedings, it was brought out that the Authority has bought the following within the last two or three years:

Address	Price paid	Assessed value
423–425 West 35th St.	$46,000	$46,000
427 West 35th St.	33,000	30,000
430 West 39th St.	29,000	29,000
436 West 39th St.	31,750	34,000
421 West 36th St.	26,750	..
426 West 40th St.	23,000	25,000
424 West 40th St.	29,000	30,000

1. For further information on appraising, consult "Real Estate Appraisal Practices," a report by Arthur J. Mertzke, mimeographed Letter Circular 357, Division of Building and Housing, Bureau of Standards, Department of Commerce, January 23, 1933; and issues of the *Journal of the Institute of Real Estate Appraisers*.

2. Mr. Norbert Brown of the *Real Estate Record* thinks that stamps may be taken as reliable evidence in perhaps 90 per cent of the cases On the other hand, Leonard Wallstein, in his *Report on Law and Procedure in Condemnation*, is severely critical.

Here is shown a fairly close correspondence between market and assessed values. The price for land and buildings (old-law tenements) averaged about $11 a square foot.

Purchasing activities of the Authority, disclosed in press notices of April 1934, comprise property consisting of land and three five-story tenement houses at 442–446 West 39th Street covering an area about 75 by 100 feet which was acquired for $93,000. This works out to about $12.40 per sq. ft. for land and buildings. The properties thus far described are located on the West Side in an area roughly corresponding to the infamous Hell's Kitchen.

The New York Central Railroad bought a strip on the West Side about two years ago in connection with the relocating of its tracks. Robert W. Aldrich Rodger, head of the Rutgers Town Corporation, acted as agent for purchases for about twenty blocks and states that the prices paid ran about $13 to $14 a sq. ft. for land and buildings, the latter being largely cold-water tenements.

Turning to the Lower East Side, Mr. Rodger also secured options on some eighteen blocks during the development of plans for the proposed new community of Rutgerstown (Figure 146b and Appendix Plate 20-B). The results obtained enabled him to put the land in at an average figure of $9.64 per sq. ft., including the old tenement buildings.

Other low-cost housing projects on the East Side and elsewhere provide a glimpse of prices that have been paid recently. There are various stories about the ingenious methods employed by Fred F. French and the prices paid by him in the assembly of land for the Knickerbocker Village project on the Lower East Side. The land on which this was built, exclusive of the bed of Hamilton Street, which was closed by the city, was assessed at $8.44 per sq. ft.[1] The average value approved in connection with the project was $14.19 a sq. ft.[2]

In the case of the Hillside housing project in the Bronx, also approved as a Federal project, the land, which was almost entirely vacant, was taken at 72½ cents a sq. ft.[3] In the case of Boulevard Gardens, in Queens, the land (vacant) was taken at 98 cents.[4] The figures cited, of course, do not necessarily give anything more than a general idea of contemporary values in the districts concerned.

Are these values "fair" both to the owner and to the project? The question is one of opinion and judgment. That misunderstandings arise even under the most careful methods is shown in the experience with Boulevard Gardens mentioned above. This was a limited-dividend project approved for a Federal loan. The land under the original approval was valued at $1.53 a sq. ft., having been reduced

1. Brief of Federal Grand Jury Association, p 3
2. Figures based on press reports
3 *Report of the State Board of Housing*, 1935.
4 *Ibid*

to that figure from the $1.84 originally submitted. After construction was started it was discovered that the owners had valued the land, except for one parcel assessed at $2,500, at a figure of $109,000 for tax purposes, in contrast with the $863,000 approved as basis for the Federal loan. Secretary Ickes thereupon halted the project and a board of three experienced local men was appointed to determine the true value.

There is almost universal agreement among those having experience in land acquisition that private purchase is preferable to condemnation. There is also a disposition to favor secrecy as to plans, so that owners will not acquire exaggerated ideas of the value of their property. In the case of small projects the method may have advantages, but when applied to projects involving many blocks this acquirement by stealth is apt to take on ludicrous aspects. There is a very real question whether complete publicity and judicial action is not desirable in order to ensure fairness to both sides. If the present machinery for this is defective, perhaps it can be improved.

There is no question that the nation and the state may take land for "public purposes" provided they pay "fair" prices. This is done by exercise of the power of eminent domain and is commonly referred to as condemnation. Superficially it presents a solution of all difficulties in the acquisition of land, but practically it runs into difficulties resulting partly from legal interpretation of terms, partly from the slowness of judicial processes, and partly from the frailties of human nature.

Theoretically no better means could be found to ensure promptness and fairness to all parties concerned. The power of eminent domain is a well established state function reaching even back of the constitution as an attribute of sovereignty. It is incorporated in the State Constitution.[1] Its use has been interpreted in a long line of judicial decisions.[2] It finds a place in the City Charter, where excess condemnation is specifically recognized.[3]

Until recently there has been no clear-cut decision on the constitutionality of condemning land for housing purposes. In Matter of New York City Housing Authority, etc. *v.* Muller, Mr. Justice McLaughlin stated:

> That the land covered by this petition is to be used by a limited portion of the public is without question. The court holds, nevertheless, that the use here is a public use, i. e. to abolish disease-breeding slums for the benefit of all the people of the state and to continue to furnish "a limited portion of the public" (readily ascertainable) living quarters which will prevent disease. The People of the State of New York have the right to take back their land for such a purpose.[4]

1 Article 1, Sections 6 and 7
2 Abbott, *New York Digest*, XIV, 65–325
3 City Charter, Chapters XVII and XXI.
4 In the Matter of the Application of the New York City Housing Authority to acquire title to certain real property in the Borough of Manhattan, etc *v* Andrew Muller, *et al*, *New York Law Journal*, April 12, 1935

This goes farther than anything yet brought out in the state courts. It is true that parts of the Chrystie-Forsyth area were taken under condemnation proceedings for the ostensible purpose of providing low-cost housing. It is also true that the State Housing Law empowers public limited-dividend companies to exercise condemnation. This power has, however, never been put to the test. It has been pointed out elsewhere that when cemetery corporations have the power to condemn sites for the dead, the exercise of such power on behalf of housing for the living may not be incongruous.[1]

Exercise of the power of condemnation through the Federal courts has recently been attempted on behalf of the Federal Housing Division of the Public Works Administration, which is scheduled to proceed with slum clearance in Cleveland and many other cities. A favorable decision has already been obtained in a lower court in the case of the Cleveland project.[2] On the other hand, a decision in a case involving condemnation of land for housing purposes in Louisville [3] has very definitely rejected the thesis that the Federal Government may come into a state and condemn land for housing, for the reason that the power of eminent domain can only be exercised for a public use in its ordinary accepted sense, as distinguished from enterprises alleged to be broadly in the interest of the public welfare. Until these various decisions are carried up on appeal, we shall be in a state of uncertainty as to just what can legally be done.

Federal procedure, when undertaken, is simple. Land may be condemned for public use by a duly qualified Federal agency and possession may be obtained almost at once under such terms as the court directs. An amount estimated by the condemning agency as fair compensation must be deposited with the court and, if this is insufficient when final judgment is made, the balance is paid over to the former owner. Demolishing of buildings may start without waiting for the final award. Jurisdiction over such cases is held by the United States circuit or district courts of the district wherein the real estate is located.[4]

Under the law "the practice, pleadings, forms and mode of proceeding in causes arising under the provisions of this act shall conform, as nearly as may be, to the practices, pleadings, forms and proceedings existing at the time in like causes in the courts of record of the State within which such circuit or district courts are held, any rule of the court to the contrary notwithstanding."

1 President's Conference on Home Building and Home Ownership, *Slums, Large-Scale Housing and Decentralization*, III, 75

2 United States of America *v* Certain Lands in the City of Cleveland and the Advance Loan Company, District Court of the United States for the Northern District of Ohio, Eastern Division (July 1934)

3 United States *v* Certain Lands in City of Louisville, Jefferson County, Kentucky, *et al*, No 1769 (9 Federal Supplement 137), District Court for the Western District of Kentucky, January 4, 1935, also, No 7000, United States Circuit Court of Appeals, Sixth Circuit

4 46 U S Statutes at Large, 1421, Chapter 307 See also Robert G Seakes, "A Note on the Power of the Federal Government to Condemn for Housing," *Law and Contemporary Problems*, March 1934, School of Law, Duke University

In condemning land, the agency so acting must make a statement showing under what authority and for what kind of public use the land is taken. The procedure followed in condemnation moves in a well established groove. Evidence of ownership is submitted, the property is viewed, testimony of experts for both sides is introduced, incidental problems such as the respective rights of mortgagees, lessors, and others are evaluated, and finally a fair value is determined together with costs, if these are established. The whole procedure moves with some deliberation, as is no doubt proper when land is being arbitrarily taken from an owner. Rarely, if ever, is less than six months consumed. Usually more time is required.

It is true that significant reforms were brought about during 1933 by constitutional amendment and passage of new laws. These include transfer of condemnation proceedings to a special tribunal of the State Supreme Court which will specialize in such cases, in contrast to the assignment of single Supreme Court justices. They also include, so far as housing is concerned, authority to take over property almost immediately upon the deposit of a reasonable sum, and provisions that evidence as to sales of similar properties may be introduced in direct testimony. These changes have been carefully conceived and give promise of considerable improvement. It remains to be seen, however, whether their supposed benefits are illusory. Great improvement was expected some years ago when the hearing of cases was transferred from boards of commissioners to single Supreme Court justices, but the expectations of that time were not realized.

In the light of what has been said, the prospects for common agreement on values and for a satisfactory machinery for adjusting differences is not reassuring. There are, however, certain basic principles and recommendations to which it is possible to turn. Prominent among these are the "Principles Recommended for Acquiring Properties by Eminent Domain," contained in an appendix to the report of the Committee on Large-Scale Operations of the President's Conference on Home Building and Home Ownership. Later developments, such as the power to take immediate possession pending decision on value and the permission to introduce direct evidence of value as contrasted with "experts'" opinions found in the New York Housing Authority law, the setting up of a special judicial tribunal in New York to deal with such cases, and the introduction of Federal action, have improved the chances of reaching just decisions within a reasonable time.

One thing is yet lacking, however, and that is a clear ruling from the highest state and Federal courts as to the status of housing as a public function. A favorable decision would put new vigor into the activity of transmuting slum areas into

wholesome communities. An unfavorable one would point the way to submission of a constitutional amendment which would permit a determination of how far popular opinion will go in permitting the forcible acquisition of land for better housing. In this, as in other aspects of the housing problem, it is important from the standpoint of long-range plans to have an assured public opinion formed on full and frank exposition of what is involved.

CHAPTER XXVII

EUROPEAN METHODS OF SLUM ELIMINATION

EUROPEAN experience in slum clearance began decades before the World War. The wide variety of methods that have been employed represent a laboratory rich in actual demonstrations of many principles involved in this complex subject. The construction of Regent Street in London, for example, involved a considerable amount of slum clearance as early as 1805. It was not until 1875, however, that the clearance of slums was undertaken in England as an end in itself, under powers conferred by the Artisans' and Labourers' Dwellings Improvement Acts of 1875 and 1879, frequently referred to as the "Cross Acts" because of their sponsorship by Sir Richard Cross, M.P.[1]

The most comprehensive policy of slum clearance and the most ambitious programme of slum eradication in the world has developed in Great Britain. Notable achievements have also been made in this field in the Netherlands, Denmark, Italy, Austria, Germany, Norway, Czechoslovakia, Hungary, and France.[2]

The earliest slum-clearance efforts in London and Paris were identified with improvements in traffic and streets. The construction of Regent Street in London, already referred to, and the building of the new street plan of Paris from 1854 to 1871 are representative of this indirect type of slum clearance, of which numerous examples might be cited in both European and American cities.[3]

The International Housing and Town Planning Congress held in Berlin in June 1931 gave some attention to the subject of slum clearance. The Proceedings of the Congress contain the reports of the representatives of twelve nations, including the United States, which briefly outline the policies and accomplishments in the field of slum clearance in their respective countries.[4] These reports leave much to be desired, particularly in regard to the legal background and the economic considerations involved in slum clearance, but do serve to indicate the extent and types of slum clearance in Europe. While the principle of slum clearance had been well established in most of these countries for years and even decades before the War, the major attack upon this problem occurred nowhere until after the War, when the acute housing shortage then prevailing in practi-

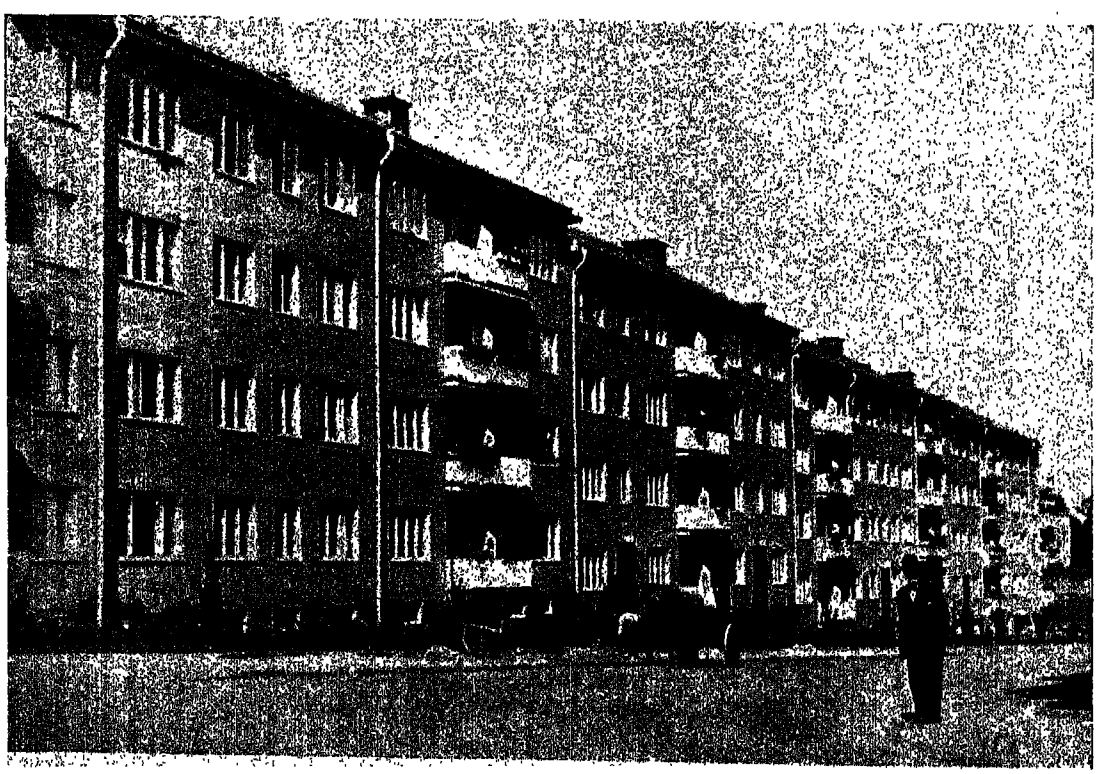
1. Henry R. Aldridge, *The National Housing Manual*, p. 113; Sir Francis Fremantle, *The Housing Problem*, p. 6.
2. *Housing*, June 1931.
3. *Handwörterbuch des Wohnungswesens*, p. 619.
4. Translations of these papers were published in *Housing*, June 1931.

FIG. 97



Courtesy of American Society of Planning Officials

a. Copenhagen, Denmark. One of the earliest housing developments, typical of the seventeenth century. Still used by the class for which it was originally designed.



Courtesy of American Society of Planning Officials

b. Stockholm, Sweden. Example of new multi-family housing.

cally all European countries compelled governments to seek a solution of the critical problems arising out of it, and the related problems of overcrowding and slums.

The summaries presented at the Berlin conference emphasize three factors as being the principal causes of slums, namely: (1) sudden influx of population; (2) deterioration of house property in the older sections of cities; and (3) the construction of buildings that were never satisfactory from a technical and hygienic point of view. They also indicate that many of the earlier direct attacks upon slums came as a result of devastating plagues, such as the cholera epidemics in Copenhagen and Hamburg.

The city of Hamburg, for example, had started slum-clearance work through the indirect method of street improvements, especially in connection with the construction in 1867 of Kaiser Wilhelmstrasse, 500 meters long. This project was only a partial success, however, because the building plots on the new streets were made too small to invite the proper type of rebuilding. The undertaking gave the city a much needed street, however, and

set a precedent which demonstrated: (1) the necessity of the removing (or "Sanierung") of old Hamburg; (2) that the City was better fitted than private enterprise to accomplish this; (3) that the work must be done on a large scale, according to a comprehensive plan; and (4) that it would be a vastly expensive undertaking. There was great opposition to any radical plan of wholesale demolition. The owners of the tenements foreseeing loss of income; shopkeepers threatened with the loss of their business; the dwellers in the district faced with eviction from their homes; the Socialists crying "Paternalism," and the Conservatives, "Socialism"; the sentimentalists bewailing the loss of picturesque old Hamburg, — all opposed the undertaking.[1]

In 1892 came a violent cholera epidemic. There were over 15,000 cases and 8,000 deaths. The populace was terrified; "commerce and trade stood still. As had been predicted, the quarters where the cholera raged were the slums of old Hamburg." One of the first steps taken to fight the epidemic was the organization of the Hygienic Institute.

Through its activities the cholera was checked, but Hamburg was now thoroughly aroused to the fact that the cholera or any other epidemic must not occur again, for it cost too many millions to shipping in the Port of Hamburg, quite aside from any humanitarian considerations.

The cholera epidemic had shifted emphasis from traffic to sanitation. It had proved that the provision of healthful tenements for the workers was

not philanthropy alone but good business policy. It was partly due to the general acceptance of this practical point of view that laws could be passed to carry out such a radical plan in the face of the obstructionists. . . . A special Commission for Bettering Living Conditions, ap-

1. R. S. MacElwee, "Slum Eradication in Hamburg, Germany," *City Planning*, October 1933, p 274.

pointed in January, 1893, submitted a comprehensive report based on exhaustive studies, outlining a plan for rebuilding large sections of the city. The objects of this entire project were: (1) the removal from the center of Hamburg of the most unsanitary quarters, (2) their rebuilding with suitable tenements and other necessary buildings (for the housing of harbor workers near the waterfront was imperative); and (3) the provision of highways and business blocks. . . . The Commission reported three sections as in need of immediate attention and outlined in detail the work to be accomplished in the future. It involved the tearing down and complete removal of nearly sixty acres of solidly built city, the displacement of nearly sixty thousand people, and an expenditure of over $10,000,000 more than the receipts from land sold.[1]

After much debate, the Senat and Bürgerschaft enacted the necessary legislation to permit the carrying out of the plan. Some of the many provisions underlying the entire work were as follows:

I. The supervision of the work was in the hands of the Commission for Bettering Living Conditions, which acted in accordance with the dwelling improvement law of June 8, 1898, and in cooperation with the Building Police. It made its demands directly to the owners of property in which it found inadequate dwellings, and the tenants were affected only in cases where they allowed unhealthy conditions to exist in otherwise satisfactory homes. Financial aid was not given by the City except in instances where large sections had to be destroyed and completely rebuilt.

II. The removal of undesirable living quarters was brought about by the Commission and the Building Police, (*a*) by designating buildings as untenantable under the new regulations, and (*b*) by prescribing building changes in the houses in question which the owners were obliged to carry out at their own cost under supervision of the Building Police. The City granted indemnity to owners of small businesses who had to start business anew somewhere else and who consequently had to suffer considerable lapses of time without income, but the City did not find new homes for the families removed from the sections razed, because it did not prove necessary. Neither did it give financial assistance to families who had to move from the condemned houses.

III. In rebuilding, the City did not go into the building business itself. This would have injured the private building industry besides involving the City too heavily. The desired result was accomplished by properly restricting the city property disposed of to private builders. In general, the law of supply and demand caused private builders to supply sufficient flats of varying sizes and rents to suit the needs. General building laws regulated this private enterprise.

[After gaining title to the new districts, the Commission laid out new streets with a width of 17 meters.] Cross streets were laid out 12 meters wide. The new streets were not only well paved but provided with sewers, water mains, and utility lines.

In the first section of four . . . blocks, 213 buildings in private ownership were torn down, and from the many small plots, 22 larger plots were sold. The sale of the property by the City was severely criticized. It was felt that after spending huge sums on the purchase of the land, the City should benefit by the increase in the value of the property and should control the sections in order to avoid the necessity of further slum clearance in the future. [In spite of the

1. *Ibid.*, pp. 174–176.

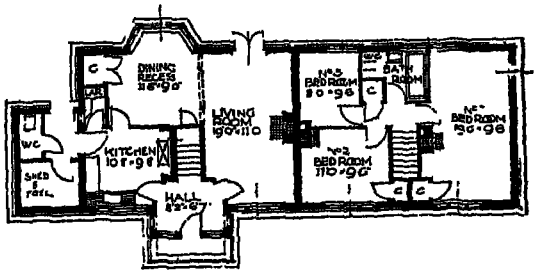


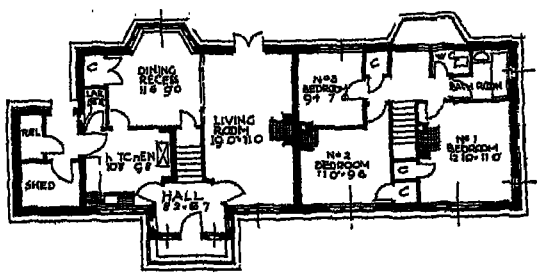
a. Welwyn, England. View of typical street. Characteristic of the indigenous type of architecture in contrast to the modernistic type used, for example, in Liverpool and Manchester (Figure 101). Reproduced from *ABC Guide to Welwyn Garden City.*



b. View from the living-room window of a Welwyn house, showing the character and charm of English country life. Reproduced from *Welwyn. The Idea Behind the New Town* (1935), p. 13.







c and d. General plan and typical floor plans of Welwyn, a large, recent, and successful garden city, housing about 10,000 persons and over fifty industries. The houses were built by the Estate and by speculative builders, for sale to owner-occupiers on 999-year leases Prices range from £350 to £2,000, and rents average $1.65 per room per month. Reproduced from Paul Wolf, *Wohnung und Siedlung*, p. 241.

logic of this point of view there was strong opposition to the government's entering a field that hitherto had been private business.] The City lost 4,000,000 marks on the sale of the land, and paid in addition 1,700,000 marks for building new streets with the necessary pavements and sewers, [so that the price of this undertaking for the city's welfare was very high].

The tearing down of the old houses of the first section of the Southwest Neustadt was begun September, 1900, and finished August 1, 1904. Each of the four periods of demolition took three months. An interim of one year was left between each period, in which to lay out and build new streets, sewers, and water mains. This method provided new homes for the people who would be put out from the next section to be razed. The street work, including sewers, pavements, gas, water, and electricity, and the remodeling of those few buildings left standing along the borders lasted from March, 1901, until August, 1905. The undertaking naturally met with great opposition from the dislodged workers (some of whom had to be smoked out), but by 1913, when the last area was cleared, they had come to appreciate what the City had been doing for them, and opposition was replaced by festivity.

[Rebuilding followed demolition immediately.] As mentioned above, it was considered very desirable to supply adequate, practical, and cheap dwellings for the laborers required in the harbor activities. The City accomplished this end by carefully restricting and supervising the building, and by offering the lots for sale at a figure that showed a financial loss but which made it possible for builders to realize a nominal return on their investment. There seems to have been very little difficulty in selling most of the property, and gradually entire new sections of comfortable model apartment houses appeared on the sites of the old slums.

It was stipulated that the buildings consist of cellar, ground floor, and four living floors above. The upper floors were to be used for dwelling purposes only and were to be divided into small flats of specified minimum size consisting mostly of two living rooms, a separate kitchen, and toilet, which were to be rented to single families only. Ample light and air were provided, and no factories or obnoxious businesses were permitted. The maximum rents were fixed at very reasonable rates.

. . . As the rebuilding work progressed, the number of flats housing more than one family steadily diminished. This improvement in living conditions was accompanied by a decline in the death rate, which in 1913 was the lowest of the large cities of the world.

The results began to show before the great task was more than half completed, and Hamburg, therefore, felt amply justified for the very radical and expensive course taken to rebuild itself.

Equally important from the standpoint of slum clearance in Hamburg was the construction of Monckeburgstrasse, which was opened in 1906, "leading from the Town Hall to the Central Railroad Station. . . . The quarter now traversed by this avenue had been condemned in the original 'Sanierung' plans, because it was one of the oldest and most disreputable quarters of the city." This project differed from the others in that the new street was devoted entirely to business. Thus Hamburg was not only getting rid of the slums, but building a new city as well.[1]

1 *Ibid.*, pp. 176–180.

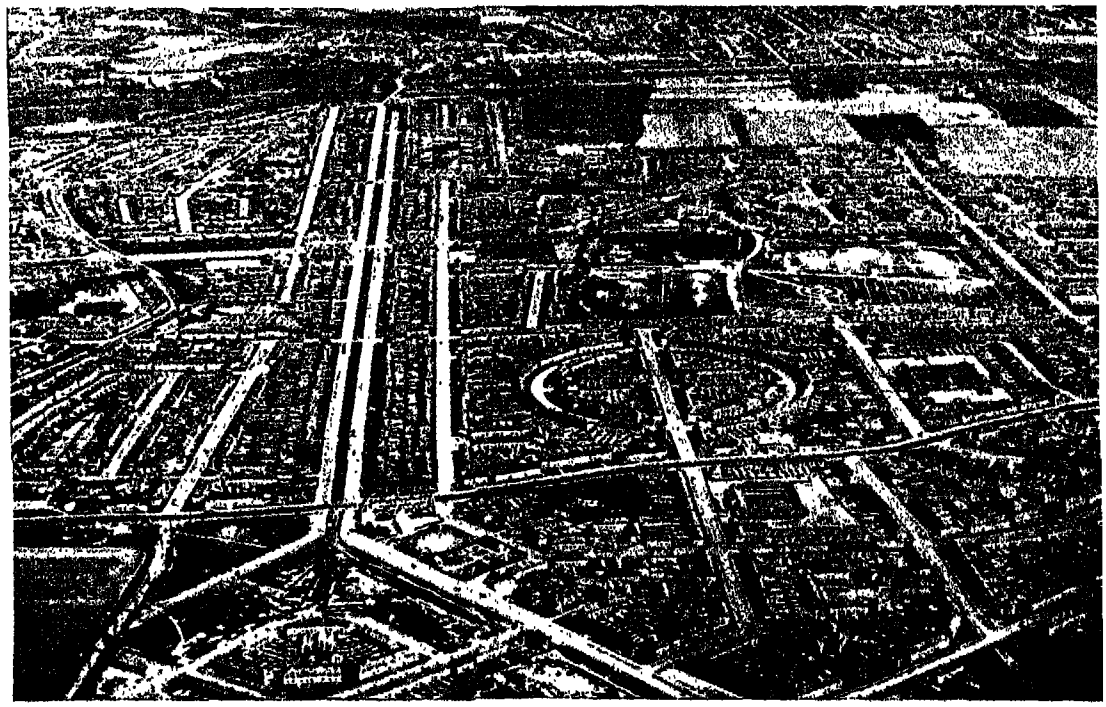
The methods of accomplishing slum clearance in the various countries reporting at the Berlin Congress in 1931 [1] vary widely, ranging from legal or administrative requirements that dwellings be sanitary and not overcrowded to the wholesale demolition of buildings in areas comprising several blocks. The legal basis for dealing with the slum problem is found mainly in the "police powers" of the various countries. Lawrence Veiller, discussing American efforts in slum clearance, was the only one of the twelve reporters who mentioned constitutional difficulties as an obstacle in slum clearance. It is perhaps not assuming too much to say that the progress which European countries have made in this field, in comparison to that made in the United States, may be due in large measure to the fact that in Europe private property has been less well fortified by safeguards in the form of national and state constitutions than it has been in this country.

Although European countries have not been hampered in just the way that local governments in the United States have been by constitutional limitations, the legal structures of most of these countries have been and still are inadequate to the task of slum clearance. So far as the regulation of *existing* structures is concerned, the laws are relatively satisfactory, but with the exception of England, Holland, and possibly Germany, they are unsatisfactory for carrying out total or even partial slum clearance.

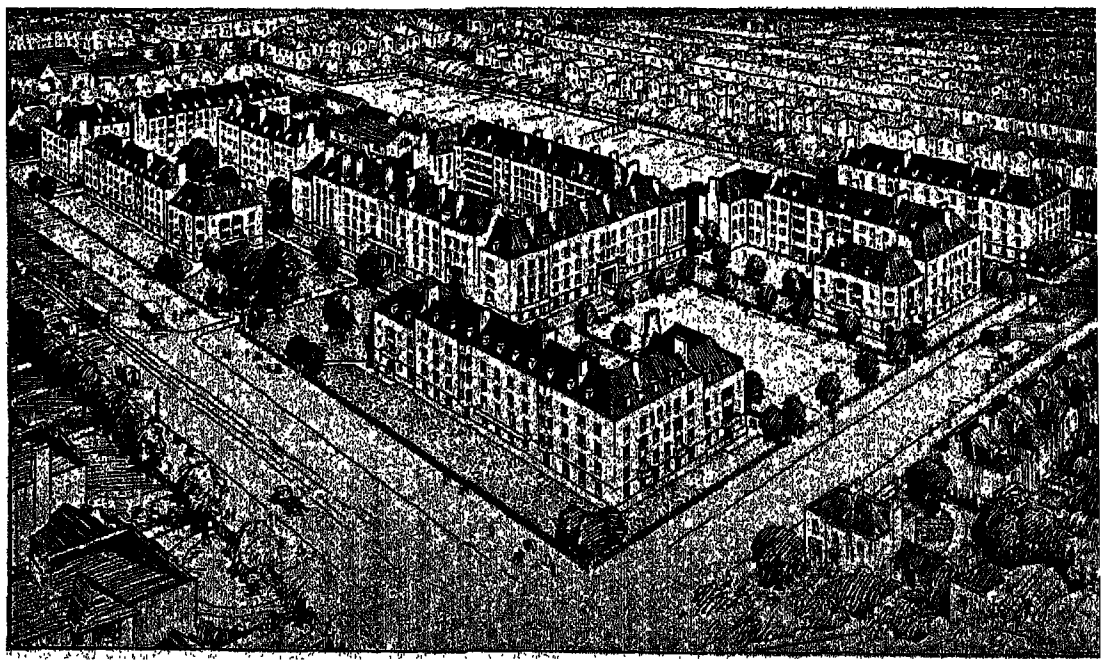
One of the most difficult legal problems is that of expropriation of private property. A review of the few sources of authoritative information available on this subject discloses the fact that European countries have encountered many of the same difficulties in expropriation procedure that prevail in the United States. The city of Vienna, for example, faced the problem of acquiring more land at the inception of its great building programme in 1923. The hostility of the state government prevented the municipality from taking advantage of even the limited powers of compulsory acquisition contained in Austrian legislation. Fortunately, however, another circumstance occurred which solved the difficulty. The Rent Restriction Act, together with the tax on increments to land values, made the property which land speculators had acquired in pre-War times unremunerative. So the municipality had no difficulty in buying one block after another of valuable building land within the city limits at only a fraction of the pre-War value.[2] As there was no practicable legal procedure for expropriation, all properties had to be bought in the open market.[3] In this instance, since it was planned to carry on extended building operations over a period of years, it was considered good policy to acquire many building sites in advance of a definite decision as to the

1. *Housing*, June 1931.
2. Robert Danneberg, *The New Vienna* (4th edition, London, 1931), p. 69.
3. C O Hardy and R R Kuczynski, *The Housing Problem In Vienna*, p 79.

FIG. 99



a. Becontree, England. The largest of the London County Council housing estates or satellite towns, begun in 1920 and finally completed and dedicated in July, 1935. Sixteen sections covering 2,770 acres and housing about 115,000 persons. Two- and three-room flats (average rents, 9s. 6d. and 11s. 6d.) and three- to six-room cottages (average rents, 12s. 6d. to 22s. 6d.). Reproduced from London County Council, *Housing, 1928–30*, p. 9.



b. Stamford Hill, England. One of the most modern of the urban type of London County Council developments, begun in 1929 and covering 5¾ acres. Eight blocks of four- to six-story buildings containing an aggregate of 277 apartments with 947 rooms. Provenance same as above, p. 49.

areas to be built up next, thus avoiding the risk that the city would have to pay excessive prices for key pieces of ground, or have its plans blocked by refusal of owners to sell.[1]

One of the problems which has confronted legislators who have drafted expropriation laws is in whom to vest this power. In England it was decided that this should be vested in town and county councils, and not in public utility (limited-dividend) housing societies. Fortunately the former are the principal promoters of slum clearance. Furthermore, when the latter wish to acquire land which the owner refuses to sell, the former may assist by acquiring the land through their expropriation power, then selling it without profit to the latter. In Holland, the Housing Act of 1901 gives public utility housing societies as well as municipalities power of compulsory acquisition. Conditions are made governing the use of this power. English municipalities formerly could compel the owner to sell only if they had already prepared a formal plan of a new housing development. Now they can do so even though they have not yet prepared such a plan. They must, however, demolish the old buildings as soon as they acquire the property. In buying by compulsion they are first required to submit a compulsory purchase order to the Minister of Health for confirmation.[2] In Holland an Emergency Act empowers local authorities to enter on and take possession of land before compensation is fixed.[3]

In several countries it has been the practice to pass special laws for each project. In Denmark, for example, a special law was passed to permit the replanning of the older section of Copenhagen. In Italy there was specific legislation for the purpose of slum clearance in Naples and other towns. The same has also been done in Germany, particularly with respect to Hamburg. The most comprehensive legislation with regard to expropriation for slum clearance is that of England — particularly the Housing Act of 1930 — and the housing laws of Holland.

Another major difficulty for which there is no adequate legal provision anywhere but in England [4] is the matter of rehousing the dishoused population. The problem is (1) to push as few out of the neighborhood as possible and (2) to see to it that those who are pushed out do not create a new slum in the new district to which they move. The first aspect of the problem is met in England and Holland by building the rehousing project in units. Only a sufficient number of slum dwellers are evicted and their quarters razed to make room for the first unit. Meanwhile the remaining old quarters which will ultimately be razed are temporarily repaired. Upon the completion of the first unit of new housing, another group of

1. *Ibid*
2. Housing Act, 1930.
3. *Housing Legislation in Holland*, published by Nederlandish Institut Voor Volkshuisvesting.
4. See Chapter XXIX

slum dwellers is evicted to make room for the second unit, and these people are placed in the first unit just completed. Without adequate provision for rehousing there is the greatest danger that the evicted population will seek the cheapest and least satisfactory dwellings so that in turn these will become slums and continue the vicious circle.

A number of countries have experimented with plans that have played no part in the British scheme, under which they have endeavored to encourage private enterprise to undertake slum clearance by granting credit facilities, giving tax exemptions, and excluding new dwellings from the rent-restriction acts. Results accomplished by these measures are not available in a form that would justify critical evaluation of this practice, as a device for slum clearance.

The most vital legal point in dealing with slum clearance is the matter of compensation to owners. For public authorities to purchase slum properties at market or speculative prices would, in most instances, render the projects prohibitive. Again the most satisfactory solution of the matter is found in England and Holland. In England, for example, it is possible, under the Housing Act of 1930, to expropriate large areas (expropriation zones) with the power of replanning and replotting sites that have been so cleared. The market value must be paid if the land does not lie in a clearance area. However, if it does, the law, since 1919, specifies that the property be purchased at "site value." This site value is, if necessary, settled by arbitration.

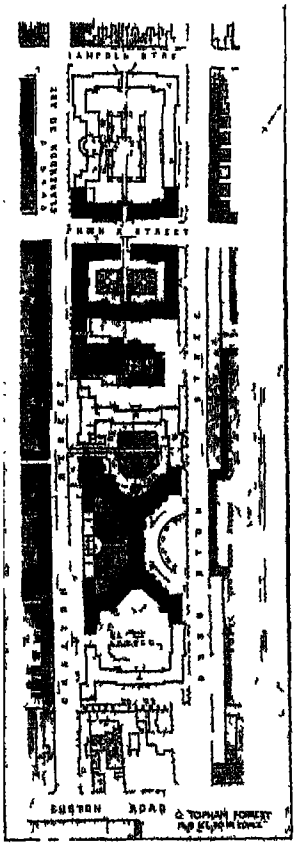
> . . . the compensation to be paid for the land, including any buildings thereon, shall be the value at the time the valuation is made of the land as a site cleared of buildings and available for development in accordance with the requirements of the building byelaws for the time being in force in the district: . . .[1]

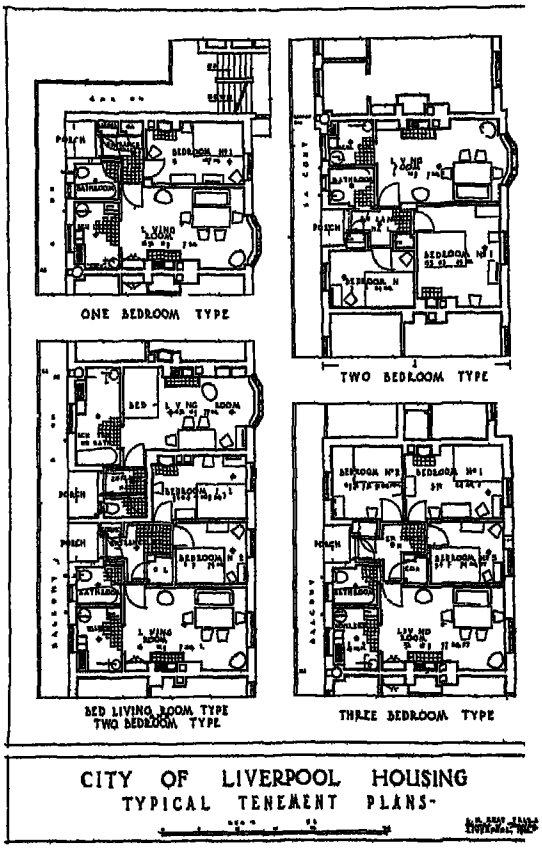
Nowhere outside of Hamburg does there appear any evidence that the cleared sites have been utilized to their fullest economic advantage. Wherever commercial development of cleared slum areas would represent the most profitable use of the land, profits from the resale of the land by the city for commercial uses might well be employed as a means of financing other slum-clearance undertakings.

The experience of European countries demonstrates quite conclusively that public subsidies in some form are necessary to accomplish slum clearance. Although the various countries have evolved no general or common policy of financing the deficits incident to slum clearance, the reports made at the Berlin Congress in 1931 indicate that the burden of slum clearance is considered one which should fall not solely upon the owners of slum properties, since the clearance of slums in-

1. Henry R Aldridge, *The National Housing Manual*, p 406.







a Chamberlain House, Ossulston Estate, England London County Council slum-clearance and rehousing development, begun 1927. Three- to six-stories, 481 apartments, 1,514 rooms. Rents average $3.50 per room per month Provenance same as Fig. 99. b General plan of Ossulston Estate. Provenance same as above c. Liverpool, England. Plans of typical apartments Reproduced from *City of Liverpool Housing, 1935.*

volves the removal of public evils and presents a social question in which the municipalities and the state, as well, may properly take a hand. In England, for example, the state and local governments bear the greater part of the losses on slum clearance, and in Holland also the state and local governments share equally in giving subsidies by paying part of the yearly interest and amortization charges.

The amount of subsidy needed is, of course, directly based on how the purchase of the slum land and of the new buildings to be erected is financed. Here the fact is significant that the English and Dutch Governments authorize subsidies only because interest rates have already been reduced to the minimum amount and amortization has been spread out over the maximum period. In Holland, the interest rate is fixed by the market quotations of state debentures on the Amsterdam Exchange, which means that it is often as low as 3 per cent. As for the period of amortization, it is now deemed feasible in both England and Holland that the amortization of fireproof buildings of good construction be spread out over as much as fifty or sixty years, and that the land requires a lower amortization, seventy-five to eighty years being allowed.[1]

In a résumé of the reports presented at the Berlin Congress in 1931, Paul Wolf of Dresden summarized his conclusions as follows:

> In reviewing the problem as a whole, it seems clear that to make an effective fight against the dangers arising everywhere from the existence and increase of slums, it is necessary to have statutory provisions for the following: —
>
> A. Expropriation by zones (with corresponding regulations regarding the replotting and replanning of land);
> B. Valuation for the purposes of determining compensation to owners;
> C. Rehousing of the evicted; and
> D. Provision for public funds for slum clearance.
>
> Moreover, it is necessary to study the connection between land ownership and the creation of slum districts, for the correct adjustment of the rights of land owners will, for a long time to come, be of great importance in carrying out slum clearance.[2]

These conclusions reflect the practice in England, which has made greater progress in slum clearance, both in law and in method, than any other country in the world. This may be, in part, the result of the fact that Great Britain made a much earlier start in eliminating bad housing conditions than other countries, but one of the most effective factors has been the contribution of English writers. Henry R. Aldridge[3] pays special tribute to Charles Dickens, Charles Kingsley,

1. *Housing Legislation in Holland*, published by Nederlandsch Institut Voor Volkshuisvesting.
2. Paul Wolf, "The Abolition of Slums," General Report by Stadtbaurat, I, 4–148
3. *The National Housing Manual*, pp 92–98, 107–109.

Godfrey Malvern, Daniel Defoe, John Ruskin, Thomas Carlyle, Lord Shaftesbury, Octavia Hill, and Benjamin Disraeli for their literary contributions toward a more general understanding of undesirable housing conditions in England. The result has been that public opinion in England was prepared to follow the leadership of a long line of distinguished advocates of housing reforms in that country. Not only the nobility and clergy, but the royal family also have shown a keen interest in housing conditions. King Edward VII, while he was Prince of Wales, was an active member of the Royal Housing Commission of 1885—a commission appointed on motion, in 1884, by the Marquis of Salisbury. Nowhere else in the world has the cause of better housing been advanced so eloquently or by a group of men so illustrious and popular. It is natural that England should lead the world in these matters, and that housing reforms should have shown such remarkable growth in soil so well prepared.

The first provision for housing by Local Authorities in England was made by the Shaftesbury Act of 1851, which enabled them to provide "lodging-houses" for the working classes, whether single or in families. In 1864 and 1866 Liverpool and Glasgow obtained private acts which enabled them to clear and build.[1]

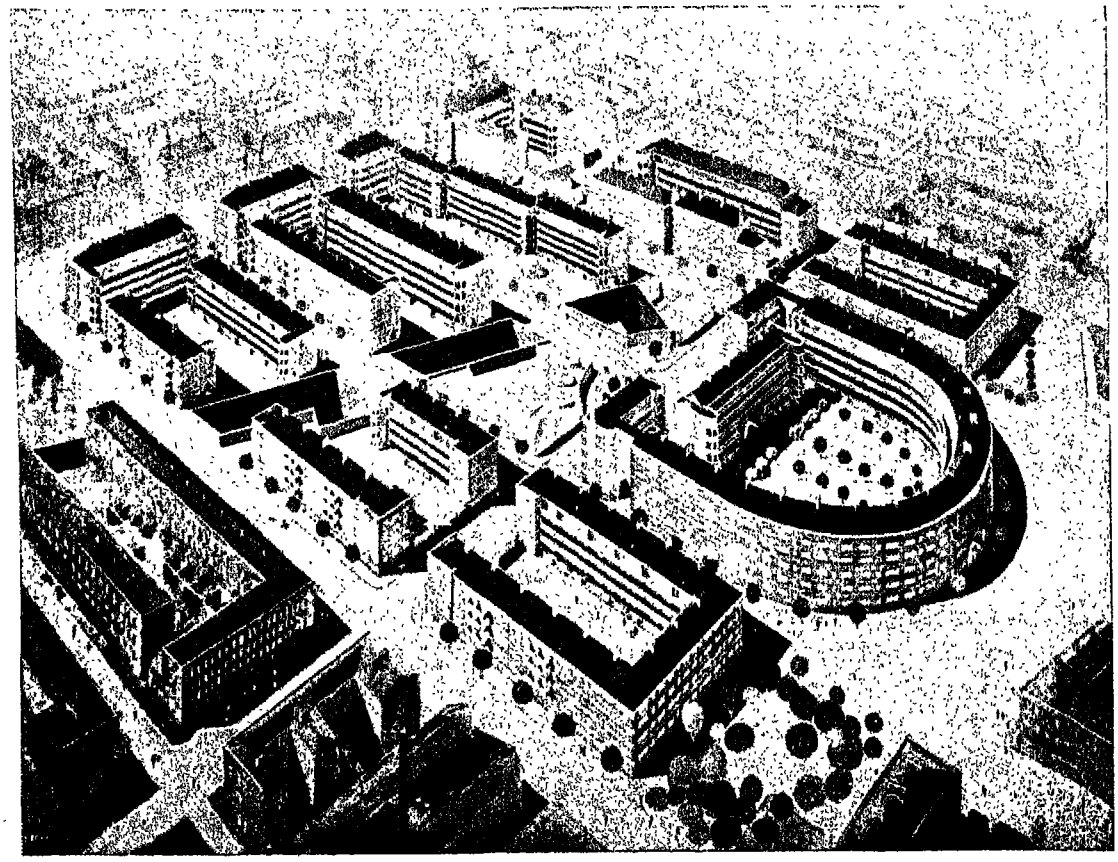
Next in order came the Torrens "Artisans' and Labourers' Dwellings Act," 1868, the forerunner of the modern English law for separate dealing with the unfit house. "Premises in a condition so dangerous to health as to be unfit for human habitation" were to be inspected by an "officer of health"; and the Local Authority, on hearing the report and the owner, could require their demolition or repair, and, if the owner defaulted, could itself carry out the work at the owner's expense.[2]

Third of the basic acts which laid the foundation of the British slum policy was Sir Richard Cross' Artisans' and Labourers' Dwellings Improvement Acts of 1875 and 1879, which supplemented the powers given by the Torrens Act to deal with individual insanitary houses by enabling Local Authorities to deal with insanitary areas.

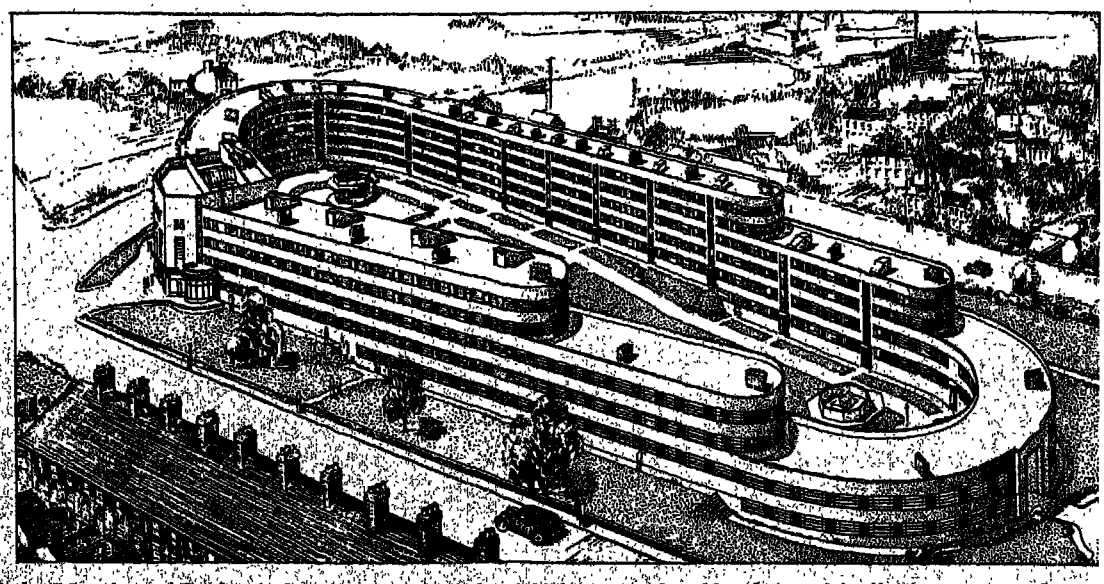
The Housing of the Working Classes Act, 1890, consolidated these acts with some extensions and amendments, and for a period of thirty-five years this was the principal law. It was based on much previous experience. It clearly defined the housing problem under three heads. The first part of the Act dealt with insanitary areas; the second with individual houses, obstructive, insanitary, or in need of repair; the third with the supply of new houses. The main principles were permissive, giving power to Local Authorities, by compulsion if necessary, to stir up owners and occupiers to necessary action and themselves to act for the im-

1 Sir Francis Fremantle, *The Housing Problem*, p 5 2 *Ibid*

FIG. 101



a. Liverpool, England. St. Andrews Gardens, municipal slum-clearance and rehousing development, 1932–1935. Four blocks completed house 316 families, ultimate capacity over 700 flats. Reproduced from *City of Liverpool Housing 1935*.



b. Manchester, England. Smedley Lane Residential Flats, completed by the municipality in 1935. 181 dwellings and four shops. Staircases give access to two flats on each floor, each flat has a private balcony. By slight adjustment of a partition living room can be shifted to sunny side of dwelling. Reproduced from Nathan Straus, *Low Cost Housing Here and Abroad* (1935).

provement of housing at the expense of the owners or of the rates, but with no subsidy from the Treasury.[1]

From 1890 to 1923 there was no change in the British law relative to slum clearance. The Housing Act of 1923 was the first to make available a Government subsidy for slum clearance, but provided that not more than one-half of the losses in slum clearance were to be paid by the Government, the balance to be paid by the Local Authority. This provision was modified in 1930 by basing the subsidy upon the number of persons of the working classes displaced by slum clearance for whom the Local Authority has provided other housing.[2]

26. Government contributions to expenses of local authorities in providing accommodation available for displaced persons. — (1) The Minister shall, subject to the provision of this Part of this Act and to such conditions as to records, certificates, audit or otherwise (*a*) as, with the approval of the Treasury, he may determine, make or undertake to make contributions out of moneys provided by Parliament towards any expenses incurred by a local authority in connection with any action taken by them under this Act for dealing with clearance or improvement areas, or for the demolition of insanitary houses, or for the closing of parts of buildings, and in connection with the provision and maintenance of the housing accommodation rendered necessary by any action so taken.

(2) A contribution under this section shall be payable annually for a period of forty years, and shall be the appropriate sum (as hereinafter defined) (*b*) multiplied by the number of persons of the working classes whose displacement is shown to the satisfaction of the Minister to have been rendered necessary by such action of the local authority as is mentioned in the last preceding subsection:

Provided that the number of persons to be taken into account in calculating such contribution shall not exceed the number of persons of the working classes for whom suitable accommodation has, with the approval of the Minister, been rendered available by the authority in new houses in respect of which the authority have given such an undertaking as is hereafter in this section mentioned.

(3) For the purposes of the last preceding subsection the expression "appropriate sum" means —

(*a*) in the case of persons displaced from houses in an agricultural parish . . ., the sum of two pounds ten shillings; and

(*b*) in the case of persons displaced from houses in other parishes, the sum of two pounds five shillings:

Provided that, if in any case the Minister certifies that it is necessary to provide on a site in a clearance area rehousing accommodation in buildings of more than three storeys, or to provide such accommodation on any other site which has been, or is to be, acquired or appropriated for the purpose with the consent of the Minister and of which the cost or, in the case of a site not purchased for the purpose, the

1. Between 1850 and the close of the Great War there were numerous other housing acts, but these need not be discussed in this connection as they had no important bearing on British slum policy. See H. A. Hill, *The Complete Law of Housing*, 1934, pp 1–17; also H R Aldridge, *The National Housing Manual*, pp 361–402

2. H A Hill, *The Complete Law of Housing*, pp. 1–3.

value, as certified by the Minister, exceeds three thousand pounds per acre, the appropriate sum as respects persons for whom such accommodation is made available shall be three pounds ten shillings.[1]

British housing legislation has been framed with an underlying principle in view, that of placing responsibility for proper housing standards as far as possible upon individual landlords. Under the Housing Act of 1925 the Minister of Health has also promulgated by-laws under which tenants, on their part, are also obliged to observe certain standards. The responsibility for seeing that these standards are complied with rests upon the Local Authorities. Indeed the entire British slum-clearance policy is built upon the principle of local responsibility under the general supervision of the Minister of Health. The responsibilities of the Local Authorities include:

(1) The specific duty to inspect housing conditions from time to time to ascertain whether or not dwellings are fit for human habitation or dangerous or injurious to health and, if necessary, to prepare and submit to the Minister of Health proposals for provision of new houses for the working classes.

(2) Where demolition is the only satisfactory solution, the Local Authority may declare it to be an area for clearance, to be cleared by the owners within a limited period; if the owners fail to do so, the Local Authority may purchase the property and clear it. As an inducement to owners to clear the properties themselves, the law provides that if they do so, they will be paid the market value of the bare site, but if the Local Authorities purchase and clear the property the owner is paid only the "site value" of the land "*for rehousing purposes.*"

(3) If the Local Authority finds several clearance areas located near one another, it may acquire — by compulsory powers, if need be — the intervening and surrounding property, although this may not be unfit for human habitation, but to permit the carrying out of a comprehensive scheme.

(4) If the Local Authority finds that an area contains many properties that do not merit demolition, it may set up an improvement area in which only some of the houses need to be demolished or only some of the streets replanned. Local Authorities are charged also with the responsibility for seeing that proper measures are taken "for preventing and abating overcrowding" in improvement areas.

(5) Finally, the Local Authority has the power to order the improvement or destruction of individual houses if these fall within the statutory definition of bad dwellings. The sanitary defects which warrant improvement or demolition include "lack of air space or of ventilation, darkness, dampness, absence of adequate and readily accessible water supply or sanitary accommodation or of

1 "The Housing Act, 1930," Section 26, *ibid.*, pp 258–259

other conveniences, and inadequate paving or drainage of yards, courts or passages."[1]

From 1919 to 1930, only 121 slum-clearance schemes had been confirmed, involving the demolition of 15,000 buildings and the rehousing of 74,000 persons at a cost to the Exchequer, for under 12,000 houses completed by 1930, of some £130,000 a year for sixty years. Even after the passage of the 1930 Act, however, progress was not rapid because of the need for stringent economy on the part of both the Government and the Local Authorities during the years 1931 and 1932. In order to accelerate the slum-clearance movement, the Minister of Health, on April 6, 1933, issued to all Local Authorities an order (Circular 1331) calling for a concerted effort between the Central Government and the Local Authorities to insure a speedier end to the slum evil and within a limited time. All of the 1,716 Local Authorities were, therefore, asked to submit schemes under the Act of 1930 on the basis that slum clearance should be begun at once and completed not later than 1938. The component parts of this programme were to be:

(1) A list of the areas in which slum clearance is necessary, with information of the number of houses to be demolished in each and the number of their inhabitants;

(2) A list of the areas in which improvement by way of reconditioning or otherwise is necessary, with information as in (1) above;

(3) A time-table for the initiation, progress and completion of action to secure clearance or improvement, as the case may be, of all these areas; and (4) a time-table of rehousing co-ordinated with the displacements contemplated by the time-table of clearance operations.

They were requested also to make an immediate beginning with the programme by the declaration as clearance or improvement areas of such areas as could be immediately dealt with, and by making the necessary orders.[2]

In March 1934, the "White Paper" (Command 4535) listing the schemes prepared by the Local Authorities was presented to Parliament. It showed that 1,664 of the 1,716 Local Housing Authorities had made returns and that 1,428 schemes, provisionally accepted by the Minister of Health, provided for the demolition of 266,851 houses with accommodations for 1,240,182 inhabitants and for building (with the assistance of the subsidies provided in the Act of 1930) 285,189 houses to replace them. Since that time further schemes have been accepted.

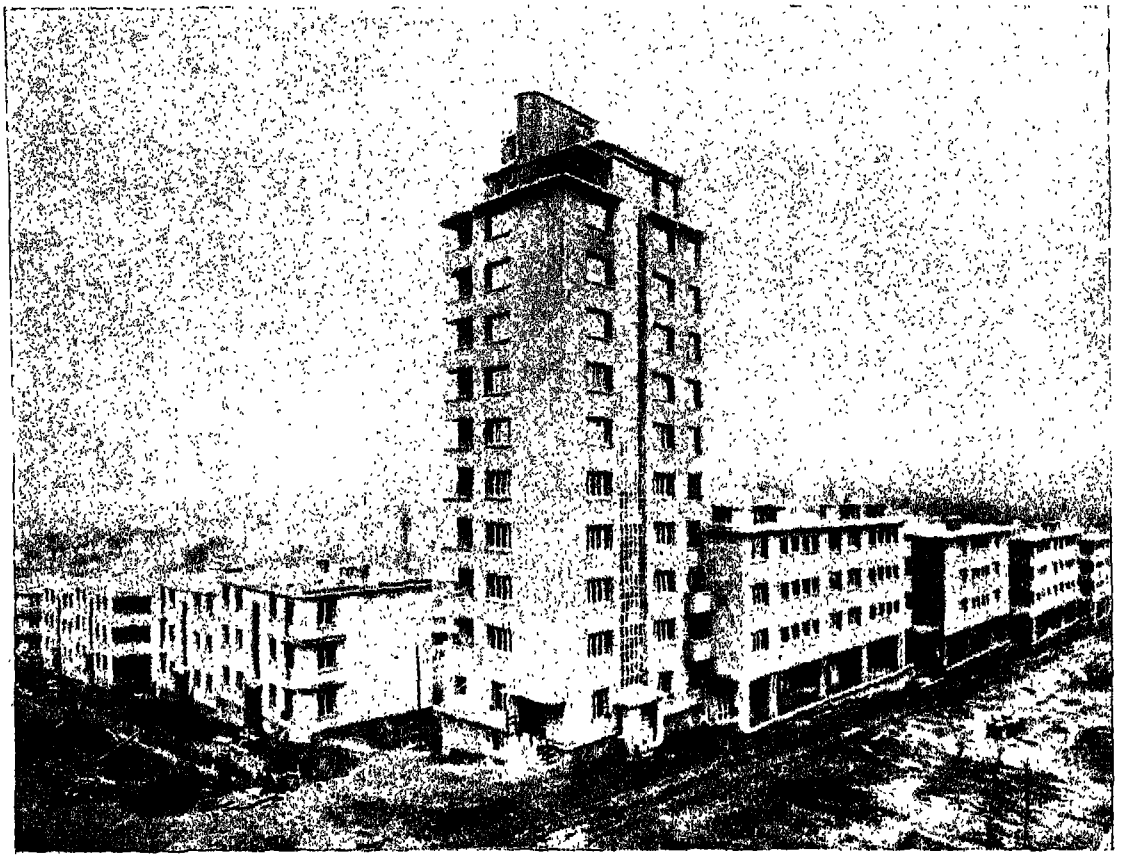
In order to designate an area as a clearance area, the Local Authority must be satisfied:

(1) that the dwelling-houses in the area are either (*a*) unfit for human habitation by reason of disrepair or sanitary defects or (*b*) dangerous or injurious to the

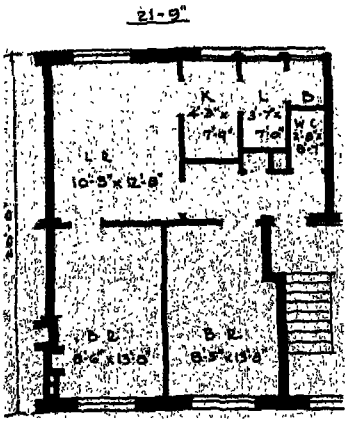
1. *Ibid.*, Section 62, pp. 291–292.

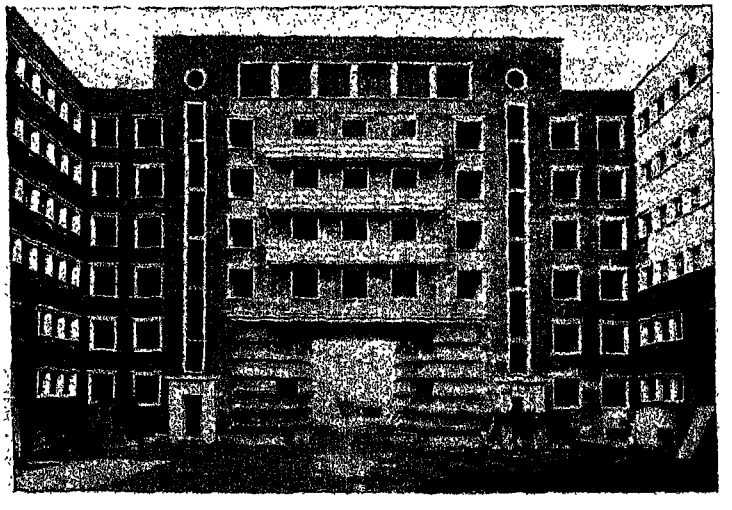
2. *Housing England*, a guide to housing problems and the building industry presented in a report by the Industries Group of P. E. P., December 1934, pp. 36–37.

FIG. 102



a. Paris, France. Chatenay-Malabry, one of the most recent (still unfinished) developments on the outskirts of Paris, built by the *Office Public d'Habitations du Département de la Seine*. Interesting as showing a combination of eleven-story elevator buildings and four-story walk-ups. Reproduced from Nathan Straus, *Low Cost Housing Here and Abroad* (1935).





b and c. Paris, France. Plan of typical apartment, and elevation, of Maisons-Alforts, built by the Local Authority with Government aid. Rents average $2.00 per room per month. Reproduced from *American Architect*, June, 1935.

health of the inhabitants of the area by reason of their bad arrangement or the narrowness or bad arrangement of the streets;

(2) that the "other buildings" (if any) in the area are dangerous or injurious to the health of the inhabitants in the area by reason of their bad arrangement or the narrowness or bad arrangement of the street;

(3) that the most satisfactory method of dealing with the conditions in the area is demolition of all the buildings in the area;

(4) that in so far as suitable accommodation for the persons of the working classes who will be displaced by the clearance of the area does not already exist, they can provide or secure the provision of such accommodation in advance of the displacements;

(5) that their resources are sufficient for the purpose of carrying the resolution into effect.[1]

The Local Authority shall then cause the area to be defined on a map in such manner as to exclude from the area any building which is not unfit for human habitation and shall pass a resolution declaring the area so defined to be a clearance area. The Local Authority then transmits to the Minister of Health a copy of this resolution, together with a statement of the number of persons of the working classes who, on a specified day, occupy the buildings comprising the area; and upon the declaration that an area is to be a clearance area, the Local Authority shall proceed to secure the clearance of the area by ordering the demolition of buildings or by purchasing the property and themselves demolishing the buildings.

Section 2 of the Housing Act of 1930 arranges for the issuance of clearance orders governing the vacation and demolition of buildings within given periods of time, and provides further that an owner who is aggrieved by the conditions imposed may appeal to the Minister of Health, whose decision shall be final.

Section 4 of the Act provides that the Local Authority, when declaring a district to be a clearance area, may include in it properties in which buildings do not require demolition, in order that the housing development may unite two or more clearance areas lying in the same vicinity.

As soon as all the buildings in a clearance area have been vacated, demolition must begin within six weeks, and thereafter the Local Authority may sell or let the land subject to such restrictions and conditions, if any, as they think fit, subject to the approval of the Minister of Health. Land thus sold or leased shall be sold or leased at the best price or for the best rent that can reasonably be obtained, with due regard to any restriction or condition imposed. Any capital money re-

1. "The Housing Act, 1930," Section 1, Hill, p 209

FIG. 103



a. Plessis-Robinson, France. General plan of one of the largest French (Paris) satellite towns, built by the *Office Public d'Habitations du Département de la Seine.* Four-story buildings with an aggregate of 5,600 dwellings. Reproduced from Paul Wolf, *Wohnung und Siedlung*, p. 265.



b. Court or garden view at Plessis-Robinson. Not the prevalent American idea of homelike housing. Reproduced from Nathan Straus, *Low Cost Housing Here and Abroad* (1935).

ceived in respect of any transaction shall be applied, with the sanction of the Minister, either in the payment of debt or for any other proper purposes.

Section 6 of the Act provides that in the event that an owner has cleared his properties in a clearance area, but fails, within eighteen months after the clearance order became effective, to use the property for building purposes, the Local Authority shall purchase the land and redevelop it in accordance with its general plan.

In the event that the Local Authority finds that conditions within a given area are such that only a portion of the existing structures should be demolished, they may designate such an area as an "improvement area." The procedure for so designating a district is similar to that followed in setting up a clearance area. Having designated a district as an improvement area, officially mapped and approved by the Minister of Health, the steps for improving the area, as prescribed in the Act (1930), are as follows: (1) The repair of insanitary houses; (2) the demolition of insanitary houses which cannot be repaired at a reasonable cost; (3) prevailing upon owners to pull down buildings for the purpose of opening out the area, so rendering it unnecessary for the Local Authority to purchase the land for this purpose; (4) the purchase of land for opening out the area if the Local Authority is not satisfied that this will be adequately done by the owner or owners; (5) the making and enforcing of by-laws satisfactory to the Minister of Health for preventing and abating overcrowding and for securing the improvement of housing conditions in the area and the maintenance of a proper standard of housing therein.

These by-laws provide for fixing the number of persons who may occupy a house, for the registration and inspection of houses, for enforcing drainage and promoting cleanliness and ventilation, for installation of toilets, water supply, washing facilities, and accommodation for the storage, preparation, and cooking of food. There are also stipulations regarding repairs, lighting of staircases, stability, the prevention of fires, safety from fire, cleansing and redecoration of the premises at stated times, the provision of handrails where necessary for all staircases, and for securing separation of accommodations for each part of a house occupied as a separate building.

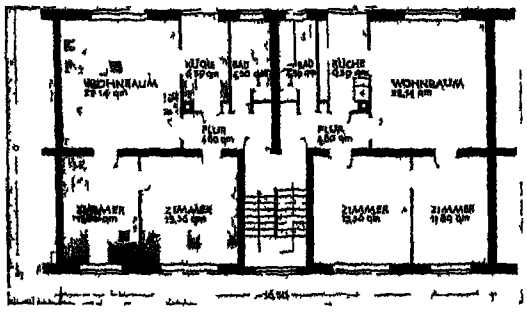
In the development of an improvement area, the Local Authority is under the same obligation to provide rehousing facilities before demolition of any occupied structure is undertaken. Furthermore, the provisions of the Act relative to the purchase and lease or sale of lands in connection with an improvement area are the same as those applying to clearance areas.

Improvement through the elimination of houses unfit for human habitation is

FIG. 104



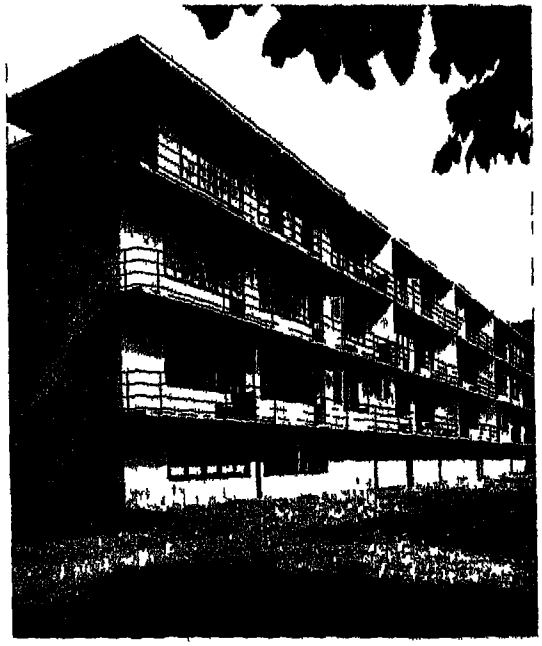
a. Frankfurt-am-Main, Germany Garden view of Bruchfeldstrasse municipal development in Niederrad suburbs, 1926–1927 Six hundred three-room apartments The building in the center contains a kindergarten, nursery, reading room for children, and office of Municipal Service for Hygiene. Reproduced from *Das Neue Frankfurt*, April–May, 1930



b Plan of typical three-room apartment in Bruchfeldstrasse development Provenance same as above



c. Frankfurt-am-Main, Germany Romerstadt, one of four housing colonies built along the valley of the Nidda between 1926 and 1930. Reproduced from *Wohnen und Bauen*, 1932, p. 153.



d Frankfurt-am-Main, Germany. Garden view of buildings in Adickes Allee erected and managed by the Settlement Society of Professional Women. Forty-three flats of from three to five rooms, with rents averaging $5 00 per room per month. Reproduced from *Wohnen und Bauen*, July–August, 1930

not confined, however, to blocks or groups of houses, but the Act also authorizes the Local Authority to order the repair or demolition of individual houses. The general principles governing the repair or demolition of individual houses are similar to those governing groups of properties, including the right on the part of the Local Authority to acquire and repair or destroy such buildings in the event the owner does not on his own account comply with orders to do so.

The provisions with respect to rehousing are of importance primarily because of the standards required in rehousing accommodations. These are, to some extent, defined by Section 37 of the Act of 1930, which specifies that the size of the new house must conform to the standards of houses that are fit for habitation as defined in Section I of the Housing Act of 1923, but further requires that a two-bedroomed house shall be so treated as to provide accommodation for four persons, a three-bedroomed house for five persons, and a four-bedroomed house for seven persons.

The first Government subsidy for slum clearance was provided by the Housing Act of 1923. Under this Act the Government's contribution toward the cost of a slum-clearance scheme was not to exceed one-half of the estimated average annual loss likely to be incurred by the Local Authority in carrying out the scheme.[1] By the Housing Act of 1930, an important change of principle was introduced in the Government subsidy, requiring that the Government grant shall be based on the number of persons replaced for whom accommodation in new houses is rendered available by the Local Authority. The amount of this subsidy, payable for a period of forty years, is £2 5*s*. per person, except that where rehousing is necessary on land the value of which exceeds £3,000 per acre, the subsidy may be as large as £3 10*s*.

In view of the nation-wide slum drive launched by the Minister of Health in April 1933, it is interesting to observe the concrete results that have been achieved under the 1930 Housing Act. The Minister of Health makes a half-yearly report of progress on housing in England and Wales. Up to and including September 30, 1934, statistics relative to clearance areas and improvement areas declared in resolutions to the Minister of Health were as follows:

1. Number of local authorities who have passed resolutions declaring areas to be clearance areas or improvement areas 507
2. Number of areas declared 3,920
3. Number of houses in clearance areas and improvement areas to be demolished as a result of resolutions passed 73,046

1. Section I (3) of the Housing Act of 1923, Hill, p. 64.

4. Number of persons in clearance areas and improvement areas to be displaced by demolition of houses as a result of resolutions passed 325,809
5. Number of persons in improvement areas to be displaced in order to abate overcrowding as a result of resolutions passed 4,449

The following statement [1] shows the number of dwelling houses demolished or closed under the Act of 1930, the number of persons displaced, and the number of dwelling houses made fit, up to September 30, 1934:

Clearance Areas:

1. Houses demolished 13,102
2. Persons displaced 64,150

Improvement Areas:

3. Houses demolished 256
4. Persons displaced:
   (*a*) by demolition of houses 1,049
   (*b*) to abate overcrowding 830
5. Houses made fit 445

Individual Unfit Houses:

6. Houses demolished as a result of:
   (*a*) formal procedure under the Act 14,723
   (*b*) informal notices preliminary to formal procedure 3,085
7. Parts of buildings closed 2,296
8. Persons displaced (from houses demolished as a result of formal procedure under the Act or in part closed) 60,557
9. Houses in respect of which undertakings not to use for human habitation were given 4,280
10. Houses made fit as a result of:
   (*a*) formal procedure under the Act 92,030
   (*b*) informal notices preliminary to formal procedure 218,709

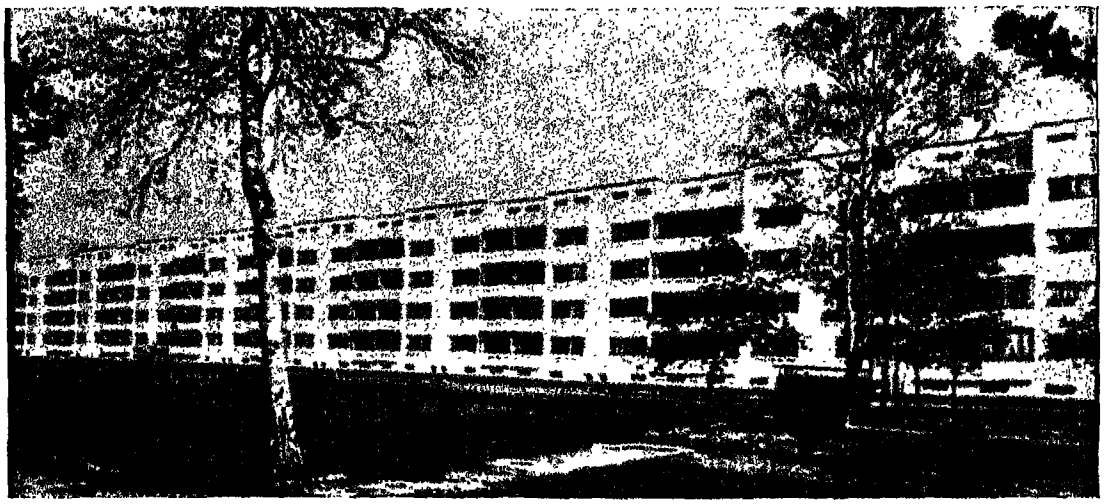
Total:

11. Houses demolished, closed or not to be used for human habitation 37,742
12. Persons displaced as a result of formal procedure under the Act 126,586
13. Houses made fit as a result of formal procedure under the Act 92,475

Housing activities through Government intervention in Europe illustrate a number of principles to which special attention should be given because they appear to be vital in dealing successfully with public housing activities in general, but particularly with slum clearance, which presents the most complex problems in the entire housing field.

First among these is the attitude of public opinion. Nowhere do we find accomplishments of any significance that were not supported by general public ap-

1. From semi-annual statistical report of the Minister of Health, *Housing in England and Wales, Progress up to September 30, 1934*, p. 8.



a. Berlin-Siemenstadt, Germany. Development built in 1930 by the Berlin Municipal Housing Society near the large Siemens factory and within a twenty-minute ride from the center of the city. Four-story buildings containing an aggregate of 1,800 apartments with about 7,000 rooms. Rents average $4.00 per room per month. Reproduced from *Architectural Forum*, April, 1933.



b. Berlin-Zehlendorf, Germany. Development built by Gehag, one of the great pre-Nazi trade-union housing societies, and having accommodations for 1,601 families. Reproduced from International Housing Association, *Der Bau von Kleinwohnungen mit Tragbaren Mieten* (1933), p. 17.

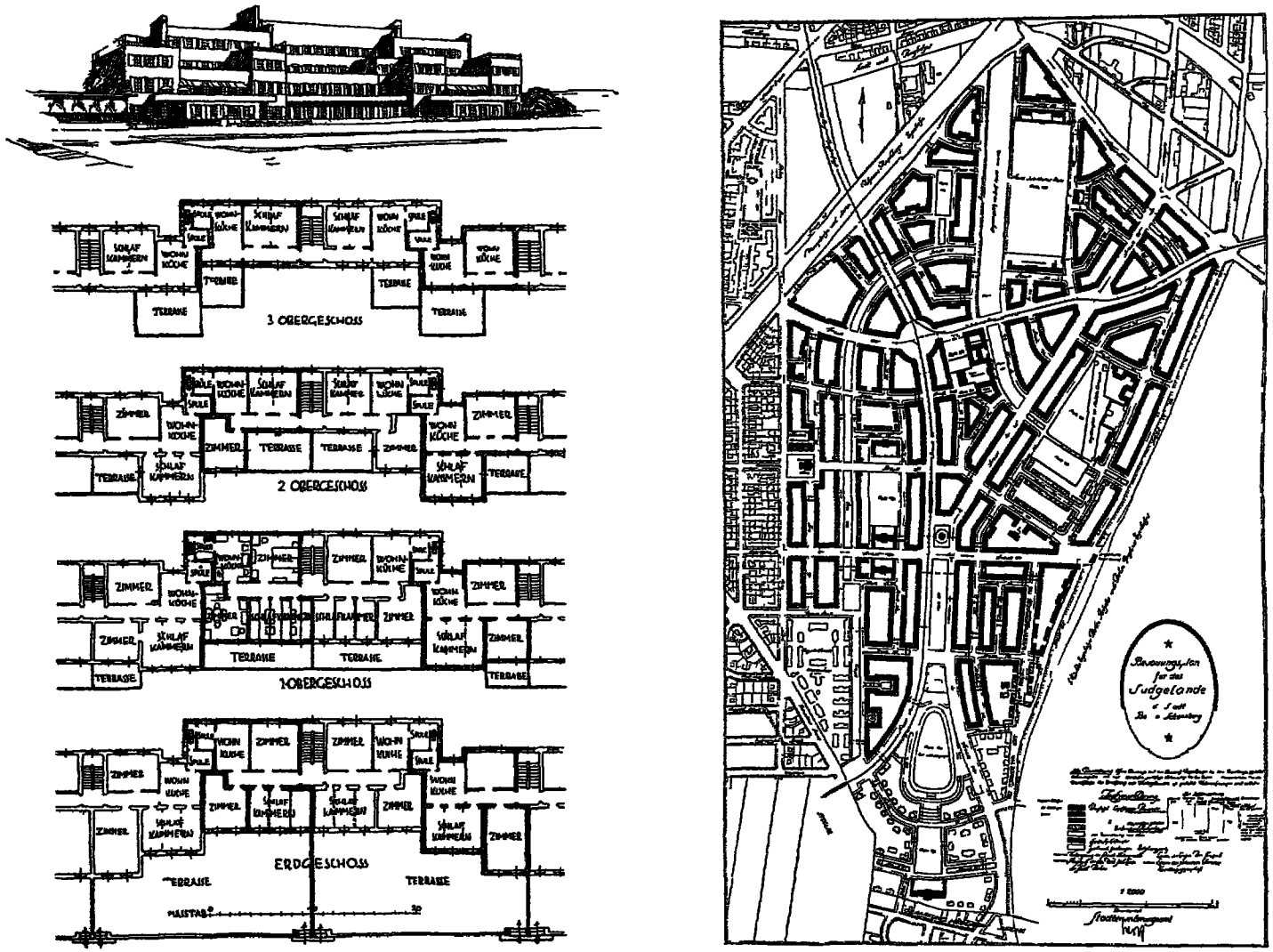
proval. Even so stubborn a case as that of Hamburg yielded to this force, although it took an epidemic to arouse public interest. England affords in this, as in so many other directions, a better example. Here public interest in bad housing conditions has been built up over a period of many years through the writings and addresses of distinguished men of letters, public officials, and members of the royal family. Lack of sympathy on the part of the public, on the other hand, presents an almost insuperable barrier to the advance of slum clearance. If this were not the case, the efforts of those who have devoted years of patient work to this cause should have produced a far more abundant crop of slumless communities. There is here a clear indication that public attention needs to be more successfully turned in the direction of the evils of bad housing, and that the results of such efforts as are made without general public interest in the work are more than likely to be unsatisfactory because the authorities in charge cannot go far enough to do a good job.

In the practical execution of slum-clearance work, England particularly affords an excellent example in the technique of purchase, clearing, and resale of property in zones spotted with slums. Before passing judgment upon the British and Hamburg methods as being too drastic or radical, a thorough field study should be made of the results finally achieved.

The second principal lesson that Europe has to teach us is in the matter of removing slums through the use of "improvement zones," embracing areas that may extend between and beyond the worst slum districts. There are few cases in which slum areas can be isolated and treated successfully without relation to the plan and layout of the surrounding territory. The experience of England in replanning and replatting by zones, as permitted under the Housing Act of 1930, merits further study as the comprehensive clearance drive, now under way, progresses.

The third point of particular importance, especially from the point of view of future slum prevention, is the control of new building in areas that have been cleared of slums. This extends farther than the zoning regulations with which we are familiar in this country, even specifying the number and layout of rooms, and the number of persons that may be legally housed in such new dwelling accommodations.

Although British housing legislation has been more comprehensive and more advanced than that of other countries, it has been subjected to change at frequent intervals, and each of the successive changes has incurred acute and often withering criticism by the opposition party of its period. One fails to find any dispassionate appraisals of any of these measures. Unquestionably vastly more has been



a Suggestions by Peter Behrens for terraced suburban apartments Reproduced from *Bau und Wohnung* (1931) b. Berlin Schoneberg, Germany Plan proposed by Paul Wolf for development of southern part of Berlin-Schoneberg As actually built (see *Wohnen und Bauen*, 1931), this colony consists of three developments erected by different housing societies, with an aggregate of 1,644 apartments

FIG. 106

accomplished by way of slum clearance than in other countries, and America's beginnings at slum clearance seem feeble in comparison. The achievements are striking. Throughout England there are abundant examples of areas of considerable dimensions which have been cleared of unwholesome housing, not as an incident to street widening or other public improvements, but as a result of nation-wide housing policies.

The present legislation, however, was severely criticised before the International Housing and Town Planning Congress in London in 1935 by Walter Goodesmith, B. Lubetkin, Phillip H. Massey, and C. B. Purdom.[1] They comment upon political influence, the need of centralization of housing and planning activities under the direction of technicians rather than politicians, and the importance of full governmental support and of scientific knowledge. They urge that more adequate information as to working-class incomes and rent-paying capacity be assembled, to be followed by the establishment of norms for family expenditures. The type of survey conducted by Local Authorities should be improved. The present standard of overcrowding should be raised.[2] It is further stated "that the subsidies are insufficient to enable provision of proper accommodation at rents the working class can afford, that the concessions to landowners, in respect of compensation, will increase land costs and therefore rents, and will slow up the work of slum clearance, that the Central Advisory Committee is not given power to control building material prices."[3] Their conclusion is contained in the strong statement which follows:

> The 1930 Act did make some provision for slum clearance with the aid of subsidies, though it remained for local authorities to take the initiative, and comparatively little was achieved. The 1933 Act was a deliberate step backwards. It repealed the 1924 Act under which a number of houses at lower rents were built. It discouraged further slum clearance under the 1930 Act and placed almost complete reliance on private enterprise, discouraging local authorities from building even unsubsidised houses, although on Hilton-Young's own admission, they could afford to let them at lower rents. The government's housing policy is based on the assumption that the fall in building costs and the low rate of interest will allow private enterprise to meet the need of working-class families.
>
> We have tried to show that private enterprise will not cater for the most urgent working-class needs, and even a drastic fall in building costs and interest rates will hardly touch the problem. In other words, the housing problem of the workers — more urgent to-day than ever before — is receiving even less attention than before. Not only is there no advance on previous activity in this connection, but by relying on private enterprise alone the problem is now further from solution than ever.[4]

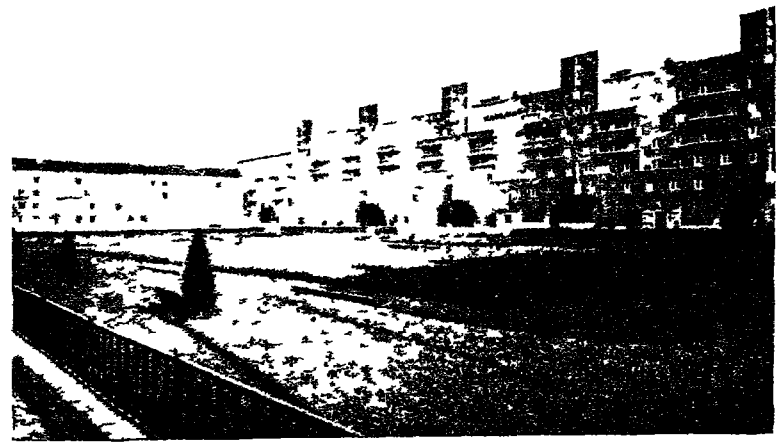
1 *Proceedings of XIV International Housing and Town Planning Congress*, pp 226–243

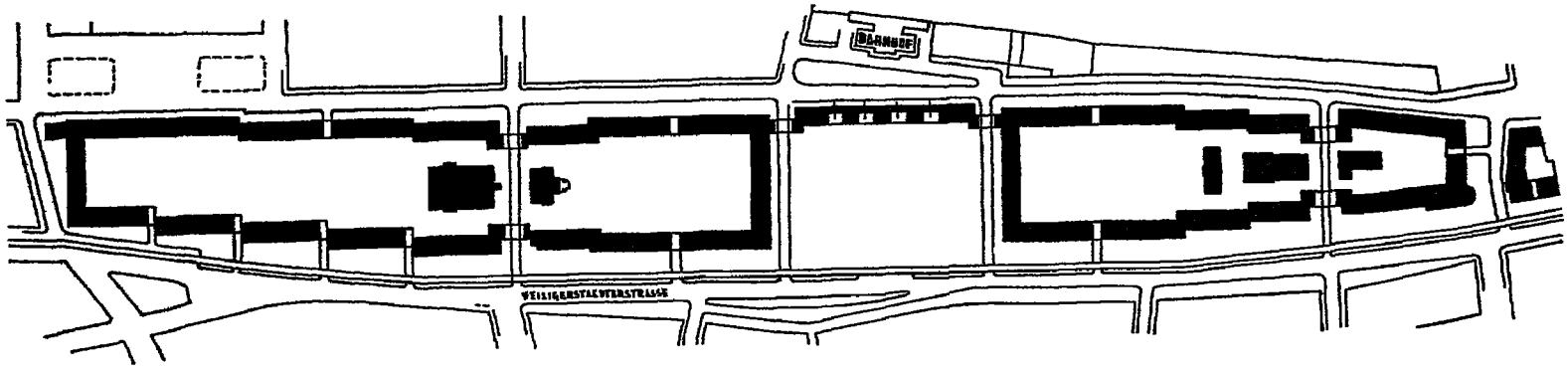
2 *Ibid*, p 235

3 *Ibid*, p 236. Further criticisms are submitted in two publications of the National Housing and Town Planning Council John G Martin, *Memorandum upon the provisions of the Housing Bill, 1935*, and P S Phillips, *Memorandum upon the Housing Bill, 1935, the Consolidation of Housing Accounts*

4 *Ibid*, p 238







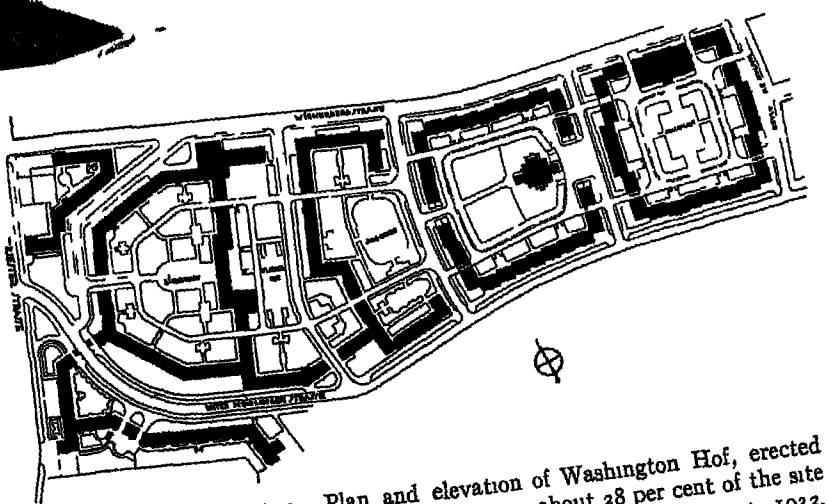
Vienna, Austria. Plan and street and court elevations of Karl Marx Hof, one of the largest housing developments in Vienna, built by the municipal government in 1926–1930 Three-, four-, and five-story buildings covering less than 20 per cent of the site, containing an aggregate of 1,382 apartments, and housing about 5,000 persons. Rents, which cover only maintenance and repairs, range in general from $1 00 to $3 00 per apartment per month. The buildings were bombarded and partially wrecked in the Fascist uprising of 1934. Reproduced from *Wohnen und Bauen*, 1932, pp 230–231

Fig. 107

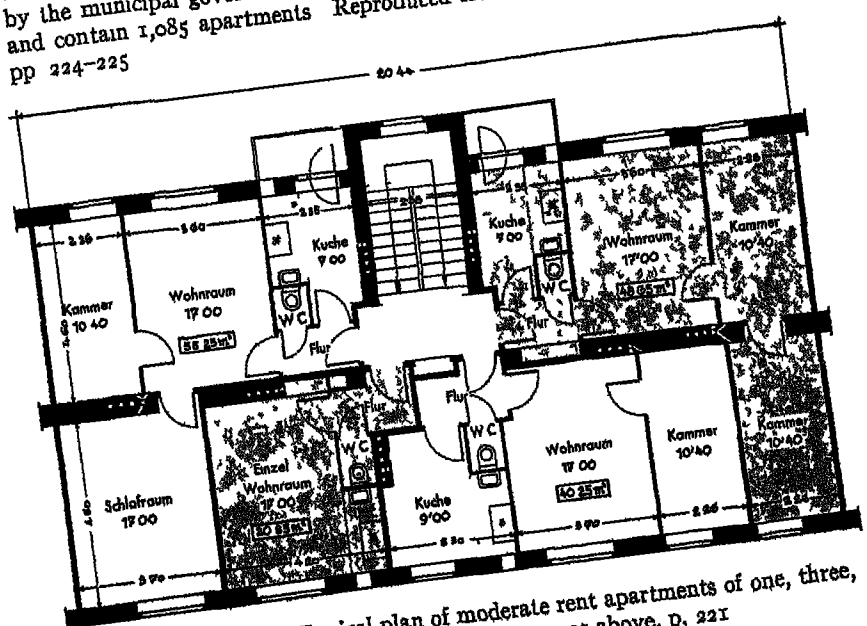
In the perspective which distance gives, such criticisms lose some of their cogency. Most of them are directed at details of method which may need improvement, but the final quotation is directed at the present, as compared with past, policies. If the operation of the British Act of 1933 could be subjected to dispassionate scientific analysis, it might yield, in contrast to earlier acts, data that are quite necessary to an effective long-term policy for America. For the issues are (1) a highly centralized policy for slum elimination and (2) one for decentralization, and either (3) direct public effort or (4) subsidized private and local effort. In the welter of opposing oratory and of statistics quoted to serve party interest, it is quite impossible, without prolonged intensive field study, for America to profit by the detail of British experience. It is, however, unwise for America to proceed as if her problem were wholly new without profiting by the experience, even if at present unsatisfactory, of Great Britain and the many Continental countries. On the basis of the statistics laboriously compiled and dryly presented in British public documents, one is justified in concluding that much physical clearance of slums has been accomplished, with old housing replaced by houses of higher standards. This has been done at enormous public cost and by forms of compensation to private owners which in America would be termed expropriation. We, on the other hand, have succeeded in finding no devices for slum clearance that will yield results on the scale of those of England, and continue our limited and relatively futile plans without reference to the funded experience of other nations.

It is probable that America's housing policy could be greatly facilitated and relieved of crudities and many needless errors by the appointment of an expert commission staffed with competent economists, statisticians, engineers, political scientists, sociologists, architects, and builders, to analyze closely European experience in this field.





a and b Vienna, Austria Plan and elevation of Washington Hof, erected by the municipal government Buildings cover about 28 per cent of the site and contain 1,085 apartments Reproduced from *Wohnen und Bauen*, 1932, pp 224–225



c Vienna, Austria Typical plan of moderate rent apartments of one, three, and four rooms Provenance same as above, p. 221

CHAPTER XXVIII

SLUM DEMOLITION AND REHABILITATION THROUGH PRIVATE EFFORT

SLUM demolition is costly. Private capital under usual conditions is inadequate to meet the task on a large scale. Since well over 99 per cent of America's residential construction is conducted by private investment, slums have not been abolished. Practical difficulties in the assembly of land have likewise discouraged large-scale ventures involving a city block or more in a given operation, either for demolition and rebuilding or for partial demolition and rehabilitation. With few exceptions, therefore, relatively little has been accomplished in this field by private effort except for random repairs and minor improvements in slum dwellings.

Private demolition of slum areas usually has taken one of the following forms:

(1) Destruction of slum areas to provide land for new or enlarged commercial or industrial buildings, or for privately capitalized public utilities or service agencies.[1]

(2) Demolition of old buildings to make room for privately endowed universities, schools, churches, libraries, museums, hospitals, civic centers, parks, playgrounds, or other cultural, recreational, or social service facilities.

(3) Elimination of old residential buildings to be replaced by new ones ordinarily at higher rentals and for an economic or social group different from that previously housed. This would include such ventures as Tudor City, London Terrace, the Park Vendome Apartments, and the American Women's Association Club House, as well as the model tenements of the city which have replaced older buildings.

It is characteristic of each of these practices that slum demolition is an incident, and subordinate in importance to some scheme for replacement. Only in the third instance is there replacement by new housing.

There are relatively few cases in which unsubsidized private demolition and rebuilding or repair have led to the rehousing of the group that previously inhabited the area. Not only in this country, but abroad, the new housing in clearance areas makes necessary an investment so large that higher rentals have been charged, which automatically exclude from residence a considerable portion of

1 See Chapter XXV.

the dishoused population.[1] There have, however, been instances of moderately large ventures, both philanthropic and commercial, for thoroughgoing renovation which have involved the complete removal of an occasional building or obstructive ell.

Beginning in 1864, Miss Octavia Hill in London, with assistance originally from John Ruskin, purchased and repaired slum dwellings. There were occasional demolitions. The essence of her contribution was constant supervision of tenants in renovated premises, by trained social workers, who took care of the details of management and rent collection, and engaged in friendly cooperation with tenants in the solution of their many personal problems. This type of service began with three houses which Ruskin purchased. Once the economic advantage of this method became clear, it spread through the acquisition of houses from other sources. The following excerpts from Miss Hill's letters will serve to show the rare combination of business acumen and humanitarian insight which actuated these undertakings.

[1873] We have also bought six more houses in Barrett's Court, and are rebuilding four of the old ones. Each tenement will be approached by an outside balcony, the staircase will be lighted by gas, and arrangements for water, drainage and dust will be admirable. When these houses are completed we shall have really good rooms to offer to those of our tenants who strive to live quietly, and to keep their homes tidy and clean. You all know why I shall rejoice to have such rooms to offer good and careful tenants; you know why, until the inhabitants had been trained to some degree of care, we could not trust them in new houses, and therefore if we had rebuilt, we must have turned them out in favour of a higher class, thus compelling them to crowd in courts as bad as Barrett's Court itself was when we bought it. . . .

A block of model buildings in Lambeth, which had been a failure commercially, and a failure in its effect on the tenants also, has been put into our hands to manage. We at once put the management on a sounder footing, and have now let all the rooms. I cannot help hoping that we may transform it into a commercial success; I must try to secure some earnest volunteer near the spot who will devote time to the tenants. . . .

[1874] We have now fifteen blocks of buildings under our care; they contain between two and three thousand tenants. Each block belongs to a separate person or company, who entrusts me with the collection of rents and management of the houses. Each block is placed by me under a separate volunteer worker, who has the duty of collecting, superintending cleaning, keeping accounts, advising as to repairs and improvements, and choice of tenants, and who renders all personal help that can be given to the tenants without destroying their independence such as helping them to find work, collecting their savings, supplying them with flowers, teaching them to grow plants, arranging happy amusements for them, and in every way helping them to help themselves. Of course the weekly visit to collect rent gives a capital opening for all this, and the control of the house itself, judiciously used, gives power for good much greater than that possessed by the ordinary district visitor. We are ever ready and at hand to

1 See Chapter XXXV.

assist, advise and relieve guard in the various houses, and of course the responsibility of so large an amount of property having been entrusted to me, the supervision of all and the passing of accounts rests with me; but my ideal is the utmost possible independence of the lady in charge of the houses, an ideal to which we are more and more approximating. Every owner receives 5 per cent. on the purchase money, and, in the case of leasehold, a yearly instalment of capital sufficient to repay the whole during the time the lease lasts. All the profit beyond this is expended in improvement of the houses. The gradual benefit, definite, tangible and easily marked, is a source of the greatest satisfaction to me. . . .

[1879] I am glad to record considerable extension of the work, not only in London (two new blocks in Marylebone) but steps are being taken to set it on foot in Liverpool, Manchester and Paris, and it has been successful in Dublin this year. At Leeds they were wise enough to find a lady who was willing to come up to London and work side by side with us and so gain an insight into much which it is difficult to learn except practically. I would earnestly commend to everyone concerned the absolute necessity of training future collectors. Let those of you who have charge of courts introduce, side by side with yourselves, promising fellow-workers, who may see and learn what is being done and may, in the future, be ready to fill vacant places. *It is no use* to have the right spirit if the technical matters, all the sanitary and financial arrangements, are in a mess. Beware of well-meant failures. Have your drainage, and your clean stairs, your distempering and your accounts all as perfect as possible; and to do that you need trained workers. . . .

[1892] An owner asked me to take charge of a very large number of tenements in Islington. It was quite too far from my other centres for me to undertake it myself, but I was able to introduce two of my best trained helpers and they are now at work there. Order and cleanliness have been established; instead of sixteen tenements being unlet there are now none; the central court, which was a black trampled waste, has been planted and made tidy and the owners wish to put three more of their blocks under the same charge. That would comprise a population of about 2,000 souls.

Some years ago three small freehold houses were bought and given by Mr. Scrase Dickins to be held in trust by Lord Wolmer, Miss Johnson and myself. They are situated in a street which has been proverbially the roughest in the neighbourhood; they are small and have no special structural advantage at all, except, indeed, that they are small, and thus prevent families from being herded *en masse*; but of the kind which might be the scene of dirt and disorder; they were such before they were handed over. Now, how all is changed! The tiny rooms look like real homes and a settled, firm, friendly rule has made them the happiest little places. The interest accruing from the gift is devoted yearly by the trustees to some good object. . . .

[1901] The old houses in Westminster (Vauxhall Bridge Road), which we undertook at Michaelmas, 1900, for the Ecclesiastical Commissioners, now form part of our regular group and are in good order, though reduced in number, as some have been pulled down and replaced by another kind of building. The Commissioners felt justified in pulling down, partly because they had provided numerous and excellent dwellings for working people in the neighbourhood. Twenty-three remain and are under our care. I am glad of this, as, owing to the somewhat Quixotic and unnecessary standard for new houses, it has become most difficult to accommodate the very poor in new buildings. Happily, wages improve, and the "very poor" are fewer each year. . . .

[1907] All over London a change has taken place and the local papers are ringing with accounts of the thousands of tenements unlet. It is sad for the owners and it has been a great grief to me that at last the unlets have reached such a point that for the first time for forty-four years I have had, in one or two small properties, to report to the owners that no dividend had been earned, and in one or two others it had diminished. One hopes that the disaster may not in the future be as serious as this; things do usually adjust themselves more or less, and there has been a depression in trade and an alarming extravagance on the part of local authorities which has increased the financial problem.

One cause of the difficulty in letting is the exodus of working people to the suburbs. This is in many ways to be rejoiced at.

I ask myself: "Is then the need for my special work over, and do I look henceforth to other duties?"

Far from it, the need is greater than ever. *Building* was never what I felt our main duty. It was always the right *management* of the houses which I felt the greatest need. Almost the worst house, if the household be wisely governed, is better than ever so costly a one ill-managed. The work will grow, as far as I can see, by those who already own houses turning increasingly to us to manage for them. And the huge blocks of flats will equally need the presence of trustworthy leaders and human government. So the call is still for us, and we must train and send out all the wise managers we can.[1]

In America the Octavia Hill principles have been tried out on the largest scale in Philadelphia, though applied also in some degree by a considerable number of limited-dividend companies in their model tenements or other projects.[2]

The Octavia Hill Association of Philadelphia was organized in 1896. Miss Helen Parrish was sent to London to study Miss Hill's methods and was put in charge of houses purchased by the Philadelphia association. After purchasing groups of dilapidated houses for many years, the Octavia Hill Association developed as its major interest the practice of serving as agent and rent collector for owners of slum properties on a 7½ per cent commission basis. This phase of their work soon outstripped the acquisition of owned properties. They found it possible to pay a 4 per cent dividend on invested capital to their stockholders up to the year 1930. The following quotations from their reports reveal both the idealism of the venture and the economic results before and after the depression.

January 31, 1929. This annual report of your company concludes the 32nd year of its operation. Its assets, both as regards owned and agency properties, are now in excess of half a million dollars; it manages as owner and as agent over 360 properties and comes into close contact with over 500 families and 1600 persons. Stockholders will be interested to know that sustained endeavor has been made to maintain the original ideals and standards both financial and social, as far as economic conditions permit, and this has been kept in view especially in the growing extent of the company's influence.

1. Extracts from *Octavia Hill's "Letters to Fellow-Workers," 1864 to 1911*, pp. 10, 11, 13, 21, 32, 43–44, 60–61. See also *Homes of the London Poor* by Miss Octavia Hill, No. 8, State Charities Aid Association, reprinted from the *Fortnightly Review* and *MacMillan's Magazine*; and *Tenant Friends in Old Deptford*, by Ellen Chase. 2. See Chapter XL.

The year just past was extraordinary in the slackness of conditions fundamental to the business; the demand for small dwellings has been very poor; rents throughout the city have been considerably cut; employment has been spasmodic. Improvement of this situation is hoped for during the coming year. In spite of these distressing facts (in addition to a like situation in 1927) your company has maintained a sound financial condition.

The Directors have authorized the payment on February 15th, 1929 of a dividend of 4% upon stock of record of February 1st, 1929.

Certain new properties were added to the holdings of your company this last year — 11 single family dwellings on Nedro Street in Germantown. The district is important, and the houses, taken over in a deplorable condition, were renovated and are in good demand. This group of dwellings renting for $35.00 per month, maintains the standards of the company for low-priced adequate housing for wage-earners.

During the past year a survey by Miss Wallerstein, an experienced social investigator, was made of your properties, families and methods. The result has been an increased realization as regards the importance of the social welfare of your tenants. Along with the building up of proper housing conditions goes the stimulation to better living conditions. More sympathetic contact with our families and closer and more intimate relations with the city's existing welfare organizations is progressing.

We wish to emphasize particularly in this report the value of your company as managers for properties. Many estates and properties are now in the hands of Trust Companies or real estate firms which we believe could be more effectively handled, both financially and socially, by the Octavia Hill Association. We entreat the aggressive interest of the stockholders in this particular. The company is also equipped to advise as to proper disposition of problematical properties; to do survey work; to act as specialists on house-group arrangement and individual small-house planning. Your company is by no means unknown nationally in its work — both from a practical and research viewpoint. Many inquiries from other cities and philanthropic sources are frequently received.

In view of the record of your company for 32 years, its sound financial policies, its position nationally and its realization of the importance of the social aspect, the continued interest of stockholders and its introduction to others is especially desirable. It is essential and vital for influence that the realization of the need of new development and progressive growing action be continued. . . .

January 31, 1930. . . .

427–429–431 MONTROSE ST. AND REARS. This property was the only purchase in 1929 by the Association, and it was in a sense a forced purchase due to the Association holding the First Mortgage of $10,000. It was acquired under foreclosure at a cost of $10,725 and $2500 was expended in renovation. This is a court property consisting originally of three front houses on Montrose St. with eleven houses on a rear court. One of these latter was torn down to remove an exceedingly unsanitary condition.

The history of this property will be of interest to Stockholders as illustrative of the importance of the Association. About five years ago this property, then owned by the Association, was sold on the understanding that it was to be torn down and a garage erected. Such a sale was in line with the policy of the Association to eliminate wherever possible slum conditions. Reverses prevented the new owner from carrying out his program and the property was rented

by him, but as he made no repairs the condition of the property and the character of the tenants rapidly deteriorated, and in 1929 foreclosure was necessary and your Association had on its hands a run down, dilapidated property. The outlook was indeed gloomy, but after thorough renovation and the substitution of a good class of tenants for an inherently bad one, fifteen families can now be housed under greatly improved conditions, with a roomy court for the common use of all, and the rental outlook is most encouraging. . . .

January 26, 1931. . . .

RENOVATIONS. — When in 1926 the property at Krams Avenue, Pechin and DuPont Streets was purchased there were upon it 13 houses, probably built 100 years ago, upon which but little was done by way of renovation; eleven new houses were erected on Krams Avenue. During the past year it became evident that five of the houses on DuPont Alley could no longer be rented because of their dilapidation, and it at first appeared that they would have to be torn down. On further investigation it was decided to renovate them and all are now tenanted and the Alley has been rechristened DuPont Place. Four of the houses on DuPont Street have also been renovated, heated, wired for electricity, and new bathrooms and inside plumbing installed. Wiring the properties for electricity is becoming a condition of renting them and is complied with in the cases of worthwhile applicants, the rent being increased 75 cents to $1.50 per month according to the cost of installation. Twenty-three properties, including the Casa Ravella, were wired in 1930 at a cost of $2368.

FINANCIAL. — The auditor's report shows $8,006.58 as the net income from operations for the year, and from this the Directors have declared a dividend of 2% payable on February 16th, to stockholders of record as of February 2nd.

During the year the mortgages on the Association's properties were reduced $6,300. . . .

January 25, 1932. . . .

FINANCIAL OPERATIONS. The operations for the year, as shown by the auditors report, which follows, resulted in a loss of $3496.03 after depreciation, precluding the declaration of a dividend at this time.

In the annual report for the year 1930 reference was made to the effort then being made to purchase a group of dilapidated houses adjoining a group owned by the Association; fortunately for the Association the offer made for these properties was not accepted, as five of the houses have been demolished, improving the situation of the adjacent houses with slight cost to the Association. No efforts have seemed warranted during the year 1931 towards acquiring any additional properties, and most fortunately a readjustment of the largest mortgage on the Association properties was effected before the present doubtful attitude toward mortgage investments had developed, and your directors have been relieved of the anxiety which might have been occasioned had they been pressed for the payment of any of the mortgages held by the Association. . . .

January 22, 1934. . . . The question of profits has been wholly lost sight of, and the struggle has been to keep properties tenanted in order to avoid vandalism, with the result that all rentals have been materially reduced, and that at the close of 1933 the highest return is $20 per month for a house with five rooms and bath, while $10 a month is the rent paid for a two-room apartment or a three-room house. The situation was increasingly unsatisfactory during ten months of the year 1933, but during November and December inquiries were more numerous and there was some improvement in the collections of rents, not yet reflected in the monthly

statement as it is offset by enforced reductions in rents It does, however, warrant the expectation that throughout 1934 a larger percentage of tenants will be steadily employed . . .

By careful management and curtailment of expenses in all possible ways the financial year of the Association was closed without carrying over into the new year any embarrassing obligations. . . .[1]

One departure from the principles of Miss Hill in their application to Philadelphia has been the employment of rent collectors in place of the use of volunteer workers. In spite of a heavy case load — 160 to 180 families per collector — the burden of their salaries must be carried by rentals if dividends are to be paid to stockholders. The tendency to increase the case load reduces the volume of social service available to the tenants. Yet such service is the most distinctive principle of the Octavia Hill method. There has been a developing conviction on the part of stockholders of the Association, and of other housing specialists in Philadelphia, that the small amount of renovation possible without undue increase in rentals is insufficient to provide housing with adequate standards. A major danger implicit in this practice lies in the perpetuation of buildings that should be destroyed. The admirable features of educational rent collecting can be salvaged and perpetuated in new housing projects incorporating much higher standards of design, construction, and equipment.[2]

Attempts to recondition large groups of slum dwellings have been undertaken with considerable success by Claude Leigh in London. After a quarter of a century of experience as landlord, managing director, or chairman of seven different companies, chief of which is the Metropolitan Housing Corporation Ltd., the estates under his control now house more than 10,000 families. The Metropolitan Housing Corporation Ltd. has a capital of over £2,000,000, and, according to his statement, earns 12 per cent per annum and pays a dividend of 8 per cent to stockholders.[3]

My activities have been almost exclusively confined to the re-conditioning of houses and apartments, the first essential being, of course, that they should be structurally sound. It is my experience that, given this class of house, it is possible to re-condition, improve, and introduce amenities which have hitherto been regarded as luxurious, but which are, in my opinion, not only necessities but essentials There is a very good reason for this re-conditioning policy, as it is found — and I am quite sure that this applies equally to America — that the building of houses for the poorer paid working classes is definitely uneconomic, owing to the high cost of new buildings and the increased value of sites or plots. . . .

1 Annual reports of the Octavia Hill Association, 1929, 1930, 1931, 1932, and 1934

2 See Chapter XL A useful reference is Tullerton L. Waldo, *Good Housing that Pays*

3 "Successful Reconditioning of Houses in London," *Housing*, October 1932, p 228 See also Métropolitan Housing Corporation Ltd , Directors' Report and Accounts, and Departmental Committee on Housing under the Chairmanship of Rt Hon the Lord Moyne, Proof of Evidence submitted by Claude M Leigh, May 1933

Before I tell you of my work, I must reiterate that it only deals with the re-conditioning of houses and apartments that are structurally sound, although I am going to suggest and explain that together with this re-conditioning given a sufficiently large area, the pulling down and re-building of slums can go hand in hand and the combined scheme made a good and profitable commercial proposition.

I purchase a block of property consisting of anything from 50 to 500 or even more houses in an industrial district. As soon as conveniently possible the whole of this estate is re-conditioned externally, and the necessary obvious repairs are carried out internally.

I have a special department that deals with social services, which studies the psychology of the tenants. Perhaps if I take a specific Estate under my control, I can deal with actual figures and facts.

Let me take the Albany Estate in Camberwell, London, which is within 15 minutes' journey of Piccadilly in the centre of the city.

Here in 1925 I took over about 10 blocks of 6-story tenements built of brick, which had been described in several reports as being occupied by criminal classes. I can assure you that when I took them over they were in a very bad state of repair and tenanted by a very indifferent class of tenant.

On this estate there are about 500 tenants. The first thing that I did was to repaint the outside wood-work in what is known as my "estate green color." This step immediately brought forth comments from the tenants and made them inquire as to what was likely to follow. Their comments were not always complimentary, but at any rate they were made to talk, as the previous landlords had done very little in the nature of repairs or decorations since the War.

Having got thus far, and having studied social service in America, I conceived the idea of opening what is known as a social centre. I then communicated with each of the tenants and pointed out that I hoped to administer the estate on a co-operative basis between landlord and tenant. I asked them in the first instance to pay their rent at the local rent office, which I opened on the estate for this purpose; as in London it is the custom for tenants of this class to pay rentals weekly and have somebody call to collect them. In fact, on each of my estates there is now a rent office in which there is a superintendent installed who is solely concerned with the collection of the rents and the maintenance and repairs relating to that particular estate. Thus, each one of my estates is treated as a separate entity and kept separately and distinctly from the social centres. . . .

But in England we still have a Rent Restriction Act which prevents any increase in rent above 40% of the net rent paid pre-war. Therefore I am unable to introduce improvements and increase the rent. The improvements consist of such things as bath tubs, and deep sinks large enough for the bathing of the baby. This will give you some idea of the way the psychology of the tenant is studied. I found many mothers bathed the baby in the sink. It was no use telling them not to do so. Instead, I introduced a deep sink so that if they still desired they may do the job properly.

There are boilers heated by gas for washing clothes. They also provide the hot water for the bath tub, as hot water is not given. Neither is steam heat supplied or elevators provided, the highest building being only 6 stories. There is a special marble compound wall-covering which is not only attractive but sanitary. Tiled stoves are available which are convertible and may

be used either as a parlor or cooking stove. In fact, every labor-saving device is fitted in this typical and, as I call it, "Ideal" flat. Each article is marked with the amount per week in excess of the rent that it costs the tenant to have it installed in his apartment. I then arrange for a firm of furnishers to furnish the flat completely in strict accordance with the requirements of the district. Of course, I have nothing at all to do with the supplying of the furniture. I leave this matter entirely to the firm of furnishers to make their own arrangements.

It is found that the tenants very soon take advantage of what they see, and, in fact, I am today installing these permanent improvements in the various flats at the rate of over 100 a week for which the tenant is paying No article is ever fitted unless the tenant has made application, it having been proved that where a tenant has made such an application and is willing to pay he is going to make full use of it. That old story of the tenant "storing the coals in the bath tub" is non-existent on my estates. Of course, when an apartment becomes empty it is then fully re-conditioned and all these various improvements are added and the rent increased accordingly. I have a waiting list of many thousands for these up-to-date apartments.

The moral effect on the tenant of contributing to the permanent improvement of the flat goes to make not only a better apartment but a better tenant. In fact, I insist that in order to ensure success for a re-conditioning scheme, the co-operation of the tenant is essential. This is another demonstration of the importance of my Social Service organisation. . . .

The Social Service organisation not only provides the tenants with the most complete services, but at the same time is the avenue through which incipient propaganda is carried out. It encourages the tenant to demand better housing, which my organisation — and my organisation alone — provides at rentals which I consider to be the lowest in the world. The rentals range from 2 rooms and kitchenette for $8.18 per month to 4 rooms and kitchen, bathroom, containing all the latest labor-saving improvements for $20 per month — in each case for the whole apartment.

I control about 10,000 direct tenants. Together with subletting, which is permitted, I cater for approximately 50,000 people. In every case each apartment has its own toilet and 70% are self-contained, each with its own front door.

In my view, this re-conditioning development, together with the tearing down and rebuilding of slums which are obviously past re-conditioning, could be carried out successfully if a sufficiently large development were dealt with and the percentage of property capable of being so re-conditioned was in the neighborhood of 60%.[1]

The efficacy of a plan of this sort is obviously dependent upon business judgment. Mr. Leigh is insistent that it does not pay unless at least 60 per cent of the houses in the district acquired are structurally sound. Discrimination must be exercised in the selection of tenants, since those of lowest standards are ordinarily also delinquent in their payments of rent. The basis of selection is, to all intents and purposes, the habit of regular payments. Nevertheless, the result is to keep out the type of subnormal tenant that would most profit by probationary colonies of the Holland type.[2]

1. "Successful Reconditioning of Houses in London, Claude Leigh's Work," *Housing*, October 1932, pp. 228–231.

2. See Chapter XXIX.

An ingenious scheme has been devised to induce tenants to pay for improvements without making this explicitly a rental increase. Each of Mr. Leigh's developments maintains near the rental office what is known as the "ideal flat." In size and arrangement it is typical of the flats in the vicinity, but it contains the many types of equipment which a subsidiary company, known as Reps Limited, is prepared to install in any flat of the corporation's property. The tenant selects the equipment desired and pays a permanent weekly "hire-charge" which is collected with his rent but separately from it. Reps Limited may remove the improvement if the tenant fails to meet his payments. The types of equipment selected are the best practical appliances available for tenants of the economic class served. The additional weekly payments run as follows: modern water-closet to replace "hopper," 3*d.*; gas copper, 8*d.*; full-sized bath with cover which becomes a table, 1*s.* 1*d.*; porcelain sink, 6*d.*; range, 7*d.* For tenants of low standards this practice has the marked advantage of providing only such equipment as is wanted, which insures proper care on the part of the tenant. The cost of the fixture is met by continuing payments. They tend to hold the tenant to the premises and thus eliminate losses from vacancies; in this way both owners and tenants gain by the transaction.

Leigh has improved upon the methods of the Octavia Hill Association by providing for educational social service through a staff that is separate from the rent collectors. He notes that once a tenant is in arrears in his rents, that fact stands in the way of satisfactory personal relationships between the tenant and the social service worker. By separating these functions, the tenant's relation with the social service worker is not strained by delinquencies in payment.

A social center is maintained in each estate, with parked areas, a nursery in which mothers may leave their children while at work, sandboxes, roof gardens, and organized social activities. The services of a woman doctor are also available. As a result of these methods the Metropolitan Housing Corporation has a long waiting list of applicants for apartments. Apparently, in this instance at least, improvement of slum dwellings has been made to pay.

One cannot, however, directly argue from the above experience that a similar corporation would be desirable or economically profitable in New York City. It is scarcely applicable to the more typical slum areas in which tenements of the "railroad" and "dumb-bell" types predominate, both because of the heavy initial investment involved in the acquisition of such properties and because such properties cannot be rendered even moderately wholesome unless the rear half of every third house is removed, and side windows cut to the open space thus created (see Figure 110a). In blocks of the older city, which are solidly built on four sides,

it would be necessary to eliminate four or more buildings in order to open up the interior of the block — which, under such a plan, would become an interior park — so that rear windows on lower floors would receive sunshine. Where old-law tenements cover more than 70 per cent of the lot, even such drastic changes as these would not provide enough improvement to warrant the cost entailed. Neither the projects of Leigh, nor of Octavia Hill, nor of the Philadelphia Association, have been able to contemplate changes so drastic. "Railroad" and "dumb-bell" tenements should be recognized as obsolete and the capital which might be available for their renovation would ordinarily best be utilized in projects for wholly new housing.[1]

The argument against encouraging private capital to engage in rehabilitation of dwellings in areas of old-law tenement houses is based, first, upon the recognition of the colossal cost involved in such operations, involving as they would the destruction of perhaps a third of the properties in a typical block in order to make the others habitable. To this should be added the cost of rearranging all floor plans, installing new equipment universally, complete renovation of the buildings not demolished, and the building of parked areas within the blocks.

Joseph Platzker, Secretary of the East Side Chamber of Commerce, stated before the National Conference on Slum Clearance in 1933 that the Lower East Side would required "at least half a billion dollars if it were to be completely rehabilitated." There are 9,779 structures in the area of 1¾ square miles, and of these 3,781 are five stories high, 1,921 six stories high, 1,859 four stories high, and 1,375 three stories high. Tenements and dwellings comprise 8,079 of the total structures; 755 are warehouses and loft buildings; and 130 are factories. There are more than 6,000 owners in the district, and the average block has at least twenty owners, sometimes more than thirty. Only 3½ per cent of the structures were boarded up or abandoned. These figures, published in April 1931 by Joseph Platzker in the twelfth of a series of Research Studies entitled "Housing," make it clear that the East Side's problem is beyond the reach of private capital.

Since, at best, the supply of capital available for rehabilitation operations would be estimated in millions or tens of millions, rather than in billions, it is ap-

1. Slum rehabilitation plans of this sort have been drawn by F. P. Platt and Bro., architects, and also by Miss Marcia Mead, architect. Platt's plan involved rearrangement of floors, and provision of bath, toilet, hot water, and electric lights for each family, but no expenditure for modern kitchens, refrigeration, or steam heat. He submits that a Lower East Side block could be rehabilitated in this manner for less than $500,000 in contrast with a probable expenditure of $2,000,000 for a new building covering the same block. He ingeniously suggests that since dwellings in that vicinity are 25 per cent vacant, 75 per cent of the block could be modernized in this manner, using the 25 per cent vacancy to shift tenants during one construction. Higher rentals are contemplated for the white-collar group for 25 per cent of the project. Data drawn from an unpublished memorandum of September 28, 1933, entitled "Slum Rehabilitation and Low Cost Housing," by F. P. Platt and Bro., New York City. An actual experiment in this type of slum rehabilitation might have merit in that it would provide, for a small group, better housing than is now accessible, while offering a demonstration of both the possibilities and the difficulties entailed.

propriate to consider where it could best be applied to the advantage both of the investor and of the general public. If, as has been shown, the regions of old-law tenements involve such heavy cost for land and so-called "improvements" upon the land, private exploitation would make no impression upon districts in which such tenements predominate. For the welfare of the city, such districts must be dealt with by comprehensive schemes carefully devised by the Housing Authority in cooperation with the agencies concerned with one aspect or another of city planning. Private investment in the improvement of one or ten, or even twenty, blocks would be unable to change the character of the district and might involve serious loss to the investors because of public policies subsequently devised for the district as a whole; or more serious still might, because of their palliative features, prevent radical comprehensive treatment of the entire area. The problem of the oldest, largest, and worst of our slums is a problem for public action. The field for private investment is on the edges and not at the center of existing slum areas — at least those in which buildings of four or more stories predominate.

The greatest public good could be done by private investment in the rehabilitation of old buildings at points where it might stay the spread of any given blighted area or slum. If the investment is made on the edges, the spread of the blight may be stopped, and the area of blight permanently reduced. This observation is confirmed by analysis of the effect of such improvements in the Washington Square district, in Greenwich Village, in the vicinity of Beekman Place and Sutton Place, West 57th Street, and elsewhere. In each instance the operations have tended to begin not where "railroad" or "dumb-bell" tenements predominate, but where there were many buildings erected as private dwellings. Not one of these operations was started in the center of a slum but rather in regions where, because of relative accessibility and in most instances also attractive outlook, remodeling was encouraged for a new type of use. The presence of such ventures in rehabilitation shortly encouraged new construction as well. In most of these instances both new and remodeled construction have tended to continue.

It is commonly true that remodeling projects, tried in other areas by savings banks and investment corporations, may for the first year or two attract enough families of the district with exceptional rent-paying capacity to make the investment appear sound. From such evidence as has come to hand, it would appear that the holding power of remodeled dwellings in the Lower East Side, for example, decreases when the newness has worn off, and that the families who can pay the higher rentals required by the remodeling tend to move to other districts where their larger incomes make it possible for them to reside, leaving vacancies which can be filled only by reduction of rentals.

The arguments against remodeling of blocks of old-law tenements would not apply to rooming-house districts in which unbroken rows of dwellings, originally constructed for single-family use, make up the vast majority of buildings in the block or area. They would not apply, therefore, to a considerable portion of Harlem, in which much the same conditions obtain, for such blocks are characterized by construction originally sound and durable, and by land coverage averaging under 70 per cent, which leaves relative openness at the interior of the block and also often at the ends. This means that relatively little would have to be spent upon the demolition of obstructive buildings in order to provide adequate sunshine and ventilation for block interiors.

The costs of block rehabilitation, aside from the parking of the interior land, would lie chiefly in renovation, in rearrangement of interiors, in simplification and harmonizing of exteriors to give some degree of unity, interest, and attractiveness, and in modernization of equipment. The sum of money that would be required to make over a single block of old-law tenements in a manner which would be healthful, wholesome, and inviting would suffice to renovate several blocks of the type just described. Moreover, the latter type of investment, if judiciously executed, might yield returns to the investors for a generation or more to come, whereas the former would be continuously imperilled by its neighbors and by unforeseen changes or trends.

Smaller projects are currently described and illustrated in professional publications. Thus, the *Architectural Forum* of March 1935, under the caption, "A 25 Per Cent Annual Return on the cost of renovating three Manhattan tenements results from thoughtful architectural treatment," describes a group of three tenement houses on the northwest corner of 74th Street and Third Avenue. Several other examples of remodeling by H. I. Feldman, architect, are mentioned, and attractive illustrations and details of remodeling costs are given. Similarly, in the issue of July 1934, under the caption, "Nine Tenements into Sutton Manor," the *Forum* describes with ample illustrations but little detail a project on the corner of 53rd Street and First Avenue. In the issue of August 1935, the radical remodeling of a building on a 16-foot lot, with an estimated return of 25 per cent on the cost of renovation and 7 or 8 per cent on the total investment, is briefly outlined. The *Real Estate Record and Builders' Guide*, on January 14, 1933, described remodeling of four buildings at 21 to 27 Sutton Place, South. *Building Modernization* has currently outlined several examples. These characteristic articles leave many questions unanswered. A comprehensive analytical study of all such projects is needed.

In 1928 a city block was made the unit for a project by William Sloane Coffin in

the region south of Washington Square—a block bounded by Bleecker, Sullivan, Houston, and McDougal Streets (see Figure 41b and Appendix). It covered all except the Houston Street frontage. Houses on two sides of the block were only three stories high. These were made over into family units, and the combined backyards were divided up into fenced private yards for individual houses and an open space for common use.[1]

. . . In this case, the houses purchased by Mr. Coffin and his associates had been built for forty years,[2] but were structurally sound and contained improvements over many of the old law tenements. However, under poor management, they had gradually degenerated to the worst houses in their neighborhood, and in that locality became known as "pest houses," because of their unsanitary conditions and the frequent illness of their tenants.

Rehabilitation seemed hopeless at first. Only 14 out of 72 apartments were rented. The plaster was falling down and cracking in every room; the plumbing pipes were torn out; the roofs leaked; central heating plants that had originally been installed were abandoned; dirt and dust had accumulated for years. The tenements had to undergo a complete transformation.

There were, originally, 275 rooms, which, under rehabilitation, were altered to make 236 rooms and 72 baths. Twenty-four of the rooms were increased in size and many were changed around so that living rooms would always be on the street side or in a position to receive the best ventilation. Eighty-five per cent of the rooms are now well lighted and ventilated, and 15 per cent reasonably so. The previous rent averaged about $4 per room per month, with a high percentage of vacancies. At present the rent varies from $7 to $12 per room per month and the total annual receipts amount to $26,000. Land and old buildings cost $55,000;[3] alterations, including architects' fees and builders' profits cost $85,000, or $320 per room. The operating expense is said to be $10,500 per annum; thus after amortization on a 4 per cent basis, a profit of over 6 per cent is being made on the investment.

There were almost no structural changes in remodeling the houses. Alterations included complete fumigation; removal of all unnecessary fire escapes on courts which blocked light and ventilation; whitewashing court walls; cleaning, with acid, windows encrusted with the dirt of years; masonry repointed where leaks had developed; chimneys rebuilt above the roofs; floors of all buildings repainted and bricks cleaned with muriatic acid; unnecessary exterior vestibule doors removed; badly worn and shabby entrances remodeled; and, where necessary, new glass and hardware.

A new bathroom with tiled floors and modern fixtures was installed in every apartment. These were located in the back portion of the houses, replacing the poorest bedrooms. Steam heat was installed with radiators in every room except the smallest where risers provide sufficient radiation. Porcelain wash tubs, enameled sinks, ice boxes and gas ranges were installed in the kitchens. Every room was supplied with an electric light outlet and fixtures.

Individual letter boxes were installed in the vestibules and individual bells with door controls were provided for each apartment. The dumb-waiters were rebuilt and provision made for the removal of garbage by lowering it to the janitor. Floors were cleaned and repainted,

1. *Regional Survey of New York and Its Environs*, VI, 313–314.
2. I N. Phelps Stokes states that they were then over sixty years old.
3. This figure, if correct, is amazingly low. In reproducing this type of investment one must count upon higher costs for land and buildings.

some of them being rebuilt. Interior walls were cleaned and painted with bright colors to make the interiors as light and cheery as possible.[1]

Several writers have recently drawn up plans for the financing of rehabilitation projects, utilizing the block or a group of blocks as the unit. Henry Wright [2] submits a financial set-up for theoretical five-block rehabilitation. He assumes an ownership pool which will preclude excessive purchase costs for the properties, and argues that the "new buildings, with their greater efficiency, will require less for maintenance, depreciation, and vacancies, which will permit a larger part of the rent to be applied to their increased capital costs."

Arthur C. Holden, in the *Architectural Record*,[3] treats the problem in much more detail. He likewise urges the pooling of equities. His plan, like that of Mr. Wright which it preceded, assumes voluntary organization and participation of the owners in pro-rata returns based upon their proportionate returns from their original holdings.

The Architects Club of Chicago in 1932, in a pamphlet entitled *Rehabilitating Blighted Areas*, sought to ascertain a method both practical and fair for the assembling of lots and the pooling of equities and mortgages. Their recommendations are summarized as follows:

The benefits of present owners of blighted areas is the proper governing motive in assembling property for large-scale operations. Assembling their properties in Trust for large-scale improvement and management would enable each owner to receive his fair proportionate share of earnings, proceeds and avails to make his individual interest profitable and negotiable.

In acquiring properties the equity, mortgages and the leases must be considered in the value.

Defaulting or near defaulting mortgages will occur, but it will be to the interest of mortgagors to improve the earning value of the property even at an interest reduction of 1 to 1½ points and mortgagors may agree to consolidate mortgages.

Long term leases encountered may be obviated by mortgage foreclosures, or it should be possible to offer tenants equivalent property in the district pending improvement, with the provision of original choice in the improved location as soon as it is available.

Safeguarding income of both owners and mortgagors during the transitional stages must be met without swelling the capital obligation so much as to impair profitable income after the new properties are completed.

Purchasing equity valuations outright involves large amounts of new capital for paying owners for mistakes or achievements of the past and raises speculative sharp practice resistance.

Purchase prices must usually be made high to include a discount in advance of possible future earning power in order to induce the present owners to forego the hope of future

1. President's Conference on Home Building and Home Ownership, *Slums, Large-Scale Housing and Decentralization*, III, 58–59.

2. *Rehousing Urban America*, Chapter IV, pp 24–26, and p. 168.

3. "Facing Realities in Slum Clearance," February 1932, and "A Basis for Procedure in Slum Clearance," March 1933

profits, thus reducing ever afterwards the rate of net income on capital invested in the new project.

The market price usually reflects the desire of the owner more than the economic possibilities of the owner, but assembly values must be made on a scientific valuation of the past income by proper accounting, weighed by possible potential values of varying conditions in the light of probable returns on the new investment.

A scientific study of the present trends, conditions and values will also be necessary for an economic study of the project and determin[in]g equitable compensation to the owner during the transition period and for establishing the relation of individual property values to the value of the whole tract.

It should be possible after establishing the ratio of individual ownership to the whole ownership to establish an Equity Trust and issue Trust certificates representing fractional shares in exchange for deeds to individual parcels thus consolidating entire properties with comparatively little capital expenditure.

A careful scientific study and appraisal of all individual properties must also be made to the end that the Trust secures immediate administrative control at terms equitable both to the present owners and to the Trust.

If a scientific valuation of a property discloses an operating deficit, a capital deficit, or negative values, the Trust might get it placed in a separate Trust or acquire the property on a long time lease, and thus control the property, reserving the privilege of conversion to equivalent Trust shares at a future time.

Trust certificates in the hands of original owners in lieu of deeds would be marketable and can be exchanged at a nominal expense, perhaps less than 5% of the cost of the average transfer by deed, without altering the capital structure as is the case when reality is exchanged by direct sale.

This method of transfering property to an Equity Trust for improvement:

(*a*) Meets the owner's desire without the necessity of discounting future earnings in advance and thereby increasing the capital account because all participant owners will participate in future earnings and are alike interested in keeping the capital values and annual charges due to capital as low as possible.

(*b*) Economics of administration and upkeep may be introduced at once since the Trust becomes responsible to its participants for increased net income of the whole tract.

(*c*) By thus pooling equities and consolidating mortgages, probably at lower rates, management may be concentrated on parcels that can be made to produce greater income, and demolition applied to unfit or unprofitable parcels.

(*d*) The marketability of trust shares may advance as the management increases net income or accumulates a surplus to the benefit of shareholders, but the economic organization of the property will not be disturbed by the sale of or change in the price of shares. This is to be contrasted with the change that usually takes place in the relation of income to invested capital when the equity representing real estate is sold at a profit by transfer of title, a charge often so great that the property must be refinanced or completely rebuilt in order to justify the price paid or to carry it profitably.

(*e*) Proposed public improvements such as lights, sidewalks, parkway planting may be economically arranged for without the accentuated conflict of interest that always arises between individual ownership of small properties in such cases.[1]

Clarence A. Perry is more concrete in his recommendations with regard to the legislation necessary to facilitate the organization of owners.

A new impetus to slum clearance through large-scale, commercial housing now seems possible through the discovery of a method that promises to overcome the assemblage difficulty. The suggested procedure involves three stages:

1. *Unification of at Least Two-thirds of Ownership.* — The device for accomplishing a partial pooling of properties is a state law providing for the establishment of "real property improvement districts" in blighted areas. The statute would define what parties might initiate the proceeding, provide for a survey of the proposed district, prescribe the requirements for incorporation, set up a method for determining the relative values of the property interests involved, and define the powers of the incorporated body. If at least two-thirds of the interests were represented in such a pool, there are many ways in which, by refurbishing and renovating, the consolidated properties could be made to yield an increased income.

This plan, however, contemplates comprehensive *rebuilding* projects and the incorporation of a large majority of the owners, through the device of a real property improvement district, is simply the first step in getting the bulk of the parcels under a unitary management which would be able to organize a construction project. Such a development could, under this scheme, be projected with confidence because its promoters would know that if their plan complied with the governmental requirements to be set forth under the second stage, it would be granted governmental implementation, as provided in the third stage, in assembling the remainder of the parcels it needed.

2. *Governmental Requirements.* — The second stage involves the standards which re-building projects, under this scheme, would have to satisfy if they were to receive government implementation in completing their property assemblage. These can be quickly enumerated. Besides being economically sound, a project must (*a*) fit into the city's master plan and highway system, (*b*) not produce a density greater than that set up by the master plan, (*c*) meet desirable light and air standards, (*d*) provide stipulated open spaces suitable for garden court and recreation uses, (*e*) promote the street safety of its residents, (*f*) provide acceptable retail shopping facilities and other community facilities which might be prescribed, (*g*) agree to remain under state surveillance throughout the period of construction and the initial leasing.

No requirements would be set up as to rents. If any limitation were to be placed upon dividends, it should be set high enough so that projects of this type would certainly attract conservative capital. Projects in this class would not seek or be granted tax exemption, but since they would usually cover several blocks they would need some freedom in dealing with the intercepted streets. If they wished to substitute underground driveways and shopping arcades for some of the traversing streets, the municipality should take a liberal attitude toward such proposals.

1. *Rehabilitating Blighted Areas*, pp 17–19. The chapters on "A Funded Housing Trust," "A Trust *versus* A Corporation," "A Typical Block Development," and the proposed constitution for a Chicago Funded Housing Trust should be studied closely by any group contemplating the pooling of equities.

In this scheme, the price of governmental recognition is not low cost housing. It consists rather in the limitation of the human load upon the land and the insistence upon a housing environment that is beneficial to the occupants and to society — requirements which will benefit humanity long after the effect of a rent reduction has been lost.

Incidentally, these requirements all add immediate market values.

The compliance of such projects with the municipal master plan should manifestly be adjudged by an official city plan commission while the other requirements might well be under the jurisdiction of a state housing board. These administrative features would of course be worked out in various ways by the different states.

3. *Completing Plot Assemblage.* — According to this plan, a project which had satisfied the above requirements would be able to apply to the federal government for assistance in securing the parcels it still needed.

The federal agency would survey the parcels concerned and examine the official data gathered in connection with the incorporation of the improvement district. It would then estimate the total cost of acquiring the land by condemnation and set the price for which it would sell to the project a long-term lease-hold right to those parcels. If the terms were agreed to, the federal agency would make an immediate entry upon the land and turn it over to the project.

The developer of the project would then be in a position to proceed with the securing of the needed mortgage and equity funds.

If this plan were put into operation, it is assumed that condemnation action under it would be sought in many large cities. In some cases the government would lose; in others it would gain. This feature is in the nature of insurance. Because of the wide base over which it would distribute the risk involved, it is a function which the federal government could assume more efficiently than state governments. If, too, the uncooperative owner knew he had to present his claims in an austere federal court, he would probably be more willing to negotiate with the unified management.

The public-interest aspect of these projects would be attested by (*a*) the establishment of the real property district, and (*b*) by compliance with the requirements set up by city and state. Since all these projects involve slum clearance, it is believed the federal government would have ample power to perform the condemnation function.

The first stage of the procedure has already been incorporated in a bill which was introduced — though not passed — at the last session of the New York State Legislature. In the main, it expresses the ideas of Arthur C. Holden, the New York architect, who has been advocating property-owner pooling for a number of years. Another method of incorporation called a "home district plan," has been proposed by Herbert U. Nelson, Secretary of the National Association of Real Estate Boards. In St. Louis, Judge Glendy B. Arnold has proposed the establishment of "reclamation and improvement districts" in blighted business areas. The sentiment is evidently growing that property-owners must be given legal power to combine in improvement plans when such plans are in the public interest and cannot be accomplished without such combination.

The city plan commission called for in the second stage is already in existence in many cities and is authorized in others. The setting up of the other requirements surrounding these commercial projects should not be difficult of enactment.

Steps to secure the state legislation required in the first two stages would undoubtedly be

started at once if the National Administration would give publicity to this plan, or some modification of it, and announce its willingness to implement commercial projects conforming to it.[1]

The logic of contemporary conditions and of the economo-social process justifies, in principle at least, the conclusions at which Perry has arrived in the extract just quoted. It is apparent that private capital, unassisted by powers lodged with the state, will be unable to make successful inroads upon the slum. The volume of available capital for such operations would be small and the perils to investment great, except upon the edges of blighted areas or in regions where obsolescence has just begun to set in. Here the opportunities for unaided private investment are large enough to employ all the private capital that would be available for renovation of buildings.

Extensive operations that would make inroads upon the slum — preferably working in from the outskirts toward the center, not from the center outward — would require special recognition by government and the aid of special law, both to assemble all necessary parcels of land from the small percentage of reluctant owners and to give the force, dignity, and substantiality requisite to corporate undertakings of such magnitude and social significance.

Nevertheless, whenever Government lends its authority, weight, or subsidy it is requisite that such aid be accompanied by the power to set standards and to control both policies and means. Waste would inevitably be involved in projects which failed to conform to the city's master plan. More harm than good might be done by ill-advised undertakings conducted with public authorization if inferior standards in community planning, the provision of open spaces, architectural design, construction practices, arrangement of rooms or equipment, so common to investors, were incorporated in large-scale, Government-authorized schemes for slum renovation. Low standards mean early obsolescence, rapid depreciation, and reduced tax-paying capacity, as well as injury to the population housed.

The slum has become a matter of recognized public concern. Using Perry's recommendations as a basis for study, legislation should be drafted by leading specialists in the departments of government and the professional groups interested in it. If framed in this manner and backed by the groups in question the needed legislation could more readily be passed and would be welcomed by the groups which sponsored it and be acted upon with relative enthusiasm. Such backing by the special interests concerned is essential to the effectiveness of law.

1 "The Use of Private Capital in Slum Clearance—An Opportunity for Planning Agencies," *Planning Broadcasts*, No. 6, Series of 1934

CHAPTER XXIX

TEMPORARY HOUSING FOR THE DISHOUSED POPULATION

WHENEVER a project for slum elimination contemplates rehousing the original population in that same area, provision must be made for temporary housing during the period of demolition and rebuilding. If those in residence are employed near the area that is to be demolished, the rehousing should be provided in places that are reasonably accessible to their work. Evicted families who are unemployed may need special vocational guidance and retraining, and should be helped to residences which may be permanent and close to their future employment. Some of the slum dwellers of the clearance area may desire suburban homes and may be helped at once to find permanent residences of that sort within their reach.

Unskilled labor is less bound, by the exigencies of employment, to a specific quarter of the city than skilled labor and may, if reasonably competent, with the help of properly organized employment agencies, find work in any district of the city or its suburbs, in a normal labor market. Skilled labor finds it necessary to live close to the industrial area in which its specific skill finds ready employment. Rapid-transit facilities, however, make residence possible in some parts of certain of the outlying suburbs or boroughs which are within easy commutation.

The problem is thus resolved into one of careful analysis of the needs of each specific family within the clearance area prior to the demolition of the dwellings. As many families will have more than one wage earner, and as social and cultural needs require study for each member of the household, the analysis should be made by trained social workers with the help of vocational analysts.

In the absence of service of this sort the dishoused population will tend to crowd in with others of the same race and in the same district. If there are no vacancies in desirable dwellings within their reach, they may crowd into vacant tenements so undesirable that they have suffered long-continued vacancies, thus lowering the general level of occupied housing within the district. A few of the more enterprising will leave the district, but the majority will remain. Many will double up with other families, not necessarily relatives.

A recent study of "What Happened to 386 Families who Were Compelled to Vacate Their Slum Dwellings to Make Way for a Large Housing Project"[1]

1. This study was conducted by the Fred L Lavanburg Foundation and Hamilton House, under the direction of Abraham Goldfeld and Lillian D Robbins, 1933.

covered 1,745 persons who vacated the area bounded by Catherine, Market, Cherry, and Monroe Streets, including the infamous "lung block" of the Lower East Side, demolished in 1933–1934 by the Fred F. French Company, to be replaced by the present Knickerbocker Village.[1]

The study was made by thirteen members of the staff of Hamilton House and three members of the Lavanburg Foundation. Public utility companies cooperated in revealing the changes of address, and people of the neighborhood assisted in finding families that had "changed their names in order to ward off creditors." Other families were located by postcards sent to their old addresses, to be forwarded by the post office. Janitors, moving companies, and neighborhood stores likewise assisted. A total of 495 field visits were made.

In this study several significant facts stand out:

1. The great majority of tenants expressed a desire to remain in the immediate neighborhood and when forced to vacate only fourteen per cent left the district, eighty six per cent settling in the adjoining blocks.
2. Most of the families have been residing in the neighborhood for a long period of time and many of the wage earners work within walking distance.
3. Only 97 out of 386 families had hot water in their flats before moving.
4. 119 families had private toilets in their flats.
5. Only 25 out of 386 had bathing facilities.
6. Not one single family enjoyed the luxury of steam heat.
7. In the new flats there has been some improvement as to physical facilities, notably an increase in the number of bathtubs and private toilets
8. Though almost all of the families desire to move into Knickerbocker Village only a small number will be able to pay the higher rental under present conditions.
9. 319 families * (83%) continue to live in Old Law Tenements, declared to be unfit for human habitation by the Tenement House Commission as early as 1900.

* Of this number thirty-five families live in remodelled old law tenements

A closer analysis of the area shows that it comprised 1,085 apartments, of which 652 were vacant and 433 occupied at the time of the clearance; 47 of the families in occupied tenements were not studied, chiefly because they housed single men or because admission was refused. Of the families 23 consisted of one member and four of fourteen members. Most common were families with five members, of which there were 72. There were, however, 62 families of four members, 61 of three, and 60 of two members each, as well as 108 families of six members or more. Only 50 of these families had lived in the same apartment in this block less than a year; 165 had been there for from one to ten years; 113 from ten to twenty years; and 58 from twenty to forty years. Only 6 per cent had lived in

1 See Chapters XV, XXXIV and XXXV

the neighborhood less than five years. All but 13 of the families were Italian and all but 8 were Catholic. Only 151 of the fathers were citizens. Over two-thirds of the children were from six to sixteen years of age. Of 257 fathers, mothers, or children specifying place of employment, only 41 were employed outside of lower Manhattan.

When the families were seen prior to the demolition and asked to state where they would live, 310 planned to remain in the district, 27 were uncertain, and 38 intended to move out of the district, 11 withheld information. Only 3 planned to move into Knickerbocker Village, primarily because rents were deemed too high, though 379 expressed their wish to move in. Actually 331 of the families remained, after demolition, in the immediate neighborhood, and 33 moved outside; 7 were not located; and information was withheld by 15. A number of families moved in groups to occupy flats in the same house in a new location. From tables which accompany their report it is clear that there was a tendency to move into larger flats than had been previously occupied, and for a large number of families there was an increase in rental.

The most shocking revelation of this study is that after the demolition over 82 per cent of the families continued to live in old-law tenements — 163 families in "railroad" tenements and 156 in "dumb-bell" tenements. The percentage in new-law tenements increased only from 3.6 to 6.2. After removal, 206 families, or 53.4 per cent, still had no toilet facilities within the apartment but had to make use of hall toilets; and 132, or 34.2 per cent, still lived in cold-water flats; 148 families, or 38.3 per cent, had no bathtubs in their new dwellings.

It is clear from this study that New York's first deliberate attempt at slum clearance did not result in material improvement of the housing conditions of the original population. No studies have been made of what has happened to families dishoused by street widenings, railroad relocations, bridge building, and other public improvements, or by private speculative ventures, where slum dwellings have been removed for more expensive types of housing. Up to this time the problem of rehousing the population of clearance areas has been left largely to the families themselves, without guidance. The families may be bound by inertia, tradition, or racial gregariousness, as well as by poverty, to the district in which they have dwelt. They are, however, needlessly handicapped by ignorance of the manifold housing possibilities of the city.

The least expensive method of overcoming such ignorance, and of helping each family to the type of dwelling and district which it would prefer, would be the establishment of a homes-registration service of the type conducted by the United States Housing Corporation during the War. The principles are much the same

as those of room registries,[1] but can reasonably be expanded to cover all types of dwellings. Meager lists are maintained by the older private organizations for charitable relief, but include only random addresses and are not systematic or comprehensive.

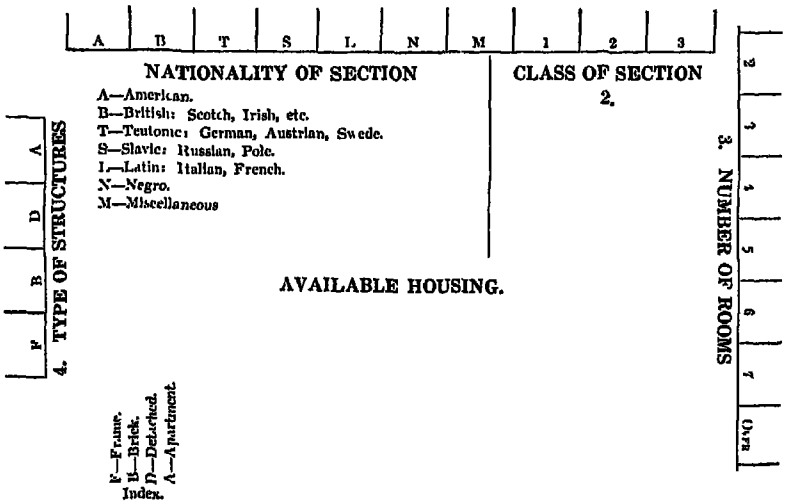
The Homes Registration Service, established by the United States Housing Corporation, had as its specific task the discovery of all vacancies of rooms or dwellings in each city of the United States in which persons were employed at war industries. The purpose of the service was essentially to make use of all available living accommodations for war workers, thus preventing delays in the manufacture of munitions or other war materials and making unnecessary the construction of new housing for war workers. Complete vacancy surveys were made in more than 100 cities and towns. Registries were established in eighty-eight communities, and the number of placements made that were recorded and reported to the central office in Washington numbered 71,481. It is a matter of conjecture how many additional placements were made, but they were unquestionably large in number.[2]

The experience of this service demonstrated the possibility of central recording of all vacancies. As an adjunct of central listing, it is possible also to provide for periodic inspection, records which cover qualitative factors as well as space, equipment, location, and rental, and personal advisory guidance in the selection of new quarters.

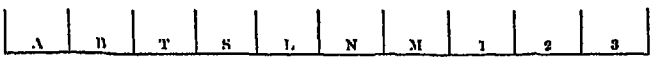
A card was made out for each dwelling listed (see Figure 109). By means of tabs of a different color for each of the notations at the top and sides of the card, it was possible to locate in the file every address in a given city which met an applicant's needs. Thus, if a family sought a five-room house in a certain quarter of the city, equipped with gas and electricity, and hot-air furnace, at a rental of $35 per month, it required but a minute or two to pick out from the file among thousands of listings the card for each vacant house of the city which met such combined specifications. From the list the applicant could readily determine which ones best met his needs, make note of their addresses, and visit each. It would be wholly feasible to list, as well, the name of the real-estate agent who handles the property and to arrange that he shall receive his commission out of rent, if such service cannot be established with his consent on any other basis.

The value of establishing such a service for the population dishoused by slum clearance would lie, first, in its universality, for it would list every available address; second, in its record of relative quality, made possible by periodic inspections of all vacancies listed; third, in the possibility of inducing owners to make

1. See Chapter XIII. 2. For full details, see *Final Report* of the United States Housing Corporation, James Ford, editor, I, 89–115.



a.



b.

Address .....

City..... Renting Agent..... Phone.....

Zone..... Block..... Street and No. ..... Floor.....

Nationality of section..... For clerk, mechanic, laborer.

No. rooms .....Kit..... Din. .....Liv.....Par. .....Bed Rms..... Rent (per month).....

Which rooms are dark..... In bad repair.....

Type house: Frame, brick, detached, apartment, furnished .....

Equipment: Hot and cold water, where..... bath, stove (gas, coal).

Gas, electricity; heated, how. ..... By whom .....

Toilet—Where located..... Shared with other family..... Clean..... Vent..... Privacy .....

To..... time..... minutes by foot, trolley, train, boat, auto-bus.

Transportation cost: Daily..... Monthly.....

Suitable for winter use..... What alterations necessary.....

Location	G	F	B	Repair	G	F	G	Sanitation	G	F	B
Light	G	F	B	Cleanliness	G	F	B	Moral Prot.	G	F	B
Ventilation	G	F	B	Equipment	G	F	B	Fire Prot.	G	F	B
Premises	G	F	B	Serial No.				Date			

c.

Form R. S. 1.

Date..... Name of city..... U. S. Homes Registration Service

Applicant's Name .....

Present Address .....

Place of Work	Occupation	Race	No. of Children	Ages of Children
Type of House Desired			Rent preferred Amount	
Detached { Bungalow / 2 Story			Maximum they Could Pay	
Semi detached			Wish to buy	
Row			Amount they could pay down	
2 Flat, detached			No. of rooms preferred not sonning bath	
2 Flat, semi detached			No. of rooms acceptable	
2 Flat, row			Wish to build	
Apartment				

Type of equipment required for	Preferences as to
Cooking	Size of yard
Heating	Size of garden
Lighting	Plazzas, size and location
Toilet	Material of house
Bathing	Location of house
Laundry	Additional requirements

Registration cards used by the United States Housing Corporation,

improvements which would increase the rentability of their houses, thus better meeting the needs of prospective tenants and serving the community welfare. Consequently the registry would, fourth, raise the general levels of housing within the community; fifth, it would serve as a record of trends in consumer demand; and thus, sixth, would be a guide to the types of houses of which the supply is inadequate. Seventh, it would be a key to trends in the locations preferred by renters or buyers; and thus, eighth, would be of much service to realtors, builders, city planners, architects, and public services and utilities in planning for urban growth.

The nearest equivalent to the type of service above recommended, maintained as a continuing function by municipalities, is to be found in Holland.

> Some of its housing legislation, however, (especially Part II of the Act of 19 February 1921), contained provisions intended to effect better utilisation of existing accommodation. Thus the town council of any municipality with a population of more than 20,000 was empowered to establish a municipal housing agency. Landlords have to notify this agency of any vacant house to let and of the letting of any house. Whenever it appears to this agency (or rent committee) that no steps are being taken for the effective occupation of a dwelling within its district, it may, with the consent of the burgomaster and aldermen of the municipality, require the owner or tenant to provide within one month for the occupation of the said dwelling to the satisfaction of the committee.[1]

Obviously, to serve the needs of the population dishoused by slum-clearance projects, the listings might be restricted to properties within their rent-paying capacity. The minimum rentals paid in the "lung block" prior to demolition were $4 per month for two rooms, and the maximum, exclusive of rooming houses, was $50 for eight rooms. Only two of the 386 families paid more than $45 for quarters after removal, and the rent in each instance was $50, for a rooming establishment; but relatively few, only thirty-four out of 386, paid over $25 as monthly rental for their flats after removal. For this specific purpose, therefore, registration might be confined to rented properties in which the rents are $25 or less per month, thus greatly simplifying the problem and avoiding jealousies of renting agents, who seldom handle properties in this category.

Although hardly pertinent to slum clearance, it seems proper to urge at this point the consideration of measures to extend this service to all groups of the population which would have need of it and to cover all of the boroughs of the city, and not merely Manhattan, extending it when feasible to the entire New York region. For it is a reflection upon our intelligence that we permit the continuance of the present haphazard and chaotic system in which each of the ad-

1. *European Housing Problems Since the War 1914-1923*, International Labour Office, Geneva, p. 241.

visors of home builders, buyers, or renters — the real-estate dealers and the newspapers — lists only an insignificant fraction of available properties. This narrows to an absurd point the range of choice available to any family which contemplates change of residence. The function of central listing is properly a public function in view of its bearings upon community welfare, and might reasonably be lodged in each borough hall. Exchange of lists, or at least of statistical summaries, might be arranged between the boroughs. The placation of real-estate interests would be difficult if registration were made a public function. They might be given the option of developing a single real-estate exchange, with comprehensive lists, within each borough, subject to public supervision and fair charges. In the absence of universal and satisfactory service from such a source the function could be taken over without delay by the municipality. It seems reasonable to prophesy that with growing enlightenment and developing civic consciousness this type of service, for all groups of the population, conducted by the municipality, will be an ultimate reality.

The alternative method of providing housing for the temporarily dishoused population is in buildings or colonies designed for the purpose. One may pass over the possibility of housing these families in barracks as unsatisfactory. Like temporary school buildings erected for unexpected increases in the school population, barracks as temporary housing for the dishoused would tend to remain in use too long and to encourage perpetuation of low standards of health and safety. It has been suggested that model tenements be erected to take care of families in transition, but it may reasonably be argued that, if the tenements are model, the families transferred should be entitled to permanent occupancy and not subjected to removal six months or a year after they have taken up residence.

Hamburg's method of succession [1] is reasonable except for the first group of families dislodged, who might properly be taken care of by a homes-registration service. By the Hamburg method only a small portion of a clearance area is demolished at first. After the new houses are erected, families are moved from the second group of blocks to be cleared into the houses just built, and this process continues through the remainder of the operation.

There has been some success in London and elsewhere with the practice of building houses in the suburbs in advance of the slum clearance, and of moving some — for many reasons it can never be all — of the families in the demolished area to such suburban dwellings. Occupational and other interests prevent all families from being amenable to this method.

One of the most valuable of measures, which has developed at its best in Hol-

1 See Chapter XXVII.

land, is to provide temporary retraining colonies pending reconstruction. In essence, this method is premised upon the conviction that it is the slum-dweller who makes the slum, a conviction warranted only in part, since many slum-dwellers are victims of circumstances and do not live in the slum by preference. There are, however, among them some whose standards are very low. This is reflected in the wretched maintenance of their premises, unremoved filth, misuse of facilities and fixtures, destructiveness, and lack of consideration either for the building or for their neigboors. Holland's methods of retraining have been described by Louis H. Pink as follows:

> Amsterdam has begun a unique experiment across the free municipal ferry. On the north side of the Y, a group of "probationary" homes has been erected, scrupulously clean, but bare and unattractive, consisting of long rows of attached one-story, one-family buildings. There is a large playground, a public bath and a social hall, but there are no trees, no flowers, no cheerfulness. It is surprising that in Holland, known everywhere for its shining floors and copper kitchen dishes, where the guide books tell us there are no unclean hotels, there is a considerable class of people so low as to be semi-criminal and so filthy that they can not be tolerated within smelling distance of self-respecting folks. Dr. Keppler selects families of this sort who show some signs of improvement and puts them in the probationary settlement at nominal rents. If they make good in six months or a year, and succeed in keeping clean and reasonably honest, homes are assigned them in the regular city tenements; if they fail they go back to the rookeries from which they came. The settlement is purposely kept unattractive though sanitary so that its tenants will not want to linger. The probationary settlement is but little more than a year old and it is too early to measure the results.[1]

Mrs. Edith Elmer Wood has elaborated upon this description:

> Heart and head, kindness and firmness, are admirably blended in the way these uprootings and re-plantings are managed. No condemned house is torn down until its inmates are moved to something better. But they are not moved all at once from reeking slums to charming little garden suburb cottages. In the first place, moving at all is a reward of merit. The cleanest, most orderly family moves first. It is an honor to be chosen, a source of mortification to be passed over. A spirit of emulation is thus created. The first move is to another old house in a somewhat better neighborhood — a passable old house which has running water, an indoor toilet, a roof that doesn't leak, and no vermin. In this probationary state, the family remains a longer or shorter time, according to its merits, before it follows the preceding family into one of the city's [the Hague] new houses. Even then it has not reached the city's best, which are reserved for a mentally and morally higher group.[2]

The justification of this method lies in the diversity of human types found in slum dwellings and in the statistically reasonable expectation that one will find in the least-favored dwellings in a community, and the dwellings with lowest rentals,

1. Louis H. Pink, *The New Day in Housing*, pp 36–37.

2. Edith Elmer Wood, *Housing Progress in Western Europe*, p 175

many families that are there because of ignorance — which can be overcome by kindly appropriate training. If all the families of a slum area who give evidence of low standards of hygiene were to be removed to a retraining colony of this sort, the professionally trained social workers in charge, with the help of medical and psychiatric service, would be able in a few weeks or months to differentiate those who are hopelessly defective in intelligence, or incurably abnormal, from those amenable to retraining. The clearing-house function having been performed in the first few weeks, these groups would be separated. The former would be removed, so far as public facilities allow, to appropriate institutions or colonies under permanent public control. The latter would receive assiduous vocational training in addition to general training in habits, hygiene, and citizenship, and could be restored to the new housing project, when completed, reasonably able to dwell there without continuance of their previous unsocial or anti-social habits.

Thus the solution of the problem of temporary housing for the dishoused population is not a unilateral scheme, but involves the application of a coordinated group of measures: (1) the discovery of individual and family needs and interests with regard to housing; (2) vocational and character analysis; (3) comprehensive registration of tenements or other types of housing elsewhere in the city within their rent-paying capacity; (4) discriminating advice in the selection of their next residence with reference to family needs and potentialities and with reference also to accessibility to work, (5) the practice of the Hamburg system of succession, assuming that rents in the new or remodeled premises will be within the reach of the dishoused population; (6) training colonies for dishoused slum dwellers obviously unfitted for the new housing; (7) removal from such colony to appropriate public institutions of families incapable of profiting by training.

Since ordinarily the density of population in slum-clearance areas, rebuilt under reasonable, hygienic standards, should be lower than was found in that same area prior to demolition, there will be many families in the dishoused group, commonly from 10 to 50 per cent, who could not be taken care of in the new estate. A homes-registration service, supplemented by policies for industrial and residential decentralization, might succeed in interesting many such families in taking up residence in the new locations. There might be a few among them who, to their own advantage, might qualify for subsistence homesteads or removal to smaller remote communities. The wisdom of all such suggestions is dependent upon the skill with which their needs are diagnosed and the adequacy of the social services designed to meet their needs.

CHAPTER XXX

A SOCIAL POLICY FOR SLUM ELIMINATION

ALTHOUGH the gross figures for demolition, repair, and modernization of houses look large for New York City and for the United States as a whole, an insignificant fraction of the dwellings in slums and blighted areas has been rendered wholesome The life of a house is long. All dwellings begin to depreciate within a year of the time of their erection and develop obsolescent features within a generation. Most families perforce live in old houses in which these processes are well advanced. Study of the recent Real Property Inventory of any American city will make this clear.

A social policy for slum elimination should comprise many types of measures beyond those that will be discussed here. Education of architects, builders, and consumers to insist upon higher standards of design, construction, and equipment would delay both depreciation and obsolescence and in so far would tend to forestall blight. Elimination of shoddy materials and appliances from the market through enforced minimum standards would likewise aid this process. Better workmanship, or the revival of craftsmanship among the building trades, would contribute greatly to this end. Intelligent zoning for transition areas, and the enforcement of a well-conceived master plan, could be made to reduce blighted areas and slums.[1]

The two major approaches to slum elimination may be described as the diffused type and the concentrated type. The former covers both the voluntary encouragement, and the legal requirement, of repairs or improvements to individual buildings that are in one way or another sub-standard. Despite the fact that their effects are piecemeal and scattered, the gross amount of improvement accomplished through them may be large. The concentrated approach, on the other hand, is characterized by a massed attack upon a specific slum and involves a thoroughgoing renovation of every building in an area composed of many city blocks.

The repair of old houses has been encouraged by private organizations of many sorts, sometimes with, but more frequently without, the backing of public departments. It is continuously incidental to the work of the housing associations of

1. The best practices in the field of transition-zoning are covered in a special volume with that title, by Arthur C. Comey, Cambridge, Massachusetts, 1933

Philadelphia, Pittsburgh, Boston, and Cincinnati, though their most significant results are secured not by the encouragement of voluntary effort, but by reporting all violations of law to the responsible public department and following up such reports with reinspections to make sure that the improvements have been ordered.

Better Homes in America, Inc., established under Herbert Hoover as chairman in 1923, has continuously encouraged home repair and remodeling in its annual campaigns. Improved houses have been demonstrated to the people of their communities by volunteer Better Homes Committees throughout America, and tours have been made each year in rural and suburban districts to many remodeled homes to make clear to all visitors that worth-while improvements can be made at slight expense. In Boston notable work has been done in encouraging improved upkeep and maintenance of rooming houses; annual demonstrations have been made of inexpensively repaired and renovated tenements, and of tenement backyards made over into attractive gardens. The Philadelphia Better Homes in America Committee has annually offered prizes for the best examples of homes remodeled during the preceding year.[1]

The home modernization movement of the late twenties, the Renovize Philadelphia campaign of 1933, the more general movements stimulated by the Department of Commerce in Washington following the President's Conference on Home Building and Home Ownership,[2] and more recently still the home improvements precipitated at enormous public cost throughout America by the Federal Housing Administration, have each in varying degrees made headway by organizing dealers in the materials which would be purchased for home repair. The dealers in turn establish committees of citizens to engage in propaganda, comprising newspaper advertising, radio programmes, exhibits, demonstrations of remodeled houses, and door-to-door soliciting of repairs from home owners. Such movements have been undertaken to revive business or stimulate employment in the building trades and in the manufacture of building materials.

The total volume of repairs undertaken as a result of such campaigns is very large. Yet the statistical reports issued by their sponsors should not be taken at their face value, since it is impossible to estimate what percentage of such expenditures for renovation would have occurred in the absence of propaganda. The volume of employment created by such movements cannot be deduced from the total of repairs precipitated, since there is no way of ascertaining how largely the

[1] For details, see the following publications by Katherine Morrow Liston, reprinted from the *American Building Association News*: Outstanding Programs in the 1933 Better Homes Campaign; Home Improvement Achievements in Better Homes Campaigns

Better Homes in America has also issued a useful handbook on the *Care and Repair of the Home*, by Vincent Phelan, which includes a check list in which repairs or replacements for each of the rooms of a house are listed

[2] Vol. VIII contains the Report of the Committee on Reconditioning, Remodeling, and Modernizing.

funds utilized for modernization were drawn from capital which would otherwise have provided employment of an equally useful nature elsewhere. Nor is it possible to ascertain how largely the expenditure for repairs displaced expenditure for consumers' goods, or to determine relative merits among these alternative uses of family income or savings. General propaganda of this sort is certainly not wholly advantageous. Suggestible people may make repairs or replacements that are not needed and at the expense of interests that are much more vital. Unquestionably many buildings have been renovated that would better have been demolished. It is conceivable also that such efforts for rehabilitation in slum areas may have seriously retarded more radical improvement.

Municipal activity in the field of home demolition and repair varies greatly from city to city. It has been carried far in Great Britain at the owners' expense, under order from the local authority. Townroe has summarized it as follows:

> At the present time reconditioning is one of the most valuable and widely used means of relieving the slum problem. Every year for the past five years about 500,000 houses in Great Britain, on the representation of local authorities, guided by their Medical Officers of Health, have been repaired, reconditioned and put into a habitable state at the owners' expense. This most valuable work has saved many hundreds of thousands of houses from destruction. In London alone since 1922, 100,000 houses, occupied by probably 400,000 people, have been annually made habitable. In view of the success of this expedient it is little wonder that the Government are devising further plans by which more working class houses, not yet in such a state of deterioration as to justify complete demolition, may be improved, and made more comfortable and healthy for their occupants.[1]

The best British example of this type of activity is supplied by Manchester, England, especially during the period in which E. D. Simon was Lord Mayor. Throughout, the repairs and improvements ordered have been coordinated with the policy of demolition. In the process Manchester's ten thousand back-to-back houses have been reduced to less than forty.[2] The history of Manchester's efforts is of such exceptional interest as to warrant a brief outline here.

> There must have been some progressive and enterprising people on the Manchester City Council in 1867. They secured a clause in the local Act of that year, which is a better and more effective clause for the carrying out of reconditioning work than is incorporated in national legislation to-day. The clause, which is Section 41 of the Manchester Corporation Act of 1867, reads as follows: —
>
> > "41. In any case where it is certified to the Corporation by an Inspector of Nuisances, or by any two Medical Practitioners, that any Building or Part of a Building is unfit for human Habitation, the Corporation may by their Order, affixed conspicuously on such Building or Part of the Building, declare the same is not fit for human Habita-

1. B S Townroe, *The Slum Problem*, p 140.

2. E. D Simon, *How to Abolish the Slums*, p 30

tion, and shall not, after a Date therein to be specified, be inhabited; and any Person who shall, after the Date or Time mentioned in such Order, let or Occupy, or continue to let or occupy, or knowingly suffer to be occupied, such Building or Part of a Building, shall be liable to a Penalty not exceeding Five Pounds, and for a continuing Offence not exceeding Forty Shillings for every Day during which the Offence may continue: Provided always that if at any Time after such Order the Corporation shall be satisfied that such House has become or been rendered fit for human Habitation, they may revoke their said Order, and the same shall thenceforward cease to operate."

The early records of action taken under this clause cannot be traced, but probably the closing of cellar dwellings was accelerated by these additional powers. In 1885 a special committee, "The Unhealthy Dwellings Committee," was appointed "to enquire and report upon the dilapidated and insanitary dwellings within the city, especially such as were situated in courts approached by narrow streets and covered passages, and those in cul-de-sac streets, with a view to their improvement or removal."

The committee, acting under the clause above quoted, began a campaign for improving the worst houses, which was vigorously continued until the outbreak of war in 1914. The method adopted throughout the whole of this period was the same: sanitary inspectors reported on houses that were unfit for human habitation, they were inspected by the Medical Officer of Health and by members of the committee. When the committee were of opinion that a closing order should be made, the landlord was given an opportunity of appearing before the committee and of stating his case. He was then informed, in suitable cases, that a closing order would be made, but the architect attached to the committee at the same time submitted to the owner a plan of alterations which would be acceptable to the committee. If the landlord carried out these alterations satisfactorily, the closing order was revoked.

The architect attached to the committee became highly skilled at advising methods of improving old property, and rarely found any difficulty in agreeing with the landlord as to what alterations were desirable. In the early days compensation was paid at the rate of £15 for each house demolished, and £2 10*s*. towards the cost of converting each pail-closet into a water-closet. In 1901, the committee resolved to discontinue these grants at the expiration of five years. When the time for discontinuation came, in 1906, there was naturally a good deal of opposition in the Council, and the recommendation was referred back several times by large majorities. When the annual estimates came up it was pointed out that the dropping of this compensation would enable the sanitary committee to reduce its estimate by £6000, or nearly a halfpenny rate. The recommendation was then adopted, one of the newspapers commenting as follows: "What the Council would not do on principle it agreed to on financial considerations."

An interesting thing is that there is no record in the Press of any serious protest against this action, and those who were actively concerned with the work in 1906 state that no such protest was made. A large amount of work was done during the ensuing nine years entirely at the cost of the landlords; the City Council holding the view that the landlords had done well out of these old houses, and it was their business to keep them fit for human habitation. In view of this successful achievement with no cost to the ratepayers it seems strange that the Government, in framing the Housing Act of 1925, should allow compensation, with an elaborate system of arbitration, for the pulling down of obstructive buildings.

Early Methods of Reconditioning

The first attempts were very crude. They consisted of breaking through the dividing wall of a back-to-back house and removing one staircase, thus turning a one-up and one-down back-to-back house into a two-up and two-down through house. In those early days the authorities did not trouble to provide any yards or alter the primitive sanitary accommodations used in common by several houses, but after 12th May, 1891, the provision of w.cs. was compulsory in all reconditioning schemes.

Another early method of dealing with back-to-back houses was to take out one in every six. That left five houses sharing a common yard and one or two sanitary conveniences.

A plan dated 1890 shows a method of dealing with a very congested group of seven through houses with a tiny yard containing one pail-closet. The alteration consisted in demolishing one house in order to enlarge the common yard, and putting in four w.cs. to serve the remaining six houses.

Later Methods of Reconditioning

As the committee gained experience they gradually adopted four principal methods of reconditioning.

(*a*) Cutting out back houses and using the space obtained for separate yards to each front house.

The effect of this method is very unsightly. Streets so treated have the fronts of houses on one side facing these adapted backs.

(*b*) Demolishing every third pair of back-to-back houses in a row, . . . [see Figure 110a]. This provided yards and w.cs. shared by pairs of houses. (The sharing of a common yard was abandoned in reconditioning schemes some 25 years ago.)

(*c*) Removing one or more houses in a congested group of through houses in order to allow access of air to the remainder. [Figure 110b] shows a particularly bad group of 22 houses before the alterations were made, and [Figure 110c] shows the improvement effected by demolishing 6 houses, forming separate yards and a new 9-ft. passage.

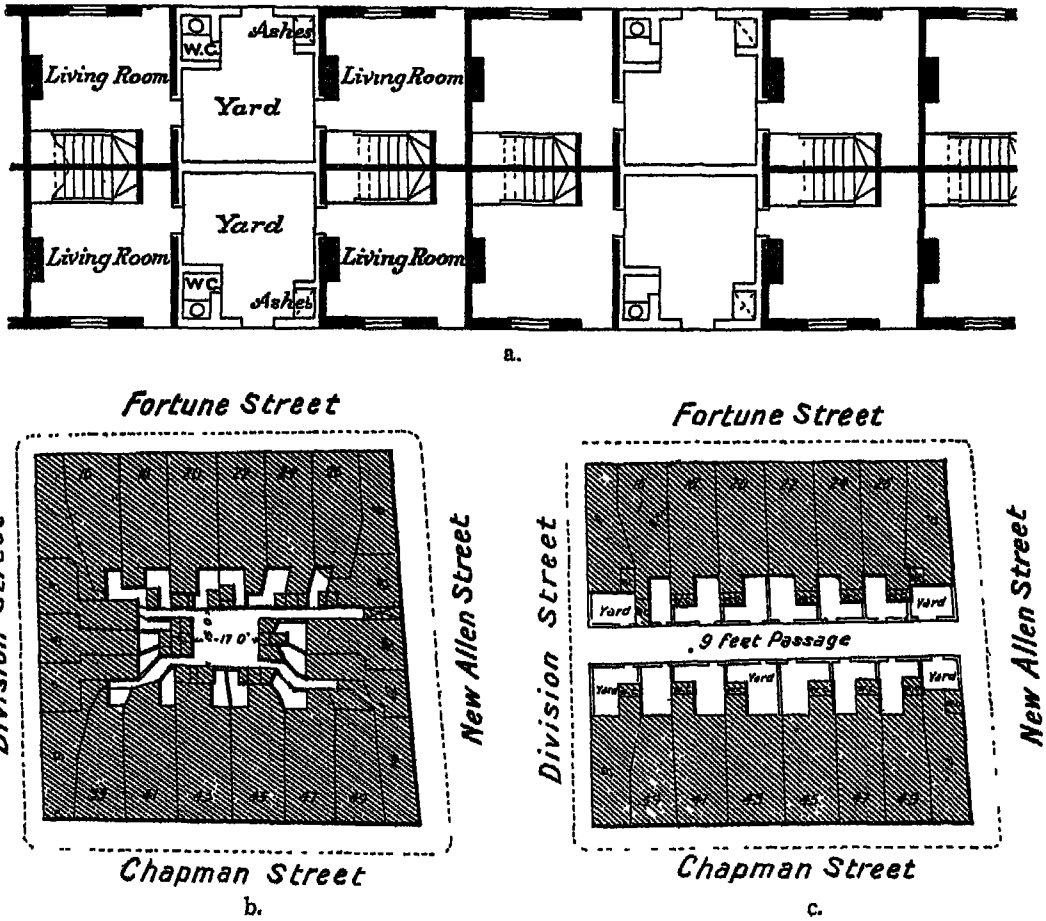
(*d*) "Slicing" the backs of through houses and making new outside walls in order to give a larger yard space to each house and permit of the erection of w.cs. This method was used in the case of through houses with very narrow spaces at the back. It had the unfortunate effect of reducing the floor space in the house. . . .

Results Obtained

Manchester had at one time 10,000 back-to-back houses. There are now less than 40. Cellar dwellings have been abolished; courts have been demolished and the worst congested areas have been opened up, thus letting light and air have access to the dwellings. Obstructive houses have been pulled down, houses have been "sliced" to allow for larger courts, privy middens have been abolished, and there remain only about 1000 pail-closets. Apart from these nearly every house has now its own separate back yard, its own separate w.c., and water laid on in the house. The total number of houses dealt with on these lines is estimated at over 27,000, of which 7000 have been demolished and over 3000 added to other houses in the process of turning "back-to-backs" into "throughs."

This is a great achievement. Really bad slums, which are still common in other cities, do not exist in Manchester. The whole of the houses, however old, have been brought up to a standard which would have been considered quite good some 30 or 40 years ago.

FIG. 110.



Reproduced from E. D. Simon, *How to Abolish the Slums*, pp 28, 29.

WHAT MORE CAN BE DONE BY RECONDITIONING?

Meantime, however, the standard has risen immensely, and to-day the Medical Officer of Health states that there are 26,000 houses in Manchester below a reasonable standard of fitness for human habitation.

Can these houses be dealt with by reconditioning? Broadly speaking, the answer is that they cannot, that there is a definite limit to what can be done by reconditioning, and that Manchester has done about all that can usefully be done in this way. There are four main evils that cannot be dealt with by reconditioning; bad design, darkness, dampness, and decay. Nothing can be done in the case of houses built without damp-proof courses. In many cases the floors consist of flags laid straight on the earth. This one fact alone means that the houses

must always be damp and unhealthy; they cannot be brought up to a modern standard, and the only thing to do with them is to pull them down and replace them as soon as possible.

Further than this, although a good deal has been done by the removal of obstructive buildings to let light and air into the worst slums, yet this can never be done to anything like the extent which is demanded to-day. A house must be planned from the beginning to let the sun and air get properly into each room. No amount of pulling about of an old house can do this effectively. Apart from the badly chosen aspect and the narrowness of old streets, the small back yard with its high enclosing wall effectually cuts off light and air from the ground floor back room.

In many other ways the old houses are unsatisfactory. . . .

It is interesting to note that two of the condemned areas in Manchester consist largely of houses which have been reconditioned in the past. They were brought by reconditioning from the standard of about 1840 up to the standard of 1890. Since then they have deteriorated with age, while the standard has risen, and they must now again be condemned as unfit.

To sum up then, Manchester's reconditioning policy set a fine example to the country in the generation before the war. It raised the level of the worst housing in Manchester well above that of the slums which, even to-day, continue to abound in most other great cities. But, owing on the one hand to the age and worn-out condition of the houses, and on the other to the rising standard of housing, we are forced to the conclusion, shared, we believe, by all experts who have studied the conditions in Manchester, that the day for effective reconditioning work in Manchester is gone. There are, of course, odd places where reconditioning would still be useful, but broadly speaking, Manchester's slums have been improved so far as it is practicable to improve them by a reconditioning policy. Nothing remains now except a policy of gradual pulling down of the old houses as alternative accommodation becomes available. . . .

But all this can only be regarded as a palliative. However thoroughly it is done, the houses will still be unsatisfactory from a modern point of view, as is proved by the fact that thousands of such reconditioned houses in Manchester are to-day condemned as unfit for human habitation. . . .

. . . There is only one way of dealing effectively with our slum areas: to demolish them. And this can only be done when suitable and adequate alternative accommodation has been provided.[1]

In America the most effective demolition work stimulated by local government departments has recently been done in Philadelphia, Chicago, and Milwaukee.[2]

Essential to such programmes of demolition and repair have been current preliminary surveys of needs; the establishment of norms by which to determine at what point a building becomes unsafe or unfit for human habitation and thus eligible for demolition; authority to suggest, and if necessary to require, essential repairs at the owners' expense; power to make the expense of demolition a lien

1. *Ibid.*, pp. 25–28, 30–33.
2. For an outline of procedure, see *Demolition of Unsafe and Insanitary Housing*, issued by the National Association of Housing Officials, Chicago, April, 1934; also the *Report of the State Housing Board Demolition Project*, from its inception in May 1934, to December 31, 1934, Chicago, Illinois. Philadelphia's activities have been covered in several publications of the Philadelphia Housing Association written by Bernard J. Newman, especially one entitled *Know Your City*, published March 1925, and *Housing in Philadelphia*, 1933, pp. 29–32.

against the property; and protection of municipal officers from personal liability for damages to owners when engaged in the enforcement of such legislation. In several cities emergency relief workers have supplied the labor for wrecking old buildings — a dangerous occupation for which workers must be carefully selected and trained. Since January 1934, when the Civil Works Administration approved the assignment of C. W. A. workers to the demolition of useless structures, many thousands of buildings throughout the country have been demolished by these means.

A municipal programme of demolition, utilizing the services of men on the relief rolls of the city, must obviously be made consonant with local ordinances. Experienced wrecking contractors should be in charge of the operations. Provision for workmen's compensation, public liability, and property-damage insurance is essential. Legal advisors should be continuously accessible to the authorities in charge and should be employed to deal with owners, mortgagees, and lien holders. In Milwaukee, where thousands of buildings have been demolished or repaired at the instigation of the Inspector of Buildings, or other designated officers of the municipality, the condemnation procedure as outlined by Leon M. Gurda is as follows:

1. *Policies governing this plan.* Being conscious of the possibility of encountering all manner of contingencies, we have been guided in this work by the following policies: (*a*) Avoiding mass condemnation at one time in any one block. (*b*) Avoiding numerous condemnations at one time in any one ward. (*c*) Avoiding court action in obstinate cases, by granting an owner an extension of time, not to exceed ninety days, within which time compliance with our orders is expected. (*d*) Avoiding court action in cases where the owner has retained an attorney, by compromising to extend the time beyond the ninety-day limit, but only upon stipulation in court that the city have permission to raze the building if the owner fails to do so before the expiration of the additional time stipulated. This applied only to buildings which have not been classed as unsafe. (*e*) Tolerating such frame dilapidated buildings within "fire areas" which are not deteriorated in excess of 50 per cent of their replacement value, until they come within the scope of the regulations of Sec. 28, 183, 351, 352, and 353, at which time condemnation proceedings are begun. (*f*) Each action taken under items (*c*) (*d*) and (*e*) is followed up prior to the expiration of time.

All our experience in this work has shown that without a definite policy such as that outlined, much confusion would have taken place and the results obtained would have been insignificant.

2. *The determination of the status of a given building* and the correct application of our laws.

The general rule which should be followed, and which we believe the courts would sustain, is that dilapidated and insanitary buildings where the costs of repairs exceed 50 per cent of the entire replacement cost of the building, (exclusive of good masonry foundations) are beyond reasonable repair should be ordered razed. This rule applies only to a building of a type of construction which is not permitted in the area where it is located.

(*a*) Determine by inspection of the building whether it is:
  (1) Dilapidated beyond reasonable repair, insanitary and unfit for human habitation, and located in a fire or residence area.
  (2) Dilapidated and insanitary and unfit for human habitation, but not beyond reasonable repair, but located in a fire or residence area.
  (3) Structurally unsafe and beyond reasonable repair, in any area.

(*b*) Records of inspections of buildings as set up in paragraph (*a*) should consist of the following:
  (1) Small scale drawings of all floors in the building, showing room arrangements and exits; also location on the lot.
  (2) Estimate the replacement cost of the building, using the type of construction and materials of which building was constructed. Determine the costs of all replacement repairs, to which add the relative loss in value of each component part of the building because of its deterioration. The sum of these two factors will determine the percentum of deterioration.
  (3) Determine its classification, as outlined in paragraph (*a*) and the area within which it is located, (Fire or Residence Area); accordingly take the proper action.
  (4) Photograph of building.

We found it advisable, following one court action, to quote all the sections relating to dilapidated, unsafe, or insanitary buildings.

(*c*) (1) A building described in paragraph (*a*), (1), if of a permitted construction in its location, should be ordered repaired. In this case, submit an itemized list of repairs which must be made, in default of which building is to be closed and boarded up, if structurally safe, or razed if otherwise. If a non-conforming type of construction in its area location, order the building condemned and razed.
  (2) For buildings described in paragraph (*a*), (2), follow the same procedure as under (*c*), (1), except that if it is of a non-conforming type of construction, permit further occupancy unless insanitary, until it becomes beyond reasonable repair, at which time condemnation proceedings are to be begun; if insanitary and vacant, order it closed and boarded up until it becomes beyond reasonable repair, at which time order it razed. Repairs to such a building are optional with the owner.
  (3) A building described in paragraph (*a*), (3) is to be ordered vacated at once, condemned, and razed.

3. *After the determination* of the status of the building we conform to the following procedure:

(*a*) The order is typewritten on a proper form in accordance with our determination, allowing a reasonable time for compliance, usually twenty days.

(*b*) This order is then served not only on the fee owner, but also in all lien holders, mortgagees, and tenants. To obtain the names of the proper persons a search is made in the office of the register of deeds and abstract companies.

(*c*) A proper service of the order is very important. The statute requires that it shall be served in the manner provided for the service of a summons in the circuit court. These orders are served accordingly on each interested person and a certification of such service is made on the office copy. (The orders were formerly served by police officers, but this proved unsatisfactory; they are now served by our own process server.) If owners or interested parties live out of the city, the orders are forwarded to the sheriff of county within which they live; if they cannot be found, publication of the order is made in the official newspaper.

(*d*) If compliance is not had within the time allowed, a second and final notice is served specifying a time limit of ten days. If the order requires repairs only, then a limited time (usually 10 days) is allowed in the original (first) service for the submission for approval of plans indicating all the alterations, following which the permit provides that all work is to be completed within a definite time based on the extent of the alterations.

(*e*) In the event of non-compliance with an order to repair a building, the Inspector of Buildings may either have the building closed or razed, depending upon the structural condition of the building. When it becomes necessary to contract for the razing of a building the procedure is as follows: the contractors are requested to submit two bids, (1) to raze the building and remove the material, and (2) to raze the building and pile the material on the premises. The policy of the department has been to accept the least expensive of the two bids.

(*f*) Continual supervision of all the work outlined herein is necessary. Every step of the procedure must be checked by a responsible party and all conferences with owners are to be noted and memoranda of them kept. Card systems and files of all the records are kept so that in the absence of the individual in charge, the chief of the department only has access to the records and makes decisions.

It is obvious that when enforcement of the condemnation laws is lacking, or when they are enforced with indifference, the slum and blighted areas continue to increase in size, presenting a more difficult problem from year to year thereafter. We believe that the removal of these areas under comprehensive plans of slum clearance and rebuilding is not sufficient. For more than half a century large sections within our American cities have been slowly deteriorating until now they present almost a hopeless situation. To clean up these areas under slum clearance and rehousing programs is an expensive procedure, for they have become entirely too large to cope with. This deterioration has taken place in the past because of lack of proper restrictions of the use of property and lack of the enforcement of building code and hygienic regulations. To continue to neglect the enforcement of building, zoning, and health regulations in the newer sections of our American cities is to permit blight to set in, at first only spotting these sections, which finally will blend into larger and larger blighted areas. In order that every community has an orderly development, Building Inspection Departments must be free of any political influence and must be constantly on guard to protect the interests of the community as a whole.

The activities of these departments must not be hampered by lack of budget appropriations and the lack of properly trained employees, for if they are so hampered and there is

apathy in enforcing the regulations, we shall continue to have and to enlarge our blighted and slum areas and create new ones.[1]

The above ventures of the diffused type yield values primarily in proportion to the degree of discrimination exercised, whether it be applied to demolition, renovation, modernization, or out-and-out remodeling. The naive boasting of certain public officials on the volume of demolitions or repairs promoted reveals little appreciation of the actual merit (or lack of merit) of such undertakings as devices for the improvement of housing, but rather reveals interest in jobs and sales. The quality of the performance of the Federal Housing Administration in facilitating loans for repairs is entirely dependent upon their skill in educating affiliated lending agencies to make sure that each loan will be not only "self-liquidating" but also more useful to the family than any other use which they might make of borrowed money, and useful to the community in that it improves a dwelling that is worth saving, in a district which is worth perpetuating in its present form.

One may fairly question whether the huge investment of public funds in this branch of Federal Housing Administration activities might not better have been applied not to the diffused type of rehabilitation but rather to concentrated effort — either to make over large areas on the margins of our slums, or to demolish slums and build new housing in outlying areas. For it seems probable that the present plan has tended to perpetuate evils rather than to eliminate them and to prevent the intrusion of new ones.

Private effort unquestionably has a rôle of its own in the field of renovation and modernization. It may properly be encouraged by loans from government sources when in locations which judicious surveys show to be advantageous for improvement. But the government itself is equipped with many kinds of power which suggest direct activity in slum elimination. These include, first, the power to tax, which makes possible large-scale ventures; second, the police powers, which make possible the demolition of unsafe and insanitary properties; third, the power of eminent domain, which makes possible seizure and use of the land before it has been paid for; fourth, the power to loan at low rates of interest — rates no higher than it pays upon its bonds — which means that its capital can extend twice as far as that from private sources; and, fifth, prestige, which means that it can employ competent specialists and can also establish and enforce high standards.

The slum is a menace which cannot be overcome by piecemeal modernization

1. *Demolition of Unsafe and Insanitary Housing*, published by National Association of Housing Officials, pp. 14–16.

loans or random demolitions with the owners' consent. Interplay between public and private agencies is a possibility, but is of social value only where the government promulgates and maintains high standards. No solution will be found short of a comprehensive and intelligent policy actuated by one or more units of government, amply financed, which make the neighborhood rather than the building the basis of operation.

In essence, therefore, a public policy for slum elimination should be dovetailed with the programmes of nation, state, and city for slum prevention and for rehousing. Slum clearance is an obvious starting point, but there is no inherent reason why the area cleared should be built up with new houses. If the programme is undertaken, as it should be, in cooperation with planning officials, it should fit in at every point with the master plan. Many a demolished slum should be replaced by boulevards, parks, or playgrounds. Some should be succeeded by civic or recreation centers, others by newly created zones for industry or commerce, others by dwellings for groups of higher rent-paying capacity. To assume that the original population of the cleared area must be rehoused in that same area is to disregard both their interest and the rôle of industrial and residential decentralization in the housing policy and city plan. Appraisal of the needs of the dishoused population, as individuals and as families, will inevitably show a wide diversity. Clearance and rehousing projects have so far tended to unwarranted stereotypes which are belied by individual and collective interests, trends, and aspirations.

This does not mean that there should be no rehousing in the cleared area. It is probable that some of the present population should remain there in neighborhood units, framed for the development of a constructive type of community life, dwelling in well built, well designed, and sanitary houses or flats within rent-paying capacities. But through a properly developed homes-registration service others can and should be decentralized, either to existing dwellings or to new community projects devised for the purpose. Conceivably a considerable group should be taken care of in new communities built close to industries which would be simultaneously decentralized as a part of the same comprehensive housing and planning policy.

PART V

THE REBUILDING OF SLUM AREAS

CHAPTER XXXI

THE BEARING OF CONTEMPORARY LEGISLATION AND PRACTICE ON NEW YORK'S HOUSING POLICY

FEDERAL, state, and municipal housing legislation must eventually bear some consistent relationship if a workable housing policy is to be established for the city. Present Federal legislation makes allowance for financial assistance in several ways: (1) by outright grant, (2) by long-term loan, and (3) by guarantee of private loans. State legislation authorizes limited-dividend corporations with privileges as to tax exemption and condemnation.[1] It further sanctions municipal housing authorities with even broader powers including that of issuing their own bonds. Although municipally administered, the Multiple Dwelling Act is state law and the Zoning Resolution derives its powers from a state enabling act. The Building Code comes about through the City Charter, which is granted by the state, although largely a matter of self-determination under home-rule provisions.

The question is one of creating a permanent pattern of legislation so rooted in popular desire and so wisely conceived as to withstand, so far as possible, the shocks of changes in administration, of wars and catastrophes, and of the ups and downs of economic cycles. New York City can hardly expect to obtain continuous support from other governmental units if it displays lack of interest and incapacity to deal with those aspects of housing that are a municipal function. For this reason, critical examination of the Building Code, Multiple Dwelling Act, and Zoning Resolution may properly precede reaching out for assistance beyond the city limits.

Codes are effective in proportion as they are properly framed and administered. The system provided for their enforcement has much to do with this administration. For years five borough officials, each operating under the same Building Code, have made independent interpretations of it. Appeals have been taken to the Board of Standards and Appeals, which has handed down decisions applicable to the case in hand, rather than to all similar situations. Under the McCall Bill, passed in 1933, a Department of Buildings was created with separate officials in each borough.[2] The work of the Bureau of Fire Prevention, and inspection of new buildings in the Tenement House Department, was transferred

1. See Chapter VI

2 New York State Laws, 1933, Chapter 764.

to the new department, along with boiler inspection and other functions.[1] The five borough officials were to coordinate practice and rulings. The effect of this was greatly to weaken the Tenement House Department without perceptibly improving the quality of enforcement throughout the city.

The Multiple Dwelling Law and, prior to it, the Tenement House Act had been administered by the Tenement House Department, whose creation as a special agency to deal with the peculiar problems of tenement-house regulation was hailed as a step forward in 1901. Throughout the years it has been forced to battle with hostility and indifference. Reports of the successive commissioners show fluctuations in quality of enforcement and in degree of support from higher administrative officials. Rumor tells of instructions at times to make no strong efforts toward enforcement. Complaints appear here and there that judges were not disposed to deal severely with offenders and that the work was thereby hampered. Finally, with the transfer to the Building Department of jurisdiction over new buildings, and with severe reductions in personnel in response to demands for economy, the Tenement House Department has become the shadow of its former self.

Zoning regulations are also administered by the Building Department, and appeals go up to the same board that deals with building construction. There is thus a close relationship between the three sets of municipal regulations that have been mentioned, not only because they deal with various aspects of what is really one broad problem but also because of interrelations of enforcing agencies. Recognition of the need for straightening out what has become, in effect, a series of tangled relationships is given in a communication from Rudolph P. Miller, local consulting engineer and former Superintendent of Buildings for Manhattan, to Alfred E. Smith, Chairman of the New York City Charter Revision Commission. Mr. Miller, by virtue of his long experience, speaks with authority on this subject. His letter follows:

JUNE 8, 1934.

Permit me to submit for the consideration of the New York City Charter Revision Commission a suggestion regarding the organization and administration of those departments which are charged with the enforcement of laws and ordinances dealing with the police powers delegated to the city, with more particular reference to the departments controlling the construction and maintenance of buildings.

The suggestion is not a new one; I made it some years ago at a public hearing held by the State Factory Investigation Commission. It is prompted by my experience of more than twenty years in the city's service in various capacities connected with the administration of building laws and as draftsman or consultant to municipalities, including New York City, in

1. See Samuel Fassler, "The New Department of Buildings," in *Real Estate News*, June 1933, pp 196-197, 204-205, for discussion of the effects of the McCall Bill.

the preparation of building codes. Though favorably received at the time the suggestion was broached, conditions evidently were not ripe for its adoption. The time, however, has come when the administration of the laws relating to buildings should be made a city-wide function so that uniformity in administration and thorough co-operation in enforcement may be attained.

It is unnecessary here to rehearse the experiences of the past twenty-five years and more, and their injurious effect on building construction, real estate development and maintenance, due to lack of co-operation in administration, independent and varying interpretation of provisions of law, even disregard of controlling decisions, by the administrative authorities. The facts are well known and are easily verified. They were the natural result of the distribution of powers and duties among several departments and bureau[s], the heads of which were responsible, not to one co-ordinating official, but to separate elected officers.

An attempt was made, in the passage of the McCall bill by the 1933 Legislature (L. 1933, Chap. 764), to remedy the situation by transferring, in part, the work of the bureau of fire prevention and of the tenement house department, as well as boiler inspection, (electrical control being left with the department of water supply and electricity), to the newly created department of buildings, consisting of five commissioners appointed by and responsible to five independently elected borough presidents.

There can be no assurance of harmonious or uniform action throughout the city under such an organization. Those who supported the McCall bill, at any rate many of them, did so with the understanding that by the creation of the board of buildings the office methods and practices would be standardized in the several building departments (§ 406). So far as public information goes nothing has resulted in this respect. It was also understood, and the corporation counsel so holds (see opinion published in Bulletin of Board of Standards and Appeals, March 6, 1934), that the powers of the board of buildings would not extend beyond those given the former superintendent of buildings by §411 of the charter. Yet the board of buildings, notwithstanding the opinion cited above, has been assuming functions delegated by § 718a to the board of standards and appeals.

There should be a single city-wide department to control building construction and equipment. It should be headed by a commissioner whose powers and duties should include those now exercised by the several borough departments of buildings over construction, plumbing, fire prevention, zoning, boiler inspection, elevators; by the tenement house department over multiple dwelling maintenance; by the bureau of fire prevention over explosives and hazardous trades and fire prevention; by the department of water supply, gas and electricity over electrical control; and by the health department over buildings as enumerated in article 4 of the sanitary code.

The work of this department should be divided into two divisions, each in charge of a deputy commissioner. One division would look after all new construction, alteration and equipment; the other would see that safe and lawful conditions are maintained.

In each borough there should be a branch of each of these divisions under the direction of a superintendent. It would even be well to have two branches in the Borough of Queens because of its large extent (120 square miles, equal to about one-third of the area of the city). By the establishment of these borough branches, such advantages as now exist because of the separate borough departments would be retained.

Each borough would be organized into bureaus charged with the separate distinctive functions of the department, each directed by a chief. An outline of what is contemplated is indicated in the attached chart.

The chart shows the Bureau of Elevator Inspection and the Bureau of Boiler Inspection as city-wide bureaus under the immediate supervision of the deputy commissioner for new buildings; and the Bureau of Places of Assembly under the supervision of the deputy for old buildings In the case of elevator inspection, there are so few elevators in the boroughs of Queens and Richmond that the maintenance of separate bureaus is uneconomical.

The department here outlined should be so co-ordinated under one head, with the departments of fire, police and health, that complete co-operation, an essential to the proper functioning of the police power, will be possible. This group of departments might well be placed under the jurisdiction of a director of public safety, or the vice-mayor, and a new member of the board of estimate and apportionment, as has been suggested recently, to take the place of the president of the board of aldermen. Incidentally, this latter official, head of a co-ordinate legislative body, is hardly logically a member of the board of estimate and apportionment.

Only a broad outline of the reorganization of the departments involved is here made, The details can be better considered after the general plan has been adopted. The main purpose is to point out the necessity for a co-ordinating head, whether he is a vice-mayor or some other functionary.

Some particular advantages resulting from the plan here proposed may be worth mentioning. Referring more particularly to the inspection of building construction, it has happened in the past that building activity at one time has increased in one borough while it has decreased in another. A transfer of inspectors from the less active to the busy borough to relieve the stress was impracticable under the conditions of independent borough administration. Under the proposed organization it would be done as a matter of routine. The division that would look after the maintenance of safe and lawful conditions in buildings would require inspectors familiar with requirements of construction, fire prevention and other features. Inspectors of the division of new buildings who, because of failing physical condition due to age or injury in the course of their duties are no longer capable of active service, could be transferred to the less strenuous work of the maintenance division. So, too, incapacitated firemen could be utilized in that division. These men, furthermore, in case of emergency, such as the Equitable Building fire of 1912, when a large force had to be kept on continuous duty for several days, could be drawn on as a reserve force to relieve the overburdened regular force. Similarly the division of new building could be provided with extra help in times of need. Under the proposed plan the aid of the police to assist in the enforcement, when necessary, of health, housing, building and other ordinances, would be more readily available through the directing head of the four departments.

The board of standards and appeals, organized somewhat along present lines, should be retained, its powers and duties being limited to those now prescribed by the charter. The quasi-judicial character makes it not only desirable but necessary that, although placed under the director, it shall be an entirely independent board with no officer or representative of any of the departments on its membership.

I do not attempt to outline any sub-division for the police, health or fire departments, assuming that those departments will be organized pretty much as at present, except that the

fire department functions would be limited to the extinguishment of fires, and the necessarily concomitant supervision of extinguishing appliances and maintenance of fire alarm plant. . . .

More efficient enforcement is dependent upon a higher degree of coordination of agencies and functions, greater elasticity in transfers of staff members, and more definite placing of responsibility. Changes to meet the difficulties and needs outlined by Mr. Miller's letter await the process of charter revision, which is advocated by the present city administration.

Given efficient and coordinated administration of the laws affecting building construction and maintenance, there would be some point to revising the laws themselves. Without such a system, the piling of more requirements upon a structure of regulations already lacking consistent enforcement will accomplish little. The past year (1934) has witnessed the passage of numerous amendments to the Multiple Dwelling Law at a time when violations of previous regulations are to be seen on every hand. Some of the amendments were intended to ease harsh requirements that had been passed with good intentions in the past. Others were intended to strengthen fire-protection requirements in old-law tenements to the end that greater security might be afforded the tenants.

This particular legislation is illustrative of how a certain amount of exaggeration in publicity may bring about improvement in housing conditions — provided that the resultant law is enforced. In the late winter and early spring of 1934, a period of exceptionally severe weather, an unusual number of fatal fires occurred in old-law tenements. The circumstances were made the occasion for a spectacular campaign against "firetraps" culminating in the passage of a law requiring fire-retarding of walls, the separation of stairways from apartments, and other measures intended to reduce fire hazards. As a matter of fact, the construction of the buildings and nature of the exits had nothing to do with a majority of the losses of life, but the publicity was effective in bringing about improvements that should have been required years before and could have been installed then with less financial embarrassment to the owners.

The Building Code, the Multiple Dwelling Law, and the Zoning Resolution are all applications of the police power in the interest of safety, health, and general welfare. They represent the minimum that the community is willing to require in this direction, rather than optimum standards which are to be gained through education and through the example set by model projects. Ignorance of their legal limitations has brought forth unjustifiable criticism. They are distinctly not media through which advanced views of some particular school of thought are to be imposed upon the community.

Yet within their relatively narrow sphere there is much improvement possible,

always keeping their fundamental purpose in mind. Their requirements fall into two classes, those depending upon physical tests and demonstrations on an engineering basis, and those which are in effect matters of composite judgment rather than demonstrable proof. In the first class are such matters as working stresses and the fire resistance of materials (although even here some differences of opinion continue to exist, particularly in the factors of safety to be applied), and in the second are size of light courts and coverage of lot area. Evidence on the properties of materials has continued to accumulate over a long period and greater uniformity in manufacture has made it possible to predict with a reasonable degree of certainty what will happen under given conditions. Evidence on just how much light and what quality of light are necessary to a given result, measurable in terms of health, is less exactly demonstrated. So when we say that light courts shall be of specific dimensions, we are establishing a minimum that might be stepped up or down, not only according to knowledge which is tentative and inexact, but also according to opinion or progressive compromise between conflicting guesses.

Applying these generalizations to the local building regulations we find that the terms of the Building Code can be more readily justified than those of its companions. Gradually there has developed a fundamental principle with regard to such regulations, namely that their requirements serve to ensure strength, fire resistance, and so on rather than merely to limit the use of specific materials. This "performance basis," when coupled with standard tests, paves the way for a scientific treatment in which the field is left open for all materials and methods of construction that can demonstrate their fitness for the use intended.

Twenty years is a long time for a building code to function, even though amendments are made periodically in an effort to keep it up to date. That the code in effect has lasted this long may be a tribute to the care and vision with which it was created.

The Building Code is concerned chiefly with the safety and health of persons in and about buildings of all sorts. It was adopted in 1915 and since that time has had a tremendous influence on the character of construction put up in the city. Not only that, but it has been widely copied in other cities. Although amendments have been made from time to time, it has never had a complete overhauling. Two or three years ago a movement was started under the auspices of the Merchants' Association to write a new code, and a complete document was in fact produced and published in the *City Record*, the municipal newspaper. With the exception of a change in allowable steel stresses, increasing these by 12 per cent and thereby affording some economies in steel construction, no action has been taken.

Although by no means obsolete, the Building Code in use obviously must suffer by virtue of the fact that many developments have taken place in the last nineteen years that can only be imperfectly recognized in amendments. Continuous research into the properties of materials, introduction of new materials and methods of assembly, and refinements in methods of testing all tend to produce such an accumulation of new facts that a code must be very flexible in order to absorb them. The belief that the code is ripe for a general revision is not at all unreasonable.

The form of revision proposed and many of the essential provisions have their origin in recommendations of the Building Code Committee of the Department of Commerce, which for some twelve years did intensive work in developing basic requirements for use throughout the nation. This Committee did not produce a uniform code, but investigated those features of codes that seemed to be most in need of attention. Its recommendations have been used freely in the revision of local codes, and their existence emphasizes again the close relationship that has developed between Federal and local activities in the housing field.

In form, the new code introduces a great degree of flexibility, limiting its strictly mandatory provisions to rather small compass, but adding a great deal of supplementary detail that can be altered, with the increase of knowledge, so that requirements may be kept abreast of new discoveries. One of the more significant features, from the housing standpoint, is the recognition extended to a type of construction intermediate between the former fireproof and semi-fireproof types. By permitting, within certain limits of height and area in apartment buildings, construction that will withstand the destructive effects of fire, yet not wholly fireproof, substantial economies over the fireproof type are made possible. This, coupled with the more liberal steel stresses already mentioned, illustrates the way in which the police power may be intelligently applied so as to lower the cost of construction without unduly lowering standards of safety.

Closely allied to the Building Code in its effect on low-rental construction, lineal descendent of the Tenement House Act of 1901, and storm center of many battles between conflicting forces, is the Multiple Dwelling Act of 1929. Originally advanced as a simplification and modernization of the Tenement House Act, it has in turn become encrusted with amendments until its none too comprehensible terms threaten to become lost in a fog of interpretations.

The Multiple Dwelling Law, as finally passed, was a very different measure from that originally drawn up and submitted to the Legislature. The latter attempted definite and drastic reforms, including the placing of all kinds of dwellings under the jurisdiction of the Tenement House Department and the setting up of

a distinction between the types of dwellings permissible on land assessed at $2 per square foot and that assessed above this amount. By this it was hoped to check the march of large apartment buildings into the outlying area, and eventually to change the residential character of the city. It was pointed out that less than 7 per cent of the area of the city consisted preponderantly of lots assessed at more than $2 per square foot and yet that standards of building reflecting this value were imposed throughout the city. This gallant attempt to stem the spreading of congested area standards to outlying sections failed.[1]

After fifty-seven meetings of a greatly enlarged committee, representing every possible trend of real estate and building thought, the Multiple Dwellings Bill of the Temporary Commission to Examine and Revise the Tenement House Law has been introduced in the State Legislature. The members of the committee have worked harder on their assignment than probably any other State commission in the history of the State and it is a remarkable tribute to their industry, that, in spite of the widely different opinions and ideas held by the various members, there was a practical unanimity of opinion in regard to the final draft of the law.

While every reasonable attempt has been made to crystallize the best prevailing thought and opinion on the tremendous problems involved in the Tenement House Law Revision, some opposition is still anticipated, particularly from those interested in old-law tenements.

Harold Riegelman, Counsel to the Commission, has prepared the following concise summary of the ten major aims of the Multiple Dwelling Law.

Major Aims of Law

1. It brings all future multiple dwellings, such as apartment houses, apartment hotels and hotels under uniform height-and-bulk standards insuring residential areas against blanketing by very tall and bulky buildings and towers.
2. It insures brighter, airier homes for the occupants of such dwellings.
3. It increases rentable areas in future apartment houses, promotes elasticity of design, gives wider choice of building materials, and reduces the unit cost of rentable area, thereby making lower rents possible for better accommodations.
4. The local Zoning Resolution, where more restrictive, controls height and bulk.
5. Small multiple dwellings may be built as under the present law.
6. Existing apartment houses built since 1901 and existing transient hotels are structurally unaffected. In existing apartment hotels cooking pantries must have proper ventilation and fire protection.
7. Converted dwellings must conform with readily and inexpensively attainable standards of sanitation and fire protection.
8. Old-law tenement houses must meet higher standards of sanitation and fire-protection. Dark cellars are vacated.
9. Owners and tenants of all multiple dwellings are held to strict requirements respecting cleanliness and fire-safety.
10. The jurisdiction of the building bureau and Tenement House Department is un-

1. See Report of Temporary Commission to Examine and Revise the Tenement House Law, January 30, 1928.

changed. The latter gets greater authority than at present to enforce standards in residential multiple dwellings.

Differences in Bills

The chief differences between the Multiple Dwellings Bill as now introduced and the Dwellings Bill which failed to be reported out of Committee in 1928, are, according to Mr. Riegelman, as follows:

1. The new bill applies to cities over 800,000; the old to those of 500,000. Each gives options to smaller communities to come under it.
2. The new bill omits one-family and two-family private dwellings.
3. The new bill does not classify lots, nor does it zone areas of the city for the purpose of imposing different restrictive limitations in height and bulk.
4. The old bill required wider courts and deeper yards and permitted slightly greater heights on Class II areas than the new bill. The first required set-back at front and sides is at a higher level under the new bill.
5. The old bill required public halls except elevator vestibules to have a window to the outer air. The new bill does not.
6. The old bill did not expressly provide for existing apartment hotels. The new bill does and also provides more elasticity for future kitchenette apartments.
7. The new bill removes many of the distinctions between transiently and permanently occupied fireproof multiple dwellings, but permits large transient hotels to be built in business districts under the local zoning resolution as to height and bulk.
8. The old bill materially affected small multiple dwellings. The new bill does not.
9. The new bill relaxes requirements relating to existing converted dwellings built under the Tenement House Law or Building Code, provides for sprinkler system in lieu of a secondary egress and dispenses with fire-retarding of walls and ceiling above the first tier of beams.
10. The new bill facilitates the installation of central heating plants in old-law tenements, prohibits vertical ladder fire-escapes unless equipped with balconies at each floor. The old bill does not contain these provisions. The new bill does not require halls to be fire-retarded. The old bill does.

Personnel of Committee

The Temporary Commission to Examine and Revise the Tenement House Law has the following personnel: James L. Whitley, Chairman; Samuel H. Hofstadter, Vice-Chairman; Lawson Purdy, Secretary; Benjamin Antin, Hubert F. Breitwieser, Peter J. Hamill, Raymond V. Ingersoll, Darwin R. James, H. H. Murdock, Seabury C. Mastick, L. C. L. Smith, Robert K. Story, Jr., George L. Thompson, Edwin W. Wallace, Harold Riegelman, Counsel.

The Commission was appointed in May, 1927, under the authority of chapter 569 of the Laws of 1927. It organized promptly, worked intensively and reported to the Legislature January 31st, 1928, at that time submitting its recommended revision of the Tenement House Law in the form of the "Dwellings Bill." This measure failed of passage but the Commission continued activities.[1]

1. An article entitled "New Multiple Dwellings Bill presented to Legislature," from *Building Investment*, February 1929.

The Multiple Dwelling Law did bring under the jurisdiction of the Tenement House Department (for the moment at least) that ingenious evasion of the Tenement House Act known as the apartment hotel. It increased court sizes (but also increased the height). It abolished yard toilets and vertical fire-escapes, and attempted in other ways to raise the standards of housing in the city. It continued enforcement under the Tenement House Department as established in the Act of 1901. Recent legislation has, however, transferred all duties regarding new construction to the Building Department, and to that extent has weakened the organization specially created to deal with the problem of housing.

Unlike many parts of the Building Code which deal with matters of fact, such as the strength of materials and their degree of fire resistance, the Multiple Dwelling Law deals largely with matters of opinion. The question as to what constitutes the minimum healthful provision for light and air is apt to be answered in a dozen different ways according to the knowledge and depth of conviction of those interrogated. The net result of deliberations is apt to be a compromise in which economic considerations are given fully as much weight as matters of health. Such, in fact, is the history of the development of all housing laws. The Multiple Dwelling Law suffers mostly from attempts at compromise, from ambiguity of statement, and from divided responsibility in enforcement.

The arrangement of the Act illustrates one of the two principal methods in use. This consists in taking each broad classification of building — fireproof, non-fireproof, and the like — and covers all or nearly all the topics under each classification. The other method is that of selecting principal topics, such as protection from fire, light courts, and so on, and deals with the several building classifications under each main heading.

There is much to be said in behalf of each arrangement. However, for convenience in referring to documents that have to be used in conjunction, it would seem that the same general method of treatment in the Building Code and Multiple Dwelling Act would be the sensible method to pursue. Such, in fact, was the general relationship of the earlier Tenement House Act and the Building Code. The change that was effected in 1929 has apparently contributed nothing to methods of classification previously existing. The proposed new Building Code continues a topical arrangement, so the diversity of handling will probably continue unless a standardized order is laid down and adhered to.

It was felt at the time of the drawing up of the Multiple Dwelling Law that its predecessor had become hopelessly muddled by amendments and that a new act aiming at simplicity of treatment would be a step in advance. Unfortunately the new law is so ambiguous in some of its terms that great difficulty is experienced in

its interpretation, even by those skilled in the subject. A case in point is the requirement regarding interior bathrooms in new buildings. Such buildings have been erected under an interpretation of the following section:

§ *115. Interior water-closets and bathrooms; when permitted; how ventilated.*

1. In every fireproof multiple dwelling hereafter erected in which one or more power passenger elevators are provided and operated, water-closet compartments which are supplementary to those required by law and bath rooms may be ventilated solely by a system of mechanical exhaust ventilation constructed and arranged as approved by the department charged with the enforcement of this chapter and continuously maintained and operated to provide at all times not less than four changes per hour of the air volume of such water-closet compartment or bath room, daily from six o'clock in the morning until twelve o'clock at night.

2. In every fireproof multiple dwelling hereafter erected in which one or more power passenger elevators are provided, maintained and operated and on which there are two or more floors every room on which opens directly upon a public hall without any intervening room, foyer or passage there shall be at least one and there shall not be required to be more than one water-closet compartment for every three rooms on each of such floors, each such water-closet compartment to be accessible to one or more of said rooms without passage through a public hall or any bedroom. On any of such floors, when not more than two rooms open upon a foyer giving direct access to a public hall such rooms shall be deemed to open directly upon a public hall. Every such water-closet compartment shall be ventilated in the manner prescribed either in section seventy-six or in subdivision one of this section. In every such multiple dwelling hereafter erected there shall be on each of such floors at least one water-closet compartment for every fifteen rooms or a fraction thereof not having access to a water-closet compartment without passage through a public hall or bedroom, and every such room shall have access to such water-closet compartment through a public hall. If more than one such water-closet be required hereunder on any of such floors such water-closet compartments may be placed in a general toilet room in the manner provided in section seventy-six of this chapter respecting supplemental toilets. (Subdiv. amended by Chap. 840, Laws of 1930).[1]

The reader is left to determine for himself whether interior bathrooms for individual apartments are meant, or whether the passage is limited in its application to supplementary accommodations.[2]

Admitting the peculiarly difficult problems that have grown up in New York City, it should not be considered that discussion has closed with the passage of the Multiple Dwelling Law. If greater simplicity can be achieved, and regulations suggested that will be more defensible because based on principle rather than on compromise, something will be gained. Thus attention might be directed toward the prevalent inconsistency of furnishing a profusion of light and air to the fortu-

1. *Multiple Dwelling Law of the State of New York*, . . . Including 1932 Amendments

2. For comparison with existing requirements, there are the former Tenement House Law, a Model Housing Law by Veiller, published in 1920, and a Housing Code, endorsed by the State Board of Housing, the Conference of Mayors and other municipal officials, and the State Board of Health, in 1930. The last-named, in general, calls for higher standards than are contained in the Law, although their field of application was intended to lie outside of New York City.

nate and better-paying tenants on the front of a building, while leaving many of the apartments in the rear with a bare minimum. Such a practice is not tolerated in current low-rental housing plans. If it would result in unhealthful conditions there, why is not the same effect produced in more expensive apartments?

Last of the trilogy of police power regulations is the Zoning Resolution. Here, again, New York City may justly claim credit for being in the lead of progressive legislation. Its ordinance was, in fact, the first comprehensive zoning enacted in this country.

Zoning has come to mean to cities and towns a legal process by which the individual's use of land is restricted in the interest of the community as a whole. Indiscriminate cutting off of a neighbor's light and air in a hodgepodge of factories, apartments, and filling stations is no longer the inalienable right of the private-property owner. Yet this change has taken place in less than twenty years and had to run the gauntlet of adverse court decisions in many states before it became firmly established as a fixed principle in our community life

The Zoning Resolution grew out of the work of two commissions, one the Heights of Buildings Commission of 1913,[1] and the other the Commission on Building Districts and Restrictions in 1914. The voluminous report of the second commission, issued in 1916,[2] added one more to the long list of distinguished documents that have described living and working conditions in the city. It went beyond this, however, in prescribing new principles intended to guard against future exploitation of land. A State Enabling Act paved the way for local action. The Building Zone Resolution adopted by the Board of Estimate and Apportionment on July 25, 1916, put these principles into effect. Use, height, and area districts were established and direction was given to what had hitherto been a formless and unrestrained development of the city. That it fell short of some of the things expected of it grew out of the necessity of applying it to an already developed city, rather than to any defect in its fundamental concepts.

Summing up, municipal legislation suffers partly from age and partly from lack of intelligibility. The most youthful of the three main forms of control was passed in 1929, and because of economic conditions it has had slight influence on construction in the city. The flood of amendments that followed (more than one hundred to the end of the year 1931) and constant attempts at tinkering indicate that its brief existence has not been very satisfactory. The Zoning Resolution, originally passed in 1916, has likewise suffered some changes, although its simpler form and better craftsmanship has enabled it to be more comprehensible. The present Building Code dates back to 1915. All these documents deal with differ-

1. See Chapter VI.

2 *Ibid*

ent aspects of one problem, which is the assuring of safe, sanitary, wholesome residential conditions. As matters now stand they are all, with one major exception, administered by one department. The question arises whether it would not be wise, at the time of the revision of the City Charter, to reexamine all these documents in the light of conditions today and in relation to the broad problem of city planning. Concepts with respect to housing have advanced very rapidly in the past few years. Methods of control of future population trends through the medium of density standards have come to the fore. While there is not likely to be anything more than a gradual evolutionary process in changing the complexion of a city already built up as is New York, there is nevertheless a need for coordination in the several methods by which control over residential building is exercised.

Turning to the wider field of state laws, we find tax exemption, the power of condemnation, authorization for housing bond issues, and administrative housing bodies all provided for.

State legislation might have taken a different turn if the State Housing Law of 1926 had passed in the form proposed by Governor Smith. Under this, a state housing bank was to be formed. This was to be a depository for public funds and would have the power to issue bonds against specific projects of the State Housing Board. It had other powers intended to facilitate the financing of low-rental housing projects.[1] This provision was stricken from the bill, as finally passed, and left no machinery for financing. Some support was obtained in this direction from insurance companies, but a vital feature had been left uncertain.

The State Housing Law today is in a curious position. Every one of the projects erected under it has come through the worst depression in America's history without default on its obligations. One would think that the lesson of such a record would be borne home to investors and that those individuals or institutions desiring to place money in investments of demonstrated worth would be eager to come forward, even though not interested in the social aspects of model housing. Such, however, is not the case. There is not even a small amount of equity money to be had when the Federal Government assumes most of the risk.

In the face of this experience comes the Municipal Housing Authority Act. For financing, it relies initially on the existence of Federal funds, but with an eye to the future it provides for the issuance of bonds. The State Housing Bank idea in a modified form reappears. The rents are presumably to be lower, however, than with State Housing Board projects, and the scale of projects larger. In a sense, then, according to most concepts, the risks will be increased. Just how this

1 Message from the Governor transmitting Report of the Commission of Housing and Regional Planning for Permanent Housing Relief, 1926, pp 60–64.

legislation will coax forth private capital is yet to be demonstrated. Conceivably, under adept leadership the proposed creation of new communities will capture the imagination of the public and will, in conjunction with the stability to be expected from such communities, furnish the basis for a new type of security vying with Government bonds in popular esteem.

An advantageous way to discuss existing state legislation is to compare it with measures taken by other states. New Jersey and Illinois offer convenient comparisons, the first because it is an adjoining state, the second because next to New York it contains the largest city in the country.

New Jersey has chosen to deal with housing on a plan considerably different from that of New York.[1] A State Housing Authority acts as a coordinating body and thus is not restricted to nominal functions with respect to municipal housing authorities as is the case with the New York State Board of Housing. This Authority can undertake projects in any city in the state where it desires to enter and can continue to manage them after they are erected. The maximum average rental per room must, however, be limited to $10 monthly in cities of the first class, and to $8 in other municipalities. Taxation must be paid on both land and improvements (departing from an earlier law which regarded housing as a public utility to be charged a nominal sum in lieu of taxes). The Authority may undertake either slum clearance or low-cost housing or both.

Illinois provides for municipal housing authorities as well as limited-dividend corporations.[2] The local authorities are, however, subjected to much closer supervision than in New York State. Their members must be approved by the State Housing Board, which may remove them after hearing. The Board may forbid the acquisition of a particular site, and has other powers of control. Local authorities apparently are not limited as to rentals, although limited-dividend corporations are, in general, held down to rents ranging from $21 to $25 per month for two rooms, plus $6 to $7 for each other room, according to the size of the city in which they operate.

In these, as in other states, there is manifested a reluctance to let the local housing authority go it alone. With vast sums to control and far-reaching decisions to be made, it is not unnatural to assume that mistakes might occur which could be prevented by a body less likely to be involved in local political and factional troubles. Since political changes will inevitably occur sooner or later in the municipal government of New York City, if the restraining hand of the Federal Government is withdrawn, unfortunate reactions on housing are not unlikely. The withdrawal of practically all state supervision by the terms of the Municipal

1 Laws of the State of New Jersey, 1933, Chap 444. 2 State Housing Act, July 22, 1933.

Housing Authority Act, therefore, does not appear to have been wisely conceived. If the state should take a more direct financial interest in housing, as is recommended elsewhere, such action must, for safety, be accompanied by a definite measure of control.

Federal legislation is in an indeterminate condition in which future policies are not entirely clear. The continuance of Federal funds at low interest rates or of Federal guarantee of private funds, both with adequate safeguards, appears to be a necessary feature of really low-cost housing even though there may be theoretical objections to such a procedure. What is needed more than anything else at the present juncture is a coordination of Federal agencies dealing with various aspects of housing so that a definite policy may be established that will make long-time planning possible. Federal policies have had to be frankly experimental at first, but with the lessons learned, a programme should be drawn up and adhered to. Subsidies, on a participating basis, from nation, state, and city, may be needed to some extent, but the more the programme can be made to take the form of encouraging investment of private capital, the more likely it is to escape recurrent revolts of taxpayers, and to provide a really satisfactory basis for widespread improvement in housing.

CHAPTER XXXII

FEDERAL, STATE, AND MUNICIPAL REHOUSING POLICIES

ABNORMAL conditions prevailing during the past few years have brought about new relationships between the Federal, state, and municipal governments in the matter of housing. It is difficult to say what portion of these relationships is temporary, how much will bear the test of constitutionality, and what new principles are evolving as a result of trial and error. Something can be gained, however, by tracing the respective activities of the several governmental units over a period of years and by examining into the fundamental principles that are imbedded in our constitutional system.

Until the World War no conspicuous example exists where the Federal Government concerned itself with the housing of private individuals. Under special circumstances, such as the building of the Panama Canal, housing was provided, but as an incidental though necessary feature of a larger plan. Some housing was also provided at army posts, naval bases, and for civilian employees in lighthouse, park, and other services. It was not, however, until the lack of housing for munitions and shipyard workers threatened the success of the war programme in 1917–1918 that the Federal Government was really precipitated into the housing field. Even here, the motive was not housing *per se* — instead, the problem was approached in a spirit that gave broad consideration to the subject, with full knowledge that the communities thus created might set precedents for years to come.

It is curious that during the present period, when the Federal Government is undertaking vast housing projects, so little is heard of the experiences and accomplishments of the war period. True, the circumstances bore a likeness to those of today chiefly in the existence of an emergency and the housing was of a sort somewhat different from that contemplated today. Yet there are analogies that are of more than passing interest.

The United States Housing Corporation [1] was born of an emergency, as was the Public Works Emergency Housing Corporation. It was formed under the laws of New York. Its purpose and methods were eminently direct and practical.

1. For a complete description of the activities of this Corporation see Report of the United States Housing Corporation, vols. I and II, Washington, Government Printing Office, 1920

Its job was to provide suitable housing at strategic points for war workers and their families. Its method was direct Federal action in planning, building, and managing the housing developments that it considered necessary. In all, during its brief active existence, it produced numerous housing units, located in many cases in developments that had to be planned from the ground up. Having produced these it was directed by law to dispose of them,[1] and thus the Federal Government retired for the time from active participation in the building field. There seems to have been little if any notion of regarding the Government as a permanent contributor to the solution of housing needs. Similarly, housing provided by the War Department and by the Emergency Fleet Corporation was on an emergency basis.

In all this activity, however, a very substantial contribution was made to sound analysis of housing needs. In the planning of whole communities and in the analysis of the internal arrangements of houses, the growth of a much better technique than had been employed in the average commercial development was evident.

The next important development, like the one today, was the offspring of a depression. In 1921 the Senate Committee on Reconstruction and Production brought in a report in which it emphasized the importance of the construction industry as a balance wheel in the economic machine and recommended that certain new activities be established in the Government.[2] These included attention to developing improved building-code requirements, simplification in sizes and varieties of building materials, and general cooperation with the building industry in solving its manifold problems. Appropriate legislation was passed and divisions were set up in the Department of Commerce, which did notable work in cooperating with architects, builders, manufacturers, and home owners.[3]

More recently there was held a symposium on housing, in 1931, which, while privately financed, had official sanction as evidenced by bearing in its title the designation of the chief executive. The President's Conference on Home Building and Home Ownership summoned to Washington a gathering of some three thousand persons in official and private life who had a background of expert knowledge in the various branches of housing. Out of this came a series of pronouncements on the relation of the Federal Government to housing. The approach was conservative, the function of the Government being conceived as that of providing improved financing laws, technical research, and cooperation with existing agen-

1. The various acts will be found in vol 1, *supra*, p. 55.
2. United States Senate Committee on Reconstruction and Production, final report (Senate Report No. 829).
3. These divisions included the Division of Building and Housing and the Division of Simplified Practice. They formed a part of the Bureau of Standards in Washington.

cies in dealing with problems beyond the capacity of private industry to solve.[1] It was pointed out, however, that if thorough exploration of these measures failed to produce marked improvement in housing conditions, more direct governmental action might be necessary. The Conference went exhaustively into the complicated pattern of the housing problem. It produced a summing up of existing conditions and an array of possible courses of action that has served a very useful purpose.

With the deepening of another depression, Federal action has taken a more direct line, with what justification and consequences it is too early to appraise. A number of emergency bodies, having functions in some respects permanent and in others temporary, have been set up. Disregarding agencies such as the Subsistence Homesteads Division and the Tennessee Valley Authority, which have little bearing on the problems of New York City, these agencies are, in the order of their birth, the Reconstruction Finance Corporation, the Housing Division of the Public Works Administration, the Public Works Emergency Housing Corporation, and the Federal Housing Administration. Of these, only the last has at present a permanent status and its activities are limited in time by several provisions of the act creating it.[2]

To New York City belongs the distinction of obtaining the only housing loan approved by the Reconstruction Finance Corporation. This was for Knickerbocker Village. The circumstances will be discussed elsewhere, it being sufficient to note here that some $8,000,000 of Federal money has been advanced under procedure set up by the State for limited-dividend housing corporations. The transaction was that of lending money for an enterprise under local management and is not likely to involve any unusual problems unless the project should be foreclosed.

The Housing Division of the Public Works Administration was set up in 1933 in conformity with the following wording of the National Industrial Recovery Act:

> The administrator, under the direction of the President, shall prepare a comprehensive program of public works, which shall include among other things the following: . . . (*d*) construction, reconstruction, alteration, or repair under public regulation or control of low cost housing and slum clearance projects.

Furthermore, Section 203 (a) provides that

> With a view to increasing employment quickly (while reasonably securing any loans made by the United States) the President is authorized and empowered, through the Administrator or

1. The reports of the Conference are contained in eleven volumes which treat housing from many angles and culminate in a suggested programme for future research.

2. See the Emergency Relief and Construction Act, 1932, the National Industrial Recovery Act, 1933, and the National Housing Act, 1934.

through such other agencies as he may designate or create, (1) to construct, finance, or aid in the construction or financing of any public-works project included in the program prepared pursuant to Section 202, (2) upon such terms as the President shall prescribe, to make grants to States, municipalities, or other public bodies for the construction, repair, or improvement of any such project, but no such grant shall be in excess of 30 per centum of the cost of the labor and materials employed upon such project; (3) to acquire by purchase, or by exercise of the power of eminent domain, any real or personal property in connection with the construction of any such project, and to sell any security acquired or any property so constructed or acquired or to lease any such property with or without the privilege of purchase.

In comparison with the wording of the Emergency Relief and Construction Act which created the Reconstruction Finance Corporation, this wording was much broader and left more room for interpretation. It was frankly an emergency measure, however, and the emphasis was on employment rather than on the development of a carefully thought-out housing policy. In fact if the construction of housing accommodations had not appeared to offer a promising field for providing employment, it is doubtful whether housing as such would have been given much consideration either in the previous act or in this. Probably it would have been reserved for more careful study in connection with a programme of social legislation.

Aside from mentioning that two limited-dividend projects have come to New York under this later act and that $25,000,000 has been set aside for use in that city for public housing projects, no further reference to the details of the actual projects need be made at this point. The policies that have developed under this act have very interesting implications from a long-time standpoint, however, and deserve some attention.

At the outset, emphasis in the Housing Division was placed upon housing by limited-dividend corporations, which were to put up a limited equity and receive long-time amortized loans upon presentation of satisfactory plans and other arrangements.[1]

As a temporary measure this appears to have much in its favor. Aside from providing desired employment, it enlisted the interest of responsible local people who would share some of the risk and regard the Government's participation as simply that of a lender on adequate security. New York State had already committed itself to this form of housing activity through legislation passed in 1926.[2] In fact, it is probable that the existence of this legislation and its satisfactory

1. For various statements on policy of the Housing Division and the Public Works Emergency Housing Corporation, see an article by Robert D. Kohn entitled "Policies of Federal Housing," *Architectural Record*, August 1933, p. 89, and Circulars Nos. 1, 2, and 4 of the Federal Administration of Public Works, Washington, D. C., mimeographed statements from the same source, dated December 10, 1933, January 2, 1934, and March 2, 1934, and subsequent publications.

2. *Laws of the State of New York*, 1926, Chap. 826, subsequently amended by *ibid.*, 1927, Chap. 35, and *ibid.*, 1931, Chap. 557.

working, though in a limited field, had a good deal to do with fixing the initial Federal policy.

There were a number of obstacles immediately ahead of such a policy. One was that, with the exception of the New York law, there was no American state which had complete legislation in existence authorizing the activities of such limited-dividend corporations. Even in New York State, additional legislation had to be passed [1] permitting the acceptance of Federal funds on the best terms. Legislatures were hastily convened in various states and laws were passed legalizing the acceptance of Federal money in this and other connections under the Recovery Act. A number of states passed housing laws which drew much of their inspiration from the New York Act. Over five hundred projects were reported to have been submitted to the Federal authorities, from among which only eighteen were approved and seven actually started. Two of these were in New York City and represented a large proportion of the total value of projects actually constructed as a result of approval by the Housing Division.[2] With the addition of the Federal funds for Knickerbocker Village this represented the lion's share of the housing done under this method. The significant features of this loaning to limited-dividend corporations reside in the fact that thus far no straining of constitutional limitations appears to be involved, state legislation and state control were unquestioned, and the function of the Federal Government appeared as one of a lender at fairly generous terms and with no subsidies involved.

Disappointment with the tangible results of such an arrangement soon manifested itself. Difficulties of raising equity money in cities where desirable projects were advanced, opposition of property owners to the building of housing at the rentals necessary under this system because of possible competition with existing housing, and suspicion on the part of the Housing Division of the Public Works Administration that many projects were simply devices to unload land or unprofitable ventures on the Government through exaggeration of equity values, apparently led to the determination to take advantage of another clause of the Recovery Act. Encouragement was lent to the setting up of public housing authorities which could not only avail themselves of loans by the Federal Government, but could obtain outright grants of 30 per cent [3] of the cost of labor and materials. No precedent existed for such bodies even in New York State, and new state legislation was necessary, scarcely a year after limited-dividend corporation laws had been passed.

Uniformity was noticeably absent in new state legislation, even though sug-

1. Changes in Sections 14, 16, and 23 of the State Housing Law, passed by the Extraordinary Session of the Legislature in August 1933.
2. See Chapter XXXV.
3. Subsequently increased

gested fundamentals were distributed freely. Some states set up state authorities, some authorized municipal bodies, some granted tax exemption and others forbade it, some set maximum rentals that could be charged, others deliberately avoided any such restrictions. It was apparent that state legislatures were acquiescent to measures that would increase the inflow of Federal moneys, but were not agreed on the fundamental principles involved. Creation of employment, rather than any deep-seated conviction on housing, was evidently the primary motive, although some public interest was whipped up by picturesque descriptions of bad housing conditions.

It was perhaps inevitable that New York City should become the sounding-board for these reverberations of Federal policy. Its peculiar type of bad housing, its enlightened laws, the genuine concern felt by rich and poor alike in the unenviable reputation that had been built up by its slums, and a change in political administration had set the stage for positive action. Under the spur of a $25,000,000 Federal appropriation lying ready for appropriate action, a new state law was rushed through the Legislature.[1] This recognized the principle of Federal subsidy, but omitted any reference to similar state action. While the latter might have been equally appropriate, either misgivings as to constitutional limitations were more acute, or doubts regarding popular approval were sufficient to quiet the extension of the principle of subsidy to the form of government nearer home.

There remained one further step possible by the Federal Government under the law, and this was taken with a view to preventing delays and bringing about a more thorough protection of the funds that were being provided. This consisted of setting up a Public Works Emergency Housing Corporation, incorporated under the laws of Delaware, and empowered among other things to purchase or condemn land, construct buildings, and in general do all those things necessary to provide better housing wherever that should be decided to be necessary. The cycle of events and Federal policies had thus passed through many of the phases suggested and considered in war-time and had come substantially to the method adopted in the previous emergency.[2]

Last of the Federal measures is the National Housing Act.[3] Unlike the other measures, this sets up a permanent organization. Its title is somewhat deceptive in that the approach to housing is through financing rather than through actual construction. It has, however, very important features that may revolutionize financing arrangements in future years. So far as its encouragement of remodeling

1. *Laws of the State of New York*, 1934, Chap 4, p. 85. This authorized the setting up of local housing authorities.

2. Because of various legal difficulties, the Public Works Emergency Housing Corporation became inactive.

3. Passed in 1934.

and repairs is concerned, the Act has only a very moderate application to the housing problem. Amounts to be lent by the banks and guaranteed up to 20 per cent by the Federal Government are limited to $2,000 on any one building, a reservation that immediately restricts its field to minor improvements in the case of multiple-family dwellings.[1] Still, such an amount would provide for the fireproofing of stairways and hallways in old tenements if it were available, but the expenditure of money on such properties may be unwise because of the age of these structures and their consequent high degree of obsolescence.

Embedded in the more than 10,000 words of the Act is a most significant clause that did not originally appear there and is generally credited to New York influence. This sanctions guarantee of loans on low-cost housing projects costing up to $10,000,000. Thus a new relationship is established between local authorities and the Federal Government. Funds for low-cost housing are to come not directly from the nation but from local sources, and the Federal rôle is that of guarantor rather than lender. There may be here the germ of a development that will clarify the future relations between nation, state, and municipality. At present, dependence on Federal, rather than state or local, funds seems to rest on an uncritical acceptance of the fact that the Federal Government has the money. Just why it should provide the funds for housing, while the state and city stand idly by, has received little frank discussion. Expediency rather than principle has thus far ruled. If the present source should dry up through arbitrary changes of policy or from conviction that the principle involved was wrong, one of those periodical setbacks from which low-rental housing suffers would occur. In the position of a guarantor rather than lender, the Federal Government might find it possible to wean local authorities from too great a position of dependency.

To the student of long-time housing policy, these successive developments raise interesting questions. Will the Federal Government restrict its activities to purely emergency conditions in which it puts up a limited number of model-housing projects and then withdraws from the field? Is housing a "public" use by which property may be acquired and transformed into much-needed accommodations? What is the particular constitutional power under which the Federal Government will continue to operate after its emergency functions cease? What are the respective responsibilities of the city, the state, and the nation in improving housing conditions?

Those who wish to give serious study to the development of a sound housing policy, in which these three branches of government are coordinated, will do well to consult the Constitution of the United States, the Constitution of New York State,

1 Subsequent amendment has raised the maximum loan to $50,000 for certain types of structures.

and the Charter of the City of New York.[1] Much confusion of thought results from failure to take this simple precaution. No reasonable person today questions the wisdom of providing decent living quarters as rapidly as possible for all elements of the population. Neither is there much doubt as to the location of the worst areas that need cleansing. But practical methods of accomplishment depend on a firm grasp of the respective responsibilities and powers of the various governmental units concerned and on an understanding of the financial problems involved.

In suggesting more thorough study of the present governmental structure in its relation to housing, the intent is not to establish fixed boundaries that stand in the way of substantial accomplishment. Constitutions and charters can be changed if different conceptions of social responsibility have grown up and have attained general acceptance. Broadening interpretations of existing provisions may make it possible to go beyond the apparent narrow framework of the law and reach out into new fields with entire legal propriety. It is assumed, however, that whatever is done should be performed either in accord with existing constitutional limitations, or if these limitations prevent an intelligent adaptation to the conditions and opinions of the day, that they will be altered according to the prescribed rules.

The present situation with respect to promotion of low-rental housing is likely to be taken as normal, when in fact it is very abnormal. It is based mainly on the passage of a Federal emergency law that is self-terminating at the end of two years. While the law is in force, housing activity stimulated by Federal grants and low interest rates may be expected to continue. But in the first year of its existence, this law, as has been pointed out, has brought forth repeated changes in policy, in which emphasis has been shifted from work undertaken by private limited-dividend corporations to that done by local public authorities and, finally, to direct building by a Federal corporation. Whether this last phase represents a fixed policy or will, in turn, be modified in the light of experience cannot be foretold.

As a laboratory experiment on a large scale in which various possible methods of approach are tried out and discarded if found impracticable, the existing procedure has much to commend it. Through it there should accumulate a body of information on financing methods, construction costs, architectural design, and managerial experience that will be of great value in the development of a permanent policy. The danger in the situation lies, however, in assuming that the present pattern is one by which to judge housing policy for a long period to come.

1. The State Constitution covers ninety-four pages of a modest booklet. The Charter, soon to be revised, covers more than 1200 pages of a stout volume.

and Regional Planning which recites substantially the same conditions as are featured in surveys and reports today, the Governor was successful in his advocacy of the State Housing Law.[1] Less than a decade ago this was looked upon as very advanced legislation.

The State Housing Law set up a board consisting of five members with broad powers of investigation and research, but not designed to do any construction. This was expected to be performed by limited-dividend corporations organized under the supervision of the board, required to furnish one-third of construction cost as equity, and limited to dividends of 6 per cent. Average rentals were not to exceed $12.50 in the County of New York (Manhattan), nor $11 elsewhere in the city. Taxes might be remitted on the buildings thus erected, and minor inducements were offered to offset the limited returns and rather rigid control.

The learned counsel to the Commission of Housing and Regional Planning, in an opinion submitted to that body on an early version of the Act, observes:

> Nor is there any doubt that providing housing accommodations, under the circumstances and limitations provided in this statute is now a public purpose, the facts disclosing that in a certain class of cases private capital cannot or will not establish such housing accommodations as will meet the conditions of congestion and will prevent the increase of dangers to the health, safety, and welfare of the community.[2]

Notwithstanding this opinion, no resort was ever made under the Act to the power of a specially authorized "public" limited-dividend corporation to acquire land for housing by condemnation. This essential test of the public nature of housing remains for the recently constituted local authority.

Passed in 1934, after three unsuccessful attempts at similar bills, the Municipal Housing Authorities Law[3] amends the State Housing Law by authorizing the setting up of local authorities having only a nominal supervision by the State Housing Board. Appointments are made by the Mayor. A city may advance expenses, but eventually the Authority is expected to be on its own, financing its projects by Federal loans or by the sale of bonds. Very broad powers are granted, including that of purchasing, leasing, selling, and condemning property. Unlike the State Housing Board Law, no limitation is placed upon rentals other than the term "low-cost housing," this being left to the discretion of the Authority. Real property can be acquired only after approval by the Federal Government or by the Mayor and Comptroller. The city is also authorized to cooperate by advancing funds for expenses, by closing streets and providing parks, by assisting in the

1. State of New York, Message from the Governor transmitting Report of the Commission of Housing and Regional Planning for Permanent Relief, 1926, p. 6.
2. Ibid., p. 68
3. Amendment to Section 1, Article 5; and to Sections 60, 61, 62, and 63 of Chapter 823 of the laws of 1926.

condemnation of land, and in other ways that establish a close relationship between the two local agencies, but both city and state escape liability for the debts of the Authority.

The Housing Authorities Law will require some seasoning before its full implications are known. Its long-time functioning is bound to be overshadowed by the position of the National Government. The latter, temporarily at least, is disposed to lend money and give money. Naturally it desires a prudent use of this money, not only in the interest of low-rental tenants, but to insure the eventual return of the loan. The precise relationship of the Federal and local bodies was one of conjecture until the passing of correspondence between the Secretary of the Interior and the Mayor. The terms laid down by the Secretary were:

That the Government acquire necessary land for projects and lease it to the municipal housing authorities, that loans and grants be advanced to the authority by the PWA for project improvements on agreed terms until the authority is able and desirous of assuming full financial responsibility and control; that the city put into the housing projects various assets for equity such as city owned property and that it maintain adequate schools, sewers and ordinary municipal services; that the city advance sufficient cash for administrative costs of its housing authority; that certain tax exemptions be authorized, and that PWA and the authority exercise joint supervision and control in establishing the projects.

The full text of the Secretary's letter, as reported in the *New York Times* of September 11, 1934, follows:

Hon. Fiorello LaGuardia,
Mayor of the City of New York,
New York, N. Y.

My dear Mr. Mayor:—

I have given careful consideration to the subject of some basic plan according to which we can reasonably expect to secure the right kind of slum clearance and low-cost housing in New York City and which would be equitable to both the city and the Federal Government. Such a plan obviously must meet the twofold requirement of producing low-cost housing that is socially desirable and at the same time economically sound. To this end I have had made, as you know, a comprehensive survey of the entire New York City housing situation. Based upon recommendations made as a result of such survey, I present for your consideration a plan that would enable us to proceed with the construction of housing of this character immediately and in a manner satisfactory to all parties concerned.

The underlying conditions are, of course, subject to each particular project being approved by the Public Works Administration and to the condition that joint supervision of each project by the New York City Housing Authority and the Federal Government be provided for in a manner satisfactory to the Public Works Administration. The $25,000,000 fund earmarked for the New York City area would be released in part for worthy projects in accordance with the following conditions:

1. The Federal Government will acquire the land necessary for the project and permit its use by the Housing Authority for a consideration based upon the cost of the land, through a long-term lease with option to purchase on the part of the Authority. A loan and grant (of 30 per cent of the cost of labor and materials) will be made to the Housing Authority to cover the cost of improvements, the loan to be evidenced by marketable first mortgage bonds.

2. Amortization on the loan may extend over a period of forty-five years from the date of the loan, payments starting approximately one year after completion of project.

3 Interest on the loan will be at a rate not to exceed four per cent per annum.

4. The City of New York, through its Housing Authority or otherwise, will put in various assets as equity, or compensating factors, as follows:

(*a*) City-owned property within the area of each project such as lots, old school sites, etc.

(*b*) Streets and sewers and their maintenance.

(*c*) Smaller areas (probably under three blocks on each project) derived from closing certain streets

(*d*) Maintenance of adequate schools and park areas adjacent to or near each housing development.

(*e*) Other normal utilities such as street lighting, street cleaning and snow removal, fire protection, etc. — also perhaps an adjustment on the water tax.

(*f*) Cash at least sufficient to cover minimum administrative costs of the Housing Authority.

The above will be supplemented by the further compensating factor of tax exemptions on the improvements in addition to the land.

5. The Public Works Administration and the Housing Authority will exercise joint supervision and control of all matters so that all details in connection with each project will be in all respects satisfactory to the Public Works Administration. The expenses of such supervision and control will be carried by the particular project.

6. The release of the $25,000,000 fund in whole or in part is conditioned upon prompt and satisfactory action by the Housing Authority.

This letter is, of course, a statement of the general principles upon which we should work out the details of specific projects, and it may be that some departure from the above will be necessary in particular instances. However, I think that it presents a workable plan in general and trust that the suggestions as outlined above are agreeable to you. If you can give me a letter to that effect I believe we shall be able to proceed without delay.

Sincerely yours,

Harold L. Ickes,
Administrator.

After some reflection the Mayor replied as follows:

Hon. Harold L. Ickes,
Federal Emergency Administrator of Public Works,
Washington.

My dear Mr. Ickes:

I have read very carefully your letter of September 7, 1934, outlining the basic principles and policies that you have set down in regard to the relationship of the City of New York

and the New York City Housing Authority to the Public Works Administration as to slum clearance and low-cost housing. I am in complete agreement with you as to the twofold requirement — namely, that of producing low-cost housing of proper standards and at the same time achieving an economically sound program.

The City of New York understands perfectly that the Public Works Administration must and should approve each particular project so that the Federal government may have complete protection, at the same time retaining the advantages to be gained by working jointly with the local body, the New York City Housing Authority.

Let me take up the plan in the same order stated in your letter:

"1. The Federal government will acquire the land necessary for the project and permit its use by the Housing Authority for a consideration based upon the cost of the land, through a long-term lease with option to purchase on the part of the Authority. A loan and grant (of 30 per cent of the cost of labor and materials) will be made to the Housing Authority to cover the cost of improvements, the loan to be evidenced by marketable first mortgage bonds."

To this New York City and the Housing Authority would agree.

"2. Amortization on the loan may extend over a period of forty-five years from the date of the loan, payments starting approximately one year after completion of project."

This would seem a fair and equitable provision.

"3. Interest on the loan will be a rate not to exceed four per cent per annum."

This, as I understand it, is the interest rate required for all Public Works Administration loans and therefore is acceptable. Inasmuch as lower interest rates in the future are not at all unlikely, it occurs to me that a flexible interest provision may be written that would give the city the benefit of lower rates.

"4. The City of New York, through its Housing Authority or otherwise, will put in various assets as equity, or compensating factors, as follows:

(*a*) City-owned property within the area of each project, such as lots, old school sites, etc.

(*b*) Streets and sewers and their maintenance.

(*c*) Smaller areas (probably under three blocks on each project derived from closing certain streets).

(*d*) Maintenance of adequate schools and park areas adjacent to or near each housing development.

(*e*) Other normal utilities such as street lighting, street cleaning and snow removal, fire protection and policing, etc. — also perhaps an adjustment on the water tax."

The suggestion of exemption on water tax creates an entirely different problem. Our water system is financed from separate water bonds and revenue derived from water is credited for the payment and retirement of such bonds. I do not believe it is possible to commit the city at this time on this item. There is a difference of opinion as to whether under the existing law we would have the right to waive such rates.

"(*f*) Cash at least sufficient to cover minimum administrative costs of the Housing Authority."

The above will be supplemented by the further compensating factor of tax exemptions on the improvements in addition to the land.

As to the tax exemptions on improvements as well as on land I should like to point out that the law creating the New York City Housing Authority automatically exempts the proj-

ect from taxes on improvements, and since the Federal government will own the land it seems that there is an automatic exemption there. The question may be raised, which I doubt, whether ownership of land for housing purposes comes within the automatic exemption of government property. If the question is raised it will have to be settled by the courts.

I want to assure you that the City of New York desires to make every contribution possible within the limits of its charter and the operation of the city government, and I assure you, also, that we will cooperate in every way to this end.

"5. The Public Works Administration and the Housing Authority will exercise joint supervision and control of all matters, so that all details in connection with each project will be in all respects satisfactory to the Public Works Administration. The expenses of such supervision and control will be carried by the particular project."

To this condition the city and the Housing Authority are in complete agreement.

"6. The release of the $25,000,000 fund, in whole or in part is conditioned upon prompt and satisfactory action by the Housing Authority."

I assure you that prompt and satisfactory action will be forthcoming.

I quite understand and appreciate that your letter and my answer are a statement and acceptance of general principles, the details to be worked out by the Housing Authority and the housing division of the Public Works Administration, and in case the necessity for any departure from the above provisions arises, I am sure that it will be promptly and equitably met.

Your letter of September 7, 1934, has been read to the Board of Estimate and Apportionment as well as this reply, and I am sending this letter to you with the knowledge and approval of said board.

Very truly yours,

F. H. LaGuardia,
Mayor.

However satisfactory this arrangement may be, for the moment, as a means of bringing about employment and some housing, it has created a feeling among some that the prestige of the local Authority is inevitably weakened. The Authority was set up as a body appointed by the Mayor, but financially and politically independent of the city. The theory of its long-time operations was that through the construction and management of successful projects it would create public confidence in its activities so that there would be a ready market for its bonds and consequently an ever-widening sphere of influence in the housing field. With its operations supervised at every turn there may be very little opportunity for it to demonstrate its capacity for some years to come. On the other hand, the guidance of the Federal authorities may keep it from pitfalls that would otherwise present serious difficulties.

Intimations that more and more responsibility will be placed on the local Authority are contained in a letter from Secretary Ickes of the Department of the Interior to the National Public Housing Conference, a portion of which was quoted in the *New York Times* of September 28, 1934. While holding some Fed-

eral control necessary for the present, Secretary Ickes is quoted as saying that "the responsibility for promotion, crystallizing, constructing and managing housing projects should be so decentralized that the municipalities will assume complete charge." It would seem that the fears entertained for the independence of local action may thus have been premature, and that a period of local autonomy will eventually set in.

The Housing Authorities Law was elastic in the matter of tax exemption. It permitted the city to waive taxes if this was considered good policy in getting infant projects firmly established, or to call for taxes up to an amount representing the current tax rate on the value of the property as taken over for the new project. While tax exemption on buildings has been a feature of projects erected under the State Housing Law, representing a forbearance on the part of the city to balance the limitation on dividends agreed to by private investors, this exemption was optional with the city, and in recent years has met with considerable popular resistance. In the case of the Knickerbocker Village development, tax exemption on the buildings was obtained, but the later projects of Hillside and Boulevard Gardens were unable to obtain this concession.

The resistance is attributed to several sources. One is the financial situation of the city, which makes any further reduction in tax revenue a matter to be scrutinized with care. It also comes from those convinced that tax exemption as a principle is wrong. A third source of opposition is from property owners, large and small, who feel that one group of citizens should not be favored to the detriment of others. Whatever the merits or demerits of these views, the fact remains that recently tax exemption on housing projects has been denied by the local authorities and that up to now the decision has rested with them. With the acceptance of the terms of the Federal Government, the matter becomes no longer one for local determination but is fixed for some time to come by the conditions laid down by Federal authority. The occasion is one of real significance in its bearing on future governmental relations in this country, but its cumulative effect loses some weight in view of the announced intention of the Federal Government to recognize an increasing degree of local authority.

From the figures cited in Chapter XXXIX, it will be immediately apparent that highly important effects can be produced by tax exemption if the moral justification for them can be established. Ways and means are not confined to mere exemption on land or on land and buildings. A partial recognition of the school of thought that advocates taxes on land only as a manner of forcing it into use or relinquishing it to the State has found application in Pittsburgh, Pennsylvania. Here, with the aid of a transitional period extending over several years, the tax

system has been changed, so that land is taxed at twice the rate of buildings, both being assessed supposedly at their fair value. The theory does not seem to have worked out just as expected, however, for building valuations have increased at such a rate as to indicate a strong probability that the tax rate differential in their favor has been offset [1]

As a matter of fact, nothing is needed for taking advantage of tax exemption in New York City except the positive action of the Board of Estimate and Apportionment. The city, represented by that body, can specifically exempt the land or the previous site value under existing law if it so chooses. What makes the whole matter confusing is the apparent lack of a definite policy and the varying treatment of different low-cost housing projects. By agreement entered into in September 1934, the Mayor, acting for the Housing Authority and the city, agreed that low-cost housing projects to be financed with Federal funds should be exempt from all taxation, presumably for the full period that the Federal government might be in control, or about forty-five years. Within a month the Department of Taxes and Assessments removed all projects of the State Housing Board, some of them also financed with Federal money, from the tax-exempt list, this notwithstanding that the municipal government had voted to grant such exemption and the projects had been undertaken with confidence in its good faith. Just how much of the latter situation is stage play to meet popular outcry against tax-exempt properties and to indicate an increased municipal revenue that may not materialize, is difficult of determination. The odds are that the properties in question will be quietly restored to their former status, but the incident is likely to shake confidence in the continuity of a policy which facilitates housing progress.

A prominent authority has pointed out that tax exemption on low-rental housing, with simultaneous taxation of houses in outlying districts bought through the thrift and self-denial of other low-income families, is in effect creating an unfair distinction. Unless this is corrected, tax exemption as a principle is likely to suffer in popularity even among people who might normally be expected to favor it. Actually, most rental families now pay taxes indirectly by virtue of the fact that the landlord takes a portion of the rentals and transmits it to the tax collector. The introduction of these families into new governmentally-aided housing, where relief from taxes is afforded, places them in a preferred position.

As a practical matter some degree of tax exemption is necessary to start off a housing project on an urban slum-clearance area at rentals that can be paid by the original tenants. A means for doing this is to waive taxation on the land or on the former value of the property at the outset, but with the understanding that

1. See J. P. Watson, *The City Real Estate Tax in Pittsburgh*, University of Pittsburgh, 1934.

efforts will be made to conduct the project in such a way as to make it possible to contribute more substantially to the city as the years go by. In other words, initial exemption followed by a sliding scale of payments offers a reasonable compromise.[1]

The passage of the Housing Authorities Law seemingly has settled the question of whether the city as such should produce and manage low-cost housing. By diverting this function to a separate Authority, problems such as increasing the municipal debt and political interference with management are theoretically solved. It is true that the City Charter contains several powers that bear upon housing. Methods of compensation in case of demolishing unsafe buildings and provision for excess condemnation both appear in this voluminous document. The single abortive attempt at housing, in the Chrystie-Forsythe proceeding, has probably satisfied everyone that the device of a separate Authority is the preferable method.

To provide low-cost housing, land must first be secured. So far as its acquisition by involuntary purchase is concerned, there is ample authority up to a certain point. The State Constitution contains a section to the effect that private land taken for a public use must be paid for. At once the question arises whether housing is a "public" use. Twenty years ago we could have predicted with full confidence that no such interpretation would be sustained by the courts. Now both the State Housing Law and the Housing Authorities Law contain provisions authorizing the condemnation of private property for housing purposes. With the difficulties that always crop up in acquiring large areas of land, recourse to some such expedient is certainly necessary.[2]

Some indication of the trend of judicial opinion is to be found in the current attitude toward zoning. Housing literature of a dozen years ago is remarkable for its extreme absorption with this subject. The best methods for accomplishing the desired end, and the best means to circumvent possible legal obstacles, occupied a large share of attention. Adverse decisions were frequent, and constitutional amendments had to be obtained in a number of states. Today the principles underlying zoning are tacitly accepted and universally applied.

Those who have watched this emergence of zoning from a state of being buffeted by adverse legal decisions based on old concepts of individual and property rights to one of practically complete acceptance will be slow to prophesy that housing will not show an equal degree of success. While zoning was a restrictive

[1] For further discussion of tax exemption see Robert Murray Haig, *The Exemption of Improvements from Taxation in Canada and the United States, A Report prepared for the Committee on Taxation of the City of New York*, 1915, also *Probable Effects of the Exemption of Improvements in the City of New York*, by the same author, also annual reports of the State Board of Housing for the years 1932 and 1933

[2] For present legal status in New York State see Chapter XXXV, pp 728-729

measure involving no expenditure of public funds, housing, as advocated by its most enthusiastic proponents, involves the continuous expenditure of large public moneys, with all the possibilities for abuse that such a process brings. In that lies the opposition that is already manifest, even though the opponents are entirely sympathetic toward the bettering of housing conditions.

A recapitulation of how far the nation, the state, and the city had ventured financially into housing, so far as New York City is concerned, by January, 1935, would show the score somewhat as follows:

THE NATION	$15,000,000	(lent on Knickerbocker, Hillside, and Boulevard Gardens).
	25,000,000	(set aside for future projects).
	$40,000,000	
THE STATE		Nothing (aside from negligible concessions on franchise and mortgage taxes).
THE CITY	$600,000	(representing accumulated exemptions on taxes for the last six years, contributions to streets and parks, and advances on expenses of the Housing Authority).

Whether these amounts are in proportion to the respective obligations and financial capacity of the three governmental bodies is a matter deserving of thoughtful consideration.

It would be unfair to the state and the city, however, not to point out what has been done in application of the police power to ensure safer and more sanitary housing built by private capital. The Building Code, the Zoning Ordinance, the Multiple Dwelling Act, and the rules regarding sanitation of the Board of Health interlock to form a highly complicated set of regulations. A portion of the expenses of their administration should perhaps be credited to the city's account in the foregoing table, as they have a direct bearing on housing conditions.

Current statements minimize the effects of police power legislation. It is represented as an ineffective tool in fashioning a better order of homes. The slowness with which old-time tenements have disappeared is cited as evidence of the fact that mere negative and repressive measures cannot hope to change the face of the city even when operating over the period of a generation. In the light of experience this must be conceded as true, and yet without these progressively enlightened measures, passed at a time when the public was not ready to accept low-rental housing as a public function, the housing situation would have been infinitely worse. It is well to remember that the successive tenement house acts and the Zoning Resolution represent the limits to which the majority was apparently willing to go at the time of their adoption. In spite of their shortcomings, their beneficial influence has been very great.

What accounts for the slowness of effect is that, with some exceptions, retroactive provisions have not been passed. Housing that was legally built in the past remained legal, except where conditions of safety and sanitation so shocked the public conscience that it was possible to require its improvement. It takes a long time for a city to turn over its stock of buildings and start afresh. Meantime new standards of living arrive.

Summing up, the city has demonstrated a certain amount of good will toward improved housing through waiving its right to taxation on buildings, it has passed increasingly severe laws in the interest of safety and health, and it will almost certainly be forced into a position where it will have to cooperate by providing park space, improved schools, and other necessary incidents of new neighborhoods. The nation has, haltingly it is true, but with increasing firmness of conviction, made money available at lower rates of interest than were hitherto obtainable. The State, however, has remained aloof from vital participation so far as any money outlay is concerned.

In justice to the State it may be fair to say that many of the serious slum conditions originated in policies over which it had no control. The influx of immigrants resulted from a Federal policy. Being here, they had to be housed, and the serious problem thus presented was one solved without recourse to housing niceties, in accordance with the social conscience of the day. It might even be contended that the Federal policy of freeing the slaves contributed eventually to the drifting of Negroes toward our industrial centers, and that Harlem might be different today if a different Federal solution had been found. A third instance of Federal policies affecting local conditions goes back to the Spanish-American War, when Porto Rico became a possession of the United States. Of all the slum population, Porto Ricans present one of the greatest problems, as their previous training and experience does not form a good background for adjustment to northern urban conditions. It is probable that they would not have been induced to come here in such numbers had not their political status undergone a change.

Thus in a sense New York City's slum problem may be said to proceed partially out of actions determined by the National Government, and that, this being so, the latter has more than a casual responsibility for its solution.

It is, of course, fair to ask whether the Federal Government is under a moral obligation to follow up the consequences of its acts. If this principle were extended to all its activities, the burdens upon it would become unbearable. It is well, however, to recognize that local conditions today arise, at least in part, from Federal policies, and that further study of this fact may lead to a clearer understanding of the respective responsibilities of the city, state, and nation.

Recurring to the partnership of state and city in education, it may be noted that the school budget estimate for 1935, as reported in the *New York Times*,[1] was $133,918,053 of which $53,814,292.36, or over 40 per cent, was to be contributed by the State.[2] A state contribution toward low-cost housing projects of much less percentage of the total cost involved would go far toward making low-cost housing available for low-rental groups. A referendum leading to a state commitment on policy of this sort would determine whether there is any really deep-seated conviction among its citizens that slums should be cleared and low-rental housing provided, or whether this belief resides only in the minds of a few and enjoys no widespread support. A clear mandate on this point and a fixing of the relative degrees of responsibility of city, state, and nation is essential to any orderly programme.[3]

August 28, 1934

Later official figures for the year 1935 are as follows

The State	$53,814 292 36
The City	79,596 161 61
Total	$133,410,453 97

3 It is interesting that for emergency relief work the nation, state, and city have assumed responsibility in the proportion of 50–25–25

CHAPTER XXXIII

HOUSING STANDARDS

A STUDY of standards for housing is an essential preliminary to construction. Much of the waste and harm caused by contemporary housing results from failure to visualize the problem. There is failure also to plan new projects with reference both to the conscious needs of their putative residents and to trends in housing and future potential demand. In view of the huge investment of public funds now contemplated, and the inevitable utilization of large amounts of private capital in this field upon the recovery from the recent depression, the problem is one of great social significance. Its importance becomes even more apparent if we visualize slum elimination in its entirety and the necessity, for a generation or more to come, of providing for the present inhabitants of slums and blighted areas in housing developments of a type designed to remove all possibility of the recurrence of slums in the future.

Standards of one sort or another are implicit in all books and articles which have been written on housing and living conditions. In general they represent the experience — though perhaps also the prejudices — of their proponents, and in so far have merit. It is rare, however, for the authors to explain their reasons or to submit evidence. Hence, the volume of material on this subject that would be of practical use either to the government or to the private investor in housing is meager.

The approaches to this subject are quite diverse. One may first contrast the outlines of legal minimum standards with those writings which deal with standards deemed desirable irrespective of the existing legal requirements. Every building code, tenement-house or housing law, and zoning law establishes legal minimum standards for residences, below which no new dwelling would be permitted to fall under conditions of strict law enforcement. Lawrence Veiller in one of the most valuable works in American housing literature, entitled *A Model Housing Law*,[1] has performed an unusual service in recommending in precise terms high minimum requirements, each of which is defended by an argument that is skilfully drawn and in some instances supported by evidence.

Many other attempts at the framing of model housing legislation have been

1. Lawrence Veiller, *A Model Housing Law*, New York, 1920.

made, but none have been so skilfully defended. The building code recommended by the National Board of Fire Underwriters [1] is a useful document so far as fireproofing provisions are concerned, and of average value in its other provisions. Exceedingly valuable work has been performed by the Building Code Committee of the United States Department of Commerce in the publication of carefully considered *Recommended Minimum Requirements for Small Dwelling Construction* and subsequent pamphlets containing their recommendations on wall construction, arrangement of building codes, minimum live loads, working stresses in building materials, plumbing, fire resistance, and other details of housing construction.[2]

Similarly, the Advisory Committee on Zoning of the Department of Commerce has issued a *Zoning Primer* and a *Standard State Zoning Enabling Act*, and the Advisory Committee on City Planning and Zoning, a *City Planning Primer* and a *Standard City Planning Enabling Act*.[3] Other publications of the National Bureau of Standards offer specifications for building materials and equipment.[4] These, supplemented by the publications of the American Standards Association and current issues of *Industrial Standardization and Commercial Standards Monthly*,[5] offer a fairly complete library on contemporary construction standards even if not supplemented by the voluminous, though sometimes self-interested and prejudiced, trade literature.

The problem to which this volume is addressed is one of human needs and of public interests. Laws may establish the highest minimum standards attainable under the existing social and political conditions of the year in which they were passed. They represent, however, compromises between enlightenment and ignorance and between profit-making interests, which are largely selfish, and public or community interests. They invariably fall far short of the ideal, though under skilful leadership their standards may be made relatively high.[6]

Desirable or optimum standards may be treated in a variety of ways: *First*, with reference to human needs for health, safety, convenience, comfort, beauty, privacy, economy, and development of mind and character; [7] *second*, with compartmentalized classification for the house and its environment — covering neighborhood, street, premises, the public parts of the multiple dwelling, such as

1 Periodically revised and reprinted by their New York office.

2 William K. Hatt, Chairman, and George N. Thompson, Secretary. These many publications are listed by the National Bureau of Standards and can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

3. Also available from the Superintendent of Documents.

4 See the Bureau's catalogue of publications, Circular No. 24, available from the Superintendent of Documents; also its publication entitled *Services of the National Bureau of Standards to the Home Building Industry*, Washington, 1934.

5. Published since 1933 from their office at 29 West 39th Street, New York City.

6. See Chapter XXXII

7. For examples, see Catherine Bauer, *Modern Housing*, pp. 142–147, James Ford, "Standards for the Home," published in *The Small Home*, March 1930, and John Ihlder, *Measuring Rod for Housing Projects* (mimeographed).

cellars, halls, stairs, roof, and each of the rooms in sequence;[1] *third*, by type of house, whether detached, semi-detached, or in rows, and whether for non-family groups or for one, two, three, or more families; *fourth*, by function, covering shelter, heating, air-conditioning, lighting, ventilation, sanitation, preparation and serving of food, study, play, entertainment, domestic life, and the rearing of children; *fifth*, by grouping factors according to the professional interests involved and covering city planning, landscape gardening, architecture, construction, equipment, interior decoration, financing, home economics, estate and household management, real estate promotion, legal interests, as well as economic, political, and sociological implications; *sixth*, by the needs of each member of the household — husband, wife, infant children, boys and girls by age groupings, elderly relatives, boarders or lodgers, both male and female, and servants "living in" or employed by the day.

There are examples of each of these approaches, but no comprehensive study is yet available covering and coordinating them all. The nearest approach to a synthetic study of this type was the report of the Committee on Standards and Objectives of the President's Conference on Home Building and Home Ownership, which was the product of a committee representing a wide variety of approaches — housing reform, law-making, architecture, construction, fireproofing, manufacture and sale of building materials, health and sanitation, social work, landscape architecture, and city planning.[2]

A fresh approach to the problem is possible through considering, first, the minimum standards established by social service agencies for their clients; second, family needs and aspirations as revealed by special study; third, optimum standards for new housing to be provided as a part of the contemporary Federal housing programme, or by private agencies before and after the withdrawal of the Federal government from the field of low-cost housing.

Many social service agencies have prepared minimum standards for the housing of client families. Miss Winifred S. Gibbs published a low but practical minimum for the Association for Improving the Condition of the Poor in 1917.[3] The Chicago Council of Social Agencies has issued several such standards, cur-

Examples include *The Home and the Child*, report of the Sub-Committee on Housing, White House Conference on Child Health and Protection, New York, 1931; also P. E P. (Political and Economic Planning) Industries Group, *Housing England*, pp. 39–42; and Horatio B. Hackett, "Planning Standards for Low-Rent Housing," in the *Architectural Record*, March 1935, pp. 170–184.

Lawrence Veiller was Chairman of this committee, and Katherine Morrow Liston, Secretary. The Committee gleaned standards and objectives from each of the twenty-five fact-finding committees of the Conference and presented its housing standards under the headings, The House, Its Design and Construction; The Environment of the Home — the Community; the Landscape — Its Planning and Planting; the Embellishment of the Home — Its Furnishings and Decoration; Homemaking, etc. Each of these subjects was broken down with reference to the parts of the house, its equipment, its use and family needs, in a manner which represented virtually all the major interests of each member of the household.

3. Winifred S. Gibbs, *Minimum Cost of Living*.

rently revising them, and has virtually set the model for such studies throughout America.[1] A similar study in Washington, by Emily W. Dinwiddie,[2] adapted standards of the Chicago type to the row-housing conditions of the District of Columbia. Each of these studies recognized the paucity of wholly satisfactory housing for the dependent poor and compromised with the ideal in order to provide for clients housing as wholesome as may be possible in the circumstances. In other words, each attempted to secure for families on relief the least bad housing available in the districts where their clients might be able to live.

The Pittsburgh Housing Association made studies in cooperation with the Family Budget Committee of the local Federation of Social Agencies and outlined a dwelling standard for client families who perforce pay minimum rentals. This "embodies the minimum requirements acceptable to the Housing Association for a fit dwelling for any family in the community."

STANDARD FOR DWELLINGS OF CLIENT FAMILIES[3]

Essentials:

The house *must*

1. Have direct light and ventilation for every room.
2. Have enough room to accommodate the entire family without overcrowding, and be so arranged as to provide necessary privacy.
   (NOTE: Overcrowding is usually considered in terms of number of individuals per bedroom To set an arbitrary standard is practically impossible because of the many factors involved — size of room, window area, cross ventilation, age and sex of occupants. However, a maximum of two persons per bedroom is sometimes used as a guide.)
3. Be weather-tight and dry.
4. Be in reasonably good repair, without broken plaster, loose or fallen stair-boards or railings, etc., so that it may be kept in a cleanly condition.
5. Have a sewer connected water closet for the exclusive use of the family and located in a properly ventilated compartment or bathroom
6. Have inside the house a sewer connected sink with running water for the exclusive use of the family.
7. Have no living room in a cellar. (NOTE: a cellar room is a room more than half of which is below the average level of the ground)
8. Have a second stairway or fire escape accessible to the apartment, if the dwelling is in a multi-family house and above the ground floor.
9. Have public stairs and halls lighted day and night if the dwelling is in a multi-family house.

1 *The Standard Budget for Dependent Families.*

2. "Suggested Housing Standards for Families of Small Income," *Journal of Home Economics*, August 1927, XIX, 444-450

3. Second Annual Report, entitled *Housing in Pittsburgh*, of the Pittsburgh Housing Association, pp 13-14.

The neighborhood *must* be

1. Respectable.
2. Free of offensive trades or business.

Desirables:

1. If there are children in the family, the single-family house is preferable.
2. There should be a yard appurtenant to the house
3. The water closet should be inside the house or dwelling of the family and above the ground level.
4. There should be a bath or shower for the exclusive use of the family and located in a properly ventilated compartment or bathroom This should be inside the house or dwelling of the family, and above the ground level.
5. There should be no living or sleeping room in a basement, except a kitchen when the basement is dry and well lighted and ventilated. (NOTE: a basement room is a room, part of which, but not more than half of which is below the average level of the ground)
6. There should be no lodgers in the dwelling of a client family.

It should be noted that circumstances force the social service agencies of Pittsburgh to accept, as minima, basement (not cellar) housing and toilets not within the apartment, though for the exclusive use of the family. They find it necessary to list among "Desirables," rather than as a part of their minimum standard, a private yard, a water-closet within the house, a bath, and the elimination of lodgers. This standard, which is one of the best of its kind, is quoted in order to show how far short of ideal conditions our most enlightened social service agencies must fall today. The contrast between such minimum standards — which are much higher than the minima established by law — and the optimum standards recommended for new housing will be sharply evident.

To determine wisely the types of housing that should be built for present slum dwellers, it would be desirable in each city to conduct a field study of their reactions to their present dwellings and to projected housing schemes, their accustomed modes of living, the hours spent in the home by each member of the household and the way in which such hours are spent, their occupational and leisure time interests, and their aspirations. Case studies would be useful to ascertain the type of housing to be provided for each specific family. The findings should be summarized by sociologists to arrive at tentative judgments concerning the divergencies in needs, interests, and attitudes between different racial, occupational, sex, and age groups. Pertinent to such studies would be an analysis of the tenants' chief complaints concerning their present housing — the sources of daily irritation. Such recorded complaints might cover size of rooms, height of ceilings, arrangement of rooms, closet space and location, kitchen size and equipment,

sanitary facilities, equipment for lighting or heating, ventilation, refuse disposal, upkeep, maintenance, noise and other invasions of privacy. Similarly, the reactions to their new surroundings of the dwellers in model tenements should be ascertained, because such buildings have been erected in the past without adequate previous study of the needs of their future tenant families. Further, it is desirable to note for each member of the family the distribution of time spent in preparing and eating of meals, odd jobs, loafing, sleep, and study; the forms which home recreation may take; the sleeping arrangements, for each member of the household, in order to determine how many individual sleeping rooms are necessary. Studies should cover such details as preferred floor and wall surfaces, size and arrangement of windows, provision for storage of baby carriages and toys, children's indoor play space, laundry facilities, delivery of goods from stores. Above all, an attempt should be made to ascertain to what districts of the city each family would wish to move, to what type of dwelling and why.

Many of these questions were raised in a recent study, conducted by the Henry Street Settlement, of a block in New York City bounded by Henry, Montgomery, and Clinton Streets, and East Broadway.[1] Within the block there lived 1,027 persons; children under sixteen years of age numbered 246; there was an average of 4.7 occupants to each household; rent absorbed nearly one-third of the family budgets. At present the average rent paid within the block is $5.40 per room per month. The average rent per apartment is $24.30 per month. The majority of families are Jews from Russia or Poland.

The chief complaints of tenants, in order of frequency, were that the flats were too cold in the winter, rooms were dark, repairs were needed, stair-climbing was difficult, tenements were too small, rents were too high, vermin infested the apartments, and buildings were too old. All tenants are reported to have agreed that in a new housing project they wanted steam heating, hot water, a bathroom in the flat, a toilet in the bathroom; 198 families preferred bathtubs to showers; only 21 preferred shower baths. Other requirements for new housing recommended by tenants in this block were built-in cupboards, clothes closets, and frequent electrical outlets. Many expressed a preference for a large kitchen in place of a small kitchen and dining room. About fifty per cent of the families indicated willingness to move to garden apartments in outlying parts of the city, provided the combined cost of rent and transportation should be within their means. The remainder appeared to prefer new housing in the present location.[2]

The replies to questions with regard to the location of new housing must be

1 Under the direction of Duane V. Ramsey, representing the Henry Street Settlement, in cooperation with Abraham Goldfeld of the Lavanburg Foundation, 1935

2. Duane V. Ramsey, *What Some Slum Dwellers Want in Housing*, findings of a study of one square block in the Lower East Side, New York City, 1935.

scrutinized closely. Many families in urban slums have known no other kind of housing. It is impossible thoroughly to appreciate values beyond the range of one's own experience. The responses also will vary according to the method by which the question is broached. A direct question "Would you be willing to move to the suburbs?" might bring the answer "No." Yet if time were taken by the interrogator to explain where the suburban housing would be located, that their present neighbors might move there with them, that rentals would be within their reach, that playgrounds would be provided for the children and social centers for the adults, that special facilities and equipment would be provided, that gardening might be made available for those who wish it, that additional transportation costs would be taken into consideration in determining proper rent, or that industries would be decentralized with the housing so as to provide jobs near the new residence, the percentage that would wish to move would be very much higher.[1]

The most detailed analysis yet made of this subject for New York City is that conducted by the Women's City Club in 1934.[2] Field workers supplied by the Housing Authority, together with trained investigators from local social service agencies, gathered the data. The statistical division of the Metropolitan Life Insurance Company advised the Women's City Club on the tabulation of the data. In all, 1,450 housewives were interviewed, and 1,395 questionnaires were considered sufficiently complete to warrant tabulation. The report gives evidence of a keen appreciation of the problems and attitudes of the persons interrogated, and is careful and judicious in its interpretations.

The 1,395 families comprised 7,015 individuals "scattered throughout most of the sections of Manhattan in which old-law tenements and the poorer type of new-law buildings are found." Nationalities covered are stated to be representative. Median rentals ranged from $20 in old-law unheated tenements to $30.44 in new-law buildings; 788 flats contained 1,793 windowless rooms in which 3,279 people slept. Only 6.2 per cent of the families stated that they could pay more rent for better quarters. As 868 families lived in unheated buildings, and 794 of these reported an average expenditure of $38.59 a year for coal, a part of this sum might be added to annual rent for heated apartments, though some of it must go to pay for gas used in cooking.

When asked if they would be willing to move out of their present neighbor-

1. Dr S. James Herman in a publication of the Michigan Housing Association, January 2, 1931, entitled *Why Do You Live in an Apartment?* summarized 1,300 questionnaires covering a higher income group than that dealt with in the New York study; 807 expressed a preference for single dwellings, while the remainder preferred apartments.

2. Available at this time only in mimeographed form under the title *Housing for the Family*, but presumably to be printed in the course of this year.

hood, 872 out of 1,355 replied that they would prefer to remain. Of these, 240 preferred their present location because of their friends and their social life, but these replies are stated to have come mostly from the older women. Closeness to work was the reason next in importance. The amount now actually spent weekly for carfare by employed members of the family averaged eighty-nine cents per week. The amount per family would be larger if employment were more general. Many stated a preference for a single-family house (47 per cent of those answering this question), and 62 per cent indicated that they would make "economic use of a garden" if they had one. Here Jewish families usually said "No"; Italians and Southeastern Europeans were most eager for gardens.

Since the living room was almost invariably used for sleeping, the Committee concluded that such rooms in a new development should have privacy and that all rooms should be so planned as to be accessible directly from the hall. The kitchen was the most used room; in 55 per cent of the households the older children studied there, and in 81 per cent meals were served there. It is usually the only warm room in winter and often the only room which has daylight. The Committee recommends for kitchen planning, resilient floors, resilient working surfaces, and space for storing staples. It is reported that 96 per cent of the women interrogated, urged a closet for each bedroom; coat closets also seem important. Only 15 per cent of the women wished for a shower bath in place of a tub; one-third thought it would be a good plan to separate the toilet from the bathroom.

The essentials of good housing in the order of their importance to the women covered in this study are reported as follows: 1. all rooms should have outside windows; 2. there should be a toilet for each family; 3. hot water; 4. a bath for each family; 5. central heat; and 6. adequate closets.

In addition, the Committee recommends some place for dead storage in the basement, provision for storing baby carriages and heavy toys, a central power laundry with minimum equipment installed experimentally in the housing project, a central place in every development for drying clothes in addition to a ceiling dryer in each kitchen. It should be noted that 64 per cent of the women "send the heaviest work to the wet wash, which means that it has to be dried at home." Drying yards may be on the roof in elevator buildings, but in walk-ups "it would be easier for women to carry the wet clothes down to the drying yard and carry the lighter dry clothes back."

Each housing development should provide play space for the children, "a yard for use in good weather, and rooms, preferably sunny, for bad weather." A nursery school is suggested. Among Negroes many mothers work away from home, but not among the Italians; hence, racial differences should be observed closely in

making provision for nursery schools. If roofs are used for outdoor life, there should be a separate section set aside for children. Among the families interviewed only 24 per cent of the children have access to parks and playgrounds; the rest at present must play in the street. The Committee urges provision for recreation in cooperation with the Department of Parks, the Department of Education, and the Housing Authority.

Among the supplementary recommendations is one that approximately 175 square feet of floor area should be allowed for living rooms and 150 square feet for double bedrooms. Single bedrooms are not favored because they are generally used by two persons. Incinerators should open in the public hall on each floor, and there should be janitor's closets on alternate floors.

This report must be read to be appreciated, as its penetrating comments, not included in the above summary, are of exceptional value. It is accompanied by plans, skilfully drawn by Marcia Mead, to illustrate the basic principles of planning for low-rental housing that were derived from this study.

For new government housing developments one is justified in recommending optimum standards. Failure on the part of the government to apply high standards would not only imperil its investment after the newness of the houses has worn off, but would also encourage low standards in future private developments using and citing the Federal Government as their model. Beyond this, however, the obligation derived from the Federal Constitution is firm and explicit for the promotion of the welfare of all of the people. Permanent homes built directly with Federal money or under Federal subsidy will have a permanent influence, beneficial or otherwise, upon the occupants present and future. High standards can be made promotive of an improvement in general health and well-being and may be made to provide the physical basis or setting for the development of body, mind, and character, and the training of citizens worthy of the prerogatives of democracy.[1]

Optimum standards serve the further purpose of indicating objectives to be considered in the upward revision of laws relating to building, housing, health, and city planning. In so far also as they become incorporated in public thought, they influence consumer demand and in that way exert pressure upon speculative building. Since high standards postpone both depreciation and obsolescence of properties, it is important that organizations of builders and realtors, and periodicals or other agencies of adult education, should present them for study and discussion and incorporate them as rapidly as possible in the thought and the build-

1 Chapter XL on Management of Housing Projects suggests means for training and coordinating services to guide and develop such a programme.

ing practices of all groups concerned with any detail of home building. Otherwise the minimum standards established by law tend to become the prevailing standards, except as modified by advertising and fashion (exemplified particularly in bathroom and lighting fixtures which go beyond the law's requirements), and types of houses, soon to be outmoded, are constructed which serve as nuclei of future blighted areas, injuring neighboring properties and retarding the general social movement for civilized housing.

The framing of standards should be a cooperative process and is best exemplified for America in the Report of the Standards and Objectives Committee of the President's Conference on Home Building and Home Ownership.[1] The suggestions which follow have utilized that study, but have departed from it chiefly in the specific emphasis upon the multiple dwelling, which is a characteristic problem of New York and certain other of our larger cities. This is done because a slum-clearance and rehousing programme for New York City almost inevitably involves some rehousing in areas cleared of multiple dwellings. For the application of standards to other types of dwellings the reader is referred, in addition to the volume just cited, to the Report of the Types of Dwellings Committee of the President's Conference on Home Building and Home Ownership [2] and to the recent publications of the Housing Division of the Public Works Administration.[3]

The residential neighborhood within which the housing project falls should be placed and designed with reference to the city's master plan. It should be primarily residential. If located on the edge of an industrial district, it should be adequately protected from noise, smoke, and fumes. It should be protected by zoning laws, supplemented where necessary by deed restrictions. Ready access from the project to civic, cultural, and recreational centers, as well as to places of employment, is essential.

Residential streets should be so planned as to be uninviting to through traffic (to prevent needless accident dangers, noise, and confusion, and to keep street repair costs low). Street grades should not be too steep for safety, and on hilly ground and in regions of detached or free-standing buildings should conform to natural topography. Street trees are desirable if selected, arranged, and supervised with the expert advice of landscape architects, but may prove impossible

1. *Housing Objectives and Programs*, XI, pp 150-198
2. *Home Ownership, Income and Types of Dwellings*, IV, John Ihlder, Chairman, and Dan H. Wheeler, Secretary
3. *Unit Plans; Typical Room Arrangements, Site Plans, and Details for Low-Rent Housing*, published by the Housing Division, Public Works Administration; Horatio B. Hackett, "Planning Standards for Low-Rent Housing," *Architectural Record*, March 1935; Alfred Fellheimer, "Planning American Standards for Low-Rent Housing," a pamphlet reprinted from *American Architect*, February 1935; and "P. W. A Housing Standards," *Real Estate Record*, July 20, 1935 British standards will be found in the First Report of the Council for Research on Housing Construction, entitled *Slum Clearance and Rehousing*, beginning p. 89; and in the *Architects' Journal*, June 22, 1933; and *Housing England*, P E P. (Political and Economic Planning) Industries Group, beginning p 39. See also Catherine Bauer, *Modern Housing*, beginning p. 142, for standards based largely upon specific study of European housing.

in rebuilt areas of dense housing. Established set-backs of houses from the street should be determined with reference to house types and locations, but are desirable even where building is compact and high. There should be planted strips between the building and the sidewalk.[1]

Neighborhood stores should be accessible in a zoned locality and should conform in architecture to the residential development (the P.W.A. estimates 300 feet of business frontage for each 1,000 people, including both central shopping district and neighborhood store area).[2]

Unless streets run northeast by southwest and southeast by northwest, the estate should be especially planned to prevent any room from having an exclusive northern exposure. If the block is subdivided into lots, the essential width of the lot is thus automatically increased. In general, this is not a problem for public multiple-dwelling projects, for the block and not the lot would always serve as the unit for design and construction. It would be applicable to semi-suburban locations in which row or group housing is contemplated for private ownership.

Space allotments for interior parks and playgrounds are essential. These automatically reduce coverage and density, though the maximum coverage for the densest of multiple-dwelling operations would wisely be limited to 50 per cent. Beyond this point land coverage should be reduced with reference to the type of housing and the social facilities contemplated. Interior parked spaces should have adequate landscape planning, with shade trees at locations which will not interfere with play activities, and shrubs, hedges, or grass borders for the play spaces, so that they may not mar the attractiveness of the area. Roughly, 100 square feet of playground space per child is the essential minimum allowance for small children at times of the peak load, but more than double that space is necessary to accommodate the games played by older children.[3]

The design of grounds involves provision for adequate parking space on streets or elsewhere and for necessary garage service.

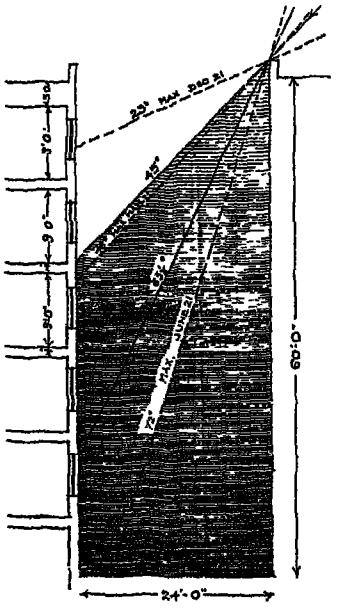
The heights of dwellings should be so planned as to provide for penetration of the sun to all streets, park and playground areas, and to all rooms.[4] This automatically limits building heights to the width of the street from building line to building line, and forces the narrowest dimension of the interior park or garden space of each block to be not less than the building height. In the case of multiple dwellings, each dimension of an interior court, if provided, should also be not

1. Well exemplified by Hillside Housing
2. See also Chapter XXXVIII
3. See publications of National Recreation Association, especially *Space Requirements for the Children's Playground*, reprinted from *Recreation*, August and September 1934, and Playground and Recreation Association of America, *Recreation Areas in Real Estate Subdivisions*, which summarizes space allotments now available, e g 10 acres Forest Hills, 3 acres Sunnyside Gardens, 0 1 John Jay Apartments, etc See also *Regional Survey of New York and its Environs*, vol V, *Public Recreation*, and *infra* Chapter XXXVIII
4. Heydecker, *Regional Survey*, VII, 141–209

less than the height of the building. No cornices or towers should be permitted the shadows of which would interfere with the penetration of the sun's rays at a 45° angle to the ground level of each portion of each building. At the latitude of New York City (42°), with proper orientation of buildings, this would mean that sunshine or adequate daylight would reach every first-story room.

Following this principle, if each apartment were specifically designed for the

FIG. 111



SECTION SHOWING SUNLIGHT IN TYPICAL INTERIOR COURT AS BUILT UNDER PRESENT TENEMENT HOUSE CODE OF NEW YORK—AT NOON, THE SHORTEST DAY OF THE YEAR, THE SUN IS 21° ABOVE HORIZON, LIGHTS ONE FLOOR DOWN FROM TOP ONLY—AT NOON, THE LONGEST DAY OF THE YEAR, THE SUN IS 72° ABOVE HORIZON, LIGHTS TO BOTTOM OF COURT—AT NOON, AT THE EQUINOXES, THE SUN IS 48° ABOVE HORIZON, LIGHTS TWO FLOORS DOWN FROM TOP ONLY—45° WAS TAKEN AS AVERAGE FOR YEAR—TWO TOP FLOORS ONLY RECEIVE DIRECT SUNLIGHT.

Reproduced from Benjamin C. Marsh, *An Introduction to City Planning*, p 106.

purpose, sunshine could be made to reach some room in each apartment during each day of the year. By means of skilful planning for a land coverage of less than 50 per cent, the ideal of providing sunshine at some time of day to every room of every apartment can be reached. Figure 111 indicates the sun's penetration of new-law courts in New York City at noon on the shortest day of the year, the longest day, and at the equinoxes. The present law thus provides quite inadequate natural lighting for the lower three stories of buildings sixty feet in height constructed between the years 1901 and 1929.

Figures 112 and 113 were prepared from standards drawn up by Katherine Morrow and the author. A score or more block layouts and floor plans were discarded before accepting this as the one which best provides the essential light, air, sunshine, floor space, privacy, and convenience for intensive construction on high priced urban land. The tower buildings at higher rentals can make possible wage-earner housing at low rentals in the walk-up apartments. It was executed by Arthur J. Frappier and demonstrates maximum densities possible for a New York City block, if the 45° angle of light is to be preserved. The towers, however, represent a compromise with the 45° principle, and provide for a density higher than would seem advisable even in a Lower East Side clearance area where land costs run high.[1]

For the guidance of architects who design projects to be submitted to the Housing Division of the Public Works Administration, the following standards were drawn early in 1935 and published in their volume entitled *Unit Plans*.[2]

Housing Standards

To make a housing project successful, the dwelling units must be tenanted by those who are not only attracted by the original appeal but who find them so livable that they continue to be happy as occupants. This not only makes "satisfied customers" but reduces the tenant turnover to a necessary minimum. At the same time every known rule of basic economy must be exercised.

With this in mind a schedule of architectural standards was adopted by the Housing Division embodying the following features applicable to low-rent housing:

1. *Minimum Room Sizes*

	Minimum Dimensions	Minimum Area Sq. Ft.
Living room		
Apartment	11′	150
House	10′ 6″	150
Main Bedroom	10′	110
Second Bedroom		
Apartment	9′ 3″	100
House	8′ 6″	100
Kitchen	7′ 4″	65
Bathroom, standard dimensions, 4′ 11″ × 6′ 8″		

2. *Door Sizes*

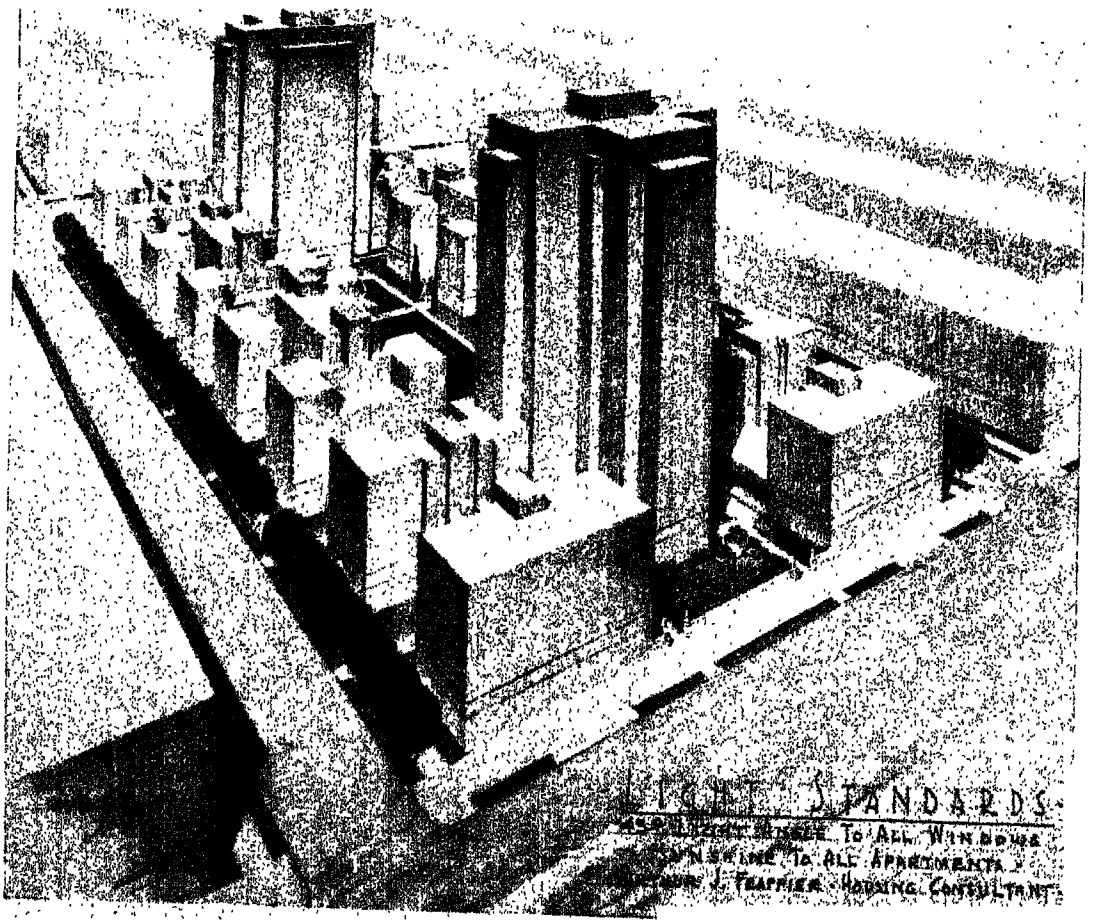
	Minimum Width	Desirable Width		Minimum Width	Desirable Width
Entrance	2′ 8″	2′ 10″	Closet	2′ 4″	2′ 4″
Bedroom	2′ 6″	2′ 6″	Linen Closet	1′ 8″	2′
Bathroom	2′	2′ 4″			

Note: All doors 2′ 6″ or more in width should be 1¾″ thick.

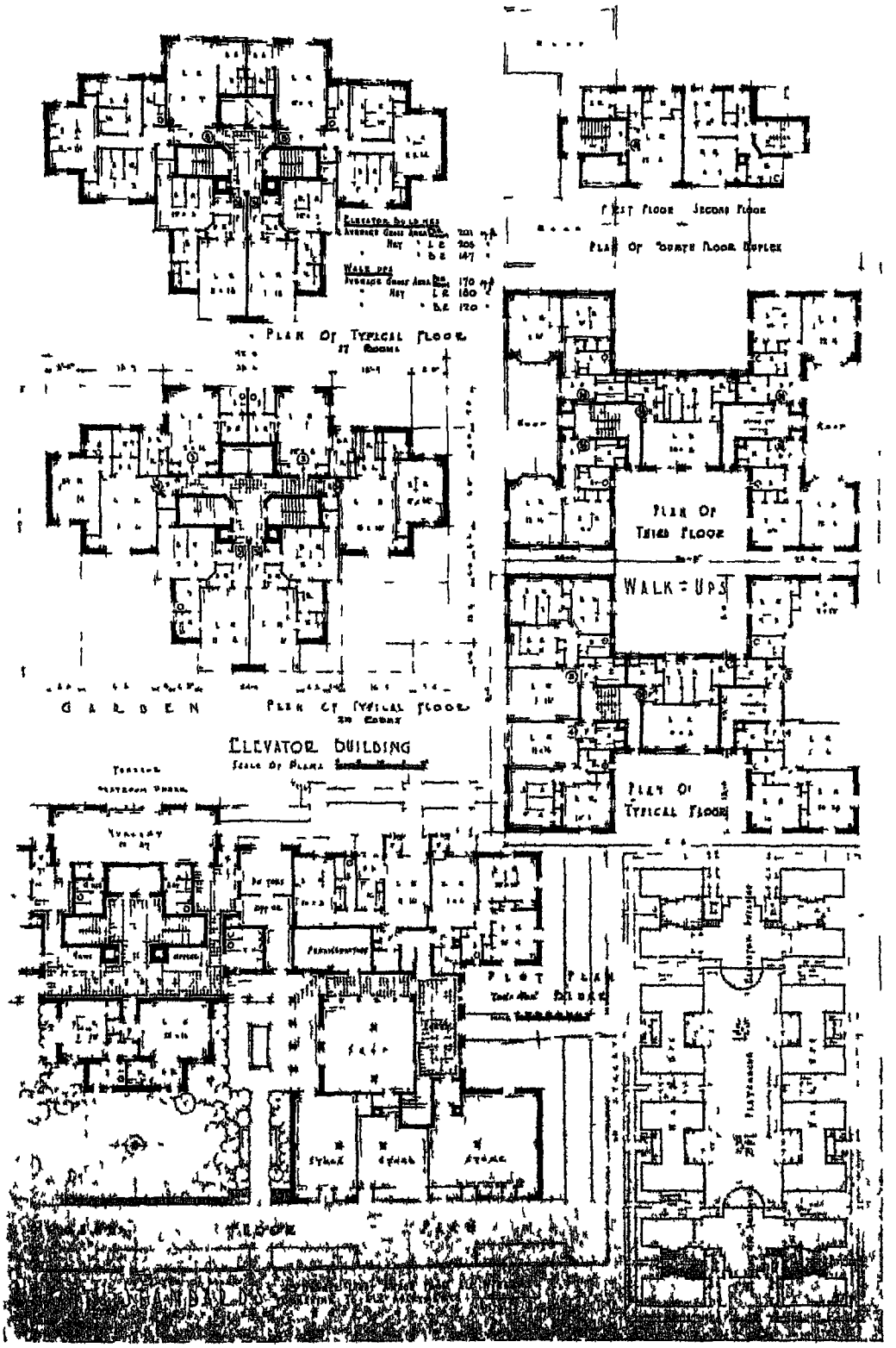
1. See Appendix for discussion of the advantages of this plan, and its possibilities, in slightly modified form, in connection with low-rent housing.

2. *Unit Plans: Typical Room Arrangements, Site Plans and Details for Low-Rent Housing*, Housing Division, Public Works Administration, May 1935, pp. 6–7.

FIG. 112



Proposed block development — not only an interesting study in light standards, but a combination of five-story walk-ups and fourteen-story elevator tower buildings producing very attractive living conditions in combination with approximately $8.00 rents in the walk-ups and $10.00 rents in the towers. See Appendix.



Detailed layouts of various floors of proposed development shown on Fig 112

3. *Kitchens*

(*a*) Cross currents of air desirable but not readily had. (*b*) Advisable to install ready-made cabinets. (*c*) Arrangement studied to avoid lost motion, unnecessary stretching or stooping, and to allow for easy opening and tight closing of doors, windows, and drawers. (*d*) Preferable to have kitchen located near entrance. (*e*) Good artificial lighting for night, suitably located, so as to reach all corners. (*f*) Eating in kitchens must be considered and space allowed for this in planning.

4. *Bathrooms*

(*a*) Layout standardized throughout project. (*b*) Preferable to locate bathroom adjoining kitchen so as to use one set of plumbing stacks. (*c*) Walls of hard white cement. (*d*) Floors and base of tile. (*e*) One medicine cabinet in each bathroom.

5. *Porches and Balconies*

(*a*) Mainly a matter of study applied to the locality of a project. (*b*) Care should be exercised in the placing of porches so as not unduly to reduce the amount of natural lighting in rooms off porches.

6. *Vestibules*

(*a*) Considered desirable on ground floor leading into stair hall. (*b*) No announcer bells required except for apartments with separate entrance stairways. (*c*) Mail boxes installed in vestibules; architects should consult with Post Office Department for arrangement of mail boxes and secure official approval of the site plan for mail deliveries and house numbers.

7. *Stairs and Stair Halls*

(*a*) Walls of apartment houses to be built of hard, washable, glazed tile, except for special conditions. (*b*) Incinerators, rather than dumbwaiters, in all apartment house structures over two stories in height. (*c*) Steep stairs to be avoided. (*d*) Stair landings to be broad and triangular turns or winders to be avoided. (*e*) Handrails on both sides provided throughout. (*f*) All stairways to be adequately lighted.

8. *Storage Space*

(*a*) In apartment houses storage space to be provided for each unit — one method of putting basements to good use. (*b*) In row houses and flats storage space may be either in basement (groups or individual) or in superstructure utility room.

9. *Closets*

(*a*) Standard formula to determine number of closets: For each dwelling unit one coat closet (preferably in entry or vestibule), one linen closet, and at least one for each bedroom. (*b*) Minimum depth 1′ 10″. (*c*) Use of doors on closets depends on individual project. (*d*) Closets to be kept away from exterior walls in all cases — this is done to conserve light area. (*e*) No cutting into rooms with closets.

10. *Window Area*

(*a*) To be at least one-tenth of floor area and not less than 12 sq. ft. (*b*) Minimum bathroom windows 1′ 8″×3′. (*c*) Windows to run up close to ceiling so that light penetrates deeply into rooms.

11. *Story Heights*

(*a*) Except as required otherwise by local ordinances, story heights to be 9′ from finished floor to finished floor. (*b*) No room to have less than 8′ 6″ from finished floor to finished underside of ceiling slab, except basements, which may be 8′.

12. *Miscellaneous*

(*a*) At least one chamber in each dwelling unit to be designed for twin beds. (*b*) Essential to eliminate whole beams in ceilings of all important rooms. (*c*) No compulsory passing through living rooms except in special cases.

In addition to the above, due consideration should be given to the fact that an economy in plan layout must be accomplished without the loss of any desirable features, and at the same time allowing for a certain amount of flexibility. After a minimum schedule of room sizes has been adopted, it will be found that in most cases the efficiency of a unit will be better satisfied through a proper sequence and arrangement of rooms rather than by simply increasing the room dimensions. A well-designed kitchen or bathroom with properly arranged fixtures and equipment is more useful than a larger room in which little or no thought has been given to room layout. Applied to living rooms and bedrooms, besides excess original construction cost, too much furniture would be needed by the tenant in projects where those rooms are made excessively large.

Other factors, such as the proper use and layout of basement (if one is to be built), the most efficient type of construction to be used and many others are so much of a local problem that they should be handled individually, and therefore no attempt has been made to adopt standards for them.

It should be noted that the minimum desirable sizes . . . might be increased efficiently, and would add to the desirability of the plan from the renting standpoint, as these plans were conceived to cover minimum requirements only, in practically every case. However, it should be observed that no plans can possibly be decreased without seriously affecting rentability. On the contrary, great improvements may be obtained by increasing either or both dimensions by 1 or 2 feet. This should result in fewer vacancies as the initial construction cost is but slightly increased, with a correspondingly small difference in maintenance cost existing between the minimum size plan and one that has been increased by about 10 per cent.

These standards, as already stated, were drawn by the Housing Division of the Public Works Administration, as specifications to be observed by architects. One might challenge specific requirements and yet accept the list as creditable and indicative of the idealism which has continuously been displayed by this division of our Federal government. Justification of each of these working rules should be sought, however, in its effect upon prospective tenants and their purses, taxpaying citizens, and the general welfare. An attempt briefly to outline these more fundamental considerations follows.

The basic assumptions are that new housing constructed with public funds, whether by some unit of government directly or through loans to limited-dividend

organizations, should provide at each point in construction for (1) safety, (2) health, (3) convenience and comfort, (4) privacy, (5) beauty, (6) amenities of community life, (7) relative economy to tenants, and (8) protection of the investment. The social objective is to provide conditions of living so wholesome that no member of a tenement family will be thwarted in the development of his personality or character by conditions of his environment, and that in so far as possible the environment will be conducive to development of his character and to constructive citizenship.

(1) Safety is to be provided for through the use of durable materials and soundness in each detail of construction. Safety from fire further requires a fire-resistive type of construction, which will confine any fire to its place of origin, and the provision of adequate means of escape in case of fire. Protection from accident involves avoidance of winding stairways, uniform heights of risers and widths of treads, soundness of construction, and properly safeguarded installation of all equipment for electrical devices, gas appliances, elevators, and other details of the fundamental equipment of the building.

(2) Health demands cross or through ventilation and adequate sunning for each apartment, and ideally for each room, adequate water supply and plumbing fixtures for each apartment; water-proofing and damp-proofing of cellars, and draining of the land upon which all dwellings are constructed; materials and textures for floors, walls, and kitchen or bath-room fixtures that are easily cleaned; convenient and sanitary provisions for disposal of garbage and refuse; and a site location that protects tenants from excessive smoke, dust, fumes, noise, and other nuisances or irritants.

(3) Convenience and comfort, though largely determined by the furnishings within each apartment, depend to a considerable degree upon efficiency in planning; the design and arrangement of the kitchen to prevent needless steps in the preparation and serving of meals; adequate provision of storage space in convenient locations, whether for foods and cooking utensils, or cleaning equipment; a closet near the entrance for outdoor wraps, and a closet for each room of adequate size; storage space in the basement for trunks and articles not in daily use; and space for baby carriages, bicycles and other outdoor equipment, convenient to the exit which would ordinarily be used. Comfort is affected also by the proper planning of wall space to accommodate beds, bureaus and other customary furnishings in chambers, and daybeds, desks, bookcases, and tables in living rooms; and by the arrangement of doors in such a manner that passage through the living room will not discommode its occupants. The location of heating and lighting fixtures and of electrical outlets affects comfort in each of

the household activities, whether housework, dining, reading, sewing, playing, or the entertainment of guests.

(4) Privacy ideally demands a separate room for each adolescent or adult member of the household, whether for sleeping, study, the entertainment of personal guests or the spiritual restoration of solitude. Although this ideal may not be immediately attainable under existing wage scales for the tenants of housing projects, efficient planning may make it possible to shut off any room from the others without interfering with adequate lighting or ventilation for that room. The plan should also provide for access to the bathroom from each room off a common hall without passing through any other room. Proper soundproofing of walls will reduce or eliminate the penetration of disturbing noise from neighboring rooms.

(5) Beauty is a product of skilful design, planning, and decoration. It need not add to the cost of the project, but adds materially to its rentability or ultimate sale value. Though their effects upon tenants are relatively intangible, it is widely assumed that form, harmony, proportion, and color exert a subtle influence upon human character. Case workers in social agencies have records of instances in which dependent families have been assisted in the process of rehabilitation through the provision of more attractive surroundings. The "expulsive factor" of the home ceased to operate.[1] Prohibition of rooms too small in their dimensions and adequacy in space allotment promote beauty as well as convenience and comfort.

(6) The amenities of community life, outlined at length in other chapters,[2] comprise provisions for nurseries, playgrounds, parked areas, landscape planning and planting. They would in many instances include also provision for social use of reserved portions of roof space, and, in larger developments, for indoor community gathering places for social or recreational activities. In suburban developments, allotment gardens and provisions for adult sports have been widely developed in England, Germany, and elsewhere, to the community's advantage.

(7) Relative economy to tenants in the form of low rentals must be mentioned among standards since lavish provision for the tenants' physical well-being, at costs far beyond their rent-paying capacity, involves either the exclusion of tenants who would profit by residence in such projects, or subsidization of their monthly rent in a manner that would rob them of their independence and self-respect. To meet the above optimum standards, therefore, ingenuity and judgment must be exercised at every point. Experimentation and invention are essential for the discovery of the least expensive, durable materials of construction, the

1. See Chapter XVII

2. See Chapters XXIII and XXXIV

most economical building processes, and durable fixtures that will adequately serve the tenants' needs, at minimum unit cost. Skill in planning is requisite to provide maximum service to tenants with minimum capital outlay.

(8) The protection of the investment of public funds in such enterprises involves acuteness of vision which will recognize tenant needs and distinguish the fundamental from the ephemeral. When an amortization period is placed at thirty or forty years, or even longer, little business acumen is demonstrated in building a housing project of second-rate design, materials, construction, or equipment. Maintenance and replacement costs, or high vacancy rates in later years due to the failure of the project to keep pace with standards that are becoming general, may ruin, as a long-term investment, one that in its initial stages might have no vacancies. Newness quickly wears off, and it is the innate quality of the buildings of a project which will hold their tenants or find new tenants to fill vacancies after the development has ceased to be a novelty. It is for this reason that one can justify the avoidance of the barrack type of design, rooms that are too small, individual heating in place of central heating. Moreover, electrical refrigeration, adequate kitchen and dining space, electrical outlets, the provision of elevators in buildings more than four stories in height, and other "luxuries" (as a result of public-school education, social contacts, the influence of motion pictures, and particularly the daily advertising of the dealers in appliances) are increasingly becoming a part of the recognized standard of living among the wage-earning groups of our population.

The welfare of citizens thus justifies high standards in government-aided housing projects. Until science can demonstrate specific effects of each provision upon the tenant, such requirements must be tentative and experimental. No experiment is scientific unless closely watched and subjected to analytical and discriminating record. Wholesome relations between management and tenants preclude prying daily observation of their reactions. Hence enlightened opinion rather than scientific knowledge will inevitably govern norms in this field for many years to come.

CHAPTER XXXIV

LIMITED-DIVIDEND COMPANIES AND MODEL TENEMENTS

THERE are five major types of agency concerned with residential construction The first is the individual who builds a residence to use wholly or in part as the center of his own family life. He produces in order to consume and builds with reference to his personal needs and those of his family. The profit motive is usually secondary. In the early history of this city, a majority of houses were built by owner-occupants, but today the percentage would be insignificant.

Most of the dwellings in New York City in recent generations have been built by speculators with a view to sale. Their primary motive is to make a profit upon the investment Service to the presumptive tenant, purchaser, or the community is incidental. It is recognized, however, that the building must be made reasonably tenantable for its market, or else there will be no profit. Virtually all the tenement houses in New York City belong in this category, produced by agencies of the commercial type. For tenement houses are built to make a profit from the investment either out of rents or from hoped-for increases in land values, and from sale, immediate or ultimate.

The remaining types of agencies, still responsible for much less than one per cent of all housing, may be designated as philanthropic, cooperative, and governmental agencies. The primary interest of philanthropy is service, and profit either is not sought or is definitely restricted to a low-dividend rate by agreement or charter. Cooperative agencies differ from the philanthropic type in that they are fraternalistic rather than paternalistic, and seek mutual service rather than the service of outsiders. Governmental agencies, whether the unit of government be the nation, state, or city, may also be dominated by the service motive, but are distinctive in that they make use of public rather than private capital — whether raised by taxes or through bond issues — and of an authority much stronger and more secure than that which any private agency may enjoy.

Although shelter has been provided by philanthropy for individual families or for special small groups of unfortunates over a long period, limited-dividend housing, sometimes characterized as "philanthropy and five per cent," apparently, in New York, began eighty years ago.[1] The practice of providing for a

1 See Chapter V, and Figure 114

small return on philanthropically invested capital served the following purposes: first, it made more capital available for the philanthropic investment, which in turn made possible the expansion of operations; second, it avoided stigmatizing tenants in the model tenements as recipients of charity, which made it possible for the company to induce the self-respecting and independent poor to live in their dwellings; third, it was hoped — though the hope was seldom realized — that, by putting their projects on a near commercial basis, speculative builders and profit-seeking investors would be prompted to follow their example and build new tenements of equally high standards.

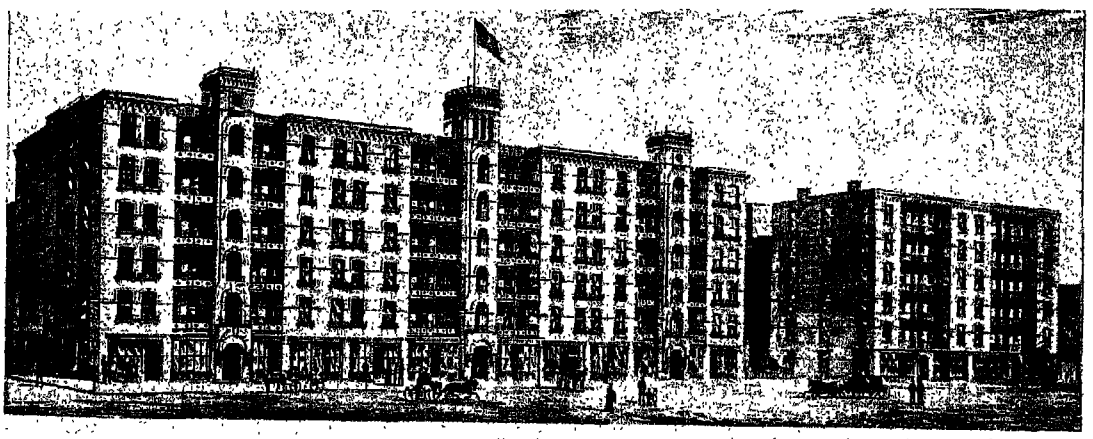
To many, the term "model" unfortunately connotes perfection — an ideal unattainable for human institutions, though perhaps progressively approached. Such persons are amazed, shocked, or alienated by defects which they find incorporated in multiple dwellings designated as "model tenements." The organizations responsible for the buildings described in this chapter preferably use the term in the sense of "working model," aiming to achieve some specific improvements upon prevailing standards, and hopeful that their demonstration will influence other builders to copy them or legislators to make their improvements universal in new buildings by means of changes in the building or tenement-house law. The effects of model tenements in New York City to date are, however, less measurable in specific changes in new construction than had been anticipated by their promoters. Nevertheless, public attitudes regarding wage-earner housing have become more enlightened in recent decades as a result of the experiments of limited-dividend companies.

Progress is dependent upon experimentation. The individual home builder usually has such restricted capital and such limited knowledge of housing that his experiments are trivial and unilluminating. The commercial builder is so dominated by the desire for quick profits, which mean a rapid overturn or income-yield from the properties he builds, that he is unlikely to depart widely from the stereotyped architecture and construction to which the tenant and buying class are accustomed, and for which there is a ready market. Although commercial agencies, manufacturing new building materials or equipment, must experiment to perfect their products; they rarely construct units larger than the single-family house in order to demonstrate their wares.

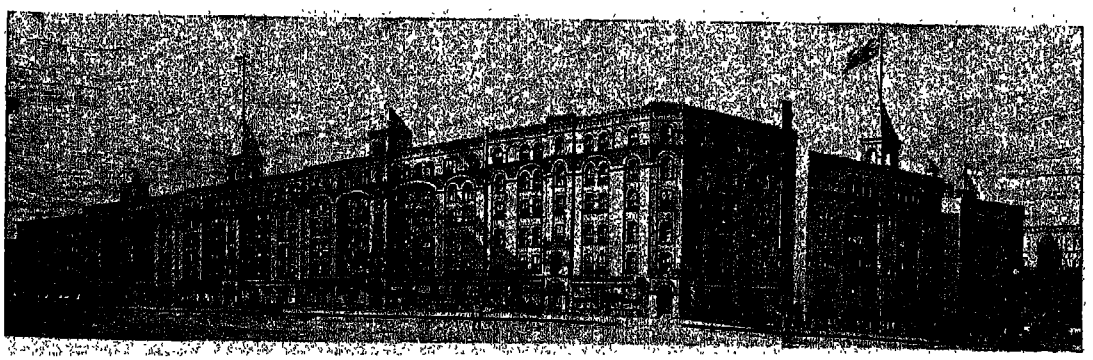
Cooperative agencies for construction suffer so largely from limitations of capital and complexity of management that they cannot be counted upon to contribute much by way of experimentation. Nevertheless, representing the consumer in the initial stages of the project, as they do, they are in a position to



a. Workingmen's Home erected by A. I. C. P. at Mott and Elizabeth Streets, and occupied exclusively by Negroes, 1855. First so-called "model tenement house" on Manhattan Island. For plan see Appendix, Pl. 1, G.



b. Home and Tower Buildings, Brooklyn, erected 1876–1879 by Alfred T. White. First block development of "model tenements" in Greater New York. For plan see Appendix, Pl. 3, A and B.



c. Riverside Buildings, Brooklyn, 1890. For plan see Appendix, Pl. 6, C.

ascertain consumer needs and provide for such needs in the design, arrangement, and equipment of the building If cooperative housing develops in America, as it has in Europe, we may in time witness considerable changes in planning from this source. For European experiments, especially co-partnership housing in England, and the multiple dwellings of the Spar-und-Bau-Vereine in Germany, have displayed a definite leadership in providing community facilities and social amenities in housing projects.

Although scientific experimentation is a proper field for the expenditure of a limited percentage of public funds, the governmental projects now in process at Williamsburg and in contemplation elsewhere must be accepted or discarded on grounds of net social utility in which experimentation is but one factor of relatively minor importance. Probably experiments much more useful to housing could be made by means of an appropriation for this specific purpose to the National Bureau of Standards.

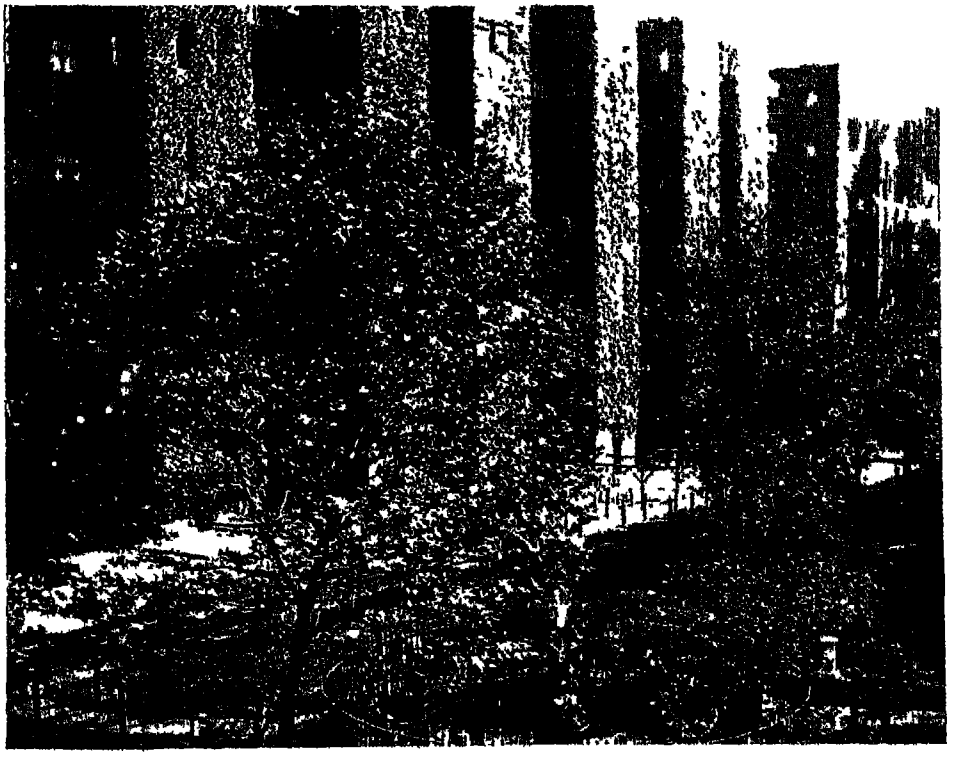
Limited-dividend companies, on the other hand, are in a strategic position to try experiments which, if successful, will demonstrate the utility of new types of design, planning, construction, materials, processes, or equipment. They have continuously done this in a small way, but except for the inconclusive experiment in the use of pre-fabricated concrete units, by the Russell Sage Foundation at Forest Hills, Long Island, under the direction of Grosvenor Atterbury, no radical attempts have been made [1]

For convenience, the contributions made to our knowledge of improved housing by model tenements may be discussed under the following headings: (1) physical setting and relation to neighborhood, (2) landscape planning, (3) architectural design and apartment planning, (4) construction, (5) equipment, (6) community facilities, and (7) tenant relations. Each of these, it should be added, might profitably be studied with the cooperation of the officers and staff of each of the companies and with access to their books and to all legal and financial records. For their annual reports reveal little beyond balance sheets and descriptions of properties. Decisions are sometimes recorded which indicate a change in policy, but the inquirer learns only the end result and not the process by which the decision was reached. For both the sociologist and persons actively interested in social betterment, a record is needed of the rôle of each of the intricately interwoven factors which lead to a given experiment or which result from it. A failure is as important as a success from the point of view of the lessons which it might teach. If the disillusionments, as well as the hard-won successes, of many investors and board

1 Grosvenor Atterbury, *The Economic Production of Workingmen's Homes.*



a Court of Tower Buildings.



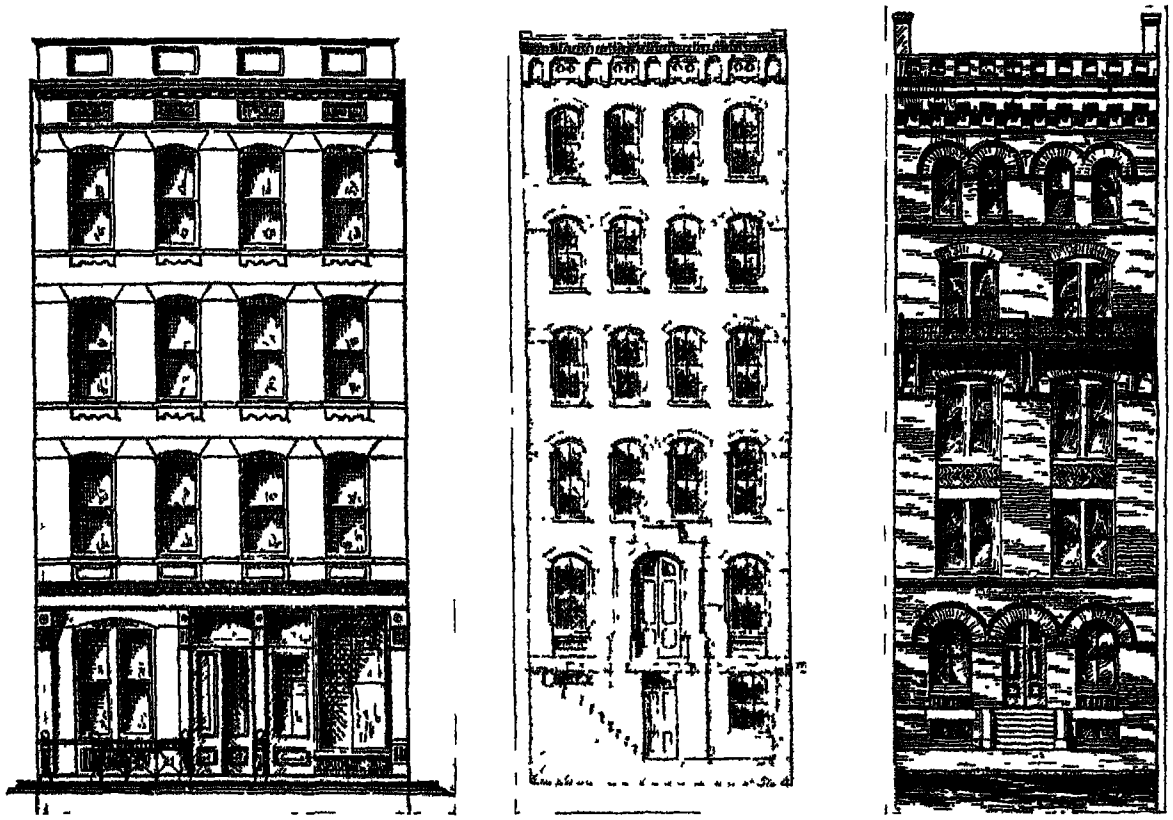
b. Court of Riverside Buildings.

members, could be analyzed adequately, the key to the solution of many acute problems in the field of contemporary housing might be found.

For example, a certain model tenement in this city is suffering a high vacancy rate. Is it due to the comparatively small size of the rooms, which is the reason given by one of the members of the staff, or is it to be ascribed to some one of a long list of possible factors such as location, neighbors, rents, lack of proper publicity, or other defect in management? It would be costly to conclude, as some are inclined to do, that the cause resides wholly in the smallness of the rooms if that were not the case; for it might lead new ventures to make rooms needlessly large, thereby probably increasing rentals and putting their projects beyond the reach of the wage-earning group.

Location is a matter of some importance, both with regard to accessibility to work for tenants and because of the reciprocal influence of the model tenement and its neighbors. A single model tenement, or even a project covering a whole block, does not inevitably change a neighborhood for the better. Dangerous or corrupting influences may seep in. Some model tenements have reported the intrusion of prostitutes and gamblers. Accident risks, neighborhood nuisances and pests, poor food and high prices in neighboring shops, poorly protected streets, may each reflect its influence in the daily lives of tenants. On the other hand, a well-designed model tenement sometimes precipitates superficial but not fundamental change in the aspect of the streets and of neighboring tenements. Opposite neighbors have an improved outlook. The owners may paint or veneer the fronts of their buildings; tenants may put in fresh window curtains; taxes and rents may go up. But the opposite neighbors, despite such higher rents, have gained no improvements in the planning, equipment, or maintenance of their own apartments. They are paying for improvements which they may look upon but not enjoy, — for betterment of community conditions, doubtless, but not for the improvement of their own housing. A large development may have a wider area of influence. Yet a study of the environs of Sunnyside or Forest Hills shows the neighboring improvements to be external rather than internal, superficial rather than fundamental. The influence of the model tenements of Manhattan upon their neighbors is still less apparent. For similar units would be too costly to reproduce, even in a cheap imitation, and hence the preexisting houses across the street, with a different owner for each lot, can at best merely dress up their odd assortment of façades.

Landscape planning and planting for model tenements are particularly well demonstrated in the Paul Laurence Dunbar Apartments for Negroes in Harlem, the Phipps Garden Apartments, and the Celtic Park Apartments of Long Island



b. c.

Elevations of 1st, 4th, and 7th prize designs in *Plumber and Sanitary Engineer* competition, 1879. For plans see Appendix, Pl. 3, C, D, E, F, G.



d. Improved Dwellings Association Buildings, First Avenue between 71st and 72d Streets, 1881. of model tenements on Manhattan Island. For plan see Appendix, Pl. 5, H. See also Fig.

City. For suburban developments, Forest Hills and Sunnyside in Queens, and Radburn, New Jersey,[1] contribute excellent examples of effective estate planning and skilful planting. Model tenements have assumed leadership in discarding the narrow city lot and in combining four or more such lots for the development of free-standing apartments for families of very limited income. The planning and planting of combined lots have materially enhanced the beauty and hominess of developments while free-standing units provide more effectively for the sunning and ventilation of apartments. The width of the space allotted for side yards is continuously increasing. Commercial ventures, as for example those of Jackson Heights, the Cord Meyer Estates in Queens, and Tudor City in Manhattan, are following the same practices in the allowance of set-backs at the street line, with planted strips between the sidewalk and the building, and provision for parked areas. The grouping of garages, cleverly screened by vegetation, is a feature of some of the more recent developments. The practice of selling parked space to the city government, to be maintained by it, was skilfully demonstrated first in the Douglas Apartments for Negroes erected by the Prudential Insurance Company in Newark, New Jersey.

The U-shaped units, first successfully developed for low-cost housing, by Andrew J. Thomas, have made possible privacy for tenants through remoteness of their apartments from the street, while providing an outlook to the street across wide parked open courts. The use of the *cul-de-sac* principle in suburban developments similarly has insured privacy, relatively low unit cost for street construction and maintenance, abundant opportunities for attractive grouping of residences of varied types, and informal intimate planting. Underpasses, as developed at Radburn and as now contemplated for urban developments, make for safety of pedestrians and of children going to or from schools or playgrounds.[2]

In architectural design, model tenements have evolved from hideous box-like barracks to open and attractive garden developments, with enough of interest and variety in exteriors to command approval. Backyards and courts in recent years have ceased to be bleak paved areas and are now at least as attractive as the fronts. There is a general tendency to make interior parks the center of community interest, thus changing the habits of the occupants whose attention had previously been concentrated upon the street and whose community gathering place in commercial developments had been the front doorstep. This practice is one

1. See Figures 125 and 126

2. Various aspects of this subject are treated in vol 1 of the Publications of the President's Conference on Home Building and Home Ownership entitled *Planning for Residential Districts* and containing the reports of the Committees on City Planning, Subdivision Layout, and Landscape Planning and Planting. Henry Wright has dealt with this subject in a number of articles published in the *Architectural Record*, see especially "The Place of the Apartment in the Modern Community," March 1930, and in his recent book entitled *Rehousing Urban America*. Catherine Bauer's *Modern Housing* contains abundant material for European countries.



a. Practically fireproof tenements built in 1885–1887 by the Tenement House Building Company, at 338–344 Cherry Street. The second group of improved dwellings in Manhattan. For plan see Appendix, Pl. 6, B. b. Rear court of a, showing marked improvement over earlier conditions.

FIG. 117

which also has found its way into commercial developments of apartment houses of the more expensive type.

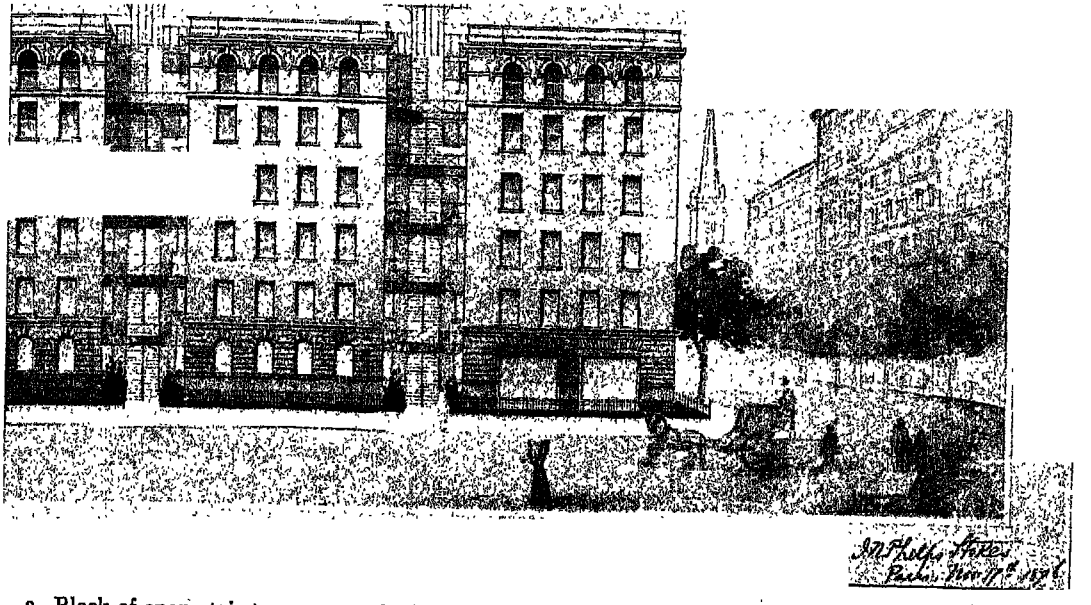
The novel use of open stairs, begun in this country by Alfred T. White in Brooklyn,[1] following the model of the George Foster Peabody Dwellings of London, was imitated in the early part of the present century by the City and Suburban Homes Company in several of its projects in the Upper East Side.[2] In spite of definite advantages to health, this practice has not been widely followed either in commercial developments or in the more recent of model tenements.

Roof gardens, as planned for the Phipps Houses on East 31st Street,[3] have not become general in subsequent undertakings largely because the interior parks, more recently provided for, made them unnecessary. The principle, however, remains important in projects so small as to make an interior park impossible. It can be applied however to best advantage in elevator buildings with set-backs for upper stories and private terraces for each penthouse.

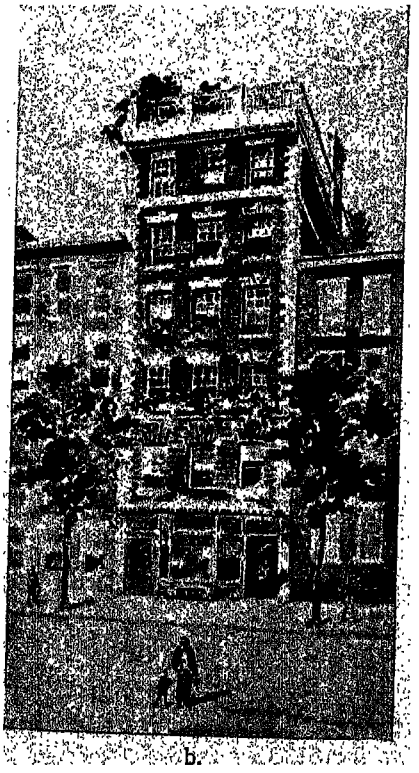
Although model tenements have been more highly fireproofed than have speculatively built tenements for the same population group, commercial builders have not raised their construction standards in this regard beyond the requirements of the law, largely because of the increased cost entailed. Model tenements also have provided larger interior or outer courts than the law requires, but these practices have not been widely imitated by speculative builders. Room sizes have tended to exceed the law's requirements, but again for reasons of economy the example has not been copied. Nevertheless, the high vacancy rates of some of the earlier model developments are still ascribed to the fact that rooms are too small. Experience in model tenements has definitely confirmed the findings of commercial builders that the fifth and sixth stories of walk-up tenements are difficult to rent, thus accounting for the recent trend in model-tenement construction, where more than four stories are provided, to the use of elevators, as in the Amalgamated Dwellings on Grand Street.[4]

In Europe much attention has been paid to the orientation of buildings for maximum sunlight. Following the studies of Augustin Rey of Paris, apartment houses have been designed in many European countries to catch the sun's rays at some time of day for each room of each apartment. No wholly satisfactory example of this method is yet available among the model tenements in the built-up areas of this city. But the recent tendency to avoid dark interior rooms by building only two rooms deep, with wide courts and parked yards, has brought sunshine to every apartment in some of the more recent developments in outlying

1. See Figures 114 and 115.
2. See Figures 118, 122, and 123.
3. See Figure 121.
4. See Figure 124.



a. Block of open-stair tenements submitted by I. N. Phelps Stokes in the tenement-house competition of the Improved Housing Council, 1896. For plan see Appendix, Pl. 7, F.



b.



c.

Elevation and patio of tenements for 25′ lot. Designed by Mary N. Gannon and Alice J. Hands, 1898. For plan see Appendix, Pl. 7, G.

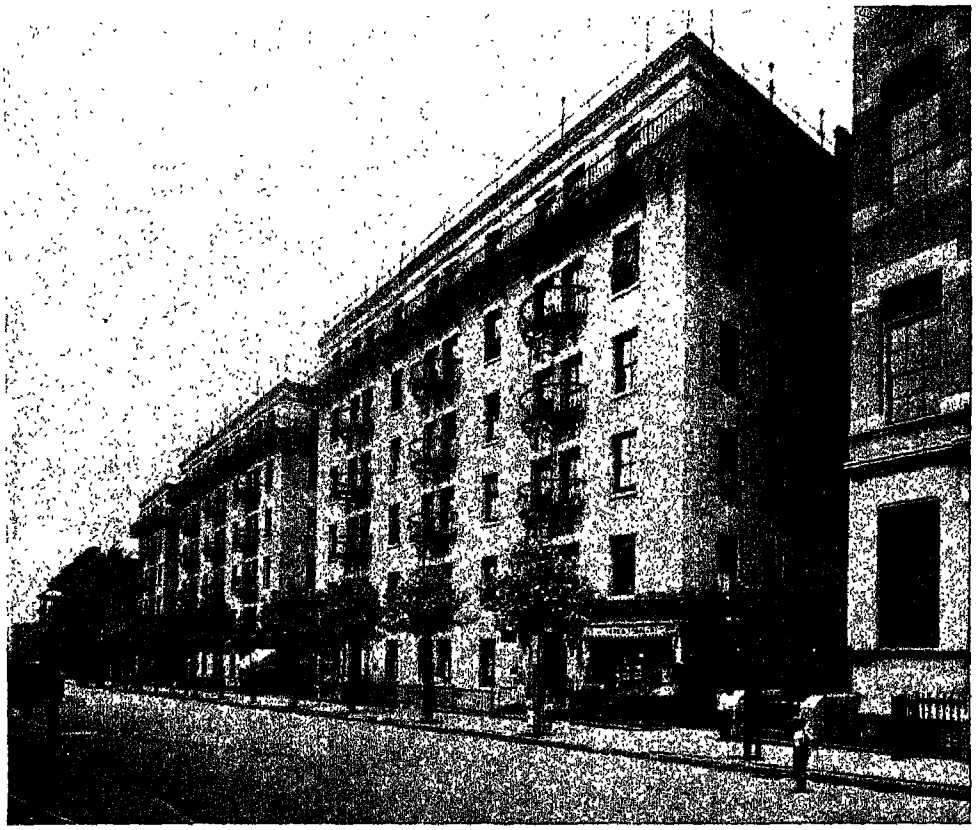
boroughs, except where, through unskilful planning, apartments have been designed with but a single exposure and that to the north.

Probably the chief contributions of model tenements to current practice have been in the use of set-backs for multiple dwellings from the street, with grass strips between; detached or free-standing construction for multiple dwellings; wide courts and parked areas; the use of units only two rooms in width; the layout of apartments about a central hall to make possible access to each room without passing through another; the provision of abundant closet space, storage space, and community facilities; the grouping of kitchens and bathrooms about a central stack; and, most important of all, the abandonment of the lot as the unit of construction.

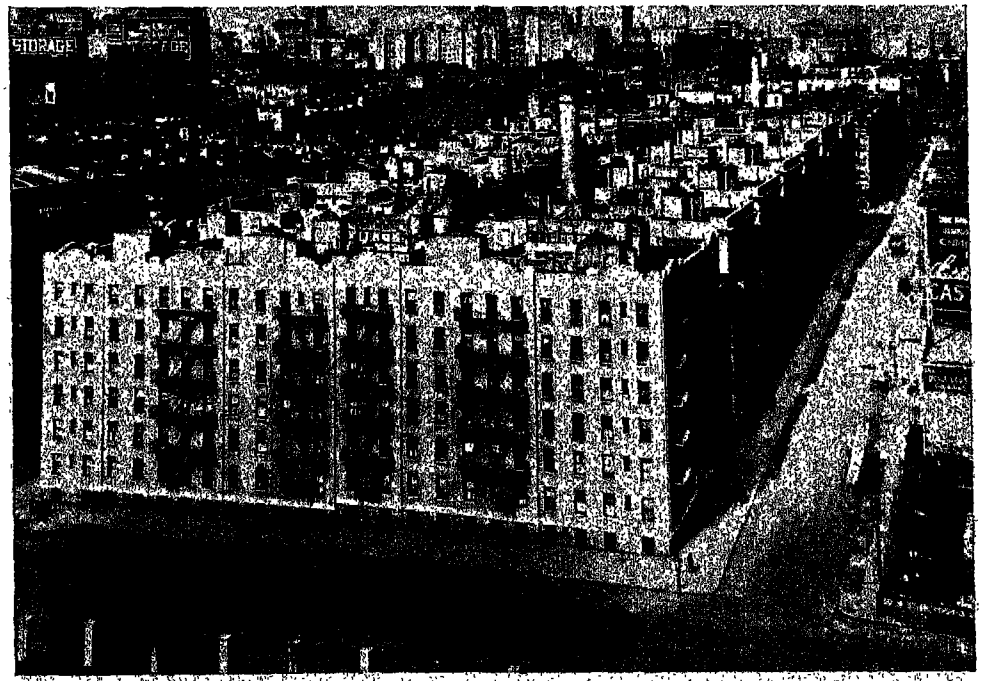
There have been few contributions to improved methods of construction in model tenements so far erected. Experiments in pre-fabrication are being conducted by a number of commercial organizations at this time and with a wide variety of materials. The expense involved makes it impractical to construct multi-family dwellings of new materials or by new processes until their qualities and economies have been successfully demonstrated in the construction of detached single-family dwellings. Such ventures are at this time still in the detached-dwelling stage, though plans have been drawn for their application in multiple units. In virtually every instance changes will be necessary in local building laws to permit the use of new pre-fabricated materials in the construction of multiple dwellings, which will inevitably retard such use by many months or years. After the merits of the materials have been demonstrated and accepted, and consumer standards and legal requirements so modified as to permit their use, there will still remain two problems. First, the establishment of sales organizations to stimulate demand in enough cities to make possible sufficient orders to provide for continuity of production on a scale sufficient to reduce cubic construction costs. For a small market means no economies. The second problem is the conciliation of labor, since pre-fabricated units presuppose the substitution of unskilled labor, or specially trained semi-skilled labor, for the present building trades. In an industry as large as this the technological unemployment involved is likely to precipitate serious industrial warfare, which can be prevented only by social pre-planning to retrain the labor displaced and absorb it in the labor market.[1]

Model tenements have invariably provided for their tenants more modern equipment than they have been accustomed to have in their previous places of residence. Even the crude ventilating devices of the very first model tenements

1. For problems of labor relations in this field see William Haber, *Industrial Relations in the Building Industry*.



a. First group of buildings erected by the City and Suburban Homes Company, on W. 68th and 69th Streets, 1898. For plan see Appendix, Pls. 7, C, and 29, D.



b. Block of tenements built by the City and Suburban Homes Company, First Avenue, 64th and 65th Streets, erected 1900–1916. For plans see Appendix, Pls. 7, D, 9, A, and 13, A.

of the city should be designated as attempts at the raising of standards. There have been many ventures that have been unsuccessful and that have added to construction costs, but no instance is known where model-tenement companies have not attempted at one point or another to improve upon the standards prevailing at the time among the social group whom they planned to house. Nevertheless, the more expensive the equipment the more difficult it becomes (all other things being equal) even at a limited profit to make the model tenements available to unskilled labor at rents which the latter can pay. The few ventures which have housed unskilled labor, as for example the Alfred T. White dwellings in Brooklyn, and that have continued to make their limited dividends upon the investment, have been ones least lavish in equipment. No model tenement which provides central heat, bathrooms, gas stoves, and electric lights has drawn the majority of its tenants from the lowest income group. Yet more recently, in addition to the above, elevators, incinerators, mechanical refrigeration, built-in cabinets, and central laundry facilities are increasingly provided. Artificial ventilation and air-conditioning are quite certain to follow. The provision of community facilities in the form of playgrounds, nurseries, and social rooms, following European experience, is likely to become increasingly general.

Every limited-dividend company inevitably faces the problem of where it should draw its lines — of how to distinguish the essentials from the luxuries. The fact that the tenant group have not previously enjoyed the use of equipment of these types is not deemed an adequate argument for their exclusion. The fundamental purpose of the model tenement is to improve the living conditions of the underprivileged. Moreover, central heating, electric lighting, gas or electric stoves, and incinerators facilitate better maintenance, reduce wear and tear, and thus protect the investment. Presumably, also, the value of the original investment will depreciate less rapidly and more of the invested capital can be salvaged in case of future sale, if the building incorporates equipment that is modern for its period. Such considerations have led limited-dividend companies to build in advance of the conscious needs of their tenants, which results in raising their standards of living, and would doubtless cause discontent in case circumstances should force the tenants to revert to their previous mode of living.

A further result has been that the management of model enterprises, in order to make its specified limited return upon the investment, finds it necessary to rent largely to families in the skilled labor group or clerical workers rather than to the less privileged slum population. Model tenements have been criticized because of this fact, yet it is highly questionable whether social development is not rendered more rapid by providing decent housing for that portion of the wage-earning



City and Suburban Homes Company buildings, 78th and 79th Streets, York and Marie Curie (Exterior Street) Avenues, erected 1901–1913 The most important group of model tenements erected on Manhattan Island prior to the building of the Amalgamated Dwellings on Grand Street and Knickerbocker Village The corner building on 79th Street and the building adjoining it to the west have courts connected with the street, similar to the original Ware plan (Appendix, Pl 7, D) The building on the extreme left was erected in 1911 as the Junior League Hotel, but it is now controlled entirely by the City and Suburban Homes Company and is known as the East End Hotel It has accommodations for 320 guests The entire block of tenements contains 1,254 apartments with 3,436 rooms The average rent per room per month at the present time is $10 00

FIG. 120

group which has already demonstrated its capacity by developing industrial skill and by earning higher wages. It is safe to assume that there is relatively higher productive capacity among this group and that it is to the public's interest to provide for better health and living conditions first among its more productive members. The social process makes possible the movement of families less fortunate into the homes vacated by the new tenants of the model dwellings, and the condemnation by public authority of the worst of the housing vacated by the lower group Thus, each portion of the population benefits and the worst housing is eliminated as a result of the efforts of the limited-dividend company.

Planning for community facilities in model housing enterprises has been general in recent years, but should be undertaken with due regard to the availability of such amenities within the neighborhood. It might be absurd to establish a library, nursery, social center, or playground in the housing development if an adequate one were to be found across the street or within a block or two of the development. The indispensable minimum of community facilities for a housing project is apparently the provision of parked space within the development, in which mothers may sit and sew while watching their infants, or their younger children at play. Mistakes have been made in providing facilities for which there was little or no demand. Playground equipment has been installed of types that are unpopular. Paved surfaces for playgrounds have proved dangerous to the child who falls down while at play. Play space in courts bounded by masonry surfaces which do not absorb the sound may disturb the occupants of a score or more apartments because of the shrill noises inevitable in spontaneous play. There are instances also of playgrounds and nurseries inadequately supervised, and of social rooms dismal and seldom used. For the advice of specialists has not been sought as freely as it should be or there may have been no provision in the management of the undertaking for maintenance, promotion, and trained personal supervision for these features. It is possible, however, after careful study to profit by such mistakes. And it is an essential function of management to cooperate in the planning of such features and to devise plans for their efficient utilization.[1]

Limited-dividend companies have made considerable study of methods of perfecting the relations of landlords with tenants. These are covered in detail later in this volume in the chapter entitled *Management of Housing Projects*. Vacancy rates have been kept down by so arousing the interest of tenants in the project that their friends and relatives will create a waiting list for vacant apartments. When the tenants' interest is sufficiently elicited there need be no vacancies. The

1. See Chapter XL.



a Phipps model tenements in E 31st Street, erected 1906–1907. For plan see Appendix, Pl 12, c



b. Roof garden of Phipps tenements.

volume of repairs has been kept down in some projects, following Alfred T. White's early example, by remitting the rent of the twelfth month in case no repairs are needed within the tenant's apartment, thus stimulating carefulness on the part of occupants. Arrears in rents have been avoided by granting modest discounts for prompt pre-payment. Social workers have been employed to teach residents the arts of housekeeping and homemaking and to induce cooperative relationships among tenants. The most important contribution, however, has been the formation of tenant organizations and the delegation to these of certain responsibilities particularly relating to the community facilities. Such organizations are especially well exemplified at Forest Hills, Sunnyside, Radburn, the Paul Laurence Dunbar Apartments, the Lavanburg homes, and the Amalgamated Dwellings [1]

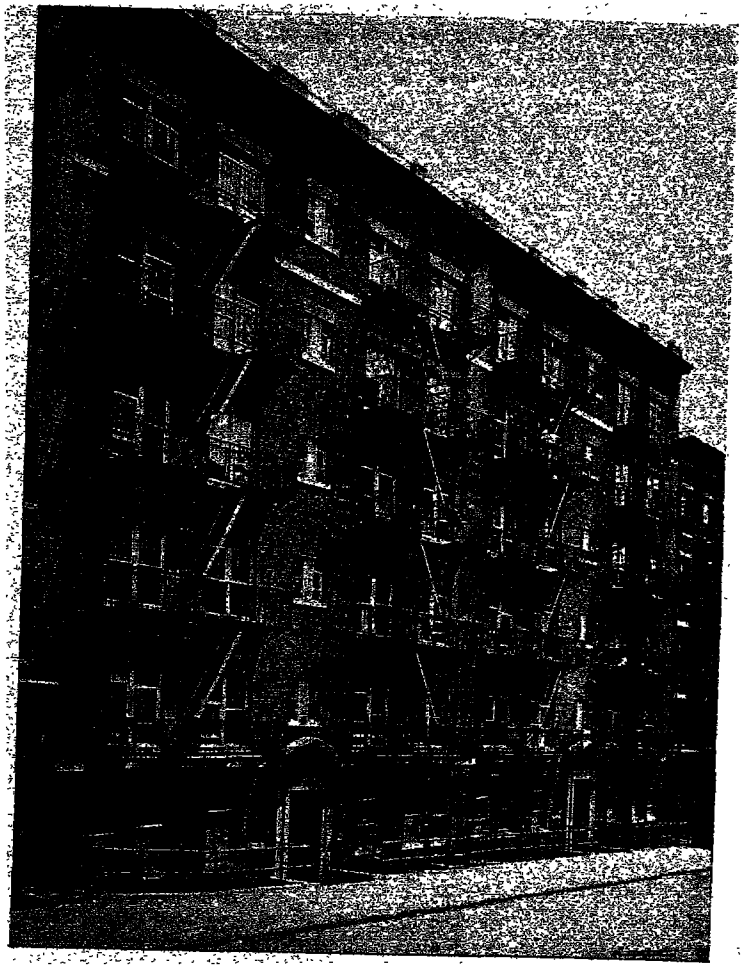
Depreciation has unquestionably been postponed and obsolescence, which is a matter of psychological attitude, has perhaps been retarded by the best of such practices. The perfection of human relations through these policies has facilitated the adjustment of the tenant to the house and the community in such a way as to render the model tenement not a mere experiment in housing but one that covers the entire range of community living. Values are developed, reenforced, and shared. The model tenement at its best is a school in the art of living.

In its financial aspects the limited-dividend company has developed experience which should be useful in framing housing policies for the present and the future. In his book on *Housing Reform* Lawrence Veiller criticized this type of venture on the grounds that it would be impossible to discover enough philanthropic capital for investment to house more than one per cent of our population. He also deplored the diversion of effort of persons interested in housing reform from the establishment of high minimum standards through law, which would reach the entire population, to the building of model tenements which reach so few. A study of the membership in the boards of directors of limited-dividend companies, however, reveals a personnel quite different from that engaged in housing reform through legislation, which leads to the conclusion that this is a supplementary rather than a competitive movement.

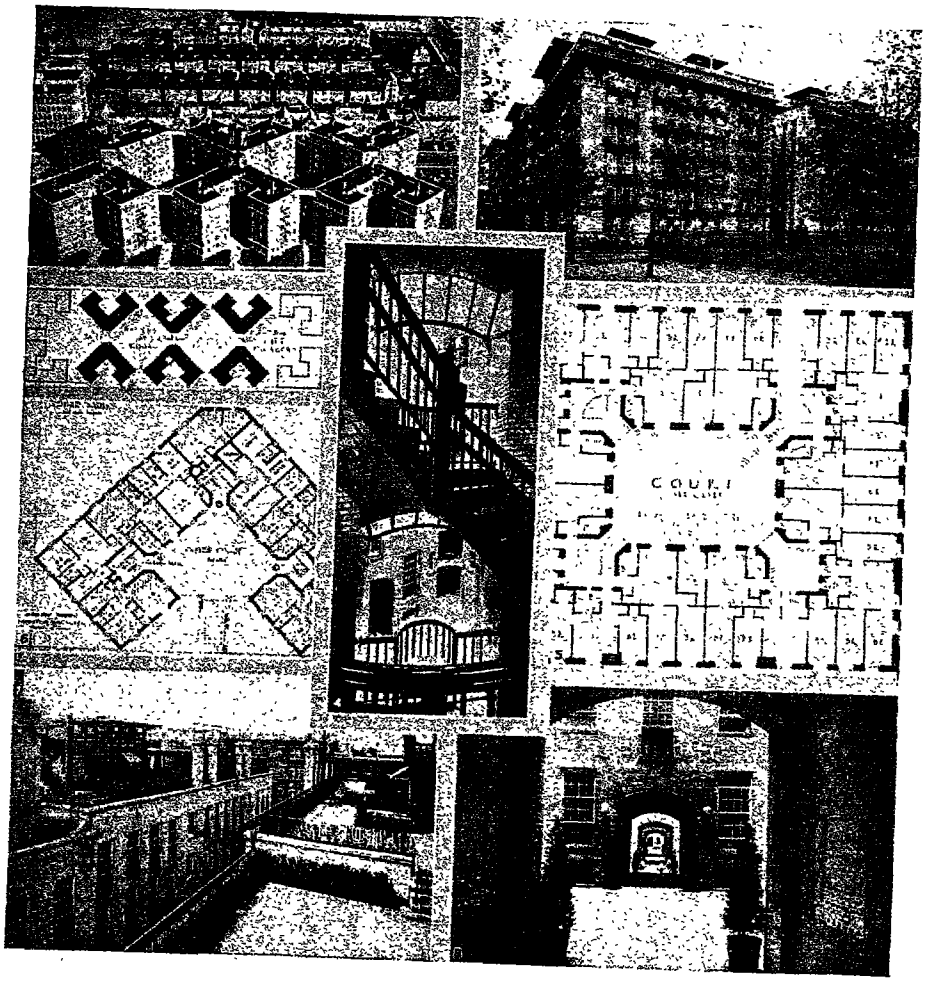
It is unquestionably difficult to raise large sums of money for enterprises of this sort. Prior to the period of public assistance and subsidization not more than eighty million dollars was invested in model tenements in all of America, and most of this was in New York City where for eighty years philanthropists have experimented with this solution of the housing problem.[2]

1. See Chapter XL. For descriptive account see also Abraham Goldfeld, *Toward Fuller Living through Public Housing and Leisure Time Activities*

2 Compare table on p 84 of vol III of the Presidents Conference on Home Building and Home Ownership



a. Phelps-Stokes Fund open-st__, dropped-balcony approach, model tenements. Dudley Homes, 339–349 E. 32d Street, erected in 1910 and sold in 1925 to the City and Suburban Homes Company. For plan see Appendix, Pl. 13, n.



b. Vanderbilt East River Homes, 77th and 78th Streets, York Avenue and John Jay Park. First group of open-stair tenements, designed by H. Atterbury Smith, 1909 (*right*). Jackson Heights open-stair tenements (*left*). Reproduced from *Encyclopaedia Britannica*, XI, 838.

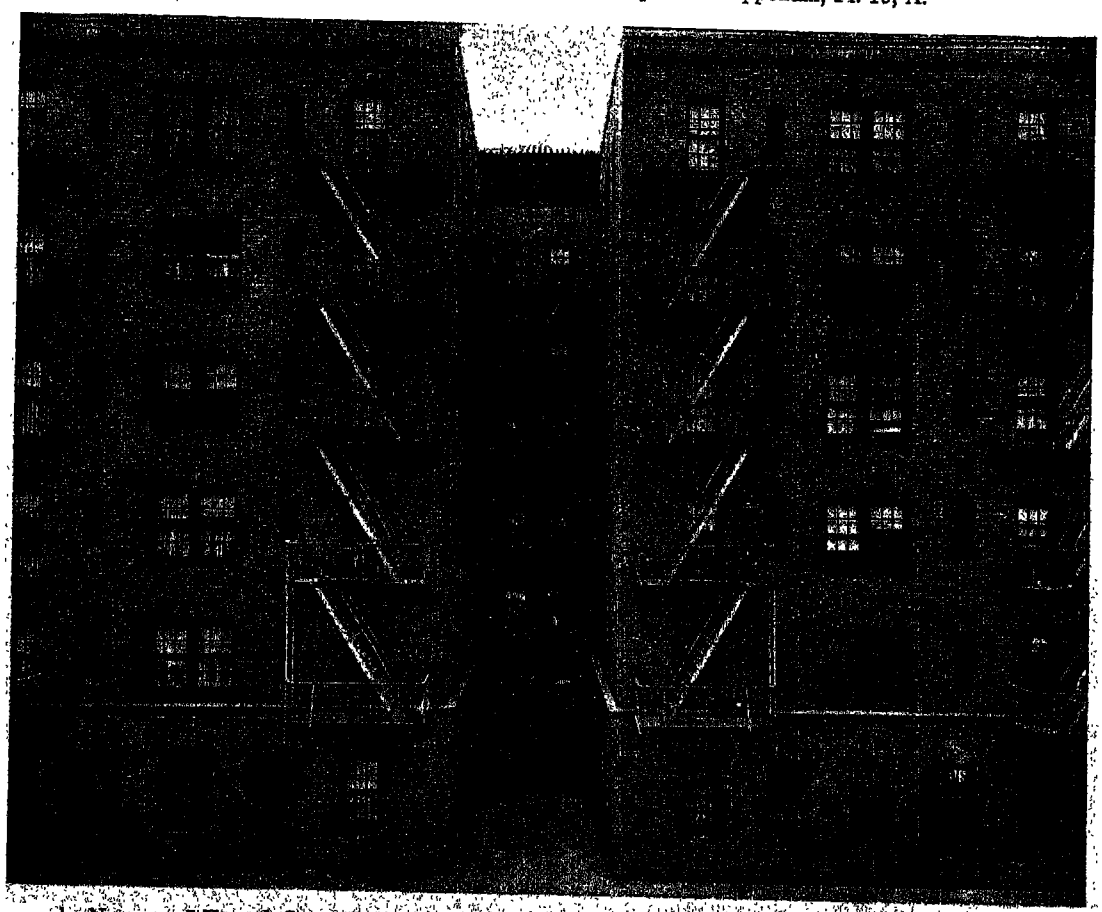
FIG. 122

To make an appreciable impression upon the problem of slum elimination, capital should be available not in millions of dollars but in billions. Ample sums are not forthcoming primarily because, *first*, of the limited fixed yield from this type of investment, and *second*, the uncertainty of receiving even that limited dividend upon an investment so highly experimental. But a potent *third* reason is the lack of fluidity of the invested capital, since stock in the ventures cannot be disposed of in the stock market but must wait many months or years, and perhaps for the life-time of the owner and beyond, before a buyer can be found. The market for such stock is thus restricted to persons of wealth who look upon their investment as a philanthropy, and to a limited group of persons of smaller means who regard their savings as a trust to be utilized in the service of their fellowmen.

The most skilful and businesslike limited-dividend companies from the point of view of investment have been able to make a revolving fund of surplus earnings after the payment of a limited rate of interest upon capital and have thus continuously extended their operations. More generally such companies have invested any surplus that might be earned in the improvement of the conditions of living of their present tenants. Many model tenements have failed to yield a return, as for example the Marshall Field Estates in Chicago. Others, for example the Michigan Boulevard Garden Apartments of Chicago and the City Housing Corporation in New York City, have had to pass their dividends during the depression period. In so doing they have merely paralleled the experience of a large percentage of commercial enterprises during that same period, having been faced by unforeseen economic conditions wholly beyond their control. There are some, however, who have failed to show wisdom in the investment, which of course happens in commercial enterprises as well. There are cases also in which the investor has no intention of profiting but desires that the entire capital and the earnings, if any, shall be utilized wholly in service of the tenants. There are instances of building during the period of highest building costs which, as in commercial enterprises, resulted in failure to realize upon the investment when the depression brought with it the necessity of reducing rentals. There are instances where the trend of the population away from the district in which the tenement was erected led to a high vacancy rate and consequent loss. But on the other hand there are limited-dividend companies that have never passed a dividend and that have maintained a reasonable surplus throughout the depression period. Thus conditions in the general building market have been paralleled and the problem here, as in the commercial field, has been one of wisdom in planning and policy framing, and of efficiency in management.



a. Cathedral Ayrcourt Apartments, W. 122d and 123d Streets, near Broadway. Open-stair tenements designed by H. Atterbury Smith, 1922. For plan see Appendix, Pl. 16, A.



b. Nos. 52–58 E. 97th Street, built from first prize design in Phelps-Stokes Fund competition, 1922. For plan see Appendix, Pl. 17, A.

FIG. 124



a. Amalgamated Dwellings, Grand Street, completed 1930. For plan see Appendix, Pl. 19, A.



b. Amalgamated Dwellings, Interior Court, 1930.

Usually limited-dividend companies have on their boards of directors many men experienced in large business undertakings. Where this is the case there may be a marked tendency in a period like the present to safeguard the investment by reduction of personnel and of service, by elimination of social workers upon the staff on the grounds that they are luxury, and by petty economies that will be irritating to the tenants. Thus the impulse to salvage invested capital may outweigh the impulse to serve.

From the data available in the annual reports and documents of limited-dividend companies, supplemented by personal conferences with many of their officials, one feels justified in looking upon model housing projects as experiments of high social value. Much has been learned from experience in such ventures that is useful as a guide to future housing enterprise, whether it take the form of housing legislation or government-subsidized projects. Tenants have gained housing facilities otherwise unattainable. The community has gained scattered nuclei of high standards of housing and community life which may serve at least to arrest the process of blight, and in certain locations — especially in the suburbs or on the edges of slums — may change for the better the trend in local commercial housing.

Viewed from the point of view of public housing policy these model housing projects have yielded the major source of knowledge, experience, and standards, rivalled only by the ventures in governmental housing of the United States Housing Corporation and the Housing Division of the Emergency Fleet Corporation during the war. In each instance the influence of New York City dominated the nation's trend.[1]

For out of these ventures there developed first, through the vision of Alfred E. Smith then Governor of New York State, the formation of the State Board of Housing and the passage of the State law which recognized and facilitated the work of this type of organization.[2] Altogether under that law eleven projects, representing a total capital of $10,024,252.43 have been developed. They are summarized in the following table.[3]

The State Board of Housing, with powers unique in American housing annals and with standards exceptionally high and management of unusual quality, brought to limited-dividend housing the recognition of law, the backing of public authority, certain types of tax exemption, and competent advice and supervision. Through its influence the coverage of land was reduced; rentals up to $12.50 per room monthly were recognized as falling within the field of low-cost housing

1 See Chapter VI

2 See Chapter VI

3 *Report of the State Board of Housing*, Legislative Document No. 41, 1935, pp 69–72, Table XXXIV.

Comparative Data Pertaining to Projects Under the State Housing Law

Project	Area of land, square feet	Area of buildings, square feet	Coverage, per cent	Cubage (approximate)	Height (number of stories)	Number of elevators	Number of stores	Height of ceilings in apartments
Amalgamated Housing Corporation:								
First 6 units	148,477	69,636	51.3	4,247,796	5	Walk-up	8	9′
Units 7 and 8	60,000	33,000		2,400,000	6	8		9′
Unit 9	26,506	17,870		1,304,560	6	4		9′
Amalgamated Dwellings, Incorporated	60,000	35,800	59.4	2,800,000	6 [1]	8	10	8′ 9″
Farband Housing Corporation	33,530	23,185	69.1	1,576,000	6	2	.	9′
Brooklyn Garden Apartments, Incorporated:								
Fourth Avenue project	40,066	21,020	52.5	1,226,166	5	Walk-up	12	8′ 1″
Navy Yard project	27,500	16,220	59.0	900,000	5	Walk-up	.	8′ 1″
Academy Housing Corporation	140,000	61,424	43 9	4,546,500	6	16	8	8′ 6″
Stanton Homes Corporation	10,000	6,875	68.8	490,000	6	1	6	9′
Manhattan Housing Corporation	10,486	7,280	69.4	546,000	6	1	..	9′
Stuyvesant Housing Corporation	19,411	14,056	72.4	1,054,200	6	2	12	9′
Knickerbocker Village, Incorporated	219,736	100,496	45.7	13,347,000	13 [2]	24	24	8′ 6″
Boulevard Gardens Housing Corporation	563,152	125,620	22.3	8,917,000	6	20	..	8′ 5″
Hillside Housing Corporation	617,563	238,968	32.3	12,338,486	4 and 6	4	.	8′ 6″
Total, fourteen projects	1,976,427	771,450	..	55,693,708	..	.		

1. Seven stories on Broome Street.
2. Nine stories on Catherine Street.

COMPARATIVE DATA PERTAINING TO PROJECTS UNDER THE STATE HOUSING LAW (*Continued*)

Project	Number of apartments	Number of Rooms: Construction count [1]	Number of Rooms: Rental count [2]	Gross floor area per room, square feet	Approximate average area of living rooms, square feet	Approximate average area of dining rooms, square feet	Approximate average area of bedrooms, square feet	Approximate average area of kitchens, square feet
Amalgamated Housing Corporation:								
First 6 units	308	1,144 [3]	1,177 [3]	304.4	207	205	166	96
Units 7 and 8	205	762	827	259.8	209	193	167	106
Unit 9	115	399	432	268.7	204	..	160	130
Amalgamated Dwellings, Incorporated	233	846	921	268.4	204	200	160	129
Farband Housing Corporation	129	442	506.5	314 7	216	216	165	128 [4]
Brooklyn Garden Apartments, Incorporated:								
Fourth Avenue project	165	644	670	163.2	135	115	99	77
Navy Yard project	140	479	485	169.3	135 [5]	103	94 [5]	66 [5]
Academy Housing Corporation	476	1,540	1,778	239.3	187	..	141.5	124 [4]
Stanton Homes Corporation	44	135	144.5	305 6	210	215	165	100
Manhattan Housing Corporation	46	156	180	280.0	200	..	150	60
Stuyvesant Housing Corporation	95	304	353.5	277.4	199	..	156	53.5
Knickerbocker Village, Incorporated	1,593	5,234	5,497	198.6	205	..	129	66.5
Boulevard Gardens Housing Corporation	960	3,250	3,620	228.1	189	..	133	90
Hillside Housing Corporation	1,416	4,948	5,328	225.0	210	..	150	80
Total, fourteen projects	5,925	20,283	21,919.5	..	..	..	..	..

1. Does not include dining alcoves or allowance for bathrooms.
2. Includes allowance for dining alcoves and bathrooms counted as half rooms as permitted under section 13 of the State Housing Law
3. Does not include 10 rooms used for community activities.
4. Includes dining alcoves.
5. Approximate average area of 93 rooms in additional wing is as follows: Living rooms, 142 square feet, bedrooms, 100 square feet; kitchens, 72 square feet.

COMPARATIVE DATA PERTAINING TO PROJECTS UNDER THE STATE HOUSING LAW (*Continued*)

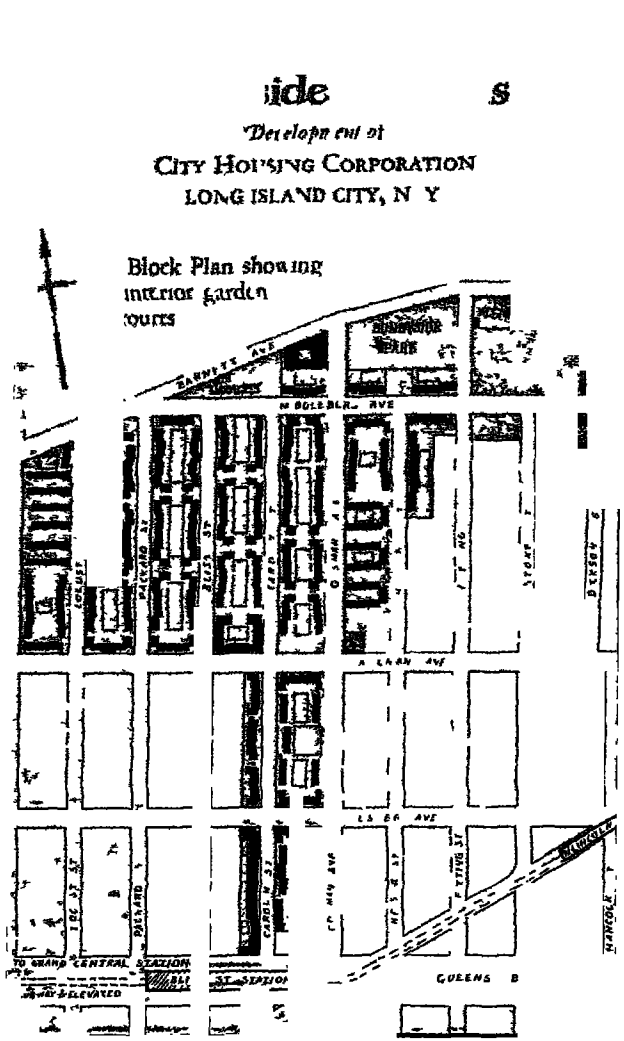
Project	Cost of land	Cost of building	Total cost	Amount of land used per room [1] square feet	Cost of land per square foot	Cost of land per room [1]	Construction cost per cubic foot
Amalgamated Housing Corporation:							
First 6 units	$300,000.00	$1,630,000 00	$1,930,000 00	129 79	$2 02	$262 24	$0 3837
Units 7 and 8	185,000.00	1,015,000 00	1,200,000 00	78 74	3 08	242 78	0 4229
Unit 9	80,000.00	472,750.00	552,750 00	66 43	3 02	200 50	0 3624
Amalgamated Dwellings, Inc.	336,560.18	1,100,513.46	1,437,073 64	70 02	5 61	397 83	0 3930
Farband Housing Corporation	82,500.00	602,861 14	685,361 14	75 86	2 46	186 65	0 3825
Brooklyn Garden Apartments, Inc.:							
Fourth Avenue project	100,904.58	637,949.81	738,854 39	62 21	2.52	156 68	0 5203
Navy Yard project	90,047.11	416,831.33	506,878 44	57 41	3 27	188 00	0 4631
Academy Housing Corporation	196,000.00	1,789,704.89	1,985,704 89	90 91	1 40	127.27	0 3936
Stanton Homes Corporation	100,000.00	158,895.30	258,895.30	74 07	10 00	740 74	0 3243
Manhattan Housing Corporation	58,250 00	173,703.14	231,953 14	67 22	5 56	373 40	0 3181
Stuyvesant Housing Corporation	180,024 37	316,757.12	496,781.49	63 85	9 27	592.19	0 3005
Total, eleven projects	$1,709,286.24	$8,314,966.19	$10,024,252 43	.		..	..

1. Room count does not include allowance for dining alcoves and bathrooms.

COMPARATIVE DATA PERTAINING TO PROJECTS UNDER THE STATE HOUSING LAW (*Concluded*)

Project	Construction cost per room [1]	Total cost per room [1]	Mortgage	Lending agency	Average rental per room [2]	Approximate date of completion
Amalgamated Housing Corporation:						
First 6 units	$1,424.83	$1,687.07	$1,200,000	Metropolitan Life Ins. Co.	$10.73	December, 1927
Units 7 and 8	1,332.02	1,574.80	800,000	Metropolitan Life Ins. Co.		December, 1929
Unit 9	1,184.84	1,385.34	368,500	Metropolitan Life Ins. Co.		March, 1932
Amalgamated Dwellings, Inc.	1,300.84	1,698.67	960,000	Bowery Savings Bank	12 23	November, 1930
Farband Housing Corporation	1,363.94	1,550.59	450,000	Metropolitan Life Ins. Co.	9.89	November, 1928
Brooklyn Garden Apartments, Inc.:						
Fourth Avenue project	990.61	1,147.29	420,000	Metropolitan Life Ins. Co.	8.85	July, 1929
Navy Yard project	870.21	1,058.21	235,000	Metropolitan Life Ins. Co.	10.13	September,[3] 1930
Academy Housing Corporation	1,162.15	1,289.42	1,320,000	Metropolitan Life Ins. Co.	10.20	July, 1931
Stanton Homes Corporation	1,177.00	1,917.74	200,000	Metropolitan Life Ins. Co.	12.27	January, 1931
Manhattan Housing Corporation	1,113.48	1,486.88	175,000	Central Savings Bank	12.19	August, 1931
Stuyvesant Housing Corporation	1,041.96	1,634.15	350,000	Emigrant Industrial Sav. Bank	12.33	December, 1931

1. Room count does not include allowance for dining alcoves and bathrooms
2. For detailed rental data, see Tables XXI to XXXIII, pages 57 to 65 [of Report of State Board of Housing, 1935].
3 Additional wing completed in August, 1932.

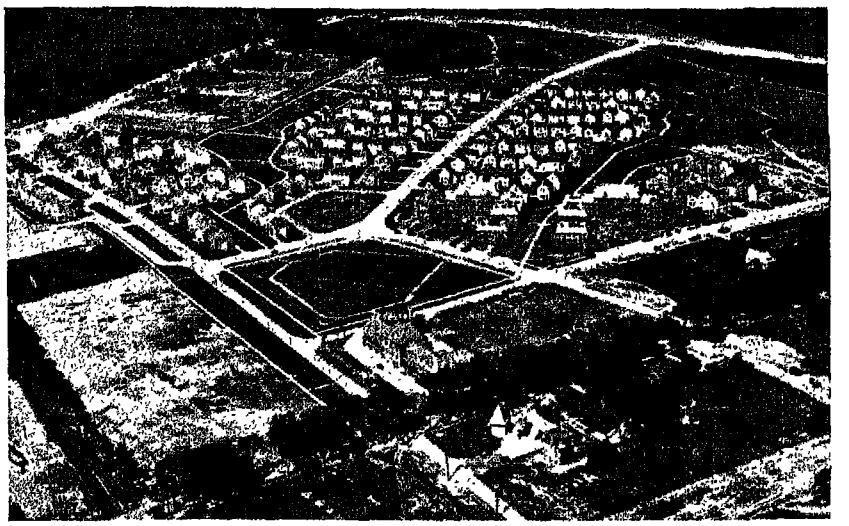


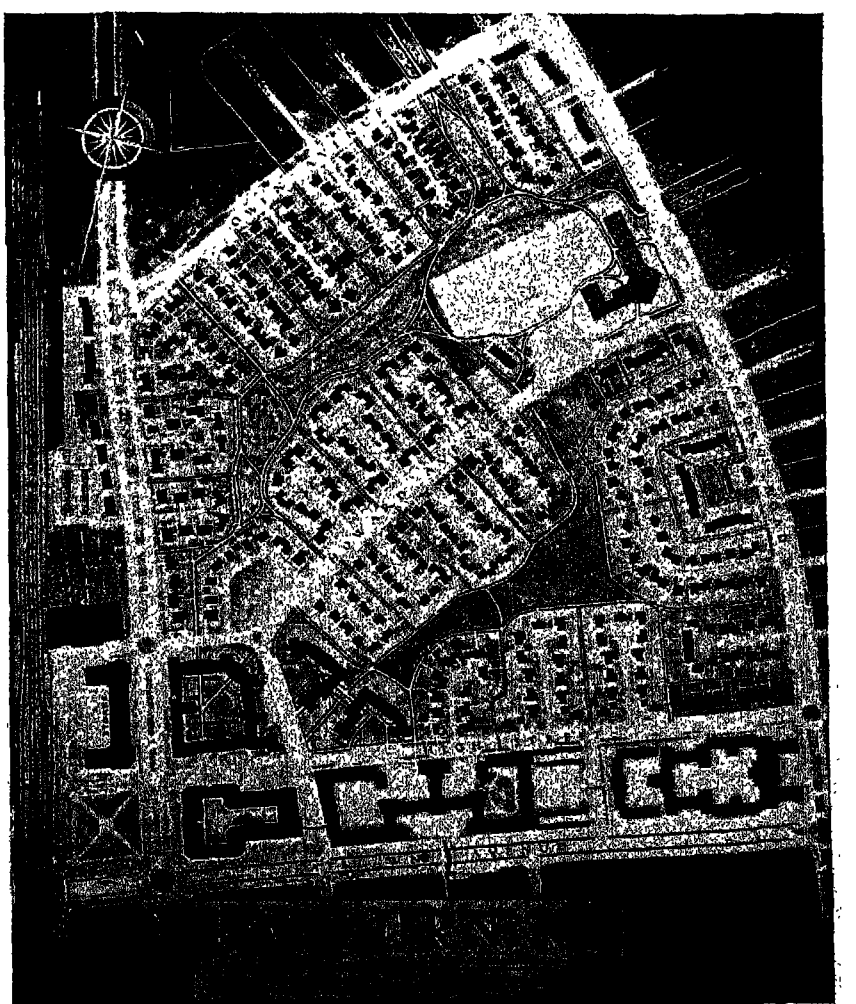




Sunnyside Gardens, Long Island City, developed by the City Housing Corporation, 1924–1928 The earliest low-cost suburban housing development within the Metropolitan area Architects, Clarence S Stein, Frederick L Ackerman, Henry Wright Reproduced from *Sunnyside Gardens A Home Community* (1930).

FIG. 125





Radburn, N. J. Latest medium-cost housing development within Metropolitan area. Clarence S. Stein and Henry Wright, architects. Reproduced from *Architectural Forum*, March 1932.

FIG. 127

Restudy p design by Hut & Stocl ar in Phelps-Stok Fund mp
For pl see Apj ndix, Pl. 22, A.

worthy of public help; cooperative forms of organization were encouraged in the case of the Amalgamated ventures and Farband housing; and in the case of Stanton Homes and Manhattan Housing high standards of planning were induced among builders whose interest was primarily commercial rather than philanthropic. The use of the block as the unit for housing, of interior parks, and of more open building for suburban developments received great impetus from the Board.

The entrance of the Federal Government in the field of housing was a direct outgrowth of the President's Conference on Home Building and Home Ownership called by Herbert Hoover in 1931. The report of the Committee on Large-Scale Operations[1] profoundly influenced public policy and had derived its weight of experience from limited-dividend companies and New York State Housing Board projects. The provision for federal loans to limited-dividend ventures through the Reconstruction Finance Corporation, which resulted in the loan to Knickerbocker Village in New York, was an outgrowth of the report of that Committee and of President Hoover's personal interest and influence. With the establishment in the Roosevelt Administration of the Housing Division of the Public Works Administration the formation of state housing boards, based closely upon the New York model, was stimulated throughout America. Altogether fully a dozen such boards or commissions have been authorized by state statutes. The logic of the contemporary situation, as has already been shown, suggests further public facilitation of limited-dividend housing.

Summarized, experience suggests: *first*, loans from either the federal or state governments at a rate of interest not more than one per cent higher than such units of government have to pay on their bonds, and covering an adequate percentage of the capital requirements of the limited-dividend venture; *second*, standards as high and supervision as efficient, for all housing projects receiving such government loans, as now characterizes the New York State Board of Housing; and, *third*, insurance or guarantee of mortgages in the manner now possible through the Federal Housing Administration. Such a housing policy would make it possible for privately raised capital to extend its investment in the field of model housing many times as far as it does today, and with a relatively greater security for the investment on the one hand and greater assurance of service of the public interest on the other.

1 Alfred K. Stern of Chicago, the Chairman, subsequently became Chairman of the Illinois State Housing Commission. The New York members of the Committee were Aaron Rabinowitz, a member of the New York State Board of Housing; and W. A. Starrett, who, as a leading contractor, had been close to many housing enterprises. The Research Secretary of the Committee was Henry Wright of New York, who had been employed as architect by the City Housing Corporation and associated in many other limited-dividend housing undertakings.

CHAPTER XXXV

FEDERAL HOUSING PROJECTS

To MAKE a fair appraisal of Federal housing policy, and specifically of the present projects, would require access to records which have not yet been made public. When a branch of the Federal Government is engaged in active performance many of its policies, and the reasons for its decisions, are likely to escape publicity, either because the entire working force must concentrate its attention upon action to secure quick results, or because it would not be good policy at that stage to take the public into its confidence in all matters, and because the persons who have most intimate knowledge of principles and details do not have either the leisure or the inclination to record them.

From the point of view of social science it may be unfortunate that few branches of our Federal Government have on their staffs a person whose task is to serve as official historian. It is likely that in gigantic enterprises of the sort with which we are concerned much that is truly significant will never be thoroughly understood because it has not been specifically explained in office documents. This is particularly true of the conferences of executives whose decisions may lead to action without any indication of the process of reasoning, or the arguments and evidence adduced on which such action is based.

One should reserve final judgment with regard to Federal housing projects at this time when they are in the making. There will still be frequent changes of policy growing out of the findings of experience, shifts in personnel, reorganizations and outside pressure. This chapter is, therefore, merely an attempt to view as fairly as possible from the evidence at hand a process which is in continuous flux. Time will reveal much that is not clear at present and will correct judgments which are now purely tentative.

It is easy to specify that financing should be sound; that government should not invade any field of operation that private business can handle satisfactorily; that Federal supervision and standards worthy of an idealistic people should be insisted upon wherever Federal money is invested; that the nation should not invade the functions of state or city unless the latter prove incompetent to meet an urgent situation; that public offices should be filled by competent persons of mature judgment and adequate training. But when asked in which respects if

any the Federal Government or any of its branches have failed the only fair and discriminating response is that the available data do not reveal the answer.

The criticism that "the government has had three years and a sum of several hundred million dollars at its command for housing and yet ridiculously few houses have been completed and occupied" may be wholly unfair if the prospects are good for the early opening of thousands of low-cost houses of high standards. Conceivably the postponements were necessitated by delays in judicial decisions, and in authorizations from higher authority which could not be granted until other matters of public policy were settled.

There are more than twenty branches of the Federal Government that are concerned with one form or another of research in the field of housing, and more than a dozen agencies directly involved in one or more specific branches of the improvement of housing conditions.[1]

Mergers and eliminations and new devices for coordination and reallocation of funds continuously change the structural set-up. Evaluation of the Federal housing activities from the point of view of governmental and social organization would require protracted specific study which will not be attempted here.

Many of the Federal housing agencies are concerned primarily with one aspect or another of rural housing, as for example the Farm Credit Administration, the Resettlement Administration and its predecessors which in 1934 took the form of two more or less competing divisions of Government concerned with subsistence homesteads. Urban communities are concerned with these programmes because the incidence of contemporary taxation makes urban citizens pay largely for the Government's rural programmes. But rural resettlement of urban workers, if carried out on a large scale, might conceivably serve as a solution of the problem of housing for some contemporary slum dwellers, though complicating problems of investment and management for property owners and the general public in the districts from which such slum dwellers are drawn. A resettlement programme if directed with phenomenal vision and skill might temporarily provide a more continuous income and more wholesome conditions of living for such slum dwellers as have an aptitude for farming operations or for a combination of farming and industrial work. One may raise the fundamental question, however, whether the establishment of a rural peasantry by Federal fiat is a permanent solution for the difficult and acute problems of unemployed urban labor.

1. In addition to the earlier agencies listed in vol. XI, *Housing Objectives and Programs* of the Publications of the President's Conference on Home Building and Home Ownership, because of their interest in research, each of the contemporary Federal agencies for improvement of housing has one or more divisions concerned with some type of research. The dozen or more active agencies were listed as they stood early in 1935 in a report compiled by the Construction and Civic Development Department of the Chamber of Commerce of the United States, entitled *Housing Activities of the Federal Government*, edited by F. Stuart Fitzpatrick.

If the policy for rural resettlement should be carried out on a considerable scale, there would be danger also of "pauper competition" of the subsidized workers, colonized in this manner, with independent farmers whose incomes from production and sale need protection if our economic and social structure is to be maintained. The ramifications of this problem, in the whole field of agricultural economics and general Federal and social policy, are so great that it would not be pertinent to attempt to deal with it here. There is no evidence at present that the problem of the New York slum dweller will be influenced in its solution appreciably by the policies of the rural Resettlement Administration. The nearest undertaking of this type is the one begun at Hightstown, New Jersey, on the main highway from New York to Philadelphia, where the construction of two hundred houses had been begun on August 1, 1935.

The various agencies for financing individual homes, especially the Home Loan Bank Board, the Home Owners Loan Corporation and the Federal Housing Administration, have directly or by indirection, facilitated continuance of home ownership, through prevention of foreclosure, and have made funds available for financing the construction or purchase of individual homes and for home repair and modernization. The various forms of Federal insurance of deposits and of mortgages have so far reduced risk as to make lower interest rates possible. The construction or purchase of suburban homes and relatively small intra-urban residential properties, as well as the improvement and maintenance of these, has been facilitated, thus making it possible for home purchase to compete on more even terms with the renting of an apartment or tenement in an urban multi-family dwelling. These Federal policies can be made to promote residential decentralization whenever local civic bodies succeed in establishing efficient, discriminating, and competent centers of advice for home seekers.[1]

Furthermore, home ownership in suburban housing projects of either the commercial or limited-dividend types might be greatly facilitated by proper utilization of the Federal aids now available.[2]

The Federal slum clearance and low-cost housing projects must be grouped under three major headings: (1) projects financed by loans from the Reconstruction Finance Corporation, (2) those financed by loans from the Housing Division of the Public Works Administration, and (3) those carried out directly by the

1. See Chapter XXIX; also the Report of the Committee on Home Information Centers in vol. x of the Publications of the President's Conference on Home Building and Home Ownership entitled *Homemaking, Home Furnishing and Information Services.*

2. The Federal Housing Administration has issued an immense number of pamphlets relating to one phase or another of this service. Many of these are strictly publicity or propaganda, but others outline forms of organization — Federal, state, and local —, services rendered, and methods of procedure. As these are continuously being revised it seems best not to quote them by title but to refer interested persons directly to the office of the Federal Housing Administration for their latest pertinent publications.



Courtesy Fred F French Company

a Knickerbocker Village, slum-clearance project bounded by Monroe, Cherry, Catherine, and Market Streets, erected in 1933–1934 by the Fred F French Company with a loan from the Reconstruction Finance Corporation It covers the site of the old "Lung Block." For plan see Appendix, Pl 24, C



Photograph by Richard Averill Smith.

b. Knickerbocker Village, Interior Court.

latter division. Although hundreds of applications were received by the Reconstruction Finance Corporation for housing loans only one was granted, namely that made to Knickerbocker Village in New York City. The essential data concerning this project are as follows:[1]

The land acquired for the construction of Knickerbocker Village covered 219,736 square feet [two blocks bounded by Monroe, Cherry, Catherine and Market Streets]. Included in this tract was Hamilton Street, an area comprising 25,325 square feet, in which title was vested in the City of New York. It was necessary for sound planning that Hamilton Street should be closed and made an integral part of the development. Following negotiations with the city, the area was acquired at a nominal price of $2.17 a square foot. The total acquisition cost of the land, including buildings thereon at the time of purchase, subject to final audit, was $3,085,542.44 as of January 31, 1935. This represents a cost of $14.06 per square foot.

At the time the application was approved, the project was estimated to cost $9,500,000. The Reconstruction Finance Corporation agreed to lend up to 85 per cent of the actual final cost but not to exceed $8,075,000. The bonds of Knickerbocker Village, to be known as first mortgage 5 per cent ten year bonds, were to be purchased by the Reconstruction Finance Corporation. The equity, amounting to 15 per cent of the actual final cost, was to be as follows:

Class B Debentures in the amount of $300,000 to be purchased by the Fred F. French Company to be paid from money earned in builders' and architects' fees;

The applicant's equity in the land amounting to $946,900 to be paid for by Class B Income Debentures in the amount of $629,900 and Common Stock in the amount of $317,000;

The Fred F. French Operators, Inc., also agreed to subscribe to Income Debentures to be paid for in cash in an amount not to exceed $178,100, sufficient to maintain a 15 per cent equity in the project. The Class B Debentures bear an interest rate of 6 per cent when and if earned and the return on the Common Stock is limited to a rate of 6 per cent cumulative.

By the terms of the original Reconstruction Finance Corporation Loan Agreement, Knickerbocker Village, Inc., was required to pay to the United States annual interest in the amount of 5 per cent of the loan, plus annual amortization and the entire net income of the company for the preceding year and for each year until the Federal loan is reduced to 55 per cent of the then depreciated value of the building. To conform with rates later established by other Federal agencies for housing loans, the Reconstruction Finance Corporation has now reduced the rate of interest to 4 per cent on their loan. The net income of the corporation, after payment of taxes, reasonable expense of operation and maintenance, interest on mortgage and reserve for depreciation, is to be transferred to a sinking fund for further retirement of the loan.

The high price of land and existing buildings, and the terms of financing, made it necessary that the plans should provide for taller buildings than any of those operating under the jurisdiction of the State Housing Law. The project consists of two units, one twelve stories and penthouse and the other nine and twelve stories and penthouse. Each unit surrounds a central court of approximately 250 by 160 feet. The buildings are separated by a distance of 100 feet, the area of which is being used as a playground. Accommodations are provided for 1,593 families in 6,030½ rooms.

1. *Report of the State Board of Housing*, 1935, Legislative Document No. 41, pp. 5–20. For further discussion of this project consult Index. See also Figures 44 and 128.

The distribution of apartments is as follows:

Size	Number of apartments	Number of rent rooms
2½	34	85
3½	1,129	3,951½
4½	371	1,669½
5½	59	324½
Total	1,593	6,030½

The general contractor was the Fred F. French Company. All sub-contracts for labor and materials were awarded on the basis of competitive bidding and the contracts were awarded to

RENTAL SCHEDULE — KNICKERBOCKER VILLAGE, INC.[1]

Monthly Rent Per Room	Number of Apartments of Specified Sizes				Total apartments[1]	Total apartments cumulated	Per cen of total apartments	Per cent of total apartments cumulated
	2½ room	3½ room	4½ room	5½ room				
Under $9.00	.....	1	.....	.....	1	1	.06	.06
$9.00- 9.49	2	2	.....	.....	4	5	.25	.31
9.50- 9.99	1	.....	.....	.....	1	6	.06	.37
10.00-10.49	5	3	.....	.....	8	14	.50	.87
10.50-10.99	3	43	1	.....	47	61	2.96	3.83
11.00-11.49	7	148	10	.....	165	226	10.40	14.23
11.50-11.99	6	274	29	.....	309	535	19.48	33.71
12.00-12.49	5	178	74	23	280	815	17.65	51.36
12.50-12.99	4	264	132	28	428	1,243	26.99	78.35
13.00-13.49	.....	119	63	.....	182	1,425	11.48	89.83
13.50-13.99	.....	34	14	.....	48	1,473	3.03	92.86
14.00-14.49	.....	27	1	.....	28	1,501	1.77	94.63
14.50-14.99	.....	6	14	.....	20	1,521	1.26	95.89
15.00-15.49	.....	6	9	.....	15	1,536	.94	96.83
15.50-15.99	.....	4	13	7	24	1,550	1.51	98.34
16.00-16.49	.....	9	.....	1	10	1,560	.64	98.98
16.50-16.99	.....	8	8	.....	16	1,586	1.01	100.00
Total	33	1,126	368	59	1,586	.....	100.00	.....
Total rent	$932.10	$48,469.25	$21,473.55	$4,205.00	$75,079.90	.....	.....	.....
Number of rooms ...	82.5	3,941	1,656	324.5	6,004[2]	.....	.....	.....
Average rent per room	$11.30	$12.30	$12.97	$12.96	$12.50	.....	.....	.....

[1] Exclusive of seven apartments containing 26½ rooms scheduled for professional use.
[2] Includes allowance for dining alcoves and bathrooms as permitted under section 13 of the State Housing Law.

the lowest responsible and qualified bidder. The number of bidders and the terms and conditions of all sub-contracts were subject to the approval of the Reconstruction Finance Corporation and the Board of Housing.

1. *Ibid.*, Table XXX, p. 62.

Representatives of the Reconstruction Finance Corporation and the Board of Housing supervised the construction of the project. All contracts were approved by these representatives and no funds were disbursed without their approval. Inspection staffs of the Reconstruction Finance Corporation and of the Board of Housing were on the site of work daily during demolition and construction. The Board of Housing was fortunate in securing, through the co-operation of the Temporary Emergency Relief Administration, the very able services of a number of men, some of whom were engaged in the office of the Board and others in the field.

The Reconstruction Finance Corporation loan to Knickerbocker Village was approved on October 6, 1933, and demolition was begun October 11, 1933. The first building was completed on October 1, 1934, and the second building was ready for occupancy on December 1, 1934. Up to December 15, 1934, the total man days of employment in the field was 210,000. The average rental is $12 50 per room per month.

Seven housing developments have been erected in America by private limited-dividend corporations aided by loans from the Federal Emergency Administration of Public Works, under the supervision of its Housing Division. The status of these projects on December 18, 1935 was as shown on page 709.

Data for the New York developments, known as Hillside and Boulevard Gardens, are provided by the State Board of Housing in the following summaries.[1]

Hillside Housing Corporation

The Hillside Housing Corporation was the first project under the State Housing Law to be approved by the Public Works Administration of the Federal government. The land acquired for this development is a tract of vacant land of approximately fourteen acres included within the area in the Bronx, bounded by Boston Post Road, Wilson Avenue, Hicks Street and Eastchester Road, exclusive of a strip of approximately 100 feet wide extending along Boston Post Road. The land was purchased from the Ostrich Realty Corporation at a price of $412,090 or 70 cents a square foot. Ten parcels fronting on Hicks Street were purchased for $36,079. The total purchase price of land for the 617,563 square feet contained in the project was $448,169.

The maximum amount of advances by the Federal government to the Hillside Housing Corporation, as determined upon completion, shall be equal to the multiple of $1,000 nearest to 88.5 per cent of the final cost of the project, but in no event more than $5,060,000. The rate of interest is 4 per cent per annum and the rate of amortization is 1.51 per cent. The amortization of the mortgage is to begin on February 1, 1936, and the loan is to mature by February 1, 1969. The final cost of the structure is not yet determined but from all indications the actual cost will be substantially below the estimates.

The equity is provided by the issuance of capital stock not exceeding 41,029 shares in the aggregate amount of $412,090 in consideration of the conveyance of the land, and 24,579 shares amounting to $245,790 to be sold for cash. The return on the stock is limited to cumulative dividends at the rate of 6 per cent per annum.

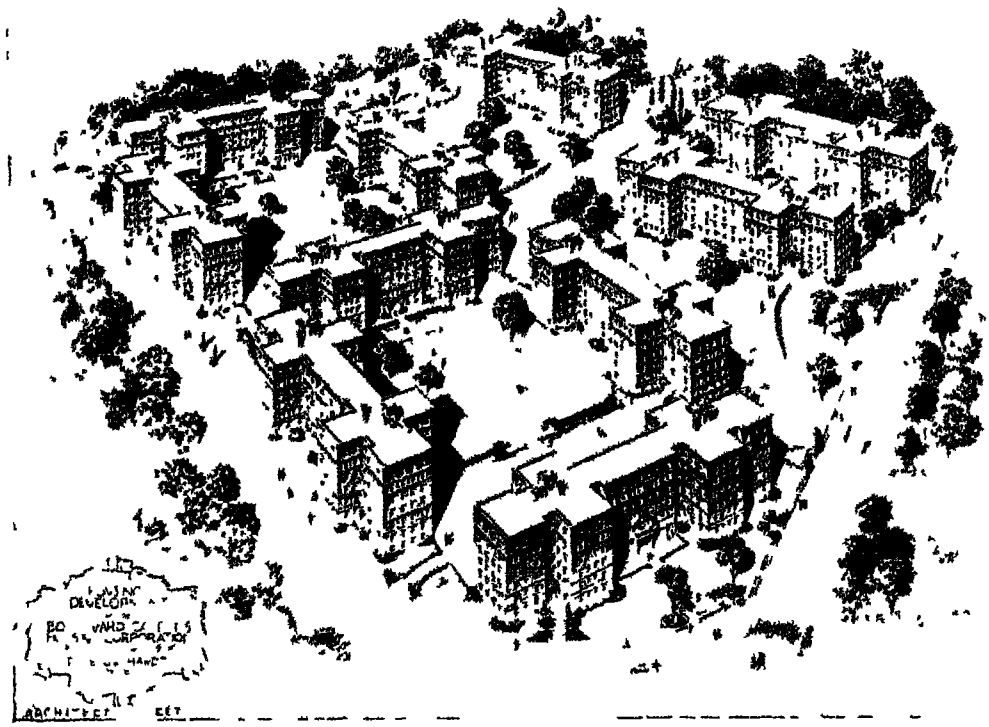
The plans provide for the construction of 108 four-story walk-up units and four six-story elevator units, all of fireproof construction and covering approximately 32.3 per cent of the total area.

1. *Report of the State Board of Housing*, 1935, Legislative Document No 41, pp. 25-27. See Figures 129a and 130a

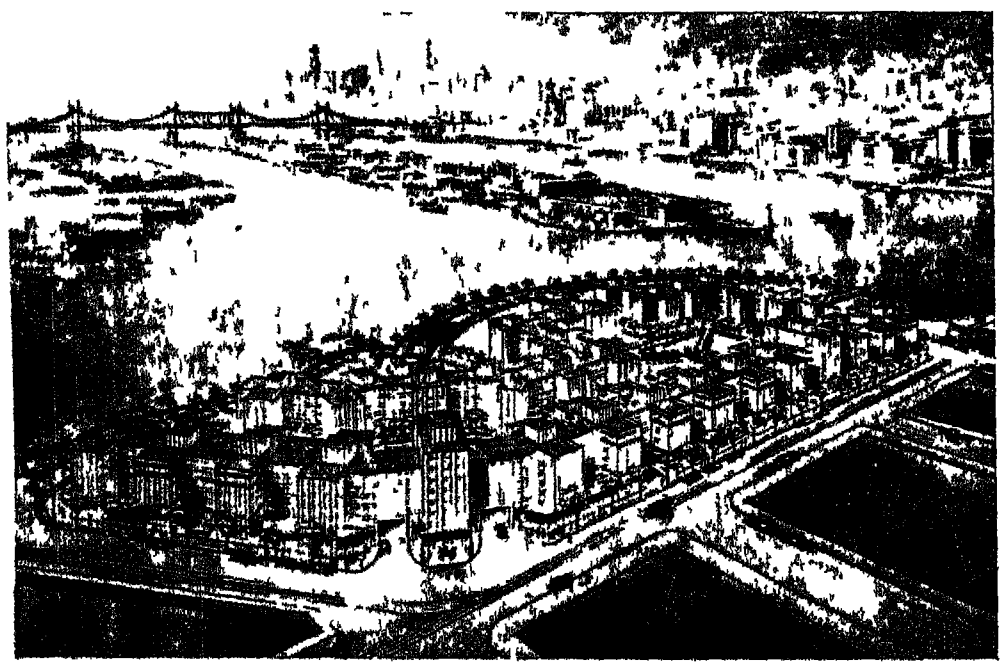
STATUS OF DEVELOPMENTS ERECTED BY PRIVATE LIMITED-DIVIDEND CORPORATIONS AIDED BY LOANS FROM FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS, DECEMBER 18, 1935

Location	Name	Type	Size	Cost	Chief architects	Status
Altavista, Virginia	Altavista Housing Corp.	Small, single-family frame houses	50 living units	$ 84,000	Johnson & Brannon, Lynchburg, Va.	Occupied
Bronx, New York	Hillside Housing Corp.	Apartments, highest six stories	1,416 living units (4,948 rooms)	5,060,000	Clarence S. Stein, New York City	Occupied
Euclid, Ohio	Euclid Housing Corp.	Individual and double houses		500,000	George B. Mayer, Cleveland	36 houses completed and occupied, 12 under construction
Philadelphia, Pennsylvania	Carl Mackley Houses	Apartments, three-story	284 living units	1,039,000	W. Pope Barney, Philadelphia	Occupied
Queens, New York	Boulevard Gardens	Apartments, ten buildings six stories high	960 living units (3,615 rooms)	3,450,000	T. H. Engelhart, New York City	Occupied
Raleigh, North Carolina	Boylan Housing Corp.	Apartments	54 living units (180 rooms)	198,000	Linthicum & Linthicum	Occupied
St. Louis, Missouri	Neighborhood Gardens	Apartments	252 living units (641 rooms)	640,000	Hoener, Baum & Froese, St. Louis	Occupied

FIG. 129



a Boulevard Gardens Housing Corporation Apartments at 54th and Hobart Streets, 30th to 31st Avenues, Woodside, L I, erected 1934–1935 For plan see Appendix, Pl 24, A.



b. Proposed Hallets Cove Gardens development, Queens, East River above Welfare Island and Queensboro Bridge, 1934. Reproduced from *Architectural Forum*, February 1934. For plan see Appendix, Pl. 21, B.

The topography of the land is such that there is a slope of approximately 60 feet from Eastchester Avenue to Wilson Avenue. The architect has taken advantage of the difference in elevation by placing the four six-story units on Eastchester Avenue commanding the whole of the development. The arrangement of the buildings around large courts is one of the attractive features of this project.

The distribution of apartments is as follows:

Size	Number of apartments	Number of rent rooms
2½	162	405
3½	498	1,743
4	558	2,232
4½	92	414
5	98	490
5½	8	44
Total	1,416	5,328

The average size of rooms is as follows:

Living rooms	210 sq. ft.
Bedrooms	150 sq. ft.
Kitchens	80 sq. ft.

Most apartments have cross ventilation and face both street and court. The equipment of the kitchens is similar to that described in the section on Knickerbocker Village. All other rooms have white oak parquet floors. The ceilings in these apartments are 8 feet 6 inches high. Ample closet space is provided for each apartment. Bathrooms are furnished with ceramic tile floors and base, a five foot bath tub, wash basin, flushometer, medicine cabinets and towel rack.

Each of the five blocks has an individual heating plant connected to a two pipe low pressure steam heating system with gravity returns. All plumbing fixtures are of high grade standard type of cast iron, with porcelain enamel finish. All exposed trimmings to plumbing fixtures are finished with chromium plating.

Each of the 108 four-story walk-up units has an incinerator directly off the stair hall; the six-story units have incinerator units off the public hall.

A number of apartments called "garden apartments" will open directly upon the courts, which will be landscaped with shrubbery, trees and lawns.

The project will be provided with a large assembly room, four club rooms, lounge room, workshop and two large nursery rooms with kitchen and first-aid room adjoining. The community rooms lead out to the large open air playground which is in the center of the site. Perambulator rooms will be conveniently arranged in the different sections of the development.

The general contractor is the firm of Starrett Brothers and Eken. All contracts for labor and materials are awarded only after taking competitive bids and at prices not higher than those named by the lowest responsible and qualified bidder. The number of bidders, the terms and conditions of all such contracts are subject to the approval of the Federal Supervisor and the Board's representative. The contract provides that "material prices and sub-contract bids shall be analyzed and tabulated before presentation to the supervisor and the Board representative for their approval. Such presentation shall be accompanied by a specific recommendation on the part of the General Contractor, giving the reason for his selection."

The loan to the Hillside Housing Corporation by the Public Works Administration was finally approved by the Public Works Administration on January 12, 1934.

Boulevard Gardens Housing Corporation

The Boulevard Gardens Housing Corporation is a private limited dividend company which was organized by the Dick-Meyer Corporation for the construction and operation of a group of low rental apartment houses in Woodside, Long Island. The site is a tract of vacant land having an area of 563,152 square feet and is bounded by 54th Street, Hobart Street, 30th to 31st Avenues and the New York Connecting Railroad.

The land was purchased from the Dick-Meyer Corporation for a price of $550,000 or 98 cents a square foot. The total estimated cost, inclusive of taxes during construction and the cost of developing the land, is $556,000.

The Federal government agreed to lend to the Boulevard Gardens Housing Corporation an amount not in excess of $3,450,000, or 84.4 per cent of the total final cost of the project. While it is not now possible to determine the final cost of construction of this project, there is little doubt that it will be less than the original estimated cost of $4,086,600. The loan is at the rate of 4 per cent per annum and is to be amortized at the rate of 2.4 per cent a year. Repayment of the loan does not begin until May 1, 1936, and is to mature on November 1, 1960. The equity in the project is to consist of income debentures in the amount of $636,600, of which $490,000 is in payment to the Dick-Meyer Corporation for its title to the land and $146,600 is to be subscribed by the general contractor out of funds received in payment of his fee.

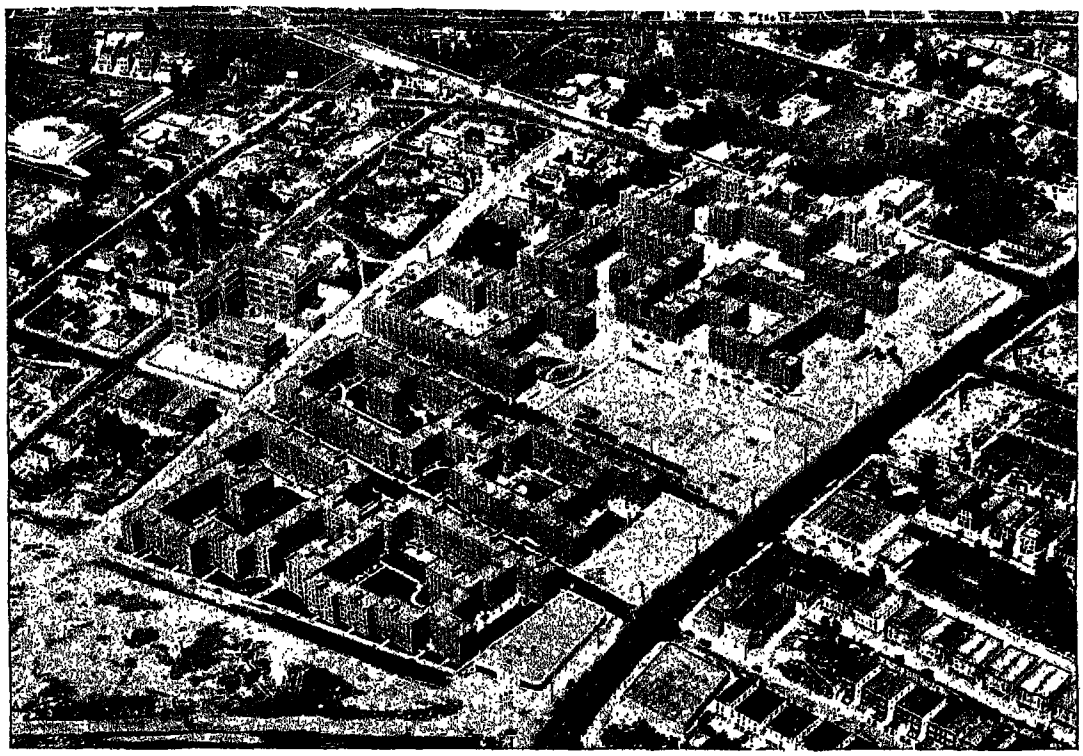
The plans provide for the construction of ten six-story semi-fireproof elevator buildings consisting of ninety-six apartments in each building. The buildings are planned along the lines of a horizontal elongated "H" pattern and are designed in simple Colonial style. Seven of the buildings, although detached, are so arranged as to form two large open courts each 253 feet in width and 363 feet in length. The other three buildings are placed along the eastern side of the plot and contribute to the self-contained character of the development. As only 22.4 per cent of the area is covered with buildings, there will be large open spaces that will be landscaped with trees, shrubbery and lawns. The buildings are equipped with 20 automatic push-button elevators, each having a capacity load of 1,200 pounds and a speed of 100 feet a minute.

The distribution of apartments is as follows:

Size	Number o apartment	Number of rent rooms
2½	24	60
3½	600	2,100
4	220	880
4½	58	261
5½	58	319
Total	960	3,620

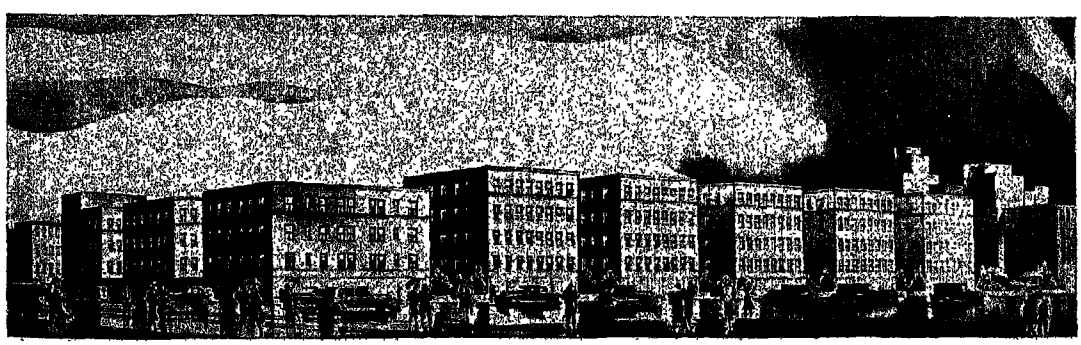
The average size of rooms is as follows:

Living rooms	189 sq. ft.
Bedrooms	133 sq. ft.
Kitchens	90 sq. ft.
Dining alcoves	79 sq. ft.



Aerial Explorations, Inc.

a. Hillside Homes, Boston Post Road, Wilson Avenue, Hicks Street, and Eastchester Road, Bronx, 1935. For plan see Appendix, Pl. 21, c.



b. Astor housing development (First Houses), 1935. Remodeling by Housing Authority of old tenements on E. 3d Street and Avenue A, by demolition of every third building, with the hope of producing rents at $5.00 per room. The buildings were formally opened on December 3, 1935, when the rents were fixed at $6.05 per room per month. See editorials in *New York Times*, December 4 and 10, 1935.

The equipment of the apartments is similar to that in the Knickerbocker Village and Hillside projects.

The buildings will be provided with ten individual one-pipe low pressure steam heating plants. Hot water will be generated by separate hot water heaters and storage tanks for each building. Each building will contain two incinerators.

The project will be provided with social rooms in the basement consisting of an auditorium, kindergarten, men's and women's club rooms, junior and senior game rooms, work shop and library.

The general contractor is the B. H. Construction Company, Inc. As this project is also financed by a Public Works Administration loan, the procedure for awarding contracts and the method of supervision is the same as that described under this heading in the section pertaining to the Hillside Housing Corporation.

The Public Works Administration loan for the Boulevard Gardens Housing Corporation was finally approved on November 10, 1934.

RENTAL SCHEDULE — BOULEVARD GARDENS HOUSING CORPORATION [1]

MONTHLY RENT PER ROOM	NUMBER OF APARTMENTS OF SPECIFIED SIZES					Total apartments [1]	Total apartments cumulated	Per cent of total apartments	Per cent of total apartments cumulated
	2½ room	3½ room	4 room	4½ room	5½ room				
$8.00–$8.49	.....	4	.....	.....	.....	4	4	.42	.42
8.50– 8.99	.....	18	.....	.....	.....	18	22	1.88	2.30
9.00– 9.49	.....	44	1	.....	.....	45	67	4.70	7.00
9.50– 9.99	.....	21	3	4	1	29	96	3.03	10.03
10.00–10.49	.....	75	8	11	14	108	204	11.27	21.30
10.50–10.99	.....	215	16	26	29	286	490	29.86	51.16
11.00–11.49	2	139	46	12	13	212	702	22.13	73.29
11.50–11.99	5	75	70	5	1	156	858	16.28	89.57
12.00–12.49	11	9	53	.....	.....	73	931	7.62	97.19
12.50–12.99	4	.....	18	.....	.....	22	953	2.30	99.49
13.00–13.49	.....	.....	5	.....	.....	5	958	.52	100.00
Total .	22	600	220	58	58	958	....	100.00	....
Total rent..	$664.00	$22,534.00	$10,350.00	$2,812.50	$3,404.50	$39,765.00	....	....	....
Number of rooms ...	55	2,100	880	261	319	3,615[2]	....	....	....
Average rent per room	$12.07	$10.73	$11.76	$10.78	$10.67	$11.00	....	....	....

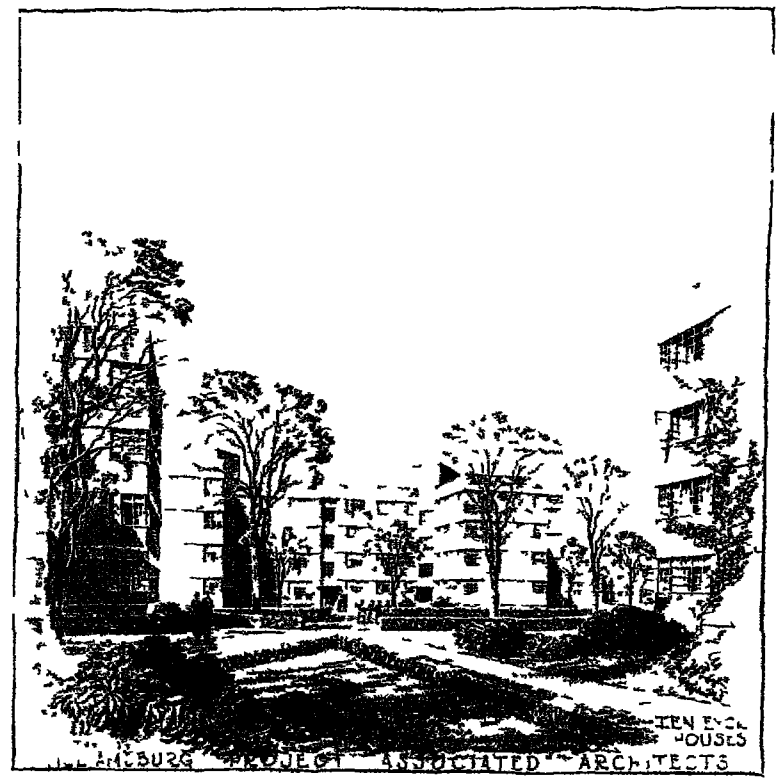
[1] Exclusive of two 2½-room apartments; one to be used as an administration office and the other scheduled for professional use.
[2] Includes allowance for dining alcoves and bathrooms as permitted under section 13 of the State Housing Law.

The official statement of the Housing Division of the Federal Emergency Public Works Administration, for November 8, 1935, summarizes the Federal projects

1. *Ibid.*, Table XXXI, p. 63.



Courtesy of R H Shreve Chief Architect



Courtesy of R H Shreve Chief Architect

Architects' sketches showing typical street and interior courts of Ten Eyck Houses in Williamsburg (see Frontispiece, Volume II)
This project will consist of four-story walk-up apartments with 1,625 living units Chief Architect, R H Shreve

FIG. 131

throughout America, that are financed and carried out directly by that Division, as follows:[1]

A total of 50 Federal housing projects[2] is being installed in 35 cities throughout the country, the Virgin Islands, and Puerto Rico, with allotments totaling $129,725,100 from the Works-Relief and PWA funds. These projects will provide more than 25,000 modern, fireproof living units. On 26 sites they will replace slum dwellings with comfortable, sanitary living quarters embodying certain basic standards such as hot and cold running water, cross ventilation, adequate light, cooking and refrigerating facilities.

Twenty-one projects will be erected on vacant land, offering opportunities for residents of slum property to leave substandard homes. Such vacant sites were selected pending final determination by the Courts of the Federal Government's right to condemn slum-occupied land for clearance and construction of new housing. One project is to be built on land partly slum, the remainder vacant; the areas to be used in the Virgin Islands program are yet to be determined.

Allotments for Federal projects include a 45 per cent grant, the project rentals to repay the balance to the Government over a 60-year period of amortization. Rent terms will be determined by the final cost of the project, each development being technically planned to keep charges commensurate with those now being paid for substandard shelter.

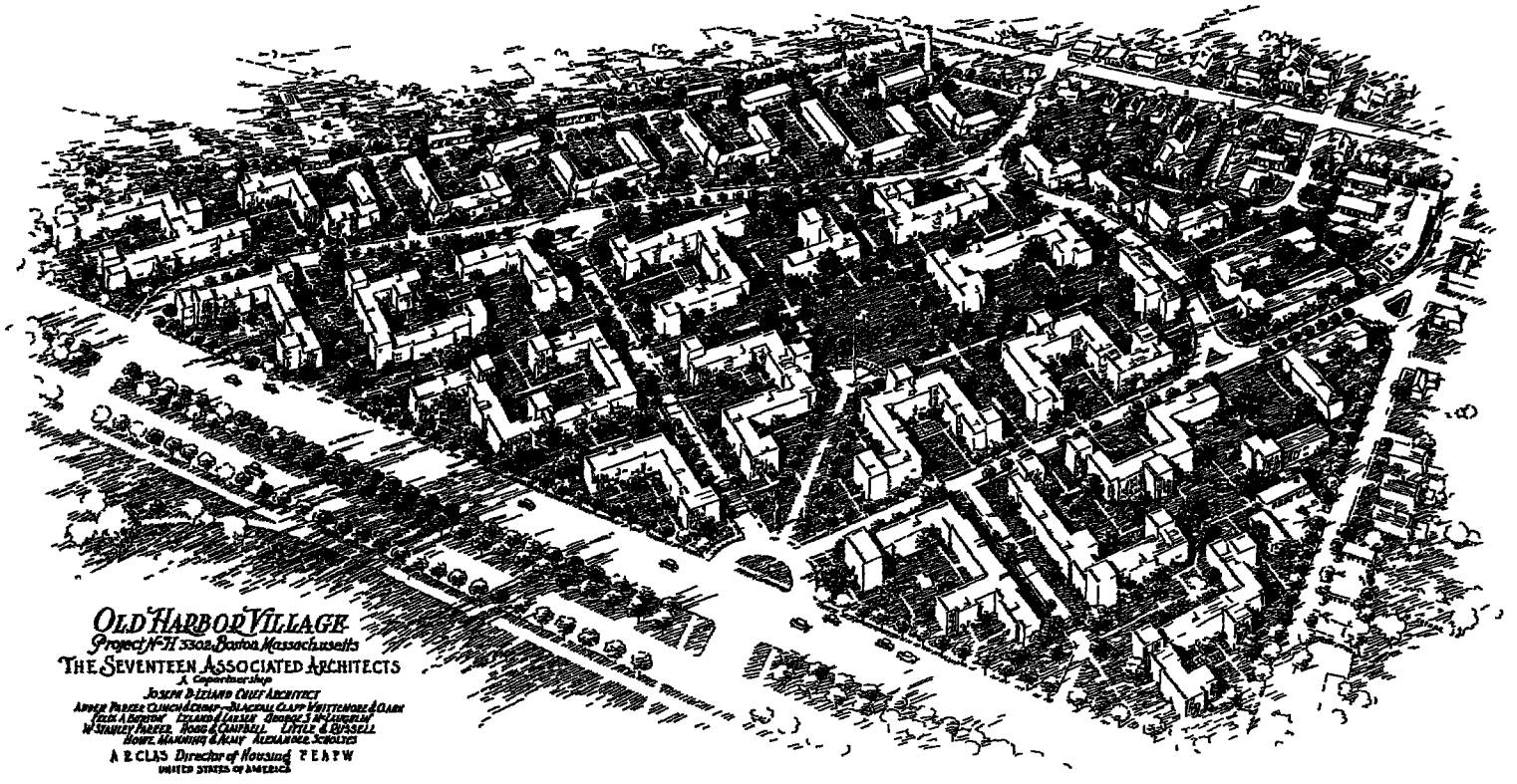
The program of the Housing Division will be confined to those projects listed herewith. All projects either previously announced or initiated, which are not included in this listing, are indefinitely suspended. [The list of projects will be found on pages 718–719.]

A study of these projects reveals at once that the Federal Government has restricted heights to three stories or less in developments outside of New York City, except for a rare use of four-story apartments. Blocks are never solidly built, but open types of housing instead have been definitely encouraged. Coverage has been kept very much lower than has been characteristic of developments in New York City. Row houses have, however, been accepted for communities which are unused to them, and both row houses and three-story apartments have been encouraged and constructed in districts in which detached single-family housing previously prevailed.

Descriptions of a few projects outside of New York may serve to bring out this contrast more forceably.

The Boston project named Old Harbor Village (Figure 132), situated in South Boston, was described in an official release of October 22, 1935 by the Associated Architects. Local conditions in South Boston had been studied with the help of

1. Federal Emergency Administration of Public Works, Housing Division, Status of Projects — November 8, 1935, P.W. 44315 Statements on Status of Projects are issued monthly by the Housing Division, and should be consulted for latest official information regarding progress.
2. The official statement of December 18, 1935 (P. W. 47007) reports that: "Of the 50 Federal projects, 47 are now under contract. The original Louisville project is held in abeyance, pending a decision by the United States Supreme Court on the right of the Federal Government to exercise its power of eminent domain to acquire this property as a site for low rent housing. Parkside, in Detroit, has been suspended pending vacation of street areas necessary to its development by the city council. Further funds are necessary before the Anacostia project, in Washington, can be completed."



Courtesy Housing Division Public Works Administrati

Boston. Old Harbor Village, Federal housing project in South Boston, to cost $6,000,000 There will be 1,057 living units consisting of two story row hous s and three-story walk-up apartments Chief Architect, Joseph D Leland The original project for South Boston contemplated demolition of insanitary houses, but protests of owners caused the abandonment of the original site, and vacant filled-in land was substituted

FIG. 132

Complete List (50) of Federal Housing Projects, November 8, 1935

		Type	Size	Cost	Chief architects	Status
	Techwood	Three-story dormitory, two-story row houses, three-story apartments	603 living units; 109 dormitory units; 25 acres	$2,875,000	Burge & Stevens, Atlanta	Construction 62 per cent complete
Atlanta, Georgia	University	Two- and three-story flats [1] and row houses	675 living units; 19 acres	2,500,000	Edwards & Sayward, Atlanta	Construction 16.1 per cent complete
Atlantic City, New Jersey	Site A	Two-story flats [1] and row houses	243 living units; 8 acres	1,700,000	J. Vaughn Mathis	Foundation bid opening Nov. 12, 1935
Birmingham, Alabama	Smithfield Court	One- and two-story row houses, three-story walk-up apartments	664 living units; 28 acres	2,500,000	D O. Whilldin, Birmingham	Foundation bid opening Dec. 2, 1935
Boston, Massachusetts	Old Harbor Village	One- and two-story row houses, three-story walk-up apartments	1057 living units; 30 acres	6,000,000	J. D Leland	Foundation bids opened Oct. 31, 1935
Buffalo, New York	Lang Field	One- and two-story row houses and flats	661 living units; 65 acres	4,500,000	Chester Oakley	Foundation bid opening Nov 21, 1935
Cambridge, Massachusetts	Main Street	Two-story row houses and flats and three-story apartments	312 living units; 7 acres	2,500,000	Henry G Robbins	Foundation bid opening Nov. 11, 1935
Camden, New Jersey	Westfield	Two-story row houses and flats, three-story apartments	596 living units; 25 acres	3,000,000	J. N Hettel	Foundation bid opening Nov. 4, 1935
Charleston, South Carolina	Meeting Street	One- and two-story row houses	285 living units; 22 acres	1,150,000	Samuel Lapham, Jr.	Foundation bid opening Nov. 15, 1935
Chicago, Illinois	Jane Addams Houses	Three-story apartments, two-story row houses	982 living units; 22 acres	6,500,000	John A Holabird	Foundation bids opened Nov 4, 1935
Chicago, Illinois	Diversey	Three-story apartments, two-story row houses and flats	985 living units; 38 acres	6,000,000	Robert DeGolyer	Foundation bid opening Nov. 11, 1935
Chicago, Illinois	Trumbull Park	Two-story row houses and flats, three-story apartments	466 living units; 22 acres	3,250,000	John A Holabird	Foundation bid opening Nov. 18, 1935
Cincinnati, Ohio	Basin Housing	Three- and four-story apartments	1276 living units; 24 acres	6,500,000	Frederick W Garber	Foundation bid opening Dec. 6, 1935
Cleveland, Ohio	Cedar Central	Three-story apartments	654 living units; 18 acres	3,279,000	Walter R. McCornack, Cleveland	Construction 9.8 per cent complete
Cleveland, Ohio	Outhwaite	Two- and three-story apartments, flats and row houses	627 living units; 21 acres	3,650,000	Maier, Walsh & Barrett, Cleveland	Construction contract awarded Oct. 31, 1935
Cleveland, Ohio	West Side	Two-story row houses and three-story apartments	620 living units; 22 acres	3,800,000	J. L. Weinberg, Cleveland	Construction bid accepted Oct. 12, 1935
Columbia, South Carolina	University Terrace	One- and two-story row houses and flats	142 living units, 4 acres	500,000	James B. Urquhart	Foundation bid opening Nov. 6, 1935
Dallas, Texas	Lucas Drive	One- and two-story row houses	217 living units; 17 acres	900,000	Walter C. Sharp	Foundation bid opening Nov. 6, 1935
Detroit, Michigan	Chandler Park	Three-story apartments, two-story row houses and flats	785 living units; 31 acres	4,500,000	George D. Mason, Detroit	Foundation bid opening Nov. 26, 1935
Detroit, Michigan	East Side	Three-story apartments, two-story row houses and flats	1,032 living units; 64 acres	5,500,000	George D. Mason, Detroit	Foundation bid opening Dec. 2, 1935
Enid, Oklahoma	Enid Springs Park	One- and two-story row houses	90 living units; 6 acres	435,000	George Blumennauer	Site acquired
Evansville, Indiana		One- and two-story row houses and flats	200 dwelling units; 10 acres	1,000,000	Edward J. Thole	Foundation bid opening Nov. 27, 1935
Indianapolis, Indiana	Community Housing	Two-story row houses, two- and three-story apartments	748 living units; 22.1 acres	3,025,000	William L. Russ and Merritt Harrison	Construction 4 4 per cent complete
Jacksonville, Florida	Durkeeville	One- and two-story row houses	241 living units; 20 acres	1,000,000	M. C. Greeley	Foundation bid opening Nov. 5, 1935
Lexington, Kentucky	Blue Grass Park	One- and two-story row houses and flats	289 living units; 67 acres	1,500,000	Hugh Meriwether	Foundation bid opening Nov. 6, 1935

Louisville, Kentucky				,618,000		Appeal to United States Supreme Court pendin
Louisville, Kentucky	Algonquin Parkway	One- and two-story row houses	212 living units; 1. acres	,200,000	E. T. Hutchings	Foundation bid opening Nov. 6, 1935
Louisville, Kentucky	Seventh Street	One- and two-story row houses	126 living units; 5 acres	700,000	E. T. Hutchings	Foundation bid opening Nov. 7, 1935
Memphis, Tennessee	Poplar Avenue	One- and two-story row houses and three-story apartments	756 living units; 3(acres	,200,000	J. F. Smith	Foundation bid opening Dec. 6, 1935
Memphis, Tennessee		One- and two-story row houses and three-story apartments	466 living units; 2(acres	,000,000	J. F. Smith	Foundation bid opening Dec. 6, 1935
Miami, Florida	Sixty-Second Street	Single-story row houses	243 living units; 6(acres	,000,000	Paist and Steward, Miami	Foundation bid opening Nov. 25, 1935
Milwaukee, Wisconsin	Parklawn	Three-story apartments and two-story row houses	518 living units; 4: acres	,800,000	Gerritt J. DeGelleke	Bids opened Oct. 29, 1935
Minneapolis, Minnesota	Sumner Field	Two- and three-story apartments and row houses	622 living units; 2(acres	,500,000	William H. Tusler	Foundation bid opening Nov. 20, 1935
Montgomery, Alabama	Riverside Heights	One- and two-story row houses	100 living units; 1; acres	416,000	Walter A. Ausfeld, Harry B. Jones	Contract awarded Sept. 24, 1935
Montgomery, Alabama	Wm. B. Patterson Courts	One- and two-story row houses	158 living units; 7 acres	459,000	Moreland G. Smith & Carl B Cooper	Construction 21.6 per cent complete
Nashville, Tennessee	Cheathem Place	One- and two-story row houses	356 living units; 1[acres	,700,000	Richard R. Clark	Foundation bid opening Nov. 14, 1935[2]
Nashville, Tennessee	Jackson Courts	One- and two-story row houses and standard two-story flats	387 living units; 2: acres	,500,000	Richard R. Clark, Nashville	Foundation bid opening Nov. 14, 1935
New York, New York	Williamsburg	Four-story walk-up apartments	1625 living units; : acres	,783,000	R. H. Shreve	Foundation bid opening Nov. 29, 1935
New York, New York	Harlem-McCombs Place	Four-story walk-up apartments	574 living units; 8 acres	,700,000	A. M. Brown	Foundation bid opening Nov. 19, 1935
Oklahoma City, Oklahoma		One- and two-story row houses	400 living units; 1[acres	,000,000	J. O. Parr	Foundation bid opening Nov. 12, 1935
Omaha, Nebraska	North Side	One- and two-story flats	398 living units; 1; acres	,000,000	W. L. Steel	Foundation bid opening Dec. 6, 1935
Philadelphia, Pennsylvania	Hill Creek Park	One- and two-story row houses two-story flats, three-story apartments	300 living units; 2. acres	,800,000	W. H. Thomas	Foundation bid opening Nov. 5, 1935
Puerto Rico	Caserio Mirapalmeras			775,000		
Schenectady, New York		Row houses and apartments	288 living units; 1(acres	,500,000	R. L. Bowen	Foundation bid opening Nov. 27, 1935
Stamford, Connecticut	Fairfield Avenue	One- and two-story row houses, three-story apartments	156 living units; 5 acres	800,000	Wm. J. Provoost	Foundation bid opening Nov. 14, 1935
Toledo, Ohio	Belmont Division	Two-story row houses and flats, three-story apartments	376 living units; 1; acres	,000,000	Harold Munger	Foundation bids to be opened Nov. 19, 1935
Virgin Islands				250,000		
Washington, D. C.	Langston	Two-story flats and row houses, three-story apartments	322 living units; 1. acres	,600,000	Robinson, Porter & Williams	Foundation bid opening Nov. 12, 1935
Washington, D. C.	Anacostia Terrace			60,000		Site acquired
Wayne, Pennsylvania	Highland Avenue	Two-story row houses and flats	26 living units; 2 acres	300,000	H. B. Register	Foundation bid opening Dec. 2, 1935

1. Flats have individual entrances.
2. Cheathem Place Addition — foundation bid opening Nov. 29, 1935.

public officials and social service agencies. The area selected comprised thirty-two acres, situated close to the city playground known as Columbus Park. The development is composed chiefly of three-story apartments with a few four-story penthouse apartments and single houses. There are 417 three-room apartments, 345 apartments of four rooms, 103 of five rooms; and 44 dwellings in four-room row houses, 53 in five-room, and 55 in six-room row houses. The total is thus 1016 family units comprising 3912 rooms, of which 3141 are in apartments and 771 in row houses.[1] In addition there are nursery play rooms for children and social rooms available for the use of older children and their parents.

Equipment comprises sink and wash tray, cupboards, range, refrigerator, bathrooms within the apartments, incinerators accessible from the hall, community laundries in basements, storage space for perambulators, bicycles and other outdoor equipment.

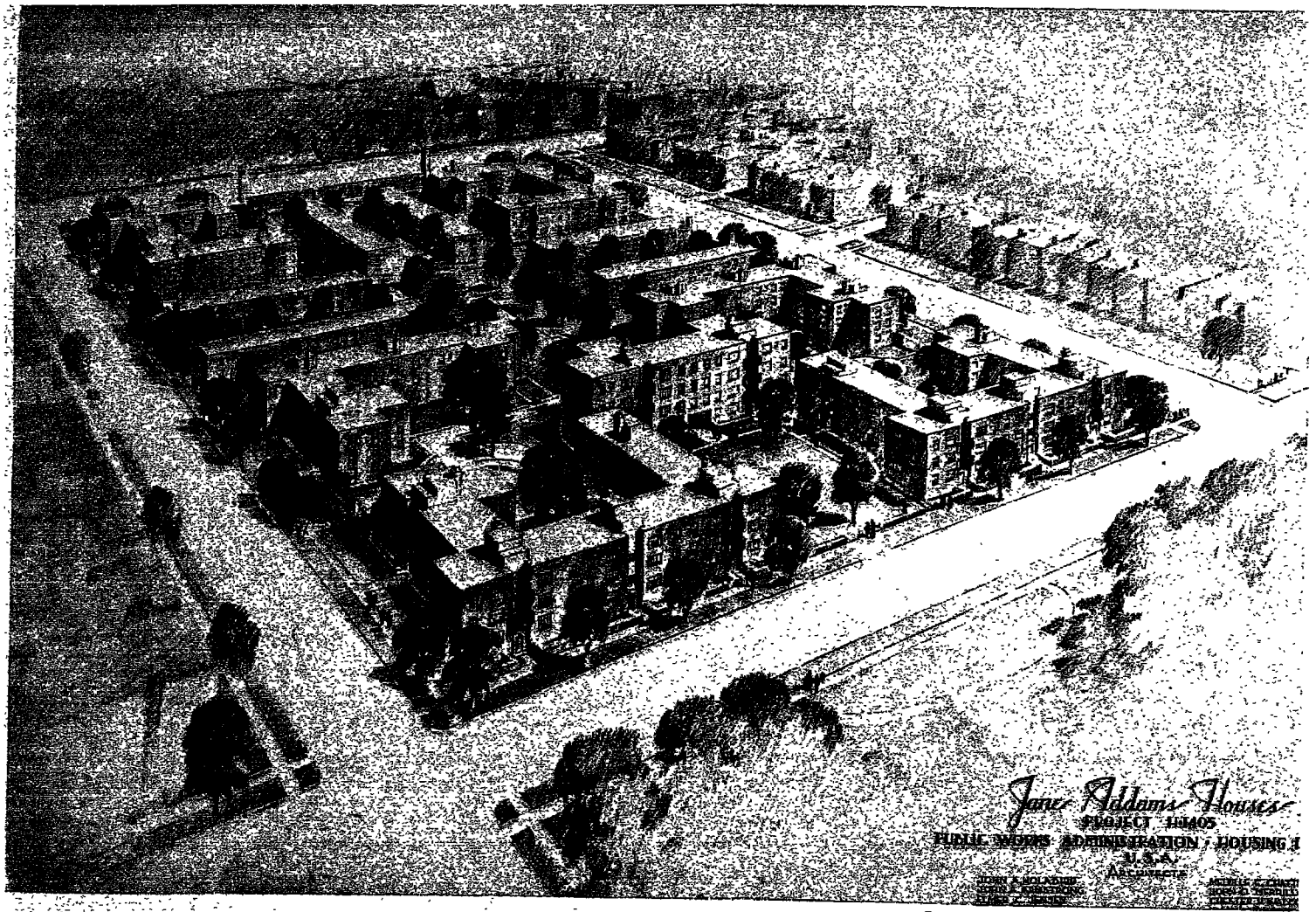
The row houses are provided with private gardens, and small groups of one-car garages are located near them. The major group of garages has been placed in the rear corner of the site. A group of stores is placed in the corner closest to rapid transit facilities. Special attention has been paid to the orientation of apartments for sunlight and to landscape planning and planting for the entire development.

The first of the Public Works Administration housing projects for Chicago is known as Jane Addams Houses (Figure 133), and is situated in the Hull House district of the near West Side. The original tract consists of 6.5 acres, for which the tentative plans called for 305 family dwellings: 60 per cent of the units in three-room apartments, 30 per cent of four rooms, and 10 per cent of five rooms. Eighty-four per cent of the structures were planned as three-story buildings and the remainder as two-story row houses. The $1,500,000 allotted for this first project was supplemented a few weeks later by a new allocation of $5,000,000, which would enlarge the Jane Addams project by approximately 15 acres. Thus, nearly one thousand families will be accommodated in apartments or row houses. It is contemplated that the first section of this development will be completed by 1937. Bids have been opened for two other large developments in Chicago, one for the Diversey project on the North Side involving a capital cost of $6,000,000, and the other of $3,250,000 known as the Trumbull Park project.[2]

In Atlanta, Georgia, the University Housing development (Figure 135) was awarded $2,500,000 by the Federal Emergency Administration of Public Works. The estate covers 19 acres on which there will be forty-three buildings to house

1 Later official figures will be found in table on page 718.

2. From official releases of the Press Section of the Federal Emergency Administration of Public Works, Release Nos. 1563, 1697, and 1721.



Courtesy Housing Division, Public Works Administration.

Chicago. First unit of Federal (PWA) $6,500,000 Jane Addams housing project to cover twenty-two acres and provide 982 living units. Apartment buildings and row houses. Chief Architect, John A. Holabird. This is one of the largest and most important of the Government's fifty slum-clearance and low-rent housing projects.

FIG. 133

675 Negro families. The project is located on the site of a slum district which lay between Atlanta University and Spelman College. It is being rebuilt with two- and three-story fireproof units of red brick and stone to harmonize with the university buildings. The plans call for the installation of electric stoves, electric refrigeration, asphalt-tiled bathrooms, seven modern laundries with outlets for electrical equipment, and indoor drying rooms with electric fans circulating heated air through them. A central plant will supply hot water and steam heat to all buildings. Five-room dwellings will be provided in 10 row houses and in 81 duplex apartments. There will be, also, 236 four-room, 248 three-room, and 100 two-room apartments, each with individual entrances. The land coverage is limited to 26 per cent, the open space being devoted to play centers, parks, and terraces. Community amenities include medical and dental clinics, kindergarten and day nurseries.[1]

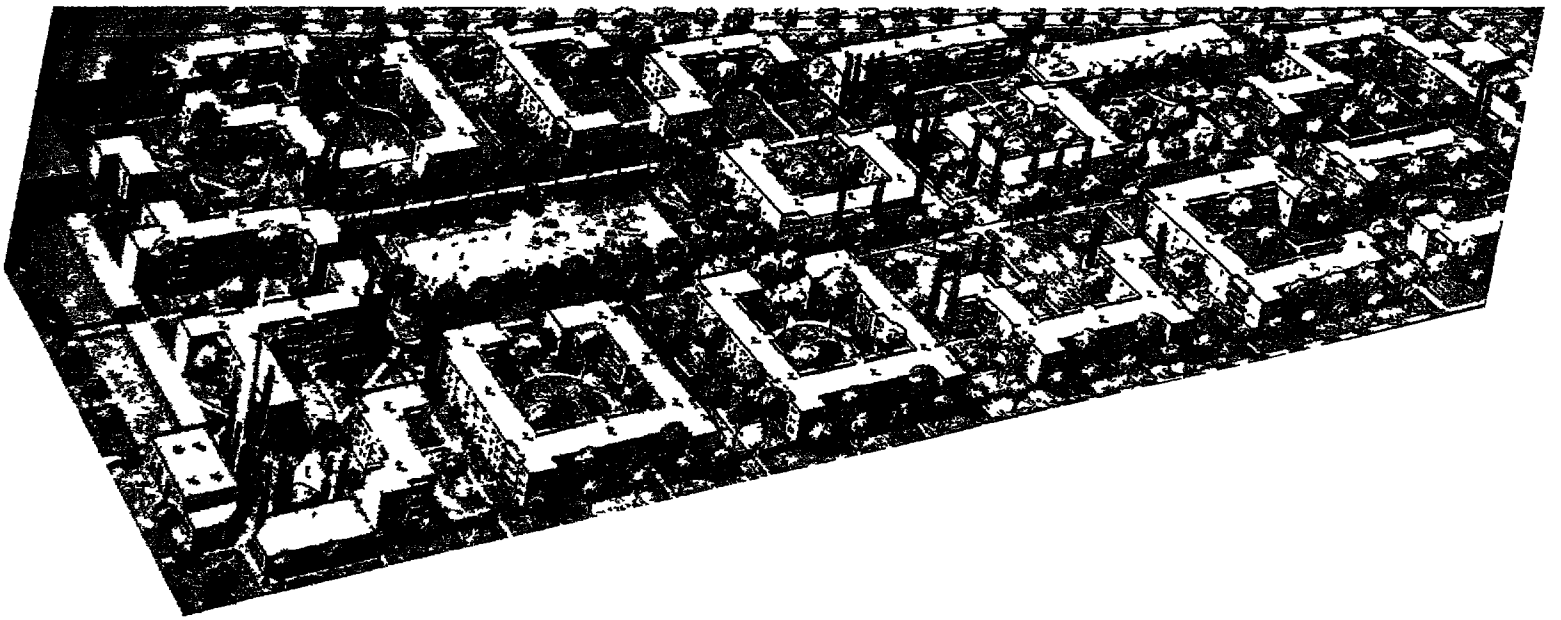
In comparing the Boston, Chicago, and Atlanta projects with those of New York City, one notes that in each of these cities, types of houses are being constructed which are a wide departure in architectural style, as well as in materials of construction, from those which previously prevailed. In Atlanta especially the disparity between the shacks originally inhabited by Negroes and the Georgian apartment houses with terraced parks, central heating, and costly electrical equipment leads many to question whether facilities and amenities have not been advanced needlessly far, thus making it impossible to spread the allotted funds for public housing over a larger group of the population who might profit from it. In contrast with the projects of other cities, those of New York City clearly depart less far from prevailing standards of design and construction though providing for all essential needs of the groups which they are planned to house.

Three housing projects have been undertaken by the New York Housing Authority. The first to be completed was a partial demolition and reconstruction project on property purchased from Vincent Astor and is known as First Houses. This, however, was not under the P. W. A. and will therefore be treated later. Another, known as the Harlem-Macombs project will be described in the following chapter on Housing Projects for Negroes. The third is at Williamsburg in Brooklyn.

The Williamsburg project (Figure 131[2]) is in many ways the most difficult and most ambitious of the three, and although projected more than two years ago has been delayed through negotiations with the Federal Government and the process of land acquisition. At this writing it has reached the point where most of the land parcels in the area have been purchased and a majority of the existing houses

1. *Ibid.* Release Nos. 1179 and 1243.

2 See also Frontispiece Vol II.



Courtesy Housing Division, Public Works Administration

Cleveland. Architect's drawing of Cedar-Central Federal (PWA) slum-clearance, low-rent housing project, which will cost $3,279,000, cover eighteen acres, and provide 654 living units in three-story apartment houses. Architect, Walter R. McCornack Two other projects in Cleveland, "Outhwaite" and "West Side," will each cost over $3,600,000 and consist, respectively, of two- and three-story apartments, flats, and row houses, with 627 living units, and two-story row houses and three-story apartments with 620 living units

FIG. 134

demolished. It is situated in Area 11 of the Map prepared by the Slum Clearance Committee.[1] It is the only project of the three which involved complete slum demolition and reconstruction.

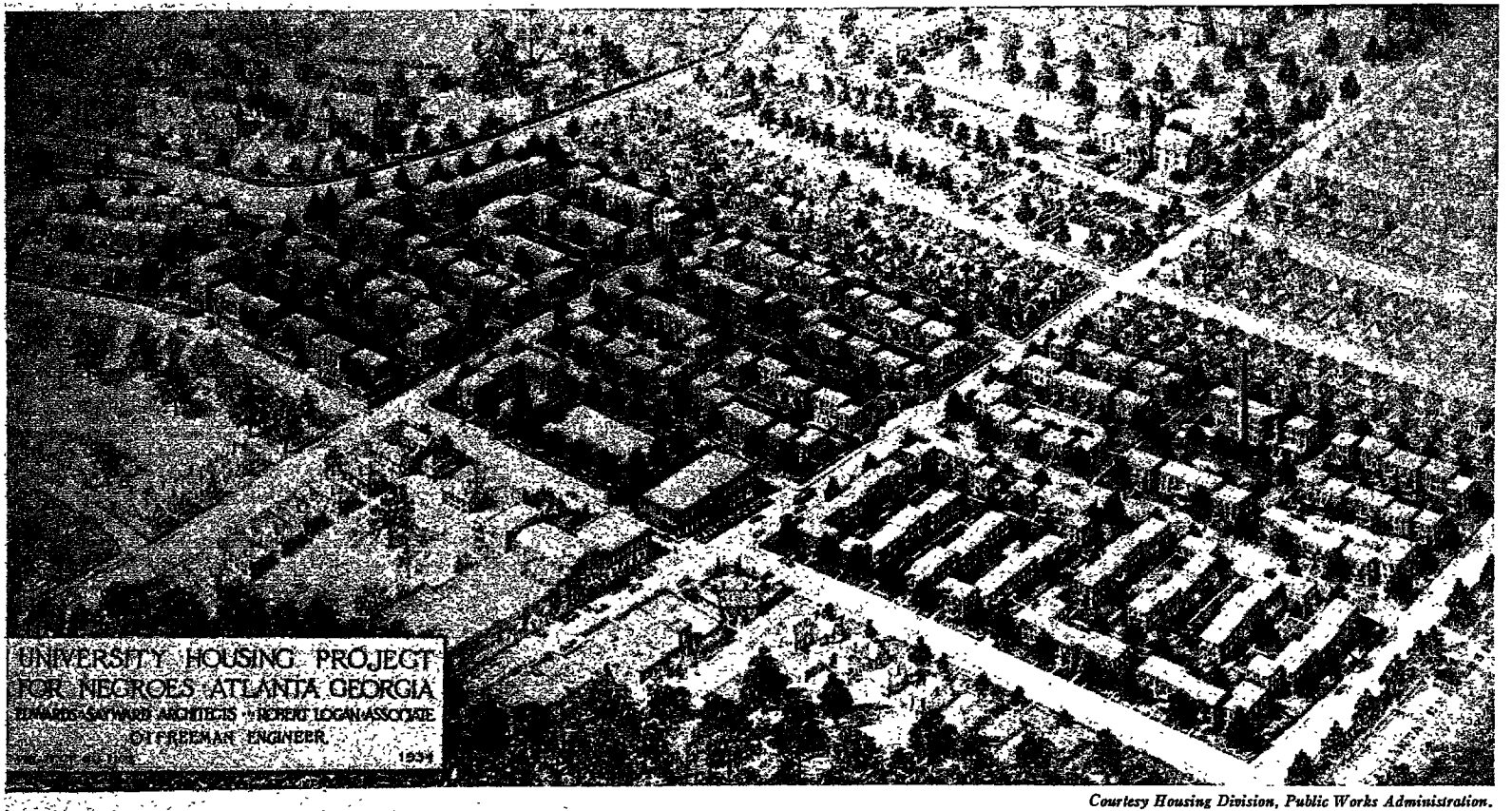
The boundaries of the area are Scholes Street, Leonard Street, Ten Eyck Street, and Bushwick Avenue, in Brooklyn. It comprises twelve blocks and 389 lots ("tax parcels"), and altogether 960,000 square feet. In 1934 the land was assessed at $1 12, improvements on the land at $2 51, or a total of $3.78 per square foot. Eighty-four parcels were clear of mortgages, one was foreclosed, and the total amount of mortgages on the remaining parcels was over $2,300,000. Tax arrears for the area amounted to nearly $73,000. Of the total assessed valuations of over $3,600,000, the old-law tenements with their land were valued at nearly $2,200,000. Nearly $700,000 was accounted for by one- and two-family houses, and nearly $300,000 by new-law tenements. The vacant lots in the area were assessed at $16,900, and business, manufacturing, or other non-residential buildings were valued at somewhat under $400,000.

Within the twelve blocks there were 565 structures, of which 56 were vacant, and there were 7 vacant lots. Of 296 old-law tenement houses 18 were vacant and only 17 described as in good repair. Of 158 one- and two-family houses, 32 were vacant and only 15 described as in good condition. All of the 7 new-law tenements were occupied, but only 3 described as in good condition. Of the old-law tenements, 108 had toilets in hall or yard, as did also 30 of the one- and two-family houses. Only 14 old-law tenements had central heat; 15 had hot water, and 51 had bathrooms. All of the old-law tenements were of the "box" type, and comprised altogether 1,541 apartments, which, together with 339 apartments in one- and two-family houses and 154 in new-law tenements, comprised the housing facilities of the area

The total population of the area was 6,207, with an average of 1.23 persons per room, and an average rent per room per month of $4.27. Half the buildings in the area were three stories in height. The highest, of which there were 3, were all of six stories; there were 5 of five stories, 82 of four stories, 158 of two stories, and 35 of one story. Of all the buildings in the area 38 were described as in good condition, 370 fair, and 157 in bad condition. It is noteworthy that there were 123 rear dwellings within the twelve blocks.

Of 1,279 families in the area, covered in a house-to-house survey on March 14, 1935, 527 were recorded as self-supporting, 256 as partially self-supporting, and 423 as dependent upon relief or pensions. Data could not be secured from 73 families. There were 1,710 children under eighteen years of age within the area on

1 See Figure 83, and Frontispiece Vol I.



Courtesy Housing Division, Public Works Administration.

Atlanta. The University project covers nineteen acres and will cost $2,500,000. There will be 675 living units in two- and three-story flats and row houses. Architects, Edwards & Sayward. Atlanta also has the Techwood project (see Fig. 50) on twenty-five acres of land, to cost $2,875,000. This will consist of a three-story dormitory, two-story row houses, and three-story apartments, comprising 603 living units and 109 dormitory units. Architects, Burge & Stevens.

FIG. 135

that date. In 1934, 7.33 per cent of the families in the area consisted of one person, 18.78 per cent of two persons, 20.67 per cent of three persons, 19.87 per cent of four persons, 13.49 per cent of five persons, 9.35 per cent of six persons, and 10.51 per cent of seven or more persons.

In distribution by nationality it was found that 35.85 per cent of heads of families had been born in the United States, 35.41 per cent in Italy, 8.17 per cent in Russia, 6.33 per cent in Lithuania, 3.78 per cent in Germany, 3.52 per cent in Poland, 3.34 per cent in Austria, 1.41 per cent in Ireland, and the remainder were distributed among thirteen other nationalities.[1]

The plan for the Williamsburg project allows for 33.14 per cent coverage by buildings, leaving 66.86 per cent of open area between buildings for the net project. For the gross area 21.29 per cent is to be covered by buildings, 42.96 per cent to be left as open area between buildings; 7.22 per cent is school area, 6.23 per cent is playground area; and 22.30 per cent is allowed for streets and sidewalks in use within the project.

The rebuilding plan calls for 40 apartments of two rooms, 779 apartments of three rooms, 732 of four rooms, and 72 of five rooms, making a total of 1,623 apartments and 5,705 rooms, for a population of 6,617 persons.

The preliminary financial set-up allows $3,520,000 for land cost exclusive of the future school site, $180,000 for demolition, $5,459,706 for construction cost, including stores. The remainder of the total initial cost of $10,127,333.78 comprises the items of land development and fill, fees for builders and architects, carrying charges, operating capital, and contingencies. A Federal grant of 45 per cent will provide, on this basis, $4,557,300.20, and a 55 per cent Federal loan will take care of the balance of $5,570,033.58.

The plan calls for a density of two hundred per acre in four-story buildings. The total acreage is 33.05. The allowance for stores is .21 linear feet per person, or 1,400 linear feet. The project includes also a management office; allowance for seven social rooms with floor space equivalent to ten three-room apartments; occupational rooms for tenant crafts and for meetings; a day nursery and nursery school with capacity for seventy children, or approximately 4,000 square feet of space; an outdoor play space with direct access from the nursery school; preschool playgrounds for children not in the nursery school; baby carriage storage space; laundry facilities located in the basement or possibly on the roof; radio and telephone connections for each apartment; and a variety of other special features.

One is impressed not only with the scope of the plan but with the amount of

1. Data compiled from documents in possession of the New York Housing Authority, including both their original studies and special investigations made for them by the Emergency Work Bureau Survey and the Columbia University Housing Orientation Study.

thought that has been given to its detail in the attempt to provide for the amenities of life and for reasonable standards of health and social living. Care has been exercised to rehouse in these twelve blocks a population as large as that displaced.

Although the height of buildings for the new project averages about a story higher than the preceding housing, the planning is such as to provide much better for health, convenience, comfort, privacy, and wholesome indoor and outdoor living. Although the area selected is not characterized by the dense housing of Manhattan, it is an area which has been demonstrated to be one of low-grade housing and a social liability. New housing cannot be provided in this area, even under the plan of government subsidization and loans, at rents within the reach of a large percentage of the present occupants. The estate can, however, be filled with families now living in this or other slum areas of the city who will have access here to standards of housing otherwise unattainable.

All the New York City projects so far discussed have been financed initially either with loans from the Reconstruction Finance Corporation (Knickerbocker Village), or loans from the Public Works Administration (Hillside and Boulevard Gardens), or by direct grants from the Public Works Administration (Williamsburg and Harlem-Macombs). The project known as First Houses (Figure 130b), situated on Avenue A and Third Street in the Lower East Side of Manhattan, is to be distinguished from the others in that it was undertaken directly by the New York City Housing Authority and not under the primary responsibility of the Federal Government. It is distinctive also in that it began as an experiment in partial demolition, contemplating the removal of every third house in a slum block so as to open up the block for adequate light and air and to provide windows on the side lot line, a practice which had been applied with considerable success by the City Corporations of Birmingham and Manchester, England.[1]

No other venture in public housing, except Knickerbocker Village, has provided for slum demolition in the Lower East Side; but, unlike Knickerbocker Village, First Houses has not increased building heights, and it has been made available at rentals much lower than those of Knickerbocker Village so as to be within the reach of families now living in areas that are seriously sub-standard. It has proved to be a unique and courageous experiment in the remodeling of existing slum areas, and in the provision of open space and social amenities, together with housing of decent standards.

First Houses was officially opened on December 3, 1935. It provides for 121 families, comprising 361 persons of whom 116 are children. The average income

1 See J. S. Nettlefold, *Practical Housing*, and *supra*, Chapter XXX

per family per week is $23.20. Of heads of families 54 are engaged at skilled labor, 42 at unskilled labor, 29 in clerical occupations, 5 in professions, and 3 as owners. Of the employed members of families only 40 were born in the United States, 32 in Russia, 27 in Poland, 16 in Austria, and the remainder in Italy, Hungary, Germany, Roumania, Czechoslovakia, and England.

The method of acquisition and financing of the properties, and the problems faced in the remodeling of the estate, are so unusual as to deserve re-statement from an official publication of the New York City Housing Authority.[1]

Perhaps the greatest difficulty facing the New York City Housing Authority in its program of slum clearance and re-housing is the excessive cost of land in existing slum areas. For example, the average price of land below Third Street and East of the Bowery was assessed in 1934 for $6.12 per square foot, and the buildings thereon were valued at $4.15 per square foot — an average assessed valuation of $10.27. North of Third Street and East of Third Avenue, the figures are still higher: land $5.34, improvements $7.99, an average total of $13.33 per square foot. These figures make it impossible to construct apartments to rent within the price range which present slum dwellers can afford.

After many efforts to assemble land low enough in price to permit the building of apartments which were ultimately to rent from $5 to $7 per room per month, the Authority finally met with success in the case of Mr. Vincent Astor.

Among his large holdings were included parcels of real estate on Avenue "A" and on Third Street in Block 430. These properties consisted of old-law tenements of four and five stories. The assessed valuation of the land was $322,500, and of the buildings, $120,200.

Originally, it was planned to renovate the tenements, as the only housing funds available in Washington were for renovation, but when the technicians of the New York City Housing Authority concluded their survey of the old buildings it was found necessary to build practically new structures. Thus, five of the eight units are entirely new from the ground up and the remaining three are practically new throughout. The proposal was accepted by the Federal authorities and an agreement was concluded which provided that Work Relief labor and materials would be supplied by the Federal Emergency Relief Administration through the State Temporary Emergency Relief Administration. On December 20th, 1934, the Authority acquired the property involving 53,666.5 square feet of land at $3.50 per square foot, the whole, together with adjustments in taxes and insurance premiums, amounting to $189,281.31. In payment, Mr. Astor received a sixty-five year purchase money bond and mortgage, paying 1½% interest for the first year and 3½% interest per annum thereafter. The bond is exempt from City, State and Federal taxes.

Separating the Astor properties, were two houses at 130–132 E. Third Street owned by one Andrew Muller, who, when approached by representatives of the Authority, refused to sell. After repeated attempts to negotiate a satisfactory price, condemnation was finally resorted to as a last measure.

On March 4th, proceedings in condemnation were started by the Authority in the New York Supreme Court before Mr. Justice Charles R. McLaughlin. The defendant countered by

1. *First Houses*, New York City Housing Authority, 1935, especially pp. 20–28.

petitioning for an injunction restraining the Authority from proceeding with its demolition of the former Astor buildings on the ground that the demolition operations obstructed his property. At the same time he challenged the constitutionality of the law which empowered the Authority to condemn property on the grounds that housing was not a proper function of the government, that the proceedings, if successful, would allow the taking of private property for a private purpose and that the housing bill was class legislation.

On March 12th, Justice McLaughlin upheld this right, despite the fact that two Federal courts, one in Louisville, Kentucky and the other in Cincinnati, Ohio, denied that the Federal government had such power. If the Supreme Court ultimately upholds the decisions of the lower Federal courts, and this is not at all unlikely, and if the Court of Appeals of the State of New York upholds the McLaughlin decision, the local authorities will be the only remaining agencies through which the government's housing program can be carried forward.

The motion to appoint commissioners in condemnation was granted and finally the city acquired the Muller properties for $26,500 which is 15% less than the assessed valuation. The Authority continued with its work of demolition and shortly thereafter started actual construction operations.

The terms under which the Federal Government financed the building of First Houses made it mandatory for the undertaking to be a renovation project. This limitation created difficulties which called for the greatest skill and ingenuity on the part of the Authority's technical division.

If the project was to be a modern development in the fullest sense of the term, it would have to measure up to certain minimum requirements. These would include sunlight, cross-ventilation, privacy, adequate space and play facilities for children.

The old Astor buildings were unlovely rookeries which covered 64.7% of the property area at the street level and 60.5% at the second story level. The entrances to the apartments were through long, narrow, dark hallways. Many of the rooms were without windows and the small yard space in the rear, as in most slum areas, was dreary and ugly to the extreme.

In order to secure adequate light and air for the project's future tenants it was first necessary, therefore, to demolish every third building and at the same time to make room for courts, gardens and a playground for the children. Thus, seven buildings on East Third Street and half of the buildings on Avenue "A" were torn down.

Since only a few of the original foundation supports were used and these were strongly reinforced, and since new steel was erected for center support of the spans, in the light of what follows it will be seen that First Houses is, in effect, practically new construction.

Where once uninhabitable tenements stood, we now have modern, airy, sunlit apartments. The old firetraps have been replaced by modern fire-proof buildings. First Houses now consists of 122 apartments having a total of 369 rooms, nine stores and a city health center. In addition there are nine stores on Avenue "A" and eight on East Third Street. The rentals from these stores will increase the project's income, thus making it possible to keep the rentals of the apartments within the $5–$7 per room per month range, the average being $6.05.

First Houses now covers only 41.6% of the property at the street level and 36.5% at the second story level. The buildings are four and five story walk-ups and consist of eight building units, three on Avenue "A" with a frontage of 185′ 5⅜″ and five on East Third Street with a frontage of 522′ 1″. The area of the entire project is 59,266 square feet, approximately 1.37 acres.

Nearly 6,500 square feet at the west end of the project on Third Street has been turned over to the Park Department of the City of New York as a playground fully equipped with modern apparatus.

Entrance to each unit is from the central court, and all open space, except for the asphalt walks are fully landscaped with trees, bushes and vines. Benches are provided and there is a sand lot for the younger children. Large ornamental lanterns illuminate the rear court at night.

Heating and hot water is supplied from two central plants and laundries have been built into each unit with an electric washing and drying machine for the communal use of each group of tenants.

In addition to the playground for the use of the children, there is also an indoor recreation room for play during inclement weather. Two large rooms have been set aside for the co-operative use of the adult tenants.

Exterior material is the original brick re-employed. New twenty-year roofs are installed on all units. Main entrance stairs to each unit are new steel with non-slip composition treads and platform Hallway walls are finished with an art plaster and all staircase windows are metal casements Adequate space for storage is provided in the basement and a room for baby carriages is also provided.

Every room has at least one large window and most living rooms have two which open on either exterior court yards or streets. All door bucks and door trim are metal and all interior doors are birch. All walls have a full base and a picture mould A typical living room is about eleven feet by eighteen and bedrooms are about eleven by twelve. Each apartment is equipped with a combination aerial and ground receptacle for radio connections. All partitions between apartments and ceilings are sound-proofed. The entrance door to each apartment is fire-proof and covered with metal. Floors are of oak with an impregnated finish.

The kitchen equipment consists of a combination sink and tub with drainboard, a four-burner, high oven gas range; electric refrigerator, full size dresser and broom closets. The floors are of red composition with a sanitary cove base. Garbage disposal is effected by means of incinerators, one to each floor. Each kitchen is provided with an overhead clothes-drying rack. The typical kitchen is about seven feet by fourteen.

Every bathroom has a built-in five-foot bathtub with an overhead shower in addition to a full size lavatory, flushometer water closet, medicine cabinet, towel racks and paper holder. The walls are of Keene's cement and the floors are of tile with a six inch cove tile base.

No account of the activities of the New York City Housing Authority would be complete without a word about the ingenious manner in which this body has managed to finance itself. All its varied activities — research, technical, educational and administrative — have been made possible by funds which the Authority received through the sale of materials salvaged from the demolition of vacated and condemned tenement houses. So far it has been entirely self-supporting, calling on neither State nor City for financial assistance. Thus, the bricks of the old tenements are being used to carry on the war which will ultimately lead to the abolition of New York's slums.

If First Houses is looked upon as frankly experimental it may be considered timely and valuable. The removal of intermediate houses in old slum blocks has frequently been urged as a device for salvaging existing properties while rendering

slum dwellings habitable. First Houses has demonstrated that instability of the original construction may force a project, undertaken for renovation, to incur the heavy costs of reconstruction. Since official estimates on the cost entailed are not yet available, one may merely point to the fact that the capital cost of somewhat over $200,000 involved in the land purchase is only a fraction of the total cost of such a venture. It is probable that the actual cost will forever be obscured in the difficulties of estimating the commercial value of the labor, which in this instance was made available in the form of subsidized services of the unemployed. An editorial in the *New York Times* of December 4, 1935, placed the total cost at over $800,000. Even if this should be an over-estimate it would unquestionably prove impossible to repeat a project of this sort as a commercial or even as a limited-dividend venture, at low interest rates, long terms of amortization, and with tax exemption. It should be possible with a capital of some $800,000 to provide wholly new housing and for a larger number of families than were rehoused by this project.

Nevertheless, there are many commendable features in this project. It squarely faced the problem of rehousing in the Lower East Side, demonstrated the futility of the remodeling of slum areas except as a highly subsidized venture, and made clear the importance of a fresh attack upon the problem of the rehousing of slum dwellers. It was wholly justified under the emergency conditions as a device for giving constructive employment to men on relief payrolls. It did succeed, out of relief monies, in providing ingeniously replanned lots and dwellings from old crowded and neglected houses. As compared with other characteristic uses of the labor forces of the Works Progress Administration, their employment in an experiment of this sort is highly creditable, especially to the Housing Authority of the city of New York, whose courage, enterprise, and persistence made it possible. Hence, though definitely not a solution of the problem of public housing, First Houses may be recorded as one of the more significant experiments and worthy of the effort and cost involved. Because of it much waste of capital may be forestalled and energies may be concentrated hereafter upon more fundamental devices for slum elimination and improved housing.

Reverting to the Federal aspects of the Public Works Administration projects discussed earlier in this chapter, there is value in considering the attitude of officials close to the problem. Horatio B. Hackett, in an article entitled "Definitive Review of Federal Housing Policies," [1] states that "approximately 100,000 persons will be housed in the projects now under way or completed" and that "fifty thousand members of the building trades will benefit daily for a year from the

1. *Real Estate Record*, November 16, 1935, pp. 46–48.

FIG. 136



Courtesy Housing Division Public Works Administration

a. Washington, D C Scale model of Federal (PWA) $1,600,000 Langston low-rent housing project being erected on thirteen acres north of Benning Road, at 20th to 24th Streets, N E Two-story flats and row houses and three story apartments, with 322 living units Architects, Robinson, Porter & Williams.



Courtesy Alley Dwelling Authority.

b. Washington, D. C. Ceremonies, October 24, 1935, at demolition of O'Brien Court containing three inhabited alleys and fifty-five houses — the first of the characteristic Washington alley slums to be demolished under the auspices of The Alley Dwelling Authority for the District of Columbia. The two rows of houses behind Mrs. Roosevelt, who is telling of the realization of a hope long deferred, are Columbia Terrace, and the roof beyond them is that of a fine house on 20th Street. In the background is the Interior Department Building.

construction of the Housing Division's projects," receiving employment at the prevailing wages on the type of work to which they have devoted their lives.

By stressing this matter of employment in his opening paragraph Col. Hackett has reflected a dominating interest of the Federal Government in housing projects. For the housing programme was undertaken primarily as a means of stimulating production and trade and of finding employment for labor. A total Federal expenditure of approximately $125,000,000 is involved.

The problems, tentative solutions, and prospects for housing projects of Federal origin were succinctly summarized by Col. Hackett as retiring Chief of the Housing Division. They incorporate an intimate understanding of this new phase of Federal investment and activity. Since Federal projects at this time can be viewed by outsiders only as an ever-changing process, surrounded and continuously invaded by other processes, some old and traditional and others new and lacking in finality of form and principle, it appears appropriate to inject excerpts from Col. Hackett's statement.[1]

The emergency which gave birth to the Housing Division demanded that decisions of permanent importance be made in hours rather than months or years. It was inevitable under such circumstances that mistakes should be made.

It is clear now that the major element of the original policy, loans to private limited dividend corporations, could not be successful. At the time, however, not even the most inveterate skeptic would have believed that the terms offered by the government would attract almost exclusively two types of applications: the first, incomplete and indefensible, however honest; the second, bland efforts to unload on the government worthless property or services. Of 525 applications received, an overwhelming majority had to be classified in one or the other of these two sorry categories. Of the small number which were honestly conceived and intelligently developed, only eight could pass the test of sufficient real equity. Of these eight projects, seven are now occupied and laggards among prospective tenants are being turned away by "No Apartments Available" signs.

Six months' experience with this policy sufficed to answer two vital questions which could have been answered no other way. We had felt obliged to give private enterprise the first opportunity to participate in the benefits of this program. The first question in the minds of those who framed the original policies was this: Would private enterprise respond with energy and sincerity to the offer of 85 per cent loans, amortized in thirty years and bearing 4 per cent interest? The answer was clearly "No." Even in the extenuating circumstances which mitigated some failures, it was futile to continue such a policy. The second question was: Is it possible to construct truly low-rent housing on the terms offered without a subsidy? Again the answer was "No."

In February 1934, the Housing Division reached a crossroad. It had to choose one of two courses. It could heed the lugubrious chant of those who regard any progressive act of the government as unwarranted interference with private affairs and could lay the corpse with

1. *Ibid.*

appropriate eulogies to the memory of another lost cause. Or it could reaffirm its conviction that the provision of decent housing for low-income workers must be guaranteed by whatever means and proceed to develop those means in the most effective and expeditious manner. The latter course was laid before my connection with the division. Consequently, I can express without reservation my opinion of the choice. I am convinced that it was one of the outstanding steps in social progress effected during this century in our country. It was one thing to determine upon a new and revolutionary policy, another to put it into action.

The social benefits of decent housing cannot be enjoyed until one has land to put projects on. We were, at the beginning of the federal program, well equipped to plan projects, to advise about community facilities, and the many other phases of housing technique. What we lacked, however, was a plan to acquire the slum sites which are always held in many small and frequently disputable ownerships. We have worked on this, the most complicated and baffling problem in housing, for eighteen months and we have yet to find an entirely satisfactory solution. . . .

. . . Without the power of eminent domain, no governmental agency, whether federal, state or local, can hope to achieve any comprehensive slum clearance. That power was written into the National Industrial Recovery Act of 1933 and the Housing Division invoked it without question until January, 1935. At that time a Federal District Judge in Louisville ruled that housing was not a "public use" and therefore the federal government was not justified in the exercise of this power. In a two to one decision handed down on July 15, 1935, the Circuit Court of Appeals in Cincinnati upheld the Louisville interpretation of a "public use." An appeal to this decision is now pending action by the Supreme Court. The whole question of the future of slum clearance now rests upon the definition of "public use." It seems to me that such definitions are a matter of changeable opinion and that their interpretation tends to be more and more liberal. It is hard for us now to realize that seventy-five years ago the establishment of a public school system was the cause of one of the most bitter struggles in the history of Congress. I firmly believe that it is only a question of time before slum clearance will be recognized as one of the major responsibilities of governments and all legal obstacles will be removed.

At the present time, twenty states have enacted legislation in which the right of condemnation is accorded to local authorities for the clearance of slum areas. Only in New York has this right been used. Questioned, it was upheld in a lower court.

As a result of the Cincinnati decision the Housing Division was forced into a second major reversal of policy. Director A. R. Clas has rightly contended that the fundamental function of the Division was to provide decent housing at rentals which wage earners could pay. If this housing could not be built on slum sites, it should be built on vacant land. The essential was to build the housing. If property owners in blighted areas insisted on boom prices for their sorry shacks and would be reasonable only under the threat of compulsion which was now denied the government, then the Housing Division would go forward on vacant land. As a matter of fact, twenty-four of the forty-five federal projects are to be slum sites, twenty-one on vacant land. In a majority of cities where we are building on vacant land, the municipal governments have cooperated to guarantee contingent slum clearance under their local ordinances which provide for the condemnation of individual buildings that are a fire or health menace. In a few instances where acute housing shortages are shown, projects are being constructed on vacant land without slum clearance in any form.

These projects will not provide quarters at bargain rates for wage earners. They are to be operated on a strictly business basis and, with the exception of the subsidy, to be fully amortized. What they will provide is quarters which are not common, even in some of the better quarters of cities, at rents which wage earners can afford.

We have been attacked more bitterly on the subject of subsidy than any other. The constant theme of the objectors is that we are not only competing with private enterprise, but we are moreover so favoring our own product as to kill the competition.

I do not believe that the objection to competition with such housing should be taken seriously. If we are to build housing to compete on a price basis with shacks, a subsidy is essential

Is such a subsidy paternalistic and un-American? Our critics maintain, with a violence bordering on hysteria, that it is. Yet analysis of your urban tax dollar will prove that you are and have been subsidizing the slums for many years. Within the last few years studies have been made in Indianapolis, Cleveland, and Boston indicating that the maintenance of slum areas is a constant and heavy drain on municipal finances. The high cost of policing, fire protection, upkeep of jails, reformatories, asylums, courts, hospitals, is largely due to slum conditions.

Since the subsidy is being paid and has been paid over a period of years, discussion of its virtues is wholly academic. However, the form that such subsidy should take is a vital and pressing responsibility for every tax payer to consider. For my part, I can see no permanent value in maintaining a status quo which at best is deplorable. I do not care for sedatives and I should vastly prefer to see my share of that subsidy spent on the clean-cut operation of a cure even if it be a long-term proposition.

If a subsidy is indispensable to low-rent housing it does not follow that that subsidy should be paid perpetually either in whole or in large part by the federal government. Since housing is essentially a local problem, the cost of benefits should, in my estimation, be assessed in the largest part, locally. At the present time local governments are taking no initiative or responsibility. In some cases this is due to unfamiliarity with housing, in others to financial distress, and in a few to indifference or contempt. Yet the program cannot achieve comprehensive significance until local governments take an active part, not only morally, but financially. They must be empowered to initiate, finance and construct projects with all the authority now vested in the federal government.

Col. Hackett, in this brief statement, has made many difficulties and many issues appear relatively clear. He virtually reduces the problem to one of land acquisition by condemnation, with ample authorization from the Federal Supreme Court, and one of subsidization chiefly from local sources. Such an attitude reflects both bitter experience and pessimism with regard to the continuance of the Federal Housing program in its present form. As the purpose of this chapter has been strictly reportorial, it has been mainly confined to the reproduction of official statements concerning projects and statements which reflect the points of view of local, state, and Federal administrators directly concerned with the projects in which Federal money has in one form or another been invested. These constitute a mass of evidence which will be greatly amplified when the public authorities of each of these three jurisdictions find time to view their problems at

longer range. The housing developments described are so new that the problems which grow out of use are not yet fully apparent. Perspective is scarcely possible in the midst of hectic building activities. Mistakes in planning and construction become apparent from wear and use. Mistakes in public policy are brought to attention, often in unduly exaggerated form, by political opponents. Recommendations for changes in standards, emphasis, or policy will, however, be suggested in the concluding chapters.

CHAPTER XXXVI

HOUSING PROJECTS FOR NEGROES

SPECIAL problems are involved in the housing of each group of the population. Income has a large bearing upon the type of housing to be provided, but so also have race, tradition, and the type and size of family unit to be housed. Geographical location also has an important influence because of variations in land contour, wide divergencies in land prices, and in the size, type, and cost of buildings now on the land, which must be removed in new housing operations.

For any racial group, traditions, needs, and standards should be studied in advance of the drawing of plans for a rehousing project, but no racial group in New York City, except the Negroes, presents a special problem on a scale sufficiently large to suggest separate treatment. It has already been shown [1] that Negroes in 1930 constituted 12 per cent of the population of Manhattan, and 4.7 per cent of the population of the city as a whole. It was also seen that over 142,000 of the city's Negroes live in the Central Harlem district. Merely on the basis of their ratio to the general population, Negroes might be said to deserve 12 per cent of the new housing to be provided out of public funds for Manhattan. Such a statement, however, is not sufficiently discriminating, because if Negro incomes and standards of living were higher than those of the general population, rehousing effort would, in the public interest, be concentrated upon the other groups. The basis of selection for rehousing is need. But need is to be construed in both the individual and the social sense. It has already been seen that under existing circumstances, Negroes, though not largely residing in the Lower East Side, are forced in a large number of cases to put up with antiquated and unwholesome housing, overcrowding, and high rents.

The need of slum clearance and rehousing projects for the Harlem district has already been made clear from the mortality, disease, and crime statistics earlier quoted.[2]

The maps and charts prepared by the Slum Clearance Committee of New York in 1933–1934 showed Harlem rentals to be much higher than those of the Lower East Side, which on the face of it might suggest an absence of slum conditions. Nevertheless, undesirable social conditions associated with bad housing

1. Chapter XII.

2. See Chapters XIV, XVI, and XVII.

show high frequencies in the Harlem area. Figure 85a, entitled "Crime Addresses of Offenders," shows higher concentrations in Harlem than in any other large area of the city except for the Bowery and East Harlem and the minor concentrations in the Columbus Hill area, likewise Negro. The juvenile delinquency spot map (Figure 85b) similarly shows high concentrations in Central Harlem, though it falls behind East Harlem and the East Side in density of the distribution. The infant mortality spot map[1] is most heavily spotted in the southern end of Harlem, in which the Porto Ricans live, exceeded only by two areas in East Harlem. The infant mortality rate map (Figure 73b) shows a larger area of high infant mortality rates in Harlem than in any other place in the city. The tuberculosis spot map[1] reveals highest concentration in the Porto Rican area, and the next highest large area is north of 125th Street, that of the American-born Negroes. The tuberculosis death rate map (Figure 73a) again shows the largest area of high death rates in the Harlem section. The venereal disease spot map[1] shows heaviest concentration in Harlem, north of 125th Street, and the venereal disease case rate map (Figure 73c) shows a higher percentage of cases in that same area than is to be found anywhere else in the city.

Such data in themselves would be sufficient to justify, on an experimental basis at least, special attention to rehousing in Harlem as a means of coping with these problems. Obviously it should be recognized, however, that these costly evidences of pathologic social condition cannot be met solely by a housing programme. The need of a comprehensive policy unifying health centers, social service, schools, and recreational agencies, with those concerned primarily with housing, is clearly indicated.

The problem is the concern of the entire city. As Negroes are very largely employed in domestic pursuits and as some of the surveys have shown as many as 88 per cent[2] of the married women working away from home (largely as laundresses or in housework), the diseases of this area may be spread to the rest of the population. That attitude, though practical, is selfish. For on grounds of ethical and social responsibility, it is proper that the members of a race that has been handicapped throughout its history in America by exclusion from many types of social and cultural advantages should, in an enlightened city, be given a chance to develop their native qualities, and demonstrate their potential capacities.

There is always some danger that narrow, stereotyped views concerning the Negro will lead to unfortunate programmes for his well-being. The cultural range among New York City Negroes is possibly quite as wide as among New York

1. The spot maps will be found in *Maps and Charts, 1933-34*, prepared by Slum Clearance Committee of New York.

2. Axelrad, *supra*, Chapter XII.

whites. Among Harlem Negroes there are many thousands who are well-educated, self-respecting citizens, and who possess property and incomes sufficient to make it possible for them to live well and look after their own and family interests adequately. There is a large additional group who have had one or more years of high school training and whose incomes generally would be sufficient to provide for themselves housing and living standards comparable with those of white adults with similar training. Among Negroes, as among whites, the more serious problems fall almost wholly among the group that have had access only to an elementary school education, who have had to leave school and go to work as soon as the law of the state in which they lived permitted, and who have not found it possible to develop themselves further after their schooling ceased. It is, mainly, this group that puts up with the worst of old-law housing in Manhattan or the outlying boroughs. The social problem in this case is quite as much a problem of education as of race, though their race has, in a large number of instances, been responsible, particularly if they migrated from the South to New York, for the brevity of their training.

Rehousing projects are further complicated by the fact that among Negroes the foreign born and native born do not mingle any better than they do among whites. Language stands in the way in the case of the Porto Rican and other Spanish-speaking Negroes, and also the smaller groups of Portuguese and Ethiopian Negroes. The British West Indian Negroes do not always mingle well with the native born, and have their own points of concentration, of which the largest are in several blocks north of Central Park and the border of East Harlem.[1] Each of these three major groups definitely needs attention from the point of view of rehousing projects. Special consideration should thus be given to the desirability of one project in the Central Harlem district north of 125th Street, another in the Porto Rican district between Central Park and 125th Street, and a third probably overlapping Central Harlem and East Harlem in the district inhabited chiefly by West Indian groups, both British and Spanish in origin.

The maps above cited suggest the outer boundaries of the areas that might most wisely be considered for rehousing from the point of view of community self-protection. Within these areas the promoters of housing projects should locate the groups of blocks which show the highest percentage of obsolete housing.

The framing of a project involves, first, the location of an appropriate site for an operation on a scale sufficiently large to make possible a neighborhood unit comprising several blocks. The types of housing that would be appropriate should be determined after a preliminary study of the housing needs of the population

1. See Social Base Map, 1931, by Frederic M. Thrasher.

within the areas selected. It is quite likely that as a result of such study one type of housing would be recommended for one project and other types for each of the others. At present these are areas of apartments and dwellings converted for use as rooming houses. Four-story houses predominate on many of these streets. Land values are much lower than in the Lower East Side and open housing of the four-story, multiple-family, walk-up type would probably be much more of an economic possibility here than there. The new housing could thus more readily be made to provide ample sunlight for every room, which is especially necessary for these groups because of their high susceptibility to tuberculosis. The fact that Negro rentals in Harlem tend to run higher than those paid in the Lower East Side further facilitates the provision of such housing on a relatively economic basis, unless, as has been intimated earlier,[1] such higher rentals are made possible only by overcrowding or the taking of lodgers, which the management division of the future housing project would probably find it necessary to discourage.

Useful experience in model housing for Negroes in New York City has already been gathered by the City and Suburban Homes Company in its Tuskegee and Hampton Apartments in the Columbus Hill district, as well as by the Paul Laurence Dunbar Apartments in the North Harlem district.

The first of the model tenements for Negroes, the Tuskegee, was erected in 1901 on West 62nd Street, and contained forty-eight apartments.[2] The second, the Hampton, is on West 63rd Street, and contains one hundred and twenty-eight apartments. Together they represent an investment of over $300,000. They are each six-story, non-fireproof tenement houses without elevators, but provided with central heat and hot water. They were made possible by gifts of the Phelps-Stokes family. Plans were drawn by Howells and Stokes for lots with a frontage of fifty feet. Three-room apartments predominate, but there are some of two rooms and some of four. Altogether, in the two buildings, there are fifty-five apartments of two rooms, ninety-six of three rooms, one of three rooms with bath, eleven of four rooms, and eleven more of four rooms and bath. The total number of rooms is 490.

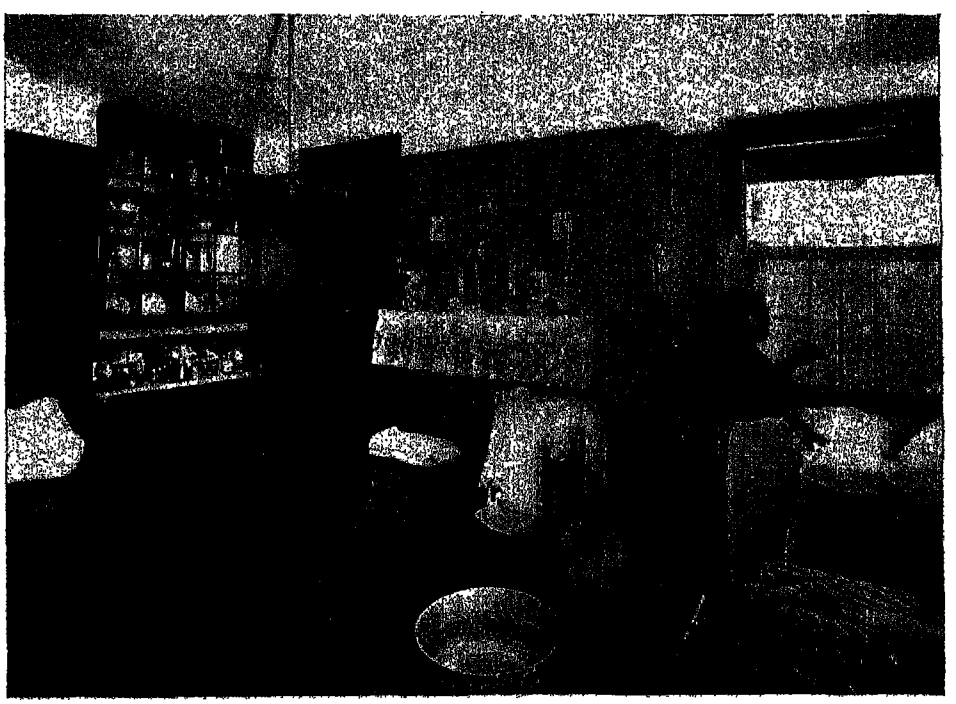
The report of the City and Suburban Homes Company for 1922, from which all of the above figures were taken, shows that of 174 tenant families, 25 had been in one of these two buildings for as long as twelve years, and all but 18 families had been in these buildings for four years or more. In the following year 88 of their tenants were listed as American Negroes, 2 as Cubans, 1 as Portuguese, and 83 as West Indians. The average rent per room per week was $1.88. The occupational distribution, as cited in the report of 1922, showed three bakers, one

1 See Chapter XII.

2. See Figure 137, also Appendix



a. The Tuskegee, at 213–215 W. 62d Street, 1901. For plan see Appendix, Pl. II, B.



b. Typical living room in The Tuskegee.

butler, one carpenter, two caretakers, five chauffeurs, seven clerks, seven cooks, one Custom House clerk, seventeen day workers, eight dressmakers, one driver, thirteen elevator operators, two engineers, one grocer, five hallmen, one hairdresser, twenty housekeepers, ten laborers, ten laundresses, one letter-carrier, seven longshoremen, five maids, one oysterman, two painters, one paster, thirty porters, two railroad men, one street cleaner, one steward, one telephone operator, one valet, four waiters, and two waitresses. The report of 1913 had shown that only 21 per cent of the families were supported by the husband alone; 43 per cent by joint labor of husband and wife, 9½ per cent by widowed mothers; 12 per cent by mothers and children; and 7 per cent by children.

The Tuskegee has developed a high vacancy rate because of a change in the neighborhood. An undesirable class of people is stated to have moved to the street, so that tenants fear for their safety in passing through it. The report of 1931 states "we cannot interest respectable colored persons in looking at vacancies. There is also a reluctance of the people to walk up to the top floors." The same report states that there is no trouble in renting in the Hampton, but records that the colored people have suffered most from unemployment, have been slow in the payment of their rent, but they have a "nice attitude in trying." It is very rare among the colored tenants for one to move out owing rent, whereas the same company reports that among their Jewish tenants in the Goerck Street development the attitude is very different: it is stated that they want to bargain about rents, they refuse to conform to the company's rule of paying rent in advance for the current week, and are reported to move out owing one week's rent, which pays for moving expenses. They "display no appreciation of improved living conditions." [1]

These two ventures for Negroes were excellently devised to provide decent housing. In their standards they go considerably beyond the minimum requirements established by law. They have been operated in a kindly and sympathetic manner, intended to bring only a limited dividend upon the investment. The Columbus Hill area in which they were located is inferior in its general housing conditions to Harlem. Rents were within the paying capacity of Negro families whose breadwinners were largely unskilled. The tenants' appreciation of the housing provided is demonstrated by their attitude in payment of rents and by their long-continued residence.

Two important facts are, however, clearly demonstrated by this venture and confirmed in other model tenements erected by the City and Suburban Homes Company. (1) Six-story, walk-up tenements can no longer easily rent their upper

1 Report of City and Suburban Homes Company, May, 1931

floors. Ordinarily neither Negro nor immigrant families will walk five flights to their apartments even in a model tenement. Most vacancies are on the two upper floors in all such projects. (2) Rehousing projects of units less than a block in size may be ruined by neighborhood changes. One of the streets, upon which these two buildings were placed, subsequently became undesirable and unsafe. This happened in spite of the fact that the report of 1917 had stated that the influence of these two tenements extended over a considerable portion of the immediate vicinity and that race riots, which used to be frequent in San Juan Hill, had not occurred since the Hampton was built. It is further reported [1] that the West 63rd Street section is changing in character. It was originally a colored residential section. Garages and commercial enterprises have recently been creeping in. Although this may not affect the value of the holdings, it makes them unsuitable for their present use. Thus one or two model tenements scattered in a block cannot prevent blight. Clearly rehousing projects, to prevent the intrusion of blight and of harmful elements in their vicinity, must cover areas not less than a block and presumably more than a block in extent.

A very different type of project is the group known as the Paul Laurence Dunbar Apartments in the Harlem block between Seventh and Eighth Avenues and 149th and 150th Streets.[2] It covers a gross area of 234,000 square feet or 5.37 acres. Through the munificence of John D. Rockefeller, Jr., and the technical architectural skill of Andrew J. Thomas this $3,300,000 group of model tenements was erected for New York Negroes in 1928. Because of the Negro's interest in home ownership [3] these apartments were made available only to tenant stockholders who subscribe to stock representing the cost of the apartment selected by them. There was originally a down payment of $50 per room required of tenants, and a renewable three-year lease. Average monthly payments by tenant stockholders were $14.50 per room, of which 54 per cent represented interest and principal and 46 per cent maintenance costs, including taxes and insurance. By this device the tenant becomes full owner in twenty-two years.

Altogether there are 511 apartments each occupied by Negroes. The largest single group of tenants gave their occupation as clerks, approximately one hundred in all. Median monthly earnings were stated in 1931 by Roscoe Conkling Bruce, Resident Manager, to be $148.86.[4]

The Dunbar Apartments, like those of the City and Suburban Homes Company, are six-story walk-ups. But they were planned to cover an entire city

1 *Ibid*, May, 1927

2 See Figure 138, also Appendix.

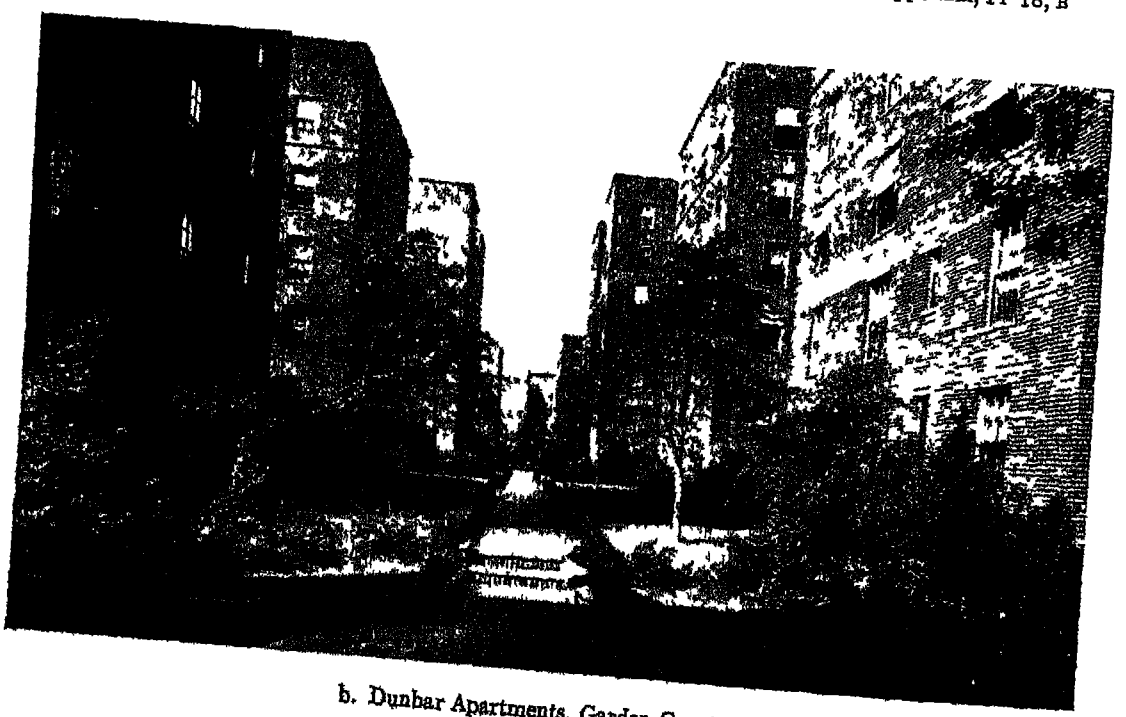
3. See p. 331.

4 President's Conference on Home Building and Home Ownership, vol VI, *Negro Housing*, p. 107. See also article by Roscoe Conkling Bruce in *Southern Workman*, October, 1931, pp. 417–428, also "The Idea of Cooperative Housing as exemplified by the Paul Laurence Dunbar Apartments in New York City" published on pp 245–248 of *Negro Housing*

FIG 138



a Paul Laurence Dunbar Apartments, Seventh and Eighth Avenues, 149th and 150th Streets, Manhattan, erected 1926–1928 Reproduced from *Architecture*, January, 1929 For plan see Appendix, Pl 18, B



b. Dunbar Apartments, Garden Court

block with six independent buildings each two rooms deep, and to provide interior parks that were designed and planted with exceptional skill. Play space is provided at the center of the gardens and there is a nursery for children. In many ways this is the most attractive model housing development that has yet been built in New York City for any group.

After five years of operation, 76 per cent of the original tenant subscribers were still living in these apartments, which is adequate proof of their acceptability.

There are 511 suites. One hundred per cent were sold by May 11, 1928. They will remain sold because applications come in daily and the waiting list for each type of apartment is very large. The apartments comprise three rooms; three and a half — the half being the dining bay which enables the family to dispense with using a whole room for dining purposes or the necessity of resorting to the living room; four; four and a half; five; six; and seven. Each room in any suite is substantially like the same type of room in any other suite. The ceilings are 8′ 1″ in height. Altogether, the rooms are regarded by competent critics as representing sound practice in modern apartment house architecture. They are comfortable and reasonably spacious, as well as genuinely attractive.

. . . The rooms have been valued with precision and thoroughgoing equity, so that the second and third floors represent the peak price in any building, the first floor being substantially lower, and the fourth, fifth and sixth floors being graduated downward in price until the sixth is lowest of all. A corner suite is given a higher sale price, than one inside.

The dimensions of the rooms are on the average as follows:

Kitchen	7′ 2″ x 10′ 4″
Dining Room	10′ 2″ x 13′
Living Room	10′ 6″ x 14′ 6″
Master Bedroom	10′ x 13′
Bedroom	10′ x 11′

The process of purchase is in fact as follows: one buys on a very liberal instalment plan an amount of the common stock of the Corporation equivalent in value to the apartment in question. On this basis, he is permitted to lease the apartment, at first for a period of three years. It is not to the interest of any tenant-owner to break this three year lease. But, without loss, he may at the end of this term either apply for a further lease or request the Corporation to resell his stock at par. Whenever a tenant-owner gives up an apartment, he is, of course, required to leave it in the same condition in which he originally accepted it, the cost of re-decorating being subtracted from the Down Payment.

Any lease expires absolutely (in the words of Article I, Section 8 of the Lease and Subscription Agreement) "in the event that the Lessor shall determine that the tenancy of the Lessee is for any reason undesirable, whether because of objectionable conduct on the part of the Lessee, or of any person dwelling in or visiting the demised premises or otherwise. To violate or disregard the house rules hereto annexed, or hereafter established as herein provided, or to permit or tolerate a person of dissolute, loose or immoral character to enter or remain in the building or demised premises shall, among other things, be deemed objectionable conduct."

While the stock may be bought for spot cash, the installment plan is, of course the only one

possible for the purchasers; and on this the down payment is only fifty dollars per room and the monthly payment not much more than the rents usually paid, that is, according to location, from eleven dollars and a half per room per month up to seventeen dollars and a half.

. . . [The] nursery, intended for infants from a few weeks old to 5 years of age, is in rooms adjacent to the play-ground. . . . There are 12 cribs for babies, an electric refrigerator to keep milk and orange juice cool, a sterilizer, equipment for cooking, tastefully decorated enamelware dishes, Lilliputian furniture, etc. An admirable practical nurse is in charge. The fee is merely nominal, that is, 25¢ for a day or any part thereof. The types of mothers who are specially benefited by this service are: those about to go shopping or marketing; the careful mother who realizes the desirability of keeping her babies out of the dust when she is housecleaning; the third mother who has kept watch at night nursing some member of her family group and who feels the need of a day of unbroken slumber; the frail and nervous; and those who have or are seeking lucrative employment.

If the nursery is not yet financially self-supporting because of the low fee, it is a charge upon the total operating cost of our plant which all are willing to carry. Any increase in the fee would fall most heavily upon those least able to sustain it. . . .

It may be informing to list all the particular occupations in which ten or more of our tenant-owners are engaged:

Chauffeurs		22
Clerks		100
Private Office	28	
Post Office	72	
Domestic Service		58
Household Management	15	
Cooks and Stewards	15	
Other	28	
Dressmakers, etc.		15
Laborers, Unskilled		10
Letter Carriers, P. O.		12
Messengers		14
Porters		53
Office Building	27	
Pullman	26	
Stenographers, typists, etc.		18
Superintendents, Apartment House		11
Teachers		13
Waiters, Dining Car		10
Total		336

Of the 465 tenant-owners reporting the exact wages they were earning at the time of applying for apartments, one-half received less than $148.86 per month and the other half more. The lowest quartile received $122.00 or less per month, the highest quartile $177.00 or more; in other words, one-half of these persons received from $122.00 up to $177.00 per month. But, the wage distribution may, perhaps, be most significantly indicated in a single amount by the median above mentioned, which is $148.86 per month. . . .

This entire project is operated not in the method and spirit of a real estate, but of an educational adventure. When I remind you that the payments from 100% of the apartments

come to the Corporation in an uninterrupted stream, you must realize that the project is financially successful, — a fact of major importance if it is to serve as copy for imitation elsewhere. And I think I am entirely safe in saying that, just as far as the present physical facilities permit, in almost every important social and educational sense it is successful.

Perhaps, I should add that the all-Negro resident management have approached our responsibilities not from a scientific point of view but from that of educational administration. With profound instinctive faith in the capacities of our own people, under appropriate environmental influences, to measure up fully to all the requirements of civilized living, we have demanded of ourselves at all times sympathetic understanding of those whom we are privileged to serve, a thoroughly humane spirit, imperturbable patience, unhurried common sense. And, I may say without exaggeration, never have the members of our community failed to accord us the most generous response. We feel ourselves to be — as, indeed we are — members of one big family.

A highly unified administration, by the way, we deem indispensable to solid achievement. And the administrative procedures we have devised in response to recurrent actual situations, have proved in practice to be adequate. We have indulged in precious little theorizing and copied nobody. While this particular cooperative community has been a pioneer by necessity, its miscellaneous experience is at all times at the prompt command of other housing ventures wherever situate.

An efficient management for the apartments is practically guaranteed by the provisions of the Lease and Subscription Agreement for a period of more than twenty years. During this time, the preferred stock, which alone has voting power, will remain in the hands of Mr. Rockefeller. Our community of approximately two thousand souls will become so habituated to the advantages of good management that thereafter, we believe, it will tolerate nothing less.

. . . In response to the most wholesome kind of competition, the apartment houses in this section are being put into better and better condition. . . .

This is an adventure in community building. We are developing an exemplary community of color. Already a fine and cordial spirit of neighborliness, most extraordinary in a great urban center which attracts people from the ends of the earth, pervades it through and through.[1]

Economic circumstances of recent years have forced the elimination of the down payment when new tenants enter, and rents have been reduced. Probably it is circumstances dependent upon the depression which have caused the demand for apartments of six and seven rooms to be so slight that the management now permits such apartments to be taken by two families of relatives instead of by an individual family.

The Dunbar Apartments have demonstrated clearly the advantage of utilizing the block rather than the lot as the unit of construction. Like the Tuskegee and Hampton Apartments, the Dunbar Apartments have had some difficulty in finding tenants for their upper floors. For even in a venture of this sort — in some ways the best model tenement of America — tenants are few who will climb five

1. Roscoe Conkling Bruce, *The Paul Laurence Dunbar Apartments of New York — An Adventure in Community Building.*

stories to their apartment. Elevator service has become necessary for higher buildings in recent years. Another lesson shared by these houses with many model tenements that have been built for white families is that the contemporary demand is for larger rooms. In response to this demand the management has found it necessary to remodel to the extent of tearing down partitions between living rooms and dining rooms.

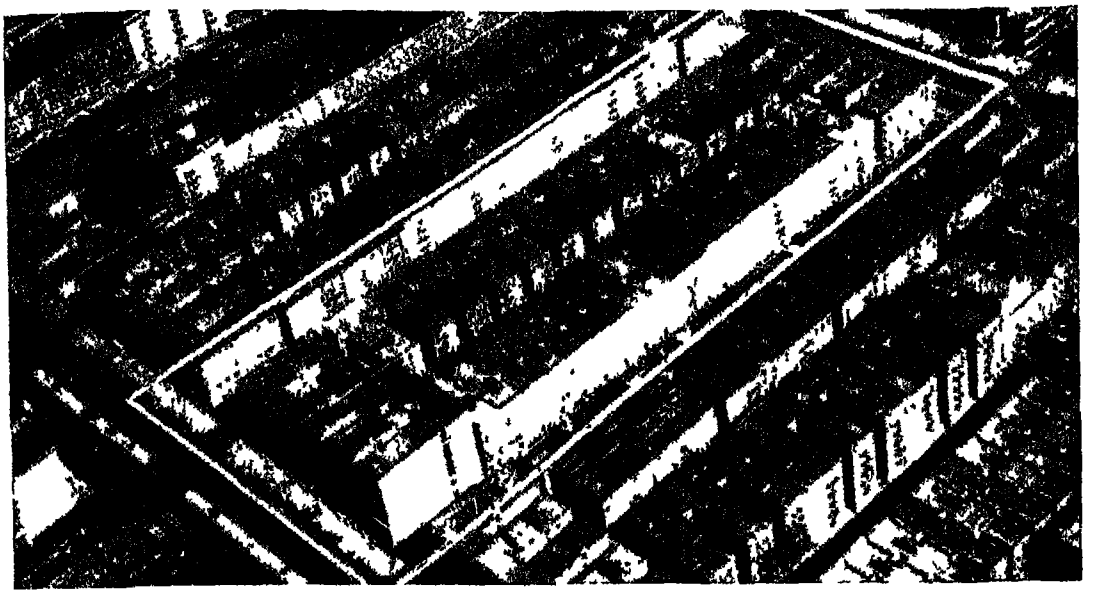
In the main, however, the Dunbar Apartments demonstrate the practicability of large-scale operations, high maintenance standards among tenants in modest occupations, and the responsiveness of their clientele to community enterprises and to acceptance of interior parked areas and playgrounds as common facilities to be protected and conserved. After many years of operation, the interior planting is unspoiled and the buildings and apartments show no sign of misuse.

The first municipal low-rental housing project for Harlem, announced in an official release of the New York Housing Authority on September 30, 1935, fulfills many of the requirements mentioned earlier in this chapter. It is not a slum clearance project, however, since it is to be built on land now vacant. It will thus not replace any of the old-law tenements. On the other hand, it will be spared the inclusion of demolition costs in the rents to be charged prospective tenants. Though not a slum clearance project, it will serve as a useful demonstration of a new pre-planned estate for Negroes, built with public funds, according to the high standards of house and community planning insisted upon by the New York Housing Authority.

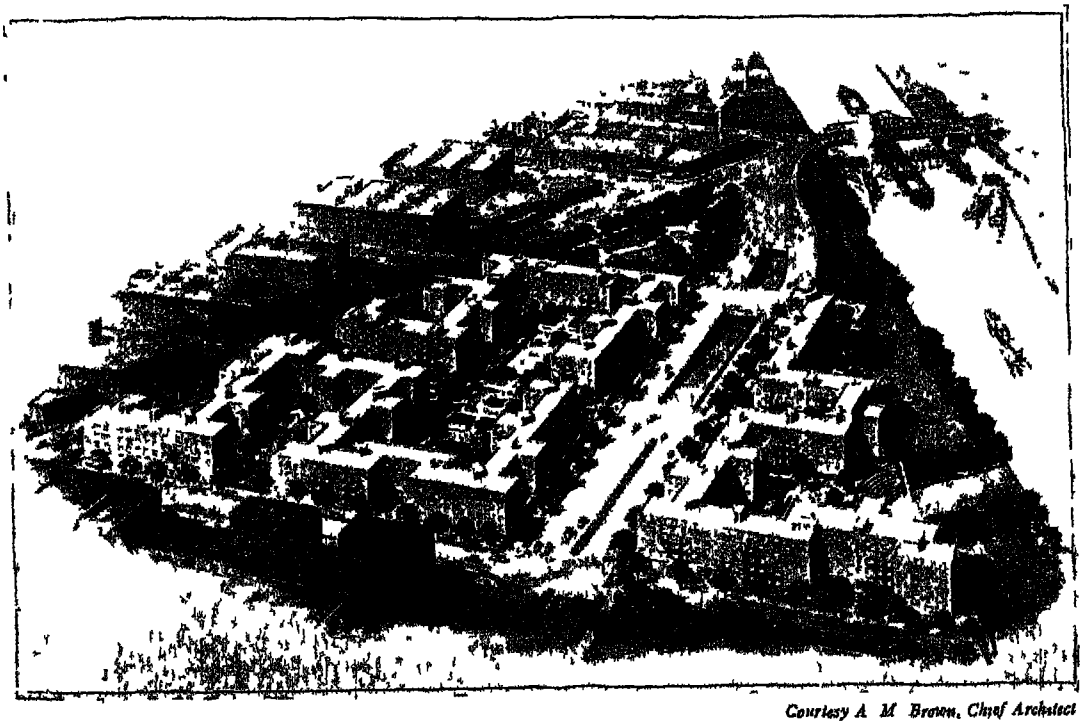
The Harlem-Macombs project (Figure 139b) lies between 151st and 153rd Streets, and is flanked on the west by Macombs Place and on the east by the Harlem River. The gross project area is 13.34 acres, of which 8.12 consists of the area of the blocks and 5.22 the streets within the project and one-half the areas of the boundary streets. From the 8.12 acres comprised in the blocks, 1.36 acres have been withdrawn in the plan for use as playgrounds, and 1.26 have been added by street closings, leaving a net project building area of 8.02 acres of which 2.42 will be covered by buildings and 5.60 will be left open.

It is planned to build 60 two-room apartments, 260 of three rooms, 232 of four rooms, and 24 of five rooms. Thus 576 apartments, consisting of 1,948 rooms, are planned to house 2,280 persons.

The official programme for the Harlem project, as revised up to October 2, 1935, called for four-story buildings and a density per acre of 215 persons. Land cost was figured at $3.37 per square foot, or a total of $1,030,000. Construction cost, inclusive of stores, was estimated at somewhat over $1,827,000. Other fac-



a New York's "most crowded block," W. 142d and 143d Streets, Lenox and Seventh Avenues, 1935 Population 3,871 Reproduced from *The Daily News*, September 17, 1935 See also Figure 64 b



Courtesy A M Brown, Chief Architect

b. Harlem-River Houses, Federal (PWA) $4,700,000 low-rent housing project for Negroes, to cover approximately nine acres bounded by 151st and 153d Streets, Macombs Place and Harlem River. Four- and five-story walk-up apartments with 576 living units. Chief Architect, A. M. Brown. See also Fig. 64 b

tors, listed as piling, land development and fill, fees for builders and architects, carrying charges, operating capital, and contingencies, brought the estimated total initial costs to approximately $3,315,000, of which 45 per cent or $1,491,738.11 would be provided from Federal grant, and $1,823,235.47 as Federal loan at 3 per cent. Monthly rent per room, excluding insurance, was estimated at $5.75, which would probably mean rents ranging from $5 to $7 per room per month as estimated in the official news release of September 30, 1935. Obviously details of these sorts must be regarded as tentative. The gross estimated cost of the project, as given in the official news release, is $4,700,000. This figure doubtless includes the plans for the development of gardens, playgrounds and wading-pool for children, health center and clinic, club rooms, and occupational work rooms, mentioned in that release.

One distinctive feature of this project, which is very much to the credit of the New York Housing Authority, is the appointment of an Advisory Committee consisting of prominent civic leaders and social workers of Harlem on which there are many Negroes familiar with Harlem conditions and needs.

It is stated that the project will consist of 46 units, that special provision has been made for cross ventilation of apartments, and that all rooms will have windows to either the garden courts or the street. Large casement windows are planned for. Kitchens will be sufficiently large so that a family of four may eat there. Equipment includes electrical refrigeration, incinerators accessible on each floor, community laundries in the basement of each unit, and a day nursery for children. Since there will be a coverage of only 30 per cent of the total area with buildings, ample provision has been made for garden and playground space.[1]

Although many details of this plan, as above outlined, may subsequently be changed, it is evident that this project is well adapted to Harlem needs in such features as the limitation of heights of building units and of land coverage; the provision for cross ventilation; the sunning of apartments, which is made possible by the open type of construction two rooms deep at each point; and the generous provision for community facilities. Though it contributes nothing to the solution of the problem of slum demolition, it will offer housing better than is now accessible to Negro families in a relatively low, but not the lowest, income group. The size of the apartments will preclude the taking of lodgers and will thus presumably limit occupancy to families with fairly continuous incomes from skilled labor, clerical or professional pursuits, a group for which adequate housing facilities are still unavailable.

Additional model housing for New York Negroes is needed. For income groups

1. All the data above cited are from documents in the possession of the New York City Housing Authority.

of the type represented by the Dunbar Apartments, such improved housing may wisely be provided by private capital with the assistance of public loans at low rates of interest and long periods of amortization. But to provide new housing in slum-clearance areas to replace old-law tenements — in areas where the delinquency, tuberculosis, and venereal disease rates are highest — would almost certainly require direct governmental operations of the type now being carried out in the Williamsburg area of Brooklyn. For condemnation of land and the writing off of demolition costs is necessary before such ventures can become an economic possibility for private exploitation. Public intervention is requisite, at least in the early stages. Thus, Negro rehousing projects for the lowest-income groups of Harlem will have to follow the procedure for rehousing outlined in other chapters.

CHAPTER XXXVII

HOUSING PROJECTS FOR SINGLE MEN AND WOMEN

AMONG New York City's seven million population there are over two million persons fifteen years or older who are single, widowed, or divorced. Their present conditions of housing have already been described.[1] It may be recalled that there are nearly 180,000 families in New York City that have one or more lodgers. In Manhattan over 24,000 lodgers live in hotels, over 72,000 in rooming or boarding houses, and the rest are distributed among over 80,000 private families.

Many attempts have been made to meet the problem of the roomer or lodger by the provision of special improved buildings for their use. The movement is from two to three generations old, and although many mistakes have been made and much financial loss involved in certain undertakings, it is still vigorous and continues to develop not only from the quantitative point of view, but also in the quality and standards of the buildings erected.

For men the philanthropic and limited-dividend undertakings range from the dormitory type of cheap lodging house for unemployed males and men of lowest casual income, through the single-room type of lodgings provided by Y. M. C. A.'s and similar organizations, to high-cost residential clubs which make elaborate provision for the comfort of their clientele. In addition there are cheap lodging houses and hotels, and middle- and upper-class residential hotels of the commercial type.

There is a wide range in types of hotels listed by the Emergency Relief Bureau. In their directory of October 19, 1935, they use as accommodations for transient sailors, Seamen's House, 507 West Street; Bethelship Y, 56 Sullivan Street, Brooklyn; Keller Hotel, 150 Barrow Street; and "25 Bowery." For transient landsmen they list Arion Hotel, 2231 3rd Avenue; Watson Hotel, 583 Tenth Avenue; Washington Hotel, 149 Washington Street, Brooklyn; Salvation Army at 124th Street, at 444 Cherry Street, and at 376 Lafayette Street; as well as the Columbia Hotel and Transient Camps. For the local homeless they list the Municipal Lodging House at 438 East 25th Street, the Annex at Slip 5 South Ferry, Mills Hotel at 16 Rivington Street, Bowery Units at 376 Lafayette Street, and the Brooklyn Transient Unit at 262 Fulton Street. For transient youths they list Brace Memorial at 244 William Street; Adelphi House, 470 West 23rd Street; the Bowery Y. Annex at 222 Bowery Street; and the Bowery Y. M. C. A. at 8 East 3rd Street.

1 See Chapter XIII.

In addition to these, as lodgings for boys, should be mentioned the Chrystie Street House at 426 West 23rd Street with accommodations for twenty, which takes unemployed boys or boys on parole; and the Lavanburg Corner House at 331 East 12th Street, with accommodations for 112 homeless Jewish boys. The Mills Hotel at Rivington Street has accommodations for 598, and the new Mills Hotel at 36th Street and Seventh Avenue has accommodations for 1,895. They charge fifty and sixty cents, respectively, per night. The Young Men's Hebrew Association, at 1395 Lexington Avenue, with beds for 272, rents rooms to self-supporting Jews at $1 per day and from $3.50 to $6 per week.

Eleven branches of the Young Men's Christian Association have lodging accommodations. Of these the least expensive are the Twenty-third Street branch, 215 West 23rd Street, with 330 beds, and a daily rate from fifty cents to $1; and the Seaman's House, at 550 West 20th Street, with 252 beds and daily rate from sixty cents to $1, or weekly rate from $3.75 to $4.75. The others, which have a daily rate starting at $1 and weekly rates from $4.50 up, are as follows:

Bronx Union	470 East 161st Street,	162 beds
West Side Branch	5 West 63rd Street,	593 beds
William Sloane House	356 West 34th Street,	1669 beds
One Hundred Thirty-Fifth Street	180 West 135th Street,	275 beds

In addition to these there are the Grand Central Terminal branch, with 441 beds; the Alumni Club, with 65 beds; New York University Heights, with 14 beds, the Bowery, with 396 beds; and the Pennsylvania R. R. branch, with 179 beds.[1]

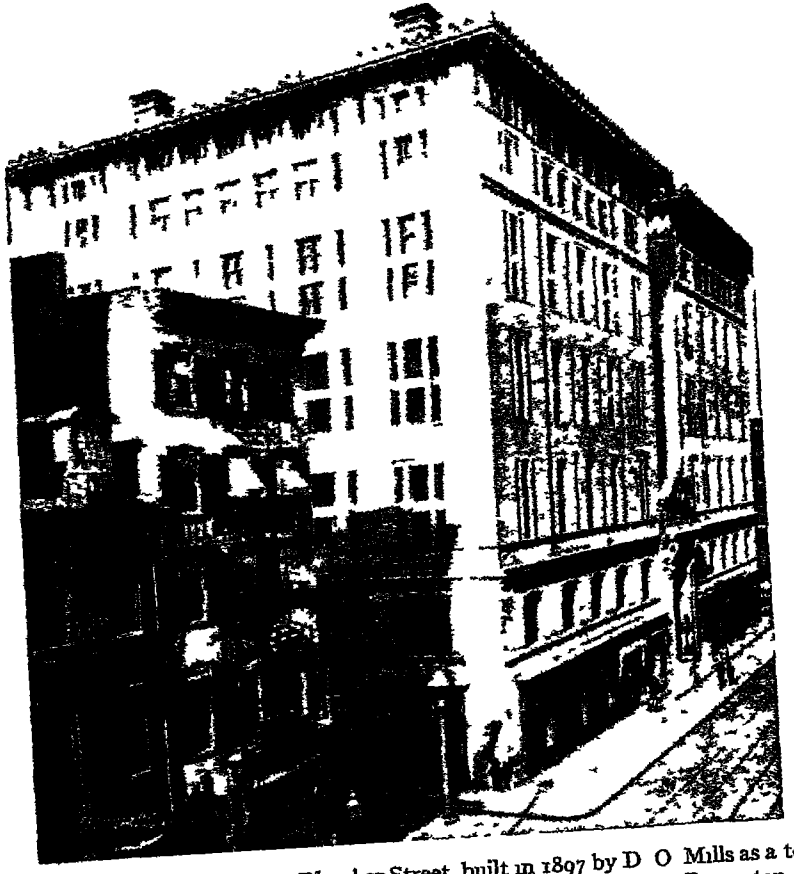
There are also examples of institutions of each of the above types for women, but the number of accommodations for unemployed women and the lowest wage group is smaller, and for the middle, or shop- and office-worker group, rather larger than in the case of men. Commercial enterprise finds it economically impossible to provide adequately for the lower-income groups of women, since their small wages make it impossible for them to pay rentals that will bring an adequate return on the investment. There are very few lodgings, therefore, of the commercial type for women, except for professionals and executives, and a large fraction of the better lodgings, even for professionals, are on a semi-commercial basis since the building is endowed and only the current overhead is met out of rentals.[2]

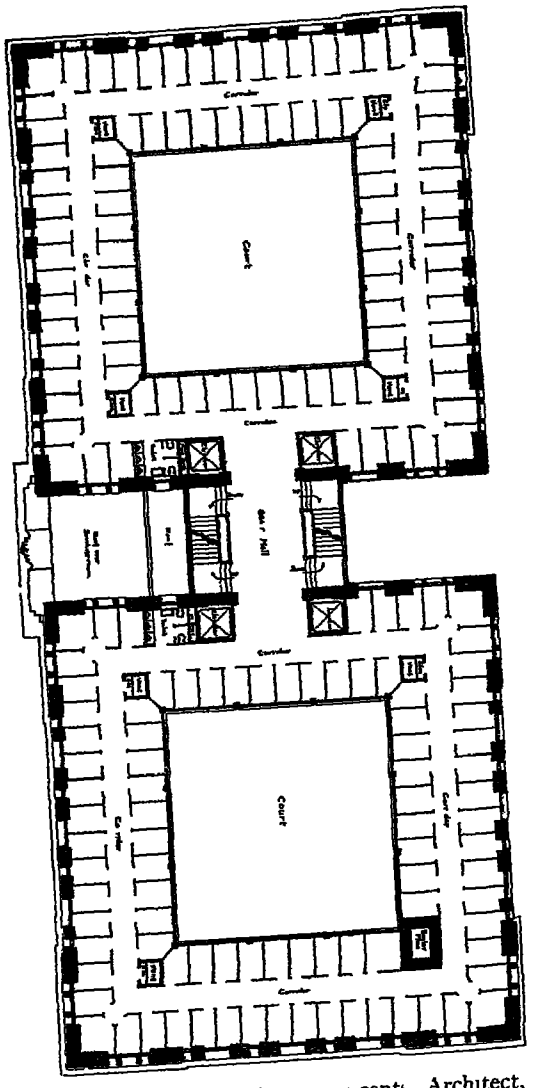
For the problem of the single employed woman is complicated by her relatively low income, by the recognition of her need for social protection, as well as by her need for amenities of life which the rooming house does not afford. Such

[1] This summary has been compiled, and the text largely paraphrased, from a number of recent circulars, too ephemeral to list.

[2] The Bureau of Social Hygiene, in 1922, issued a comprehensive study of *Housing Conditions of Employed Women in the Borough of Manhattan*. Its chapters on methods of investigation, organized homes, room registries, and suggestions as to housing are particularly valuable, as are also its tables. The Womans Press has published a booklet on *Housing for Girls*, which covers building plans, qualifications and duties of residence secretaries, and other practical matters on management of residential clubs. Forms for room registry records are also issued by the Womans Press.

The *Directory of Social Agencies*, published annually by the Charity Organization Society in cooperation with the Welfare Council, includes a list of residence clubs for girls and young women.





a Mills Hotel No 1, 160 Bleecker Street, built in 1897 by D O Mills as a ten-cent-a-night lodging house for men Now 35–40 cents Architect, Ernest Flagg Two other Mills Hotels were later erected, at Rivington and Chrystie Streets and at Seventh Avenue and 36th Street
b. Typical cubicle (upper) floor plan Courts, 50′ x 50′, enclosed with glass Partitions separating rooms do not extend to ceiling.

amenities cover not only decent wholesome rooms, but also wholesome food and adequate diet at reasonable prices, common rooms for cultural and recreational life, and provision for entertainment of guests of the opposite sex.

The accompanying table includes the majority of residential clubs for women.[1] These residential clubs cater to the group earning between $10 and $35 per week. With very few exceptions, such as the American Woman's Club, the Barbizon, and the Allerton, the lodgers' payments range from $3 a week without board or $6 with board, to $8 without board or $12 with board. Subsidization of rent usually but not invariably takes the form of endowed lodgings. In cases where the lowest rents are charged it includes some of the cost of the current overhead as well. The earning of a return on invested capital in addition to current cost is possible where the higher rents are paid. It is clear that a vital social need has been met with skill and understanding through investment in this type of human service. The total number of accommodations in the fifty-one residences covered by the table on pages 756–758 is approximately 7,650.

Some of the buildings are old private residences converted for this use. These latter have the smallest number of accommodations and a life which often approximates "one large family." Personal relationships between residents and the house mother or the staff are a possibility and meet deeply felt needs on the part of some of the lodgers. As a rule, the relationships between residents and staff are less personal in the larger houses, but there are exceptions to any such rule.

The more recent buildings usually accommodate from 100 to 250 lodgers and take on much more the aspect of a residential hotel or club than of a home. This is said to be preferred by a large percentage of the business and professional women and students who reside there. At each of these houses the question was asked whether it was considered that the present size was adequate, or whether, if they were rebuilding, they would establish a larger or smaller unit. Almost without exception the manager of each institution, irrespective of its size, preferred its present size.

It is rather surprising, in view of the wide range in sanitary accommodations, that managers of each club were relatively content with their present arrangements and considered them in the main adequate. When asked if they would increase such facilities, relatively few urged the provision of more than a few additional shower baths and wash basins.

The lessons from experience, as revealed by the officers of these houses, make

[1] Each of the lodging houses and residential clubs of the limited dividend type was visited by field representatives secured through the cooperation of the Social Research Laboratory of the College of the City of New York, under the direction of Professor Samuel Joseph and Mr Harry Alpert Our questionnaire was employed, which was filled out with the cooperation usually of the manager of each house visited The information in the table and the following data are derived from this questionnaire and the field visits.

Residential Clubs for Women in New York City

Name of Residence	Address	Auspices	No Accommodations	Rental Charges						Types of Occupants
				Single Room		Double Room		Dormitory		
				Day	Week	Day	Week	Day	Week	
Allerton House	120 E. 57th St.	Allerton N Y Corp	448		$8–20					Business and professional women, and students
Alma Mathews House	273 W 11th St	Women's Home Missionary Society — M E Church	21		2 50		$2 50		$2 50	Business and professional women, social workers and saleswomen predominating Ages 21–30
American Woman's Club	353 W. 57th St	American Women's Assn	1250	$2 50–3	10 50–20	$2–2 50	6 11			Business and professional women, and students
Barbizon, The	140 E 63rd St.		755	2	10 up		8 up			Business and professional women, and students
Carroll Club	120 Madison Ave.	Advisory Board	40							Catholic club for business and professional *women, and students*
Central Club for Nurses	132 E 45th St	Y. W C A.	247	1 50–2	26–28 50 (per month)		20 50 (per month)			Graduate registered nurses
City Federation Hotel for Working Girls	445 W 22nd St	New York City Federation of Women's Clubs	95		10–15		7 50–9 50		10	Self supporting girls, women and students
Clara de Hirsch Home	225 E 63rd St	Baroness de Hirsch Fund	90		7*		6*		5*	Boarding home for independent single girls, 17 to 25 years of age, predominating occupations are clerical and needleworkers Non sectarian, chiefly Jewish girls
Club Caroline	262 W 127th St.	Association to Promote Proper Housing for Girls, Inc	58	50	4 50		3 50		3	Negro girls and women, students, domestic, factory and office workers, few professional
Club Marshall	190 E 30th St	*Association to Promote* Proper Housing for Girls, Inc	35		8–9		7		5	*Self supporting business and professional girls* and women
Devin Clare	415 W 120th St	Sisters of Mercy	100	75	7–9*		6–8*		6–8*	Students, business and professional Ages 18–45 Non sectarian
East End Hotel	541 E. 78th St.	City and Suburban Homes Co	320		8–12 50*		7 50–9 50*			Predominantly business and clerical workers
Emma Ransom House	175 W. 137th St.	Y W C A	235	1 50	(Single and double $1 25–1 75 per day)* 3–8	75	3 50–4			All races accommodated, Negroes predominate Business and domestic workers
Evangeline, The	123 W. 13th St	Salvation Army	328		3 50–7		2 50–6			*Business and professional, office workers* predominating
French Evangelical Home	120 W. 16th St	French Evangelical Church	19		9 50*				8 50*	French domestics — governesses, maids, chambermaids, waitresses and cooks
French Evangelical Home Annex	341 W. 30th St	French Evangelical Church	20		4		3–3 50			French domestics — governesses, maids, nurses
French Young Women's Christian Union	124 W 16th St	French Evangelical Church	25	1	9–10*	75	7 50*–8 50*			French working girls, governesses, tutors, domestics
Friendly Center for Business Women	233 E 17th St	Friendly League for Christian Service, Inc	80	1.75*	8–14*	1–1 25*	7 50–10*		6–10 50*	Business Women
Girls Club Assn. of Brooklyn, Inc.	174 Prospect Pl, Brooklyn	Advisory Board	90		9 50–10*		8–10*		5–6*	Jewish girls, wage limit $25, ages 17–35 years, office and factory workers, saleswomen, students

Girls Service Club	138 E. 19th St.	Girls Service League	16	Non-paying guests							Girls, from 16–21 years of age, without resources, runaway or stranded girls, or girls who have been put out of their homes.
Girls Service Club	151 E. 18th St.	Girls Service League	38	1*	..		1*	..	1*	.	Single girls, 16–22 years of age, factory and office workers, waitresses.
Harriet Judson, The	50 Nevins St., Brooklyn	Y. W. C. A.	338		6.50–11*		.	6–8*		.	Business and clerical women and girls.
Hotel Irvin for Women, Inc.	308 W. 30th St.	Hotel Irvin for Women, Inc.	187	..	6–10.50						Business and professional women; no age limit; non-sectarian.
Huntington House	94 Fourth Ave.	Grace Church	40	.	10[e]		.	8.50[r]		7.50*	Protestant only; salary limit $30; business and professional women.
International Institute	341 E. 17th St.	Y. W. C. A.	82	.	5–7		.	4		3.50	Ages 18–35; 22 nationalities; domestic, industrial, and business workers. White and oriental races accommodated.
Jeanne D'Arc Home	253 W. 24th St.	St. Vincent-de-Paul Society	250	..	8[t]		.	6.50*		5.50*	Non-sectarian. French working women and domestics, governesses, nurses, clerical.
Katharine House	118 W. 13th St.	Ladies' Christian Union	104	..	12[r]			8.50[e]			Business and professional, chiefly clerical workers. Age limit 35 years.
Laura Spelman Hall	607 Hudson St.	Y. W. C. A.	242	1.25	3–6		1	3–4			Age limit 18–35 years. Low-wage office workers, students, waitresses, saleswomen.
Lutheran Home for Women	320 E. 82nd St.	Woman's Missionary Society, Evangelical Lutheran Augustana Synod	82	1.25	5.25			4.50	.		Business and domestic workers. Non-sectarian.
Mädchenheim-Vereins	217 E. 62nd St.	German Baptist Society	30	..	7.50*		.	.		6.50[r]	Age limit 35 years. Non-sectarian. Predominant race German Americans. Business women and domestics.
Margaret Louisa, The†	14 E. 16th St.	Y. W. C. A.	95	1.50	6–8		1–1.25	5–6		..	Business and professional women; office workers predominate.
Maria (Casa Maria)	251 W. 14th St.	Our Lady of Guadalupe	25	..	7–9*		.				Self-supporting Spanish and American women of Catholic faith; office and factory workers.
Milbank House	11 W. 10th St.	Ladies' Christian Union	43	..	8.50–12[e]			7–9*		8[t]	Self-supporting single women; Protestants only. Business and professional, students.
New York Hospital Graduate Nurses Club	317 W. 45th St.	Alumnae Association	159	1.25	8 up		..	..	..	..	Nurses.
Rehearsal Club, Inc.	45–47 W. 53rd St.	Board of Managers	40	.	12–13.50*		..				Professionals in theatre, movies, radio, dancers.
Roberts House	151 E. 36th St.	Ladies' Christian Union	108		8.25*			9.75[r]	..		Single women only, Protestants; age limit 35 years. Business and professional women.
Rosemary House	24 W. 12th St.	Ladies' Christian Union	36	.	9–10.50†		.	7.50–10*		7.50†	Single women only, Protestants; age limit 35 years. Business and professional women.
Sage House	49 W. 9th St.	Ladies' Christian Union	39	.	9.50*		..	8.50*	.	7.50*	Single women only, Protestants; age limit 35 years. Business and professional women.
St. Dominics Guild	207 E. 71st St.	St. Dominics Guild	50	.	7–9*		.	6–8*		4–8*	Retired domestics predominate. Business women also occupants.
St. Elizabeth for Young Women, Inc.	236 E. 15th St.	St. Elizabeths Industrial School	40	..	15*		..	8.50*		4-6.50*	Physically handicapped women accepted as well as others Catholic auspices but all denominations accommodated. Industrial workers.

* Meals included.

† Announcement was made in 1935 by the Young Women's Christian Association that the Margaret Louisa, its pioneer residence in this city, would be converted on September 1 into a co-operative home for 100 self-supporting members between eighteen and thirty years old who earn $15 a week or less. The girls will receive board and room for $6 a week in return for taking care of their own quarters and contributing not more than twelve hours' work a week to various phases of the house's administration.

The Margaret Louisa will be the first such house opened by the Y. W. C. A. and "the first of any sort for self-supporting young women in the lower salaried groups."

Membership in the New York Y W C A will be a prerequisite to joining the co operative and all applications for residence must be made in person The work will include waiting on table, helping to prepare meals, mending linens and supervising their distribution, keeping records and compiling statistics, operating elevators and acting as hostesses in the public rooms of the co-operative.

RESIDENTIAL CLUBS FOR WOMEN IN NEW YORK CITY (*continued*)

Name of Residence	Address	Auspices	No Accommodations	Rental Charges						Types of Occupants
				Single Room		Double Room		Dormitory		
				Day	Week	Day	Week	Day	Week	
St Mary's Home for Girls, Inc	227 L 72nd St	Chancery Cardinal Hays	132		$8–11*		$8*			Matured business and domestic types of women
St Stephen's Inn	213 E 31st St	St Stephen's Church	26	$1	5	$0 75–1	4–4 50	$0 50	$3–3 25	Non sectarian Business and domestic workers
St Zita's Home for Friendless Women	144 W 15th St	St Zita's Home	92	Non paying guests						Poor and unemployed matured women, white and Negro Domestics and factory workers Women leave when they secure work
Sister Catharine's Home	212 E 46th St	Trustees	22		8 75*		8 25*		7*	Primarily for unemployed girls and women seeking work, when work is secured they leave Chiefly children's nurses and domestics
Studio Club, The	210 E 77th St	Y W C A	142	1 20–1 50	7–9	1 25	6 50–7			Students or professionals in the arts
Tatham House	138 E 38th St	Y W C A	261	1 50–2	6–9	2 50	10–12			Young business women, general office work
Thomas Residence Club	160 Riverside Drive	Mrs H M Thomas, Proprietor	44		6–8 50		6–6 50			Business and professional women Individual rooms in apartment house suites
Tyndal House	58 E 102nd St	People's Tabernacle Undenominational Church	48		5–8 50*					Twenty per cent business women, others retired elderly ladies living on savings or pensions
Webster Apts, The	419 W 34th St	Webster Apts Corporation	408		8 50–13*					Non sectarian Young business women 'Unmarried working women of limited means"
White Rose Home	262 W 136th St	White Rose Industrial Assn.	14		4 50		3 50–4		3 50	Undenominational, and predominantly for the 'stranger girl' without resources, white and Negro Mainly domestics
Yourg Women's Hebrew Association	31 W 110th St	Federation for the Support of Jewish Philanthropic Societies	160		10–12*		8*	1		Single Jewish girls, no age or salary limit Office and factory workers

* Meals included

it apparent that, in future building, the percentage of single rooms should be increased, the size of rooms should be rather larger than in the present buildings, a few small guest rooms should be included in each building, beds should be substituted for cots, there should be a wash basin in each room, and a bookcase should be added to the furniture where not now provided. Several suggested, also, suites of two or three single rooms to be served by one large bathroom with bathtub and shower. Many recommended additional recreation rooms, private rooms in which the women residents might receive their men friends, sewing rooms, game rooms, and a gymnasium with portable stage. One recommended a demonstration room for housekeeping and cooking, another a kitchenette on each floor. Several mentioned the importance of sound-proof walls, and some the importance of electric outlets instead of wall lights. One also mentioned the desirability of a small dining room for private parties.

Without exception they recommended that there should be no housekeeping suites within lodging houses. It was apparently universally felt that the provision of such suites would bring a different kind of tenant who would not assimilate properly in the type of social life which these houses cultivate. From their experience, then, it is indicated that the provision of housekeeping apartments for unmarried women is a special problem to be met by supplementary measures and not through residential clubs of the current type. An officer of a lodging house occupied chiefly by women in domestic service called attention to the special need of living quarters for working mothers with young children. A comprehensive housing policy, therefore, would wisely incorporate provision for these two types of accommodation.

In response to questions concerning the types of residents who do not mix well or who are not easily taken care of in residential clubs, several managers spoke of wide disparities in ages as a source of difficulty. Most residential clubs for women limit the ages of residents to the range from 18 to 35 years, or somewhat similar groupings, in order to forestall this difficulty. This may mean that it would be desirable to have special residences for older women. Others called attention to the fact that students and business women do not mingle well together, which might suggest the importance of special houses for each group. Others stated that office workers and domestics in the same club do not mingle well. Married women in a residence for single women may be a source of difficulty "because of marital complications." The manager of one house stated that professional entertainers have proved undesirable as residents. Others spoke of double rooms and dormitories as a source of friction. Apparently a considerable number of these houses have had serious problems on their hands with residents who are mentally or

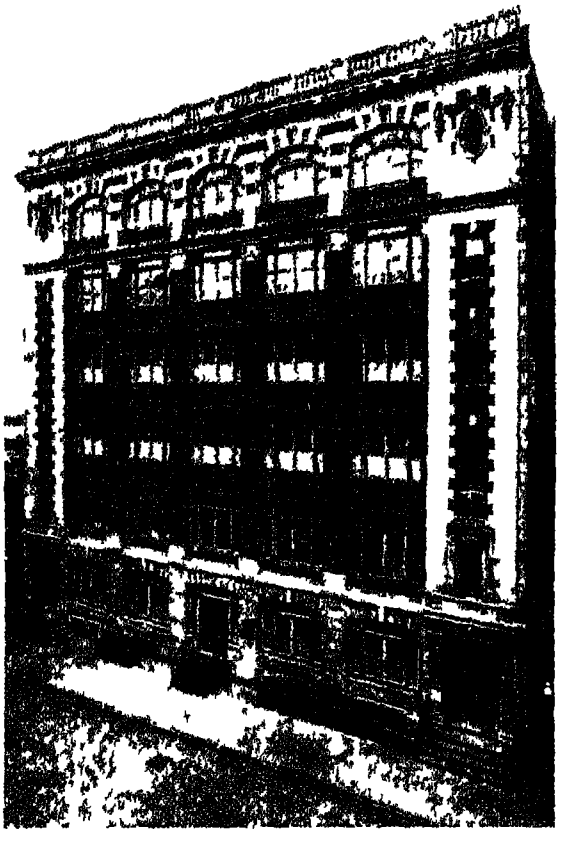
nervously upset, indicating the importance of special provision, under medical and psychiatric supervision, for both incipient and convalescent cases in this category.

It is not easy from the data available to ascertain whether the number of residential houses for women is at present adequate Vacancy rates reported range from zero to fifty per cent For several of the houses it was reported that there were vacancies only during the summer vacation months. Others carry vacancies continuously, which might be accounted for by inconvenience of location, poor management, or inability to reach their clientele. Some reported that rooming houses have reduced their rates so low during the depression period that residential clubs cannot compete with them while wages are low or uncertain. On the whole, it would appear that the city is not over-supplied with residential clubs, and that the construction of additional lodgings for specific groups should be undertaken to overcome the low standards and dangerous associations of hall bedrooms on the one hand, and to provide much-needed facilities for health, comfort, protection, and recreational life on the other.

Reclassifying the data gained from experience, it would appear that up to date there are no lodging houses or residential clubs for the very poor that are on a sound paying basis while still maintaining desirable standards of housing and social facilities for their residents The cheapest of the hotels for men that are successful money-making ventures lack many of the qualities associated with good housing.

There is no paying venture in the city for the lowest-income group of working women so far as has been discovered In addition to the lodging houses for self-supporting girls there are a large number (including St. Zita's Home and the Girls Service League listed in the table) which provide free shelter. In an emergency period like that of 1933–35 many of the pay houses arranged regularly or on occasion to accommodate within their houses a few selected cases of women in need and with no expectation of reimbursement.

A census was taken by the Central Registration Bureau for Women on February 3, 1934 to show the situation in shelters on that date. The following is the number of shelters and their capacities, listed on that date· Brooklyn Catholic Big Sisters, 20; Brooklyn Welcome Home, 19; Girls Service League, 55; Hopewell Society of Brooklyn, 19, John Hall House, 19, Municipal Lodging House, "flexible"; Protestant Social Service Shelter, 66; Ozanam Home, 51; St Barnabas House, 93; St. Zita's Home, 92, Salvation Army Emergency Lodge, 72, Salvation Army Business Women's Center, 70; Salvation Army Working Women's Hotel, 10; Tera Lodge, 86.



a Municipal Lodging House at 432–438 E 25th Street, opened in 1909 It contains six dormitories with 912 beds, but by using the facilities of other lodging houses the city takes care of about 7,000 men nightly The pier at the foot of E 25th Street is being fitted up with recreational and other facilities, and the annex at Whitehall and South Streets also is being remodeled Reproduced from *The Men We Lodge* (1915)



b One of the dormitories of the Municipal Lodging House, showing double decker beds Shower baths, fumigating room, dining room, laundry, and limited hospital facilities are situated on the ground floor and basement A Women's Building was opened at 309 W 14th Street in January 1935. Provenance same as above

A City Center for Homeless Women was opened on January 18, 1935, at 309 West Fourteenth Street, under the direction of the Commissioner of Public Welfare. Unlike the Municipal Lodging House, from which these women were transferred, the new City Center has provision for recreation.

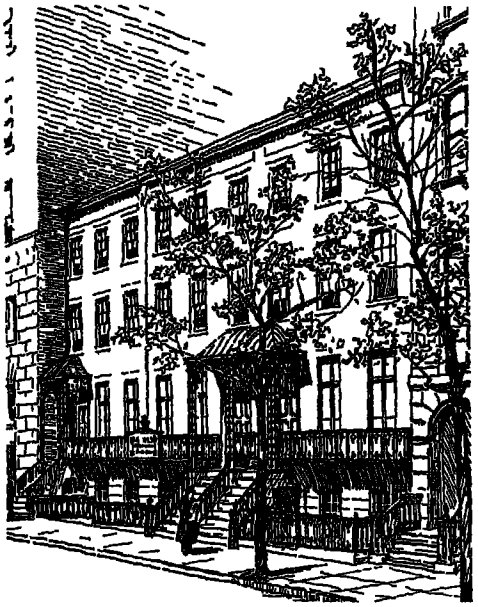
Many attractive and desirable places of residence have been made available for the junior group of office workers of each sex. However, the incomes of women who are employed as clerks, typists, and stenographers, or as sales girls, preclude the payment of rentals sufficient to insure a financial return on the investment for residential clubs in which social facilities are provided A large percentage of the younger women are found to contribute regularly to the support of their families. They must dress well to retain their employment. After meeting such charges the remainder of income will not provide simultaneously for adequate food, recreation, and wholesome housing.

The instances in which such undertakings appear to pay, where many-storied buildings attractively equipped are erected as residential clubs, usually if not invariably have taken care of some or all of the capital costs through endowment, or some of the overhead costs through either volunteer services or special funds not charged to the housing venture.

The problem has been met squarely by the Association to Promote Proper Housing for Girls, which has continuously had as its aim the provision on a paying basis of wholesome housing and social facilities for young employed women. Until the second year of the depression they felt that they had found the solution of their problem by throwing together several rooming houses or private dwellings for use as residential clubs. They had apparently achieved success with such a venture in the Club Marshall [1] on East 30th Street, but unemployment and reduced wages, together with overbuilding in that vicinity of endowed residential clubs for this occupational and sex group, have in recent years kept the vacancy rate too high to permit operation without an annual deficit. These years are abnormal, and the problem of securing adequate minimum wages for female labor is still unsolved, so that one cannot state with assurance that this type of remodeling project will prove a solution. It is, however, the most promising venture of its type.

Skilful design and management, both financial and social, make profitable en-

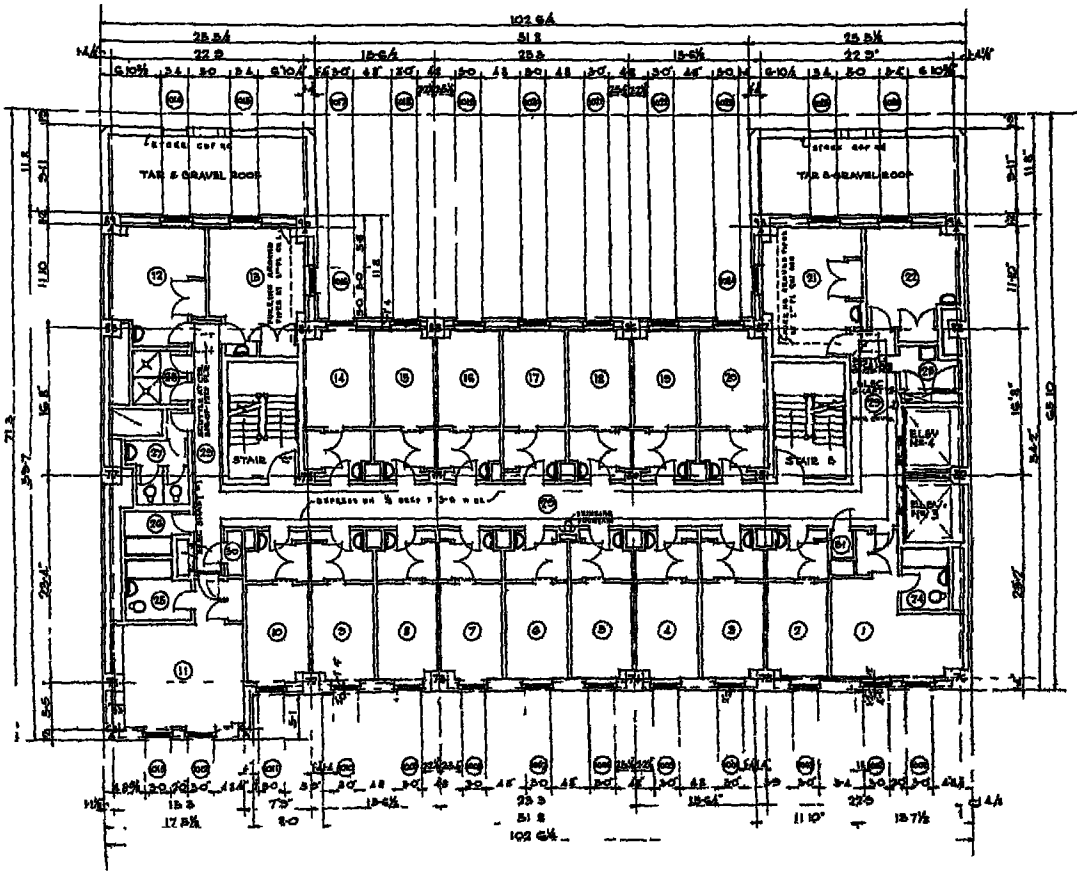
[1] One of the Board members of the Association to Promote Proper Housing for Girls has briefly outlined the history and purpose of the project as follows: "Being assured that subsidized housing tended to lower wages and was bad for the morale of self-supporting girls, we ran the Marshall from its opening day thru all the years up to the depression without a penny of subsidy of any kind. We did not even ask for tax remission and when we borrowed money we paid — even to our friends — the market rate of interest The club was also self governing with a committee of the girls to make the rules We wished it to be a model which could be copied by regular landladies who had no subsidies and had to pay taxes and we feel that it helped greatly in our crusade to raise the standards in boarding houses"



a Club Marshall, 109 E 30th Street, a self-sustaining community club operated by the Association to Promote Proper Housing For Girls. Single rooms, with two meals a day (three on Sundays and holidays), from $8 to $9 per week



b The Evangeline, a residence for women, 123 W 13th Street, operated by the Salvation Army Single rooms, including two meals a day (three on Sundays and holidays), from $8 50 to $13 per week



c Typical upper floor plan of The Evangeline.

Courtesy Salvation Army

terprises a possibility for either men or women receiving incomes of $2,000 a year or more. A considerable fraction of this group apparently prefer the type of residential hotel in which certain floors are reserved for men and others for women. Many residential hotels of this type maintain social and recreational features, roof gardens, relatively inexpensive cafeterias and cocktail rooms — features which are much enjoyed by many of their occupants Much could be learned from these undertakings which would be applicable to projects for rehousing men and women of lower income groups.[1]

For fully twenty years there appears to have been a counter-trend, toward the joint renting of apartments, which reaches below the sub-executives into the clerical group. The desire for complete independence and freedom, sometimes combined with a desire for anonymity, is largely responsible for this trend, which probably is often wholesome and desirable but in other instances unsafe and unfortunate in its consequences. Planners of projects for housing non-family groups would be wise to consider this trend and meet it with the provision of housekeeping apartments properly designed for this use. The managers of residential clubs for women, while generally recognizing this tendency, almost invariably urge that such suites should be in a building wholly separate from residential clubs of the present type. Housekeeping apartments for non-family groups might, however, properly be provided in the same housing project with residential clubs and share the same community facilities.

The present locations of lodging houses and residential clubs are close to the commercial and recreational districts, because of the importance of accessibility to work without loss of time and the expense of carfare. Women prefer such locations because return from work or recreation after dark is thus made possible without walking through unfrequented streets. This would seem to indicate that if any members of the lodging group are to be taken care of in rehousing projects, the building or buildings erected for them may properly be on or near the main through streets, rather than on the side streets in which the tenement families would live.

Conclusions general among the managers of residential clubs are that dormitories are undesirable, that demand for double rooms is declining, and that the best plan is to provide solely for single private rooms. Common facilities on the lower stories of the building for entertainment and the reception of guests are essential. It is clear from experience that rooms may be too small, which leads to a high vacancy rate, that rooms not equipped with wash basins will be abandoned

1. For example, valuable experience has been gained by the Allerton Houses, Beekman Tower, Sutton Hotel, Martha Washington Hotel, Midston House, The Pennington, and International House.

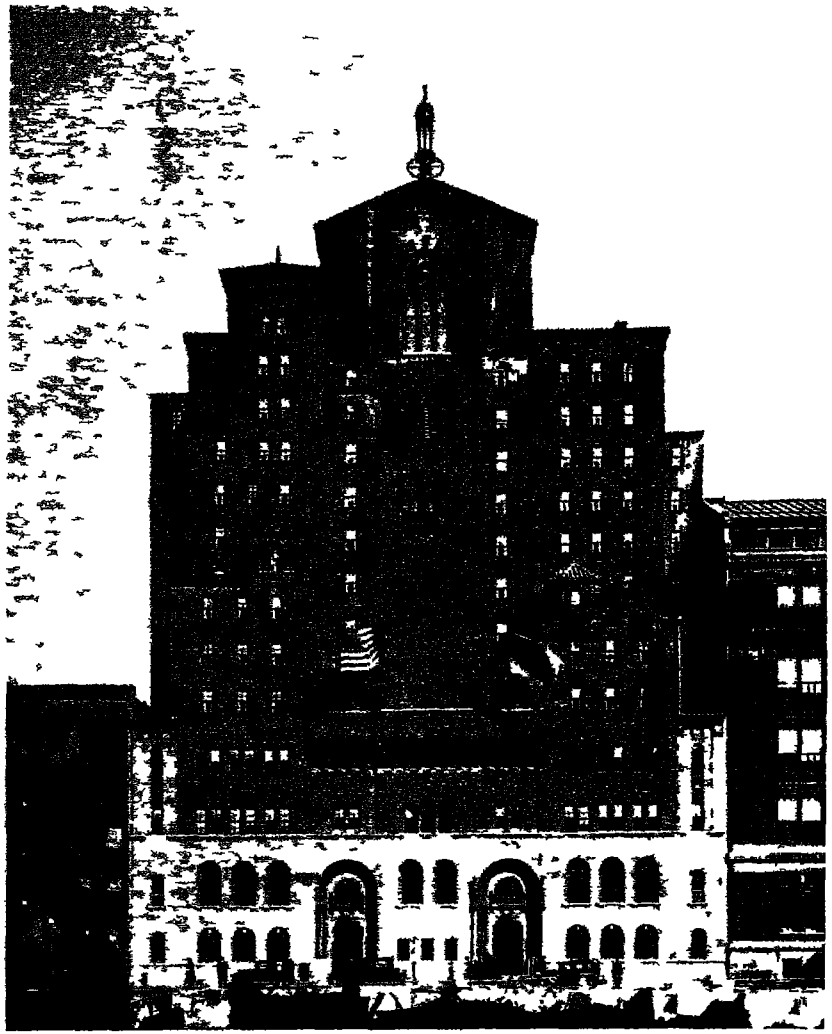
for those that are, that furniture should include more than the customary bed, bureau, and chair, to the extent at least of including a desk and bookcase and one or two comfortable chairs in addition to the desk chair, that daybeds with attractive coverings should be provided for such single rooms rather than bedsteads, that attractive pictures should be available for the walls, but that guests may properly be encouraged to substitute their own, that wall and floor surfaces should be easy to clean but not forbidding

The farther down in the economic scale such projects penetrate, the more difficult becomes the problem of financial management. Mistaken economy may cause vacancies and imperil the investment. The client's needs must be understood. Principles of self-government may to some extent be applied under skilful direction to counteract these difficulties. If the leaders of resident groups are properly taken into the confidence of the management, some economies would then become possible through unanimous consent, and the additional charge upon rent which would be occasioned by the improvements desired could be made clear. Self-government is, however, always difficult and dangerous except under management which is at once alert, judicious, and sympathetic. The interpenetration, therefore, of problems of financial management with those of social management is apparent at every point. The two functions cannot be wholly separated, but must be combined in the personality of the chief executive, though in a larger project he would need the assistance of a specialist for each of these functions. Unless management is astute, whims or prejudices may lead to ill-advised undertakings that may wreck the project.

The only non-family groups amply provided for in New York City at present are the executives and higher-salaried men or women, chiefly through commercial ventures, and the clerical group of young women through endowed residential clubs. Better advertising of the latter type of venture might develop a demand that would exceed the present supply. But at present, at least, the vacancy rate, especially in the summer months, is so high as to make new building for this group in downtown or midtown locations seem relatively unnecessary. If skilful planning could bring down rents by one or two dollars a week, the demand would automatically increase, or could readily be stimulated. Restoration of normal conditions of employment, or the establishment of enforced high minimum wages for women in the clerical groups, would quickly fill all vacancies and create demand for additional residential clubs.

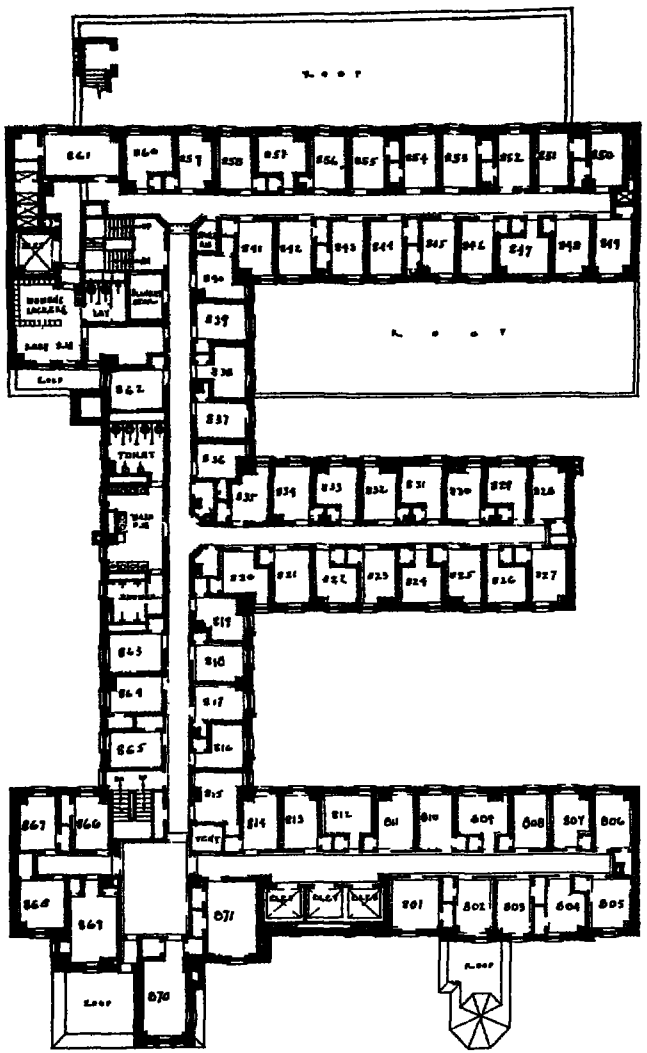
Slum clearance conducted on a large scale would inevitably eliminate many of the buildings, whether private tenements, rooming houses, or cheap hotels, in which lodgers live. Since slum clearance is freely discussed for the Lower East

FIG 143



Photograph by Brown Brothers

a. Elevation of West Side Branch, Y M C A, 5 W 63d Street.



Typical floor plan. Side Bran C A

Side and for Harlem, the following figures, derived from the Real Property Inventory of 1934, serve to indicate the number of rooming and lodging houses in these districts in blocks that contain many old-law residential structures.[1]

LOWER EAST SIDE

	Rooming and lodging houses
Census tract 25 bounded by Peck Slip, Ferry Street, Spruce Street, Park Row, North Chambers Street, James Slip	16
27 bounded by James Slip, North Chambers Street, Park Row, Catherine Street, Cherry Street, Catherine Slip	20
29 bounded by Park Row, Pearl Street, Center Street, Canal Street, Bowery	26
16 bounded by Bowery, Grand Street, Norfolk Street, Division Street	17
32 bounded by 3d Street, First Avenue, 9th Street, Clinton Avenue	17
36 bounded by Rivington Street, Bowery, 3d Street, Allen Street.	23
38 bounded by 3d Street, Third Avenue, 9th Street, First Avenue	26
40 bounded by 9th Street, Third Avenue, 14th Street, First Avenue	95

HARLEM

Census tract 186 bounded by West 110th Street, Lenox Avenue, West 114th Street, Fifth Avenue	60
200 bounded by West 119th Street, Lenox Avenue, West 126th Street, Fifth Avenue	184
208 bounded by West 126th Street, Lenox Avenue, West 133d Street, Fifth Avenue	260
220 bounded by West 118th Street, Eight Avenue, West 122d Street, Lenox Avenue	252
224 bounded by West 126th Street, Eighth Avenue, West 130th Street, Lenox Avenue.	313
226 bounded by West 130th Street, Eighth Avenue, West 134th Street, Lenox Avenue	237

In the absence of special provision for lodgers in the housing developments contemplated, they would inevitably crowd in among private families, rooming houses, or lodging houses, extending the incidence of undesirable conditions The first reason, therefore, for urging consideration of them in housing developments is to prevent the spread of existing evils. A second reason would be that the project might be made to gain by the presence of this group Being adult, they could safely live in higher buildings than are now deemed desirable for private families. Elevator buildings of the tower type, ten or more stories in height, would

1 Data from tables on pages 1B, 2B 3B, and 13B of the *Real Property Inventory, City of New York Borough of Manhattan, Residential Report 1934*

be a possibility, with common rooms on the first two floors and a large number of private rooms on each of the upper floors Many lodgers, having no families to support, would be able to pay toward rent more proportionately than can be paid by married men or women in the same occupations Such higher rentals for the superior accommodations which they might be given should help to meet the high carrying charges and land costs for blocks cleared in slum locations

The non-family tenants would gain the advantage of normal contacts and more normal life by inclusion of buildings for them in any housing project for families. As a rule, in rooming houses, lodging houses, and hotels, contacts with married men and women, and with children, or with persons outside their own age and sex group, are relatively rare, which tends to make the lodgers' lives abnormal. They would also have the advantage of the community facilities and amenities of the housing project; its parks and social centers would be at their service and would be shared by them with the families living in the other dwellings of the block. On the other hand, those who feel no need or desire for such contacts could quite readily escape them and still have the advantage of the outlook upon the open spaces, parks, and attractive architectural design which are today incorporated in virtually all housing development plans.

How largely the non-family groups should be catered to in housing projects is not clear. The figures cited above from the Real Property Inventory do not indicate the number or percentage of individuals that would be interested. Some may prefer to continue to live in private families, but would probably not be encouraged to do so by the management of a housing project because of the difficulties previously discussed.[1] Many of them have few social bonds and others are independent in attitude; some also seek anonymity. Hence, undoubtedly many of them would not apply for new housing of this type. It would, however, probably attract many lodgers from private families or rooming houses elsewhere in the city. Provision for the non-family group would thus be frankly experimental if incorporated in a housing project, but is worthy of such experiment. Dangers of financial loss from it can be reduced by careful canvassing prior to the planning and building.

If slum clearance becomes as general as it should, it will extend into lodging-house districts such as are found in the Bowery and into rooming-house districts such as are to be found in each major section of Manhattan. To overcome manifest evils such ventures are exceedingly desirable. It is only a matter of time before some agency, public or private, will visualize the value of an experiment in this type of housing, exclusively for single men and women, on a scale sufficient to

1. See pp. 305–396.

work out standards. Such standards might well comprise building units of single rooms for men, other units of single rooms for women, other units with separate floors reserved for each sex, and others with one- and two-room housekeeping apartments for each. Community facilities for recreation in the form of parked interior spaces for the block, roof gardens, and general social centers, with one or more libraries and reading rooms, would be essential, but could be either scattered or concentrated in a way that would reduce the cost per tenant as compared with contemporary residential clubs.

No residential clubs so far have covered more than a few city lots, and they have thus failed to provide outdoor play space which would be one of the major amenities in such an undertaking. The interior parked space of the block, if provided with courts for tennis, volley ball, or other adult outdoor games, and an outdoor swimming pool, as well as common gardens, might be made to pay for itself in service charges in a manner impossible for the parked spaces in tenement-house projects.

Buildings for such a project might either be four-story walk-ups, like contemporary rooming houses, built in rows, or be detached many-storied units with elevator service, depending upon the income group catered to and upon the nature of the demand, ascertained by special study made prior to the drawing of the plans.

The essential needs appear to be:

(1) Large-scale, rooming-house reconditioning projects,[1] in rooming-house districts of whites and of Negroes.

(2) Experimental lodging-house projects. Extensive municipal study of the problem of the homeless man and woman in conjunction with the present municipal lodging houses for these and the present shelters maintained by emergency relief should be made in order to ascertain with precision the lessons from experience. Such a study should be conducted in cooperation with the Charity Organization Society and the Welfare Council and should involve, among public departments, specialists from the Department of Health and the Fire Department, as well as those concerned with charitable relief and with such special groups as the aged, the psychopathic, the vagrant, and petty criminals. There is a strong presumption that public care for these groups should begin with a clearing house, centrally located, which would sift out to appropriately specialized institutions for care or retraining, according to their capacity, a considerable fraction of cases, and that these should be regularly segregated both from the able-bodied transients and from the low-wage group with which they now intermingle.

1 See Chapter XXVIII

(3) Inclusion in selected rehousing projects of special buildings for non-family groups among the new model multiple dwellings for families. It is only the normal employed group among single men and women that should be considered, together with the present lodgers in the tenements of slum areas, for possible experimental inclusion in any public slum-clearance rehousing programme. No housing policy would be complete, however, unless some provision was made for lodgers either on the site of the slum clearance, in conjunction with the rehousing of tenement-house families, or at some other location determined upon as a result of special study Since one Negro family in four, as contrasted with one white family in nine, now has one or more lodgers, presumably more ample provision would be made for lodgers in Harlem rehousing projects than in those of the Lower East Side

(4) Consideration of the possibility of suburban locations for the housing of aged men and women. This, however, would require more elaborate study than the other recommendations. Old-age pensions should make it possible for very large numbers to spend the remainder of their lives outside of almshouses or institutional homes for the aged and in private quarters of their own. There are also many widows who have not yet reached the pension age who would be able to support themselves from inheritances supplemented by regular earnings, who are in need of good housing and congenial surroundings. Some provision has been made, in several English and German garden suburbs, for persons in these two categories. Two-story buildings with one- or two-room flats, usually in the form known as group housing of two-flat units, have made possible for such persons private homes of their own among persons of similar age and background, in communities where they may associate with normal families, parents and children, and share the parked surroundings and social facilities. This conduces to normal living for all concerned. Experimentally some provision should be made for these people in suburban housing projects after study of the extent of the demand and the specific needs of potential renters.

CHAPTER XXXVIII

ECONOMIC FACTORS IN REPLANNING AND REHOUSING

BUILDINGS proposed for the low-rental group today present a startling contrast to those customary a generation ago, and plans for the environment of these buildings differ in the same degree. After the erection of the Alfred T. White apartments in 1877,[1] there were few indications that much thought was being given to surroundings, although there were notable exceptions in some of the projects sponsored by the City and Suburban Homes Company and philanthropic agencies. The Metropolitan Housing Project in Queens, to house 9,000 persons, completed in 1923, covered an extensive area and represented a quality of housing not generally available prior to that time at such rentals. It was bound by the limitations of the existing city map, however, and neglected to provide community facilities and playgrounds. More recently a number of State Housing Board projects, and the Dunbar Apartments [2] financed by John D. Rockefeller, Jr., have shown an increasing tendency toward supplying amenities of various kinds, although the city block has in general been the unit of development.

Today, as has been made evident in preceding chapters, the housing unit has changed from the single 25′ × 100′ lot of the old-time builder to that of an entirely new neighborhood planned for traffic, community parks and playgrounds, and all other features that go to make up a system of living rather than mere shelter. The latter has been adopted as the minimum of practice without much reference to whether it represents an ideal attainable within a reasonable time, or an extravagant hope.

The ideal is high, and credit for it is due to the city planners and housing experts who have been courageous enough to propose it. The elements are essentially simple. Housing is regarded as a part of living. Living is held to be warped and deficient when it consists of a close view of blank walls, danger and lack of play space for children, no place to obtain healthful outdoor exercise, or to meet one's neighbors for discussion and enjoyment, and lack of other amenities that are held to aid in producing contented, normal people. The conviction is becoming general within the related professions that the planned community should be one in which

1 Alfred T White, *Sun-Lighted Tenements*, National Housing Association Publication no. 12, March 1912

2 See Chapter XXXVI

streets, parks, playgrounds, schools, and houses become integrated for the most pleasant and efficient mode of existence.

In the neighborhood thus created, traffic arteries are preferably routed at the edges of the community and within these boundaries are provided quiet minor streets serving only local needs. Conveniently centered in the area are parks and playgrounds adjusted in size to the number of residents according to expert calculations. The school is similarly planned as to size and location. The houses look out upon the extensive open spaces, their windows faced to catch the maximum of sunlight and their interior design conforming to high modern standards.

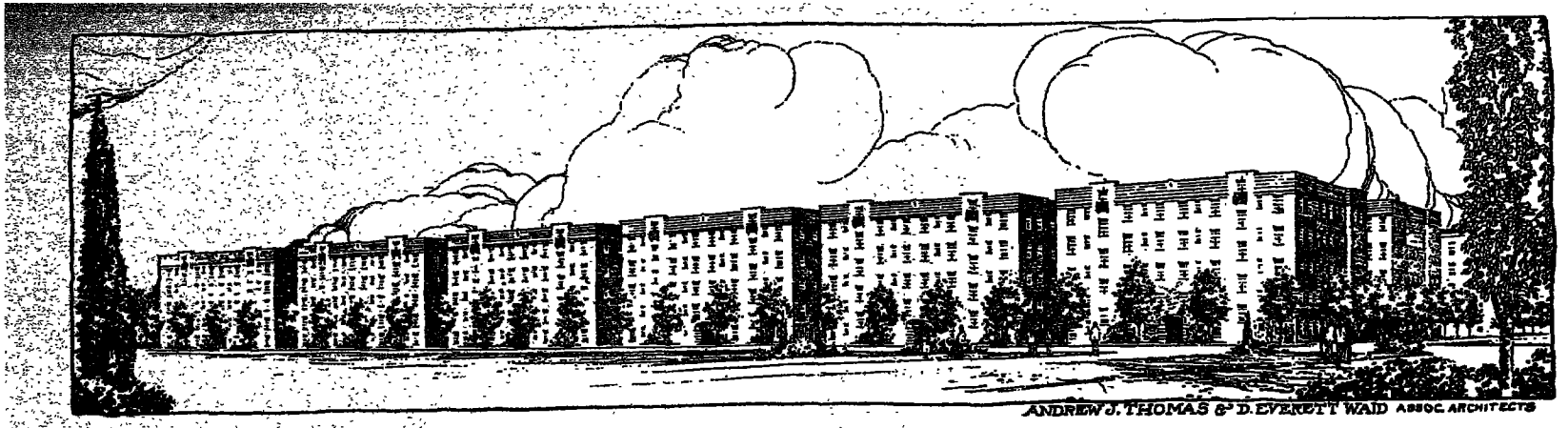
Naturally there are difficulties, physical and financial, in making such a vision a reality. New York has no city plan as such, but it does have a city map [1] whose rigid system of rectangles has been the despair of many architects. The street layout of 1811 fixed the outlines of this map upon Manhattan and from there some of its worst features have extended to other boroughs. As pointed out in earlier chapters,[2] in Manhattan the general plan is for north and south avenues 100 feet wide with cross streets every 200 feet, 60 feet wide. Occasionally, as at 14th, 23rd, 42nd and 57th Streets, this width swells to a full 100 feet, while some of the avenues shrink to as little as 60 feet, as with Avenue B, south of 23rd Street, and increase to 150 feet, as with Lenox Avenue north of West 110th Street. With the exception of the irregular section below City Hall, however, the general rectangular pattern on Manhattan is held to with great fidelity, the length of most blocks varying from 400 to 800 feet and their width being standardized at about 200 feet. Outside of Manhattan the same idea in general is carried out, although there are variations, as in Brooklyn, where villages have grown together in irregular fashion.

The neighborhood planner is at once confronted with the question of whether he shall accept this framework or propose another that differentiates street uses to a greater extent and persuades through traffic to flow around rather than through the territory in which he is interested. There are legal difficulties in changing the city map. There is also the practical aspect that water mains, sewers, gas mains, and electrical conduits already follow the established lines and that to replace them or alter their direction will involve considerable expense. In consequence of these conditions most proposed plans accept the existing layout and limit their street changes to widening certain streets and closing others.

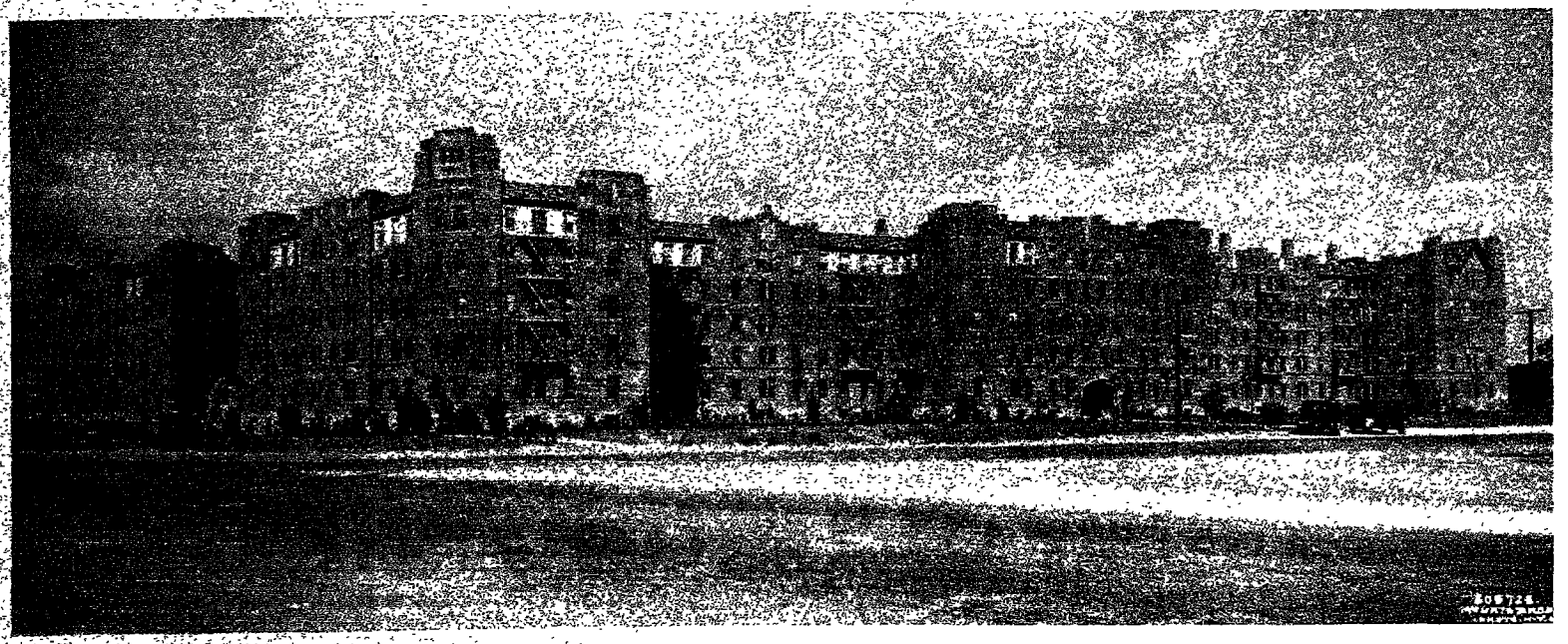
There have been exceptions in which curving streets and considerable diversity in plan were provided for, either because the city map did not apply or for

1 This is maintained by the Chief Engineer of the Board of Estimate and Apportionment of the City of New York

2 Especially Chapters IV and VIII



a. Metropolitan Life Insurance Company tenements, 47th to 49th Street, south of Queens Boulevard, Woodside, L.I. Reproduced from *Comfortable Homes in New York City at $9 a room a month* (pamphlet issued by the Company). For plan see Appendix, Pl. 16, B and B′.



b. Amalgamated Housing Corporation dwellings overlooking Jerome Park Reservoir, The Bronx, erected 1927–1932. Six five-story, walk-up units and three six-story, elevator units, with an aggregate of 628 apartments.

FIG. 144

other good reasons Olmsted's plan of Forest Hills on Long Island is a case in point.[1]

Having made one compromise, the neighborhood planner is immediately faced with new difficulties. For in most cases there are buildings already existing on the land, and land values are predicated on long established use These facts make the problem one of replanning rather than planning and bring up a situation quite different from that in which a new community is to be established on vacant land. Topography is already established and not much change is possible because of existing utilities Demolitions are to be reckoned in the cost of the land Multi-family dwellings are generally indicated as desirable for the new project because of past use and the costs involved. After subtracting allowances for public spaces and deciding on the maximum density of population desirable, coverage and building height must be settled. All this, with an inexorable maximum rental figure to consider if the term "low-rental housing" is not to become farcical.

An alternative for the neighborhood unit is the development of a single block or pair of blocks. With an expenditure only a fraction of that for a neighborhood unit development, some actual contribution to better housing might be made in this way which would serve to influence other construction in the vicinity. The block is sufficient in size to make possible a coverage of only 50 per cent, whereas such a coverage on a smaller plot would prove difficult. Apparently as good a price can be secured on the construction of a single block as on much larger operations. Moreover, a much smaller number of persons is temporarily dishoused where the block is the accepted unit than would be the case where the attempt is made to produce a new neighborhood all at once. A smaller number of owners is to be dealt with and the device of threatening to buy elsewhere if prices are too high is made to sound more plausible when operating on a block rather than a neighborhood basis. Moreover, experience with low-cost housing on a block scale may be consulted, while experience on a neighborhood basis is almost totally lacking.

The above arguments still hold true for a unit of two blocks, and are supplemented by enhanced opportunity for planning through letting the open ends of interior parks face each other so as to give a vista of doubled length.[2] Maintenance expense, which has been shown to decrease up to a certain point with increasing size of the project, may be expected in this case to decrease. The project may also have an increased chance of maintaining its distinctive character because its very size helps it to dominate the neighborhood and discourages regression.

1. For a description see Regional Plan of New York and its Environs, vol VII, *Neighborhood and Community Planning*, 1929

For an illustration of the development of a two-block plan see discussion by I N Phelps Stokes in Appendix

A large group of families may be provided with shelter and with a moderate amount of recreational space by operations on a one- or two-block basis A division of thought occurs over what amenities are necessary Existing schools, community gathering places, and traffic conditions may be of such an undesirable type that the new tenants will find themselves set down in an environment foreign to their ambitions and character Gradually the project may slip back and show evidences of being overpowered by the surrounding conditions instead of acting as an improving influence.

There is, of course, an intermediate solution, where with perhaps four or five blocks improved in a neighborhood having modern school buildings and convenient playgrounds, a project may be produced that will approach reasonable standards in all respects and will have good prospects for maintaining its character and stability.

Much depends on the size of the sums involved and the prospects for obtaining them Paper plans of grandiloquent projects too expensive for reality, and narrowly conceived plans that lack sufficient vitality to make any permanent improvement, lie at the ends of the range of possibilities. Estimates of the cost of large and small developments facilitate conclusions as to their relative merits.

In 1933, the Regional Plan Association issued a report entitled *The Rebuilding of Blighted Areas* in which it selected a substandard district in Queens consisting of forty-one acres, partly built up with a nondescript assortment of buildings, and replanned it for several grades of housing.[1] High standards were naturally employed. The assumed site cost was about $2 per square foot. Rentals for the low-cost type of housing were $10 per room per month, somewhat above what is now being considered The total cost of this project, in which 6,000 persons were to be housed, was estimated to be $12,256,170. This would mean a cost of somewhat over $6,000 per family

Another example of a community planned on paper is that called Queensbridge Dwellings, developed by members of the Housing Study Guild.[2] The total cost of this was estimated by the authors as $9,723,000, which would provide for 10,320 persons on the basis of one person per room or at the low figure of about $3,000 per family on $1.50 land.

Queenstown, a proposed project in Queens on 300 acres of fifty cent land, presented by the Rutgerstown Corporation, involved according to their figures a cost of $46,856,000. Since it was planned to house 10,482 families it would cost about $4,500 per family.[3]

1 *The Rebuilding of Blighted Areas*, Regional Plan Association, 1933

2 From an unpublished study furnished through the courtesy of the Housing Study Guild, New York City, 1934

3 *Rutgerstown and Queenstown*, Rutgerstown Corporation, 1934.

Preliminary figures indicate that the cost of the Williamsburg development proposed by the New York City Housing Authority will be about $10,000,000 and that this will provide for 1,623 apartments This is at the rate of over $6,000 per family and is exclusive of the cost of necessary new schools and a public park

Of the newer housing projects recently completed, that at Hillside in the Bronx is the nearest approach to a planned community[1] It comprises over fourteen acres, of which about 38 per cent is covered by buildings The layout provides for generous courts and a playfield There is a modern school nearby This project was estimated by the State Board of Housing to cost over $5,700,000. Although it accommodates 1,416 families it does not approach in extent and elaborateness of equipment the more ambitious planned communities projected in connection with the activities of the New York City Housing Authority. On the basis of the figures given, the cost per family is about $4,100

For the development of a single block, or of two blocks in combination, there are various estimates as to cost and number of families that should be accommodated The original cost of land, the height of buildings, the extent of their land coverage, and other factors enter in However, the Amalgamated Dwellings occupying a block on the Lower East Side cost almost one and a half million, and Knickerbocker Village on two blocks of unequal size in the same district is said to have cost nine and one-half millions. The comparison is far from exact, for the second development has twice the height of the first and was built in a different period The total cost per family for these projects, in an area of relatively high-cost land, is about $6,000 in each case.[2]

There does not seem to be much room for argument over the statement that if families can be provided for at about the same cost in planned communities on the one hand and in isolated blocks surrounded by slums on the other, the former method is preferable It is questionable, however, whether there will be funds available sufficient to finance many examples of the more comprehensive method. Moreover many workers must live for the present within the more congested area of the city in order to get back and forth to work on time and without exhausting themselves by long transit rides. Universal solution of the slum problem by means of large neighborhood units is thus dependent upon prior comprehensive planning for industrial decentralization,[3] as well as upon discovery of ample financial resources.

Through the replacement of old-style housing with a new pattern of planned communities New York might be gradually transformed. The spectre of cost,

1 See *Report of the New York State Board of Housing*, 1934 and 1935, Legislative Document No. 41 See also Chapter XXXV

2 *Ibid*

3 See Chapter XXI

however, constantly arises. Analysis of community planning indicates, nevertheless, that there is a line of cleavage between those costs which cover items essentially public in nature, and those that are chargeable to the housing accommodations of the tenants. Here confusion of thought has sometimes been a conspicuous feature. Plans have been advanced calling for large park and playground areas and other public facilities all of which were to be paid for out of the meagre earnings of low-income families. It is an unfortunate approach to the problem. Such improvements are a function of the city and should be so understood and charged

With the essentially public features segregated there yet remain many millions of funds to be raised somehow to finance the remainder. For the present, Federal funds are available. Sooner or later the question may have to be faced whether, in the light of more restricted funds that may be raised either through sale of bond issues, investments of private resources, or outright subsidies, some more modest approach towards rehousing must be considered It is this prospect, by no means impossible, that may require a recasting of the scale by which new projects are measured, and it is this prospect that forbids abrupt dismissal of the block and coupled-block methods of procedure. If long-range planning is to be the keynote, large acquisition of land at first, with gradual development block-by-block according to a predetermined plan, is likely to work out as the best solution.

Assuming that neighborhood development is financially possible the interrelation of parts and functions becomes of primary importance. To facilitate local traffic and to discourage through traffic because of its noise and dangers, the street system should be redesigned. In a new development unfettered by existing mapped streets and public utilities the planner often prefers to make the interior streets winding and rather narrow in order to accomplish this purpose and to produce a pleasing effect. For reasons already given, the efforts in New York must usually be limited to closing some streets and widening others. For instance, in the Winfield study, published by the Regional Plan Association,[1] many of the interior streets were eliminated and those provided within the area were so planned as to meet the service needs of the buildings. As a result, streets took up but 27.2 per cent of the total area.

In the competition conducted by the New York City Housing Authority [2] the site consisted of sixteen typical city blocks involving five lengthwise and five crosswise streets arranged in rectangular fashion. Of these, two lengthwise and one crosswise street might be done away with in developing the plan but no other

[1] *The Rebuilding of Blighted Areas*, Regional Plan Association, 1933

[2] In the summer of 1934 the New York City Housing Authority held a low cost housing architectural competition Two hundred and seventy seven registered architects submitted plans and twenty two were selected as prize winning Subsequently all the plans were put on public exhibition Further reference to these plans will be found in the Appendix

alteration was suggested The percentage of the total in streets would be 23.9 per cent of the gross area.

Not only does this procedure affect the traffic system but it adds to the amount of available space for playgrounds and other amenities. Plans of competitors in several instances showed recognition of residual hazards to pedestrians by providing underpasses beneath some of the remaining streets. With the re-routing of traffic on border streets and suitable policing during school hours this refinement would probably be unnecessary.

Idealism and common sense unite in the recommendation that parks and playgrounds supplement better housing. New York has gradually acquired a surface veneered with stone, concrete, asphalt, and brick until contact with the original soil is shut off over large areas. This veneer has crowded out trees and has shed surface water that might otherwise reach their roots. It has provided a hard, unyielding surface crossed by traffic and offering few opportunities for recreation or quiet enjoyment. Such green areas as have been left in the more crowded districts are so pitifully inadequate and so unevenly distributed as to constitute a serious deficiency in wholesome community life.

There are, of course, large areas like Central, Bronx, and Prospect Parks where, through the farsightedness of early planners and statesmen, a sort of regimented country atmosphere is retained within the city limits. Coupled with the existence of low transit fares, this circumstance does much to relieve what would otherwise be an intolerable condition. The distances to be traveled to reach them, however, and the attendant expense, make other arrangments for parks desirable for daily use.

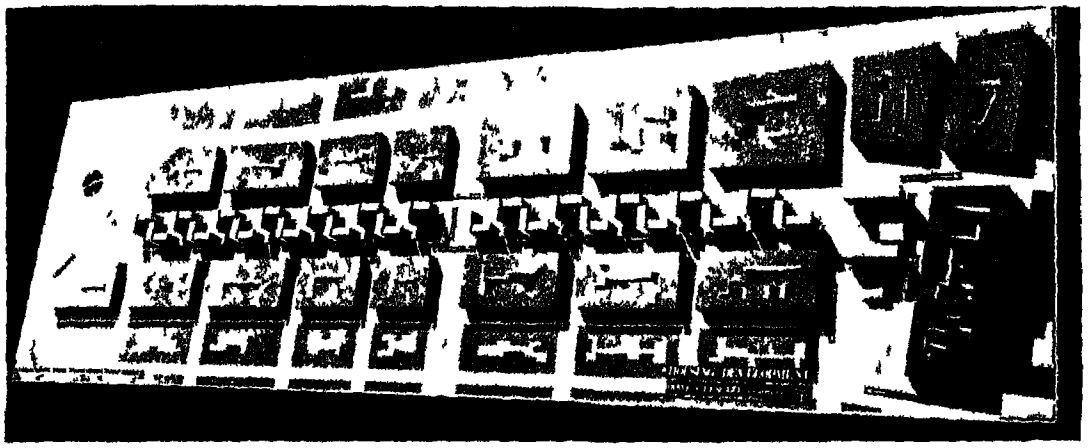
That park and playground areas in the two most populous boroughs, Manhattan and Brooklyn, are insufficient or not located near enough for all neighborhood purposes is generally acknowledged.[1] This is confirmed statistically by the observations of the survey made on April 5, 1934, and reported in *The Slum and Crime*,[2] which found out of a total of 61,720 children, that 55,919 were at play in the streets and only 5,801 in playgrounds. Swanson,[3] in his unpublished study of the Lower West Side, gives figures showing the distances from which children came to use particular playgrounds.

Within the past year an energetic Park Commissioner, with funds, space, and CWA labor available, has brought about commendable progress in the establishment of neighborhood facilities. The seven-block Chrystie-Forsyth area, orig-

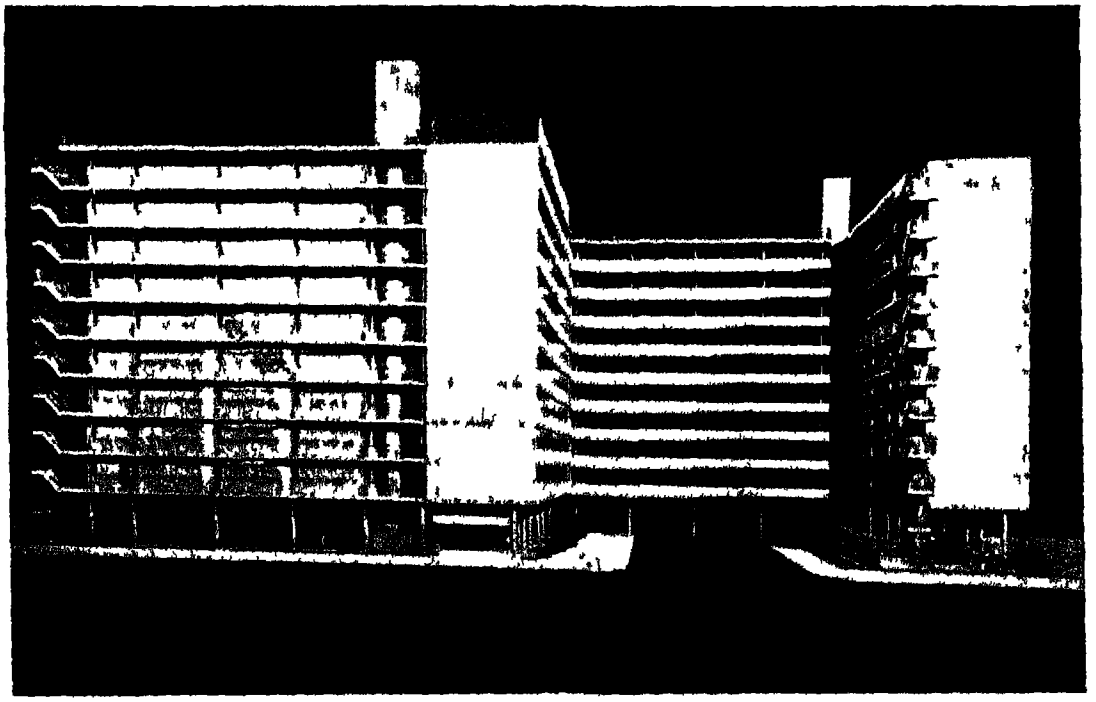
1 See *Maps and Charts prepared by the Slum Clearance Committee of New York*, 1933–34, for locations of parks and playgrounds in slum areas.

2 Irving W. Halpern, John N. Stanislaus, and Bernard Botein, *The Slum and Crime*, published for the New York City Housing Authority, 1934

3 C G Swanson, *Social Backgrounds of the Lower West Side of New York City*, 1934



a General model of scheme submitted by Howe & Lescaze of proposed housing development for the Chrystie-Forsyth area, 1932 Reproduced from *Architectural Forum*, March 1932 For plan see Appendix, Pl. 20, A



b Detail of unit showing crossing of wings over streets, Chrystie-Forsyth development, 1932. Provenance same as above

inally designed for low-cost housing, has been transformed into a series of playgrounds. Seven small new playgrounds have also been added as a result of a court decision permitting funds to memorialize War heroes to be used for this purpose.

The adequacy of playgrounds is measured by their number, location, equipment, supervision, and size. Considerable study has been made of size, with special reference to the requirements of age, sex, and racial or other peculiarities. The Regional Plan Association [1] has set forth minimum standards as a result of its extensive study of the problem. These are quoted below.

Children's Playgrounds — 100 sq. ft. for each child playing in the playground at a given time, or 25 sq ft. for each child five to fifteen years of age within a radius of approximately one-fourth mile

Athletic Fields and Playfields. — 1,000 sq. ft. for each player on the field at a given time, or 50 sq ft for every person of twelve to twenty-four years in borough or city.

Neighborhood or Local Parks. — 275 sq ft. for each person using a neighborhood park at a given time, or from 3,000 to 5,000 inhabitants per acre of park.

Bathing Facilities. — 150 sq ft. at high tide per person using the beach at a given time, or about one linear foot of shore line per person. Thus one mile of beach would serve about 5,000 persons comfortably at one time.

Leaving out of account the water frontage needed for bathing, but including any upland areas attached to the beaches as waterfront neighborhood parks, it may be approximately estimated that one acre of open space is needed for *active recreation* to every 1,000 persons in the general population, or about 238 families. Much of this space of course will be found in the parks, where areas will be set aside and designed for children's playgrounds, athletic fields, playfields, tennis courts, etc What, then, is the minimum area needed within an urban area for all park and recreation requirements of the community?

It is reasonable to assume that twice this area is needed for all purposes — i.e., one acre to each 500 persons as a minimum for combined city parks, neighborhood parks, athletic fields, waterfront parks, and playgrounds. A desirable minimum, however, would be one acre to each 300 persons likely to be resident in a district, and an absolute minimum one acre to each 500. Any percentage between these two figures might be reasonable, having regard to local conditions, and to proximity of country parks which are not included in the calculation. In areas only partially developed the percentage should apply to the potential, and not to the present, population, and in all cases the figures now being used should relate to open spaces within walking or short driving distance of residential neighborhoods.

Where areas are adjacent to large bodies of open water, as in the case of Manhattan Island, the absolute minimum of open area for all parks may be reduced, perhaps to one acre to 600 persons, to make conditions as satisfactory as in other areas with one acre to 500 persons.

Studies of the National Recreation Association and the Recreation Department of the Russell Sage Foundation furnish additional experienced judgment regarding suitable recreational facilities.

1. *Public Recreation*, Regional Plan of New York and its Environs, vol. v, 1928, p 129

These conditions and values which are derived from human needs naturally have an economic effect, as well. They demand a withdrawal of liberal percentages of land area from use for shelter while demanding their use for purposes coming under the broader concept of housing The question immediately arises whether the economic costs involved should be charged directly to the neighborhood project or should be assumed by the city as a part of its general responsibilities.

It is sufficiently obvious that the use of large areas of land for park and playground purposes cannot be effected without some method of payment, and that if charged to a housing development it cannot fail to raise rents. Proposals insisting that tenants must have so much space for parks and playgrounds and then pay for them constitute an introduction to economics that persons of low income will be slow to appreciate.

To change the face of New York by providing communities thus equipped will be a task before which all but the most optimistic will pause. Still, with one or two demonstration projects made possible because of Federal funds, the benefits to be expected may be realized. If so, not even the most sceptical will be likely to offer further opposition provided the enormous sums involved can be raised and the projects prove to be self-liquidating.

Just how a planned project works out in this matter of parks and playgrounds can be inferred from the low-cost housing study at Winfield in Queens already mentioned.[1] In this the streets would occupy 27.2 per cent of the area, the buildings 18.9 per cent, the recreation spaces 22.1 per cent, and the open spaces around buildings 31.8 per cent. The recreation areas consist of 3.16 acres of schoolgrounds, 2 19 acres of football or athletic fields, 3.10 acres of common, and 0.7 of an acre of plaza, with a total of 9.15 acres in the total gross area of 41.47 acres.

In the Housing Authority Competition, liberal open space was provided to the extent of 260,000 square feet for public parks, recreation fields, and sites for a school and community building. This was out of a total gross area of 2,033,000 square feet, and was exclusive of play spaces for small children and other open spaces about the structures themselves. The Authority assumed, quite properly, that the major recreation areas should be owned, maintained, and operated by the city, thus clarifying the respective responsibility of the project and of the city. Many suggested solutions ignore or touch lightly on this relationship, which has a very definite bearing on rentals.

Thus far the pattern into which the housing itself will fit has been considered. By tacitly accepting principles of moderate coverage considerable expense has

1 *The Rebuilding of Blighted Areas*, Regional Plan Association, 1933, p 32

been imposed on the project even though the municipality may be persuaded to pay for parks, playgrounds, and other amenities. The cost of the buildings themselves and the relationship of various elements within them to each other also require analysis.

To house a low-income family today costs for the building alone about three times what it did a generation ago. *The Tenement House Problem*, often quoted in this report to bring into relief the changed conditions of today as compared with those at the turn of the century, contains a very illuminating statement by Messrs George J. Kenny and Bro., real estate agents [1] It describes a typical "modern" tenement house of the time, six stories high erected to cover about 75 per cent of the standard 25′ × 100′ lot. The location given is on the Lower East Side. Altogether, the building had four stores, two of them in the basement, and twenty-two apartments of three or four rooms. It had no central heat, two toilets in the halls for each four apartments, cold-water sinks, and a dumbwaiter. The rooms were small, some of them about 7′ × 8′ 6″, although all had windows, at least on a 28″ light court. The building was poorly protected against fire. Such a building was estimated to cost $21,000 in 1900, which, allowing for stores, would bring the cost per apartment to about $990 and the cost per room to about $260.

Plans advanced today contemplate buildings covering at least a block in area with not over 50 per cent coverage. Central heat, running hot and cold water, a fully equipped bathroom to each apartment, fireproof or semi-fireproof construction, and mechanical refrigeration are assumed as a matter of course. The cost of the building per room runs at least to $700 and often more.

Between these two concepts of housing and between the respective costs lies a wide gulf. Many things have happened in the past thirty-five years which are reflected in this disparity. Costs of construction have gone up. Standards of living have steadily risen. Wage scales in the building trades have increased at a considerably faster rate than the wage scales of the average tenant in the low-rental group. These things and many others have made the provision of low-rental housing a much more difficult problem than it was in the former period.[2]

The situation today in building costs is much more complex. Building regulations have multiplied into a maze of requirements that have an important effect upon costs. Mechanics' wages have greatly increased. The standards that are now insisted upon, have an inevitable effect on costs. Changes in the purchasing power of the dollar complicate the situation.

DeForest and Veiller, *The Tenement House Problem*, vol 1 The period 1868 to 1873 was "an era of high prices due to paper money and the extravagant cost of building" Mechanics' wages reached $5 to $8 a day, while laborers got from $2 75 to $3 25 Materials were correspondingly high However, by 1876 mechanics were getting only $2 for a ten-hour day instead of the 8 hours previously existing, and laborers were reduced to 75 cents or $1 a day "A History of Real Estate, Building and Architecture in New York City" published by *Real Estate Record and Builders' Guide*

The index of building cost for the country as a whole, compiled by the Federal Reserve Bank of New York, shows a range since January, 1919 of from 80 to 129, the base year being 1926.[1] The index stood at 89 in August 1934. During the same period (1919–1934) the figures show fluctuations of from 57 to 108 in building wage rates and from 69.6 to 168.3 in building material costs This was for the country as a whole. In New York, figures obtained through the courtesy of the Dow Service Building Reports [2] show swings in building costs up and down representing a difference of just about the same magnitude (over 50 points) Since 1913, the range has amounted to 72 points

Plainly, here are facts that must be taken into consideration in any long-range planning of housing. With the building representing the greater part of the cost of a housing project, even on high-cost land, as will be shown presently, fluctuations in construction costs must inevitably complicate the picture.

The Dow figures show that virtually nowhere in the country is construction as expensive as in New York City. Appraisal text books confirm this.[3] Thus, the question of high land cost is not the only peculiarity associated with housing here. In cities with over a million population, at least one shows building costs fifteen points below the New York base of one hundred. There are various reasons for this. For the purpose of the present study it is sufficient to note the difference and realize that construction costs as well as the price of land set New York apart as a special problem in low-cost housing.

How much of the total cost of a housing project is caused by the building and how much by the land? The answer varies with the type of construction, the value of the land, and other factors. Taking the older projects erected under the supervision of the State Board of Housing, the following appears:

	Building	Land
First 6 Units Amalgamated Housing, Bronx	84 7%	16 3%
Amalgamated Dwellings, Lower East Side	76 6%	23 4%
Stanton Homes, Lower East Side	66 2%	33 8%

Here again, location and land cost have accounted for the difference. The percentages both here and above are derived from figures contained in State Board of Housing reports, which give simply cost of land and of buildings. The latter presumably includes fees and carrying charges during construction and other contingent expenses. In other words, building cost under such a simple break-down includes a variety of incidental costs besides labor and materials

In Queensbridge Dwellings, a proposed project studied by the Housing Study Guild, the buildings constituted 65 per cent, but this was a net figure obtained after segregating factors such as contingencies and miscellaneous costs. Land was about 21 per cent of the total, the square foot cost being $1.50.

Rutgerstown, a proposed project on the Lower East Side occupying eighteen blocks, presented an itemized statement in which the net cost of buildings exclusive of architects' fees and other incidentals may be compared with the total cost. The buildings constitute 61 per cent of this total and the land about 26 per cent. This is on land costing $9.64 per square foot but with buildings higher than in any of the projects mentioned before

In three variations of unit housing plans proposed by I. N. Phelps Stokes, described in the Appendix, building cost less contingencies was found to be 66 5 per cent in the case of the 16-Unit Cross Plan without park, using a ten-story building, 62.9 per cent for the 14-Unit Domino Plan of ten stories without a park, and 65.5 per cent for the Coupled Block Plan.

It is interesting to note that in the statement by the Messrs. Kenny [1] early in the century in regard to a dumbbell tenement, an inside lot measuring 25′ × 100′ on the East Side was valued at $20,000, or at the rate of $8 per square foot. Comparing the cost of land and of building we find them almost equal.

This primary separation of housing costs into land and building will be found capable of almost infinite subdivision as the various elements are isolated and examined. It is proposed here to consider first the broader phases of costs and then to break these down into simpler elements so that a better idea may be had of where the money goes and where economies are possible.

It has been emphasized repeatedly in discussions of the subject that construction as practiced today requires a large and perhaps unnecessary amount of manual labor on the job. The relation between the two components, labor and materials, therefore, deserves first consideration. Studies made by the Department of Labor and other agencies indicate that from 55 to 60 per cent of the cost of a building is made up by materials and from 40 to 45 per cent by labor.[2] These

1 See p 781

See *Monthly Labor Review*, U S Department of Labor, 1919 pp 1–8



ad Hou Corporation Apa nts, Brady Avenue, Bro ple For plan Appen Pl 18, D



b. Proposed Rutgerstown development, Corlear's Hook, Manhattan, 1933. For plan see Appendix, Pl. 20, B and B′.

Fig. 146

ratios vary somewhat in different periods and places, but roughly they represent the relation of these two elements in an average job.

For convenience of comparison and estimating, building costs are expressed in terms of cubage. There are few buildings exactly alike, but there are similarities of construction and design that make it possible to group them and reach average figures that are very useful for rough calculations. The cubic content of a building is the actual space contained within the outer surfaces of the enclosing walls, the roof, and the under surface of the basement or lowest floor. Dormers, penthouses, vaults, pits, and enclosed porches, or other appendages, are included, but not the cube of courts open at the top.

Usage varies to some extent in determining the total cost of the building into which the total cubage is to be divided in order to arrive at the unit cubic-foot cost. A common method is to include only the cost of labor, materials, and sometimes builders' profit, leaving other items such as architectural fees, interest during construction, and so on to a separate contingency account A fairly complete cost statement in sufficient detail would include the following items: cost of land; cost of demolition of old buildings, if any; cost of building; architect's, engineer's, and builder's fees; interest, taxes, and insurance, during construction, and miscellaneous items that inevitably occur in all building operations.

When estimating the possibilities of a proposed housing project, however, much more information is needed. The forms used by the Federal Emergency Administration of Public Works, Housing Division, in checking over projects will indicate the nature of the items.[1]

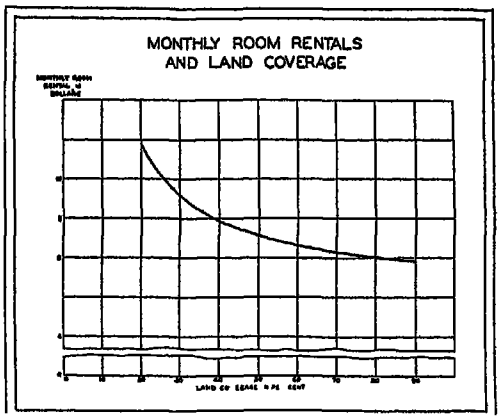
After all, the test of a low-cost housing project is what rentals it can produce, standards being kept on an acceptable basis. Rent is the resultant of a number of factors, the effect of each varying in accordance with conditions. Much well-meant housing propaganda is deceptive in its statements, being based on certain fixed assumptions that do not appear. The most helpful process of analysis is to state frankly what assumptions are involved and then record the results of changing values in one factor while holding the others constant. The chief factors are the cost of land, cost of building, maintenance, rate of interest on mortgage loan, and period of amortization.

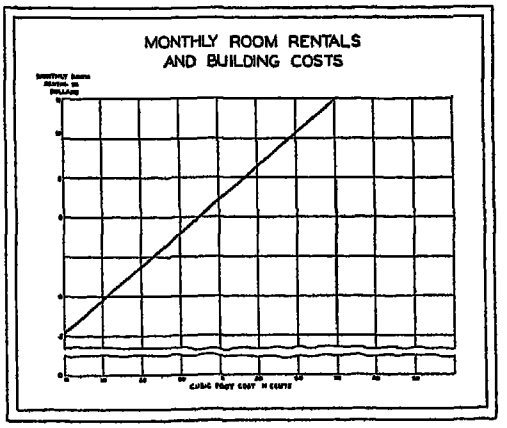
To get an approximate idea of what happens when factors vary, a particular case has been selected and calculations made with reference to this. Assumptions are that the building is a fireproof structure of ten stories covering 50 per cent of the land, costing forty-two cents per cubic foot to erect, and $40 per room per year to maintain. Land is taken as costing $8 a square foot, and building cubage at

1 The form now in use is P W, H. 1-12, which is a revision of P W E H C-8

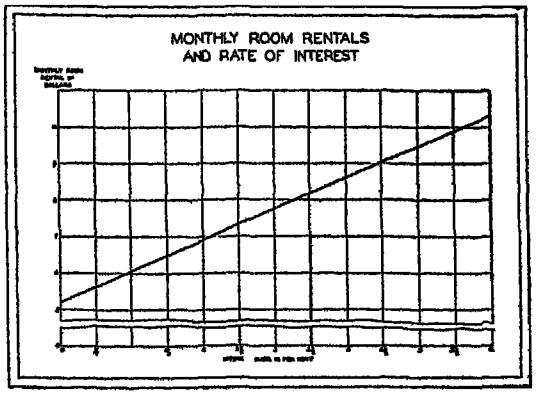
MONTHLY ROOM RENTALS
AND COST OF LAND

MONTHLY ROOM RENTALS
AND BUILDING HEIGHT





MONTHLY ROOM RENTALS
AND MAINTENANCE



These six graphs together with the accompanying text were prepared by George N. Thompson, who until November 1934 served as Associate Director of the Phelps-Stokes Research on Slums and Housing Policy.

4,000,000 cubic feet. An interest rate of 4 per cent on a government loan, an amortization rate of 1.51 per cent, and a government grant of 30 per cent of the cost of building labor and materials are used. Contingencies are figured at 7½ per cent over the net building costs and there is a depreciation reserve of ½ of 1 per cent on the building cost. The entire project is tax exempt. The design is such that there are 200 square feet gross per person. Vacancies are assumed at the low figure of 5 per cent. All these assumptions are, of course, open to question. Many will contend that the contingency item should be larger. However, for the conditions assumed, variations in land cost will cause changes in rental as shown on the graph, Figure 147a. This amounts to an increase of nineteen cents in monthly room rental for every increase of $1 in land cost.

As it may be argued that ten stories is too great a height, we may select some fixed land cost, in this case $8 per square foot, and vary the building height. Figure 147b shows what happens. Unlike the graph of land costs, the curve changes direction as stories are added. Between six and ten stories there is a notable reduction of monthly room rental amounting to $1.26, but the rate slows up as the building becomes higher until at between eighteen and twenty stories there is a reduction of only eight cents. It should be noted that all these buildings are assumed to have elevators, so that the abrupt jump in maintenance costs that is held by some to occur between the walk-up and elevator types is not involved.

Coverage of land, like allowable height, is a controversial subject. Here again, by holding all the other enumerated items constant and varying coverage, the effect on rentals may be shown. Figure 147c covers a range between 20 per cent and 90 per cent, again showing a slowing up in the rent-reduction effect as the coverage increases and providing considerable support for the argument that it does not pay to crowd the land. It may well be asked whether a reduction of twenty-six cents in monthly room rental between 50 per cent and 60 per cent coverage justifies the reduction in light, air, and play space involved.

Going through the same process to find the effect of changes in cubic-foot cost of construction, Figure 147d indicates that a reduction of five cents in cubic-foot cost will produce a decrease of forty-two cents in monthly room rental, an effect more significant and more desirable than that obtained by an increase in coverage.

Buildings start to deteriorate as soon as they are completed, partly because of weathering and corrosion and partly because of the life that goes on within them. A constant fight must be kept up to prevent them from slipping back in standards of equipment and appearance. This is of deep concern to companies operating high-rental apartment houses, but it is of even more importance to the low-rental

housing project. Optimistic assumptions of how maintenance costs can be held down must be examined in the light of experience.

The State Board of Housing, the admirable studies of which have been so often quoted, has kept detailed records of its own projects and has also solicited information from other agencies that manage low-rental apartments. The following table summarizes the results of an inquiry made of these other agencies, and gives the maintenance cost per room when the expense for administration is included.[1]

TOTAL ANNUAL MAINTENANCE COST PER ROOM CLASSIFIED BY VARIOUS CORPORATIONS AND PROJECTS, 1930–1925

Corporation and Project *		1930	1929	1928	1927	1926	1925
A	1	$34 80	$32 47	$36.00	$31.92	$34.30	$34.02
	2	33.86	32.76	34.45	33 88	35 71	36.01
	3	34.18	32 47	34.02	31.80	32.16	35 89
B		44.11	..	....	.. .	....	....
D		50 14†	...	.. .	. ..	....	.. .
E	1	45.17	48 67	....	....	....	....
	2	43.07	....	Elevator	....	....	....
F		39 07	33.46	Elevator	....	....	....
H	1	....	....	....	49 28	....	. ..
	2	. ..	....	....	37.79	....	....
I	1	....	....	....	39.11	35.65	36.62
	2	.. .	....	....	51 48	55 43	54.59
	3	....	....	....	39.40	37 59	40.54
	4	....	....	....	35.93	41 10	37.09

* Letters refer to different corporations and numerals to projects controlled by each corporation. One project generally includes a group of buildings.
Total costs not given for C and G.
† Average for 3 years ending 1930.

Projects above the horizontal line (A to F) were completed during and after 1925, while those below (H and I) are older. With but two exceptions noted in the table the buildings were all walk-up structures. As the information is based on 7,652 apartments with a total of 26,463 rooms, there is reason to believe that it is representative of the class of apartments covered during the period given. Many of the buildings, however, may not have been provided with equipment as elaborate as is contemplated for new projects, and for that reason maintenance costs may have been affected.

The State Board keeps complete maintenance records of its own projects, the degree of itemization being apparent from the following list: wages, insurance, land taxes, water taxes, fuel, repairs, janitorial expense, exterminating, electricity, garden expense, elevator expense, interest on mortgage, rent loss, office salaries,

1. *Report of the State Board of Housing*, 1931, p. 59.

office expense, legal and accounting fees, advertising, auto expense, directors' fees, miscellaneous expense.[1]

The figures cover a variety of buildings, some with elevators and some without. Maintenance costs have fluctuated considerably for the same project over a period of years. Perusal of the figures leads to the conclusion that $35 per room per year is not likely to be bettered even on large, well-managed projects, unless some new and radically different system is introduced. During 1932 the record was as shown in the table given on page 791.[2]

The following quotation from the 1933 report of the Board draws attention to a trend that has special significance in view of the large housing projects now proposed:

> The most striking fact that appears in this table is the effect of increasing size of operations upon the trend of operating costs. The Amalgamated Housing project more than doubled in size during the years 1928 to 1932. In 1932 there were 627 apartments containing 2,441 rooms as against 308 apartments with 1,185 rooms in 1928. The expense for wages decreased from $1.47 per room per month in 1928 to 74 cents in 1932; fuel declined from $1.46 to 68 cents, and the cost of administration from 50 cents to 30 cents. In other words, in five years, the wage and fuel bills per room per month were each cut about 50 per cent and the expense for administration per room per month decreased by 40 per cent.[3]

Maintenance as pictured in Figure 147e requires a reduction of $5 per room per year in order to effect a saving of forty-four cents in monthly room rental. The prospects for this are somewhat uncertain, but it has been demonstrated in projects of the State Board of Housing that the possibilities of saving increase with the size of the project.

There is increasing realization of the fact that interest rates, and amortization rates since they are figured on the same capital amount, hold the key to substantial rent reduction. For years, in operating statements of housing projects the item of mortgage interest has loomed as the largest factor. Banks have asked and obtained interest of from 5 per cent to 6 per cent on first mortgage loans. By law, these loans could not be made for more than 66⅔ per cent of the appraised value of the property in case of insurance companies, nor more than 50 per cent in the case of savings banks. Many investors in tenement-house properties had only a moderate cash sum for use as equity, perhaps not more than $5,000, which meant that the remainder of the sales price had to be covered by some process of financing at even higher interest rates. No systematic method of amortization on the mortgage

1 *Report of the State Board of Housing*, 1933, Legislative Document no. 112.

2. *Report of the State Board of Housing*, 1934, Legislative Document no. 41, Table XXI, p 47.

3 *Report of the State Board of Housing*, 1933, Legislative Document no 112, p 75

OPERATING AND MAINTENANCE COSTS OF HOUSING PROJECTS

MAINTENANCE COSTS PER ROOM OF HOUSING BOARD PROJECTS, YEAR ENDING NOVEMBER 30, 1932

Item	Amalgamated Housing Corporation: Units 1–6	Amalgamated Housing Corporation: Units 7 and 8	Amalgamated Housing Corporation: Unit 9[4]	Amalgamated Dwellings, Inc	Farband Housing Corporation
Wages	$8.28	$9.62	$7.44	$9.93	$7.09
Fuel	8.29	8.32	5.87	9.34	12.01
Renovating	8.09	7.81	5.59	9.18	15.69
Electricity	2.12	2 04	1.67	2.96	3.50
Water	1.74	1.78	2.06	1.35	1.83
Superintendent's supplies	1.19	1.23	1.19	1.52	1.22
Building repairs	1.23	1.39	.83	1.16	.89
Elevator expense[1]	...[2]	...[2]	...[2]	1.19	1.19
Garden expense	.34	.39	.42	.36	...
Exterminating	.17	.19	.15	.24	.33
Office salaries	3.27	3.51	2.76	3.57	2.99
Office expense	.31	.35	.35	...	.51
Legal and accounting fees	.26	.27	.22	1.74	4.16
Miscellaneous operating[3]	.82	.85	.59	1.06	.44
Total maintenance charges per room	$36.11	$37.75	$29.14	$43.60	$51.85

Item	Brooklyn Garden Apartments, Inc: Fourth Avenue Project	Brooklyn Garden Apartments, Inc: Navy Yard Project[5]	Academy Housing Corporation[6]	Stanton Homes Corporation	Manhattan Housing Corporation	Stuyvesant Housing Corporation[7]
Wages	$9.22	$10.78	$7.27	$8.72	$6.43	$6.25
Fuel	7.84	9.53	6.35	13.83	12.79	20.22
Renovating	4.99	5.15	7.94	8.05	7.46	7.00
Electricity	1.16	.93	2.32	6.09	4.68	2.63
Water	2 79	1.91	1.88	2.45	1.57	2.07
Superintendent's supplies	.44	.54	1.05	1.44	.81	.85
Building repairs	7.64	4.70	.79	3.10	1.87	3.87
Elevator expense[1]	..	...	1.35	1.88	1.15	1.07
Garden expense	.09	.07	.13			
Exterminating	.38	.44	.33			
Office salaries	2.92	4.33	2.97			
Office expense	1.14	.88	.38	2.94	.55	
Legal and accounting fees	.48	.51	4.08	2.70	3.85	
Miscellaneous operating[3]	1.93	3.12	2.17	.76	1.08	
Total maintenance charges per room	$41.02	$42.89	$39.01	$51.96	$42.24	$48.71

1. Power for elevators and elevator repairs
2. Power for elevators included with electricity.
3. Includes charge for advertising, dispossess fees, etc.
4. For the 9 month period from March 1 to November 30, 1932.
5. Includes new unit of 93 rooms in operation since September 1, 1932.
6. For the 11 month period from January 1 to November 30, 1932.
7. For the 11½ month period from December 15, 1931 to November 30, 1932.

loan was generally applied. In some cases, lump-sum reductions were demanded at intervals, and in other cases the mortgage remained unchanged in amount for considerable periods. Under the State Housing Act, a first mortgage loan could be placed for a sum not to exceed 66⅔ per cent of the value of the property, and the remainder had to be supplied as equity by the promoters of the project.[1]

In the State Housing Board projects in existence in 1934, mortgage interest is never below 40 per cent of all operating expenses and averages in the neighborhood of 50 per cent Expressed in another way, interest payments, which consist mostly of mortgage interest, amount to from twenty-three cents to forty-three cents for each dollar spent in rent. No other item even approaches mortgage interest in importance.

At first the entrance of the Federal government into the mortgage-lending field for housing made no substantial contribution toward dealing with this problem. Under the Emergency Relief and Construction Act of 1932, loans were made available at an interest rate of 5 per cent, but only one such loan, that of Knickerbocker Village, was placed

Under the National Industrial Recovery Act of 1933, a more liberal policy was put into effect Loans at 4 per cent were made available and these could be extended up to 85 per cent of the appraised value of the project Under this Act, loans at 4 per cent were secured by the local projects of Hillside and Boulevard Gardens. With the government able to float long-term bonds at slightly over 3 per cent, and short-term paper at much less, and with administration charges of about ½ per cent, this arrangement held out some promise, without loss to the lender.

Many people believe that the government might go further in this matter of interest rates, absorbing losses, if any, as its contribution toward a worthy social objective. Just what a further reduction would accomplish as regards monthly room rentals is, then, a matter of considerable interest. Figure 147f shows the effect of successive changes in interest rates. It will be noted that a reduction of 1 per cent is capable of lowering monthly room rentals by about eighty-five cents.

Amortization has proceeded by no set rule in the past. Under present Federal procedure it assumes an important role. For some time the Housing Division of the Public Works Administration made use of a sliding scale of rates in approving loans. These started at 2.56 per cent per year for non-fireproof construction and reached 1.51 per cent for fireproof construction involving slum clearance. More

1 *Laws of the State of New York*, 1926, Chap. 823, amended by *Laws* of 1927, Chap 351 *Laws* of 1928, Chap 122, *Laws* of 1930, Chap 872, *Laws* of 1931, Chap. 557 and Chap 558, *Laws* of 1932, Chap 507 The requirement for first mortgage loans is in Article 2, Sec 14

recently this was reduced to 1.12 per cent. The 1.51 per cent figure has been employed in connection with calculations required in Figure 147a–f.

With the 2.56 per cent rate, the loan is extinguished in about twenty-five years while with the 1.51 per cent this is extended to about thirty-three years, and with 1.12 per cent to forty-four years. Although the earlier rates were liberal, as compared with some previously used, there are many people who believe that they are not sufficiently liberal in view of the probable useful life of the buildings. English practice, which allows for a considerably longer period, has been held up as more in keeping with the objectives of low-rental housing. This point of view has finally secured recognition.

As amortization is figured on the same capital amount as is interest, a reduction in the one is just as good as in the other. For instance, a drop from 1.51 per cent to 0.83 per cent will accomplish an effect comparable to dropping the interest rate from 4 per cent to 3.32 per cent. Such a method does not necessarily lead to a loss. There is a stretching of the hazard arising from changing standards and shifts of population with every extension of the amortization period. For no one can absolutely guarantee that low-cost housing projects erected today will be acceptable forty years hence. But the odds appear to be in favor of a fairly long, useful life for structures that are carefully planned for a particular use and with high standards of design and construction. If speculative types of buildings erected with little regard for the living conditions of tenants can show a profitable existence of forty-five or more years, the chances of their successors may be regarded with some confidence.

Structures erected today start with a number of advantages that were unknown when their predecessors appeared. Building regulations are better developed and zoning has entered as a stabilizing influence. While no one would claim that either of these has reached a state approximating perfection, still the degree of public control has been greatly improved.

The future of housing operations is clouded by uncertainty as to mortgage rates. If the Federal government carries its cooperation no further than model projects erected under emergency conditions, local authorities will be thrown back on their own ingenuity in obtaining money at reasonable rates. The new Housing Authority Law looks to a time when the local Authority will operate on its own initiative, financing its ventures through the sale of bonds. To some extent a market for these bonds is provided by authorizing their purchase for state sinking funds, by trustees, and so on. The passages of the law bearing on this are as follows:

Bonds. 1. An authority may from time to time issue bonds in such amounts and upon such terms as it may deem advisable to carry out the provisions of this article. The authority must obtain the approval as to the amount and terms of such bonds, of the board of estimate and apportionment in cities where such body exists, and in other cities, of the local legislative body thereof as defined in the city home rule law, except that such approval shall not be required for bonds issued in connection with a Federal project. The bonds may be sold by the authority at public or private sale at such price or prices as the authority may determine.

2. Bonds may be issued for any purposes of the authority including the payment or reimbursement to the city for property, services or facilities furnished by it pursuant to agreement with authority.

3. The authority shall have power out of any funds available therefor to purchase any bonds issued by it at a price not more than the principal amount thereof and the accrued interest. All bonds so purchased shall be cancelled. The paragraph shall not apply to the redemption of bonds.

4. No personal liability or accountability shall attach to any member of the authority or any city official or to any person executing said bonds by reason of the execution or issuance thereof.

5. The bonds of an authority are securities in which the city or state may invest. Such bonds, when they are secured by a first mortgage lien not exceeding sixty-six and two-thirds per centum of the value of the property covered thereby, are hereby declared to be securities in which all public officers and bodies of the state, municipalities, municipal subdivisions, all insurance companies and associations, all savings banks and savings institutions, including savings and loan associations, all executors, administrators, guardians, trustees, and all other fiduciaries in the state may legally invest funds within their control.

73. Non-liability of state or city. The bonds or other obligations of an authority shall not be a debt of the state or the city and neither the state nor the city shall be liable thereon nor shall an authority have power in any way to pledge the credit of the state or the city, nor shall the transfer from the authority to the city or the vesting in the city of property theretofore belonging to an authority impose upon the city any obligation except such as it may expressly assume.

At the risk of repetition, it should be made clear that the changes in rentals produced in the various graphs in Figure 147 are true only for the particular conditions described. Nor is anything more than a reasonable degree of accuracy claimed. The graphs are presented chiefly to reinforce a plea that statements regarding the effect of various forces on rentals should be made with full explanation of how the results are obtained and how one compares with another, thus removing the subject from a manner of presentation in which almost anything may be claimed and nothing can be checked.

Summarizing the various curves we may look at the results as outlined on the following page.

POSSIBLE WAYS OF REDUCING MONTHLY ROOM RENTALS

Method	Saving in Rental
Increase coverage from 50 per cent to 60 per cent	$0.26
Reduce interest rate on loan from 4 per cent to 3 per cent	.85
Reduce maintenance by $1 per room per year	.09
Reduce land cost by $1 per square foot	.19
Increase height from six to ten stories	1.26
Reduce cubic cost of building by five cents	.42
Reduce amortization rate from 1.51 per cent to 1 per cent	.41

Another method of cost analysis that has received too little attention in the welter of discussion about housing is a formula proposed by Alfred M. Butts and published, with an explanatory article, in the *American Architect* for March 1933. This formula is not complicated or difficult to use and requires only alertness in recording the several factors. By substituting various values for one item as already suggested and keeping others constant the effect of various changes can be studied in detail. The formula is as follows:

$$\frac{kg}{h}\left[\frac{L}{c} + bf\,(h+1)\right] + m = 12\,pr$$

where

k = Capital charges plus taxes (combined percentage)
g = Gross area of room
h = Height expressed as number of stories, exclusive of basement
L = Land cost per square foot
c = Coverage of land by building (percentage)
b = Building cost per cubic foot
f = Floor to floor height in feet
m = Maintenance cost per room per year
p = Percentage of occupancy
r = Rent of room per month

k includes interest paid on the equity and interest and amortization on mortgage. No depreciation is assumed.

It is best to undertake the use of this formula only after digesting the article in which it appears. Like the curves already presented, its principal function lies in rough checking to determine the relative importance of various factors, as well as to test whether a project as presented has a reasonable prospect of success. In the form presented it is particularly useful for commercial or limited-dividend projects, but it can be adapted to government-financed housing.

In almost all proposed housing developments and in some existing ones, stores are provided, partly to supply the neighborhood wants of the tenants and partly as

a device to reduce apartment rentals. The exact ratio between stores and tenants is not possible of computation, especially when the project does not create a neighborhood in itself and draws trade from surrounding blocks. There are, however, a number of studies that aid in approximating a reasonable figure.

Among existing structures, the Amalgamated Dwelling block development contains twelve stores and houses 231 families; the Fourth Avenue project of the Brooklyn Garden Apartments lists twelve stores and 165 families; the Academy Housing project has eight stores and 475 families; and the Stuyvesant project twelve stores and 93 families. Most of these stores are in neighborhoods where there are competing establishments. Among newer projects in this situation is Knickerbocker Village, which has 24 stores and 1,593 families. The cooperative stores of the Amalgamated Housing Corporation in the Bronx are a special variety.

Much depends on the size of a store, and what it has to sell. Stein cites estimated space requirements for stores of various types, quoting from publications of private individuals and the U. S. Department of Commerce.[1] Grocery stores vary from twenty to forty feet in width and from thirty-five to sixty feet in depth. Ordinary stores for articles such as drugs, hardware, and so on take a typical size of $20' \times 80'$. Common observation reveals many stores doing business in much smaller quarters, and the trend is admittedly to smaller dimensions and more efficient merchandizing.

The study mentioned had particular reference to the proper number of stores for Radburn, N. J., a town planned to have 10,000 population. Among other things, it points to the conclusion that a store doing business of less than $12,000 gross per year has small chance to survive; that food stores pay on the average 4 per cent of their gross sales in rent (the percentages varying within the group — grocery 3.5 per cent, meat 3.5 per cent, combination meat and grocery 3.0 per cent, candy and confectionery 10 per cent, and others 6 per cent); and that average per capita sales of the food group were $151.04 and of drug stores $13.38. All the above was based on experience in eleven suburban towns of about 10,000 to 12,000 people in Connecticut, New Jersey, and New York. Rent of drug stores was estimated at 7.5 per cent of gross sales. The number of stores per hundred persons in these eleven towns was 1.43 as compared with the country-wide average of 1.26 and 1.16 in the Borough of Queens.

The estimated number of stores for Radburn, calculated by multiplying average per capita sales in eleven towns by 10,000 and dividing the product by the

1. Clarence S. Stein and Catherine Bauer, "Store Buildings and Neighborhood Shopping Centers," *Architectural Record*, February 1934, pp. 125–127.

average volume of a chain store unit, was sixty-three, but this was modified because of the need for including service stores and allowance for 1929 as an exceptional year when the Census of Distribution was taken. The figure of seventy was finally chosen, or .7 stores per 100 population.

In later calculations, Stein allows 27,000 square feet for stores serving 5,000 people [1] An average expenditure of $200 per person in neighborhood stores is mentioned, and 6 per cent as rent on gross sales, or a return equal to about $1 per room.

From experienced developers the opinion has been obtained that the neighborhood stores could count on 25 per cent of the income of tenants and would pay about 10 per cent as rent on gross sales.

For less abstract facts about stores one may turn to a survey made in 1932 by cooperative arrangement between the State Board of Housing and the Social Science Laboratory of the College of the City of New York.[2] The area covered comprised ninety-seven blocks on the Lower East Side, termed by the State Board of Housing "one of the worst tenement districts in the city." Presumably the buying habits and income level of the inhabitants is typical of the low-rental housing group that it is proposed to help.

Pertinent facts brought out about stores in this survey were that there was a total of 3,729 stores, of which 759 or 24 3 per cent were vacant. The number of apartments in the area was 25,416 and the vacancies were almost exactly the same, 24.4 per cent. There was one occupied store for every 8 1 occupied apartments, a figure far higher than any thus far mentioned. To this, those familiar with the situation will immediately suggest adding some of the large number of pushcarts that do a thriving business in parts of the area. No doubt many of these store enterprises are theoretically uneconomic. Their drastic reduction in new housing developments, however, leaves the dispossessed shopkeepers in a situation comparable to technological unemployment.

In this same study the average monthly rental of the occupied stores was found to be $36.71 per month. By some of the standards already cited even the more pretentious had no claim to survival. Yet survive they do, which suggests the importance of further study and possible revision of calculations.

Since one of the objects of having stores is to help out on the total income of a housing project and thereby keep down rents, the percentage of total income formed by store income in these old tenement structures deserves attention. It was found that 18.9 per cent of all income was derived from stores. In financial

1 Clarence S Stein, "The Price of Slum Clearance," *Architectural Forum*, February 1934, pp 154–157

2 *Report of the State Board of Housing*, 1932, Legislative Document no 84, pp 41–51.

statements of proposed projects today, expected store income shows considerable variation. The Rutgerstown statement shows about 14 per cent, Queenstown about 17 per cent (but with additional income from garages and theatres), Queensbridge Dwellings about 5 per cent, the Winfield low-cost alternate about 22 per cent (plus garages, theatres, and concessions), and the Coupled-Block Plan by I. N. Phelps Stokes about 15 per cent.

In the competition of the New York City Housing Authority twelve linear feet of store frontage for each 100 population was given as one of the mandatory requirements.

Estimates of the amount of family income spent in neighborhood stores show the usual variations. Stein mentions a figure of $200 per capita annually in low-cost housing developments. Others estimate from 25 per cent to 33⅓ per cent spent in the immediate neighborhood. Percentages of gross store income available for rent vary as between different lines of merchandise, with a range of from 6 per cent to 12 per cent. If we take 8 per cent as an average, regard the income of the families in a housing project as four times the rentals paid for apartments, and settle upon some percentage of this total income that will be spent in neighborhood stores, we have the elements necessary to calculate whether assumptions of store income are reasonable.

Mention has been made of the life that goes on within the cellular structure of the apartment house. Like all life that is not parasitic, warmth and light are necessary. In the latitude of New York this means artificial heat of some sort for six or seven months of the year and artificial light increasing in amount with the onset of the winter solstice. Coupled with this artificial light, which by common consent is now assumed to be furnished by electricity, is a demand for electricity in the form of power for elevators, mechanical refrigeration (unless this is furnished by gas), and other services. Heat and electricity, then, become features of major economic importance in any housing plans.

Beneath the asphalt and concrete that cover the city, there is a network of pipes that conveys steam for heating purposes. Sixty-five miles of mains in all perform this service. Steam is metered and sold for apartment-house use at rates varying from $1 per 1,000 pounds down to seventy cents, depending upon the quantity consumed. There are also adjustments according to fluctuations in the cost of coal and certain minimum charges. Although the subterranean grid of pipes extends from the Battery nearly to the northern end of Central Park it is so located that at few points does it touch upon areas possible for slum rebuilding. This, coupled with the fact that extensions of mains involve large capital outlays,

makes it rather unlikely that the system will be tapped for large-scale housing projects at first. It is, however, deserving of comment that large-scale deliveries of heat have been found possible, including such apartment groups as Tudor City. Neighborhood developments may eventually utilize this principle to good effect.

Percival R. Moses, local consulting engineer, has made a study of the comparative cost of supplying heat for a large project by a central steam plant and by local plants in the various buildings. Through reduced capital outlay for the central plan, even though distributing mains are necessary, he estimates savings equivalent to twenty cents per room per month in rentals. This sum would vary with the conditions.

The same authority has worked out comparisons between generating electricity within the project by Diesel engines and purchase from the outside supply. Naturally savings would be affected by the load which would be increased and steadied by use of electricity for refrigeration, cooking, and other operations. Some of these, like refrigeration, are now widely accepted, whereas the use of electricity for cooking is still problematical for low-rental tenants. With no allowance for cooking but with an expected use amounting to about $4 per month by each of 3,600 apartments, and with other uses in stores and elsewhere, Mr. Moses figures that a profit of $1.05 per room per month with the Diesel system could be made, this could be applied toward reduction of rentals.[1]

Another aspect of the electrical lighting and power supply is the practice of submetering which has grown up in Manhattan In other boroughs it is forbidden. There are a number of management companies in Manhattan. They have an established plan for distributing electric current, and for providing service to tenants. Their activities include installation, maintenance, scientific tests and calibration of meters for accurate registration, monthly readings, statements, and collections.

The contract service consists of:

a Furnishing submeters including payments and collections without charge for service or investment to the owner for meters and equipment.

b Renting to the owner for a fixed fee the necessary submeters including the following service: meter readings, statement, and individual monthly bills. Testing of submeters and attending to questions raised by the tenants.

c. Sale to the owner of meters, equipment, and installations, and performance of the service as set forth in "*b*" for a fixed fee.

1 For details see "A Method for Reducing Rentals in Housing Projects' by Percival Moses, *Real Estate Record and Builders' Guide*, January 6, 1934, pp 3–4

Monthly rate schedules are as follows:

Classification No. 1. — Residential Consumers

Minimum charge, including first 10 k.w. hours	$1.00 per meter
Next 5 k.w. hours per meter per month	.06 per k.w. hour
All over 15 k.w. hours per meter per month	.05 " " "

Classification No. 2. — Commercial Consumers

Minimum charge, including first 10 k.w. hours	$1.00 per meter
Next 40 k.w. hours per meter per month	.06 per k.w. hour
Next 4,950 k.w. hours per meter per month	.05 " " "
All over 5,000 k.w. hours per meter per month	.04 " " "

Demand charge

$1.00 per month per kilowatt of maximum demand, where the demand exceeds one kilowatt

Wholesale Rates

First 75,000 k.w. hours	$0.05 per k.w. hour
Next 100,000 k.w. hours	.04 " " "
Next 150,000 k.w. hours	.03 " " "
Next 775,000 k.w. hours	.02½ " " "
Excess over 1,100,000 k.w. hours	.02 " " "

Additions or deductions according to changes in cost of coal.[1]

Owners of buildings taking advantage of submetering service, and acting as agents, share with the service company approximately 50 per cent of the net income. This additional income on a project can be included in the general income or may be used to make up the inequalities of maintenance. In the case of municipal or Federal housing the management would be in a position to lower maintenance charges, lower rents, or deposit savings in the reserve fund.

The fact that this service is confined to Manhattan limits its possibilities for low-cost housing. It is possible, too, to exaggerate the savings possible under this arrangement when dealing with low-rental tenants. For these reasons it is believed to have only a limited application to the general problem of rental reduction.

There are numerous other factors that should be weighed in dealing with the economics of housing as it presents itself in New York. Hot water supply lines of brass should be considered, particularly when amortization periods of more than forty years are assumed because of the corrosive quality of the water supplied by the city. Incinerators within the project to dispose of garbage deserve mention, both for greater cleanliness obtained within the buildings and as a relief to the collection services of the city. The community, or even the block, that is created does not live to itself but has responsibilities to the city at large. To understand

1. Rate schedules are on file in the office of the Public Service Commission.

and to provide for interactions such as these is to discharge intelligently the function of planning for good housing.

Those who have had large experience with the broader phase of housing economics are keenly aware of the fact that no two projects can be treated exactly alike. It is true that the elements making up the problem are the same in each case; but their relative importance varies within a considerable range. The skilled housing planner reviews each situation in detail. He selects those features that have most promise of accomplishing his purpose, lowest possible rentals consistent with reasonable standards, and concentrates on them. Theories of the lecture platform and the magazine page find their proving ground when payrolls have to be met, construction-progress schedules observed, and operating charges balanced against rental income. One sure way to accomplish tangible results appears to reside in attracting to the housing field the sorts of ability that have hitherto been applied in ventures of a purely commercial sort.

CHAPTER XXXIX

HOW TO CUT COSTS

STATED very simply the problem of the planner of low-cost housing is to keep standards up and rents down. The solutions effected are not always happy. If standards are made too low the building suffers from premature obsolescence, while if rents are not within the capacity of low-rental tenants the whole project is subject to the charge of false pretenses. Some experienced builders state that provision of first-class housing accommodations at the rentals paid by the low-rental group is impossible in the absence of huge subsidies. When it is recalled that maintenance charges alone are from $3 to $4 per room per month, without taking the numerous other fixed charges into account, considerable support is developed for this view.

In examining whether or not the problem can be solved, it is well first to note the differences between housing produced on a commercial basis for tenants who can afford to pay well, and housing such as is contemplated. In the former instance all capital charges are borne by private enterprise, but some of these are squeezed out in subsidized low-rental housing. The typical speculative apartment house is built to produce a liberal profit for the builder. It is financed by first and second mortgages which are placed at some cost and pay rates of interest well above that offered by low-cost housing. When the building is finished and rented it may be turned over to some investor, again at a profit, and this investor hopes and intends if possible to secure a liberal return on the equity that he puts into the transaction. This picture is plainly not adapted to a situation where rents must be held down to a minimum Here, promotional profits must be eliminated, interest rates cut down, and a simplified procedure introduced. Taken as a whole this procedure is capable of notable economies.

What follows should be taken as indicative of how rentals can be reduced, but not necessarily as conclusive either as to the validity of the methods used or the values that are obtained. Many economies can be demonstrated on paper that somehow cannot be produced in the field. Anyone who has had charge of a large building operation is fully aware of the unexpected difficulties that may develop and does not trust too implicitly to estimates based on average figures and hypothetical situations. Nevertheless, possibilities must be explored if any real progress is to be made.

Under favorable conditions the room rentals of a housing project may be whittled down by successive application of various devices until they approximate what families of low income can pay. In part, these devices consist of doubtful expedients, such as tax exemption and subsidies, while in part they represent savings in mortgage interest, construction costs, and other factors. To show what happens when various methods of approach are applied a series of calculations has been made, starting with a commercial basis and ending with a tax-exempt, subsidized project incorporating extreme reductions in construction and maintenance costs. This paring down process has been performed not so much to develop absolute values as relative effects.

The particular project chosen has been a ten-story structure covering 50 per cent of the land and erected on comparatively high cost land — $8 a square foot.

On a straight commercial basis, the rental would be at least $15.36 and probably more.

Developed as a limited-dividend project, with a first mortgage of 66⅔ per cent of the cost, at 5 per cent interest, and an equity of 33⅓ per cent at 6 per cent, taxes being paid on land only, the rental would drop to $12.53.

With a first mortgage of 85 per cent of the cost, at 4 per cent interest, and a 15 per cent equity at 6 per cent, amortization being at the rate of 1.51 per cent, and taxes as before, the rental would come to $10.26.

With a grant of 30 per cent on cost of labor and materials, a loan of the balance at 4 per cent, amortization as before, and no taxes, the rental would reach $8.60.

Keeping conditions as just given but lowering interest to 3 per cent would again reduce the rental to $7.75.

This $7.75 could be further reduced to $7.31 by getting maintenance down to $35 per room per year instead of $40 as assumed in all previous cases.

And finally this $7.31 could be brought to $6.82 by achieving a cubic foot construction cost of thirty-five cents a cubic foot instead of forty-two cents as assumed in the other calculations.

In each case, conditions as to interest, taxation, amortization, and so on that are typical have been taken. The ultimate rentals arrived at are probably the very minimum that could be achieved. As an exploratory operation it serves to bring out the point, when launching into a discussion of cutting costs, that rentals are the resultant of an intricate pattern of elements reacting on each other. If they are kept under control so that the general effect is downward, desired results may be achieved, but it is easy for a slight increase in one to cancel the good effect gained by a reduction in another.

To produce the savings possible through reduction in interest rates some steady source of funds must be located. The obvious ones are the Federal government, the state government, and the general public through purchase of bonds.

The Federal government's interests are so vast that housing is necessarily but one of many things with which it is concerned. Moreover, any distribution of Federal support will naturally have to be nation-wide and prorated in some way; for in a national sense slums in one location are as important as in another. Thus New York could expect only its share. The rates at which the Federal government can borrow money for long terms fluctuate, but normally might be as low as 3 per cent. The expenses of looking after this money and seeing that it is properly spent and eventually returned might add at least another one-half of one per cent. So, rates much below 4 per cent for housing are normally rather unlikely from this source unless low-interest-bearing funds like the postal savings are tapped or outright subsidies furnished by taking a loss as between rate received and paid. The postal savings, which pay only 2 per cent to depositors, and amounted to $1,200,000,000 in round numbers in 1930, have been suggested by a number of housing authorities as a possible source of funds. Limitations on their method of investment would probably have to be lifted to make them available. The fact that this suggestion has not been taken up may indicate a distrust of the soundness of low-cost housing as an investment among those responsible for the integrity of the funds. If available, they might furnish money at as low as 3 per cent.

The New York State government can undertake additional debt obligations only after a popular referendum.[1] The State's credit is good and the interest that it has to pay on loans low, but until there is a universal conviction on the part of its citizens that low-rental housing must be provided and at some expense to themselves, the outlook for funds in this direction is not promising. Under the Municipal Housing Authority Law,[2] bonds of local housing authorities are eligible for purchase for the state sinking fund provided they do not represent more than two-thirds the value of the properties concerned. This may furnish some opportunity for state participation but probably a very limited one.

The bonds issued by the Housing Authority constitute the main hope of inducing the public to show its faith in low-rental housing. If projects erected with the aid of Federal funds demonstrate their soundness, there is some prospect that bonds issued to cover future projects may have a sale sufficient to furnish partial aid. It is necessary to recall, however, that private moneys for limited dividend corporations where the return is 6 per cent have been slow to appear even through

1. Article VII, par. 4, State Constitution. 2. Section 72 (5).

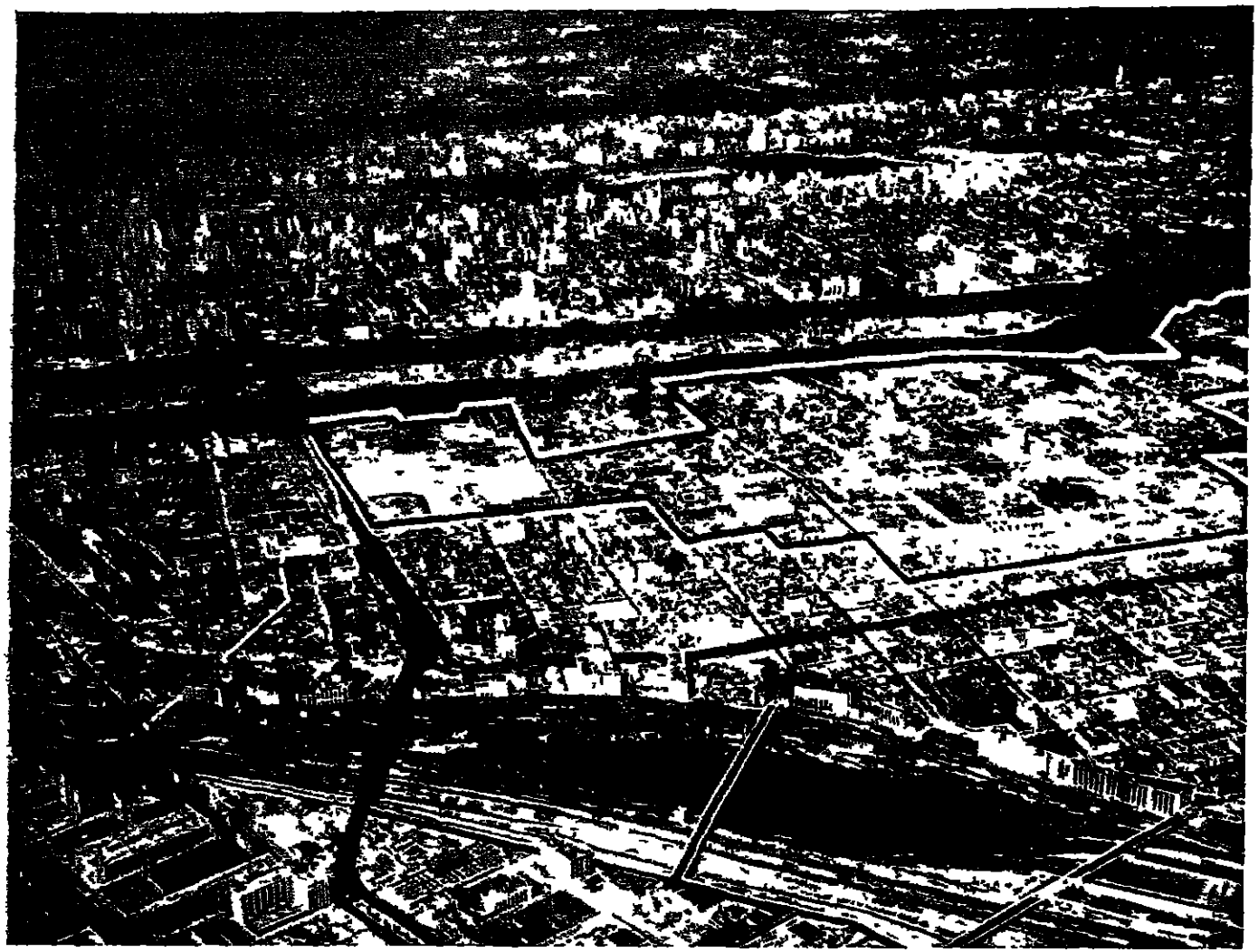
the State Housing Board and other projects of this nature have shown steady earnings. Bonds issued by the Authority at low interest rates might also be in competition with government bonds of about the same yield. With a strong probability that available government funds will have to be supplemented by private capital if any significant gains in housing are to be made, the means of attracting private capital become important. If bonds are issued with fairly high interest rates, say 4 per cent, and with long amortization features, the dual object of attracting capital and keeping rents down may be accomplished.

The reductions in rental demonstrated as possible through extending the period of amortization are already within the range of accomplishment so far as Federal funds are concerned. There is a considerable difference between the figures of 2 per cent or 3 per cent formerly used and the 1.12 per cent now contemplated, involving an amortization period of forty-four years. As pointed out elsewhere, since amortization is figured on the same capital amount as interest, a reduction in one is just as effective as in the other. English practice for some time has accepted even longer periods than forty-four years. This is a demonstration of confidence that low-rental housing will have inherent worth for more than a generation. By contrast it may be recalled that much commercial housing makes no provision for paying off the original cost but depends on the uncertainties of increasing land values. In comparison with this practice the use of an extended amortization period does not appear to be dangerously speculative.

One may question the wisdom and justice of tax exemption as a means of stimulating low-cost housing but the fact remains that as a practical matter it does reduce rents. This is amply demonstrated in the example already given and is confirmed by reference to other figures. When it is recalled that the city exacts rates varying between boroughs but averaging about $2.70 per $100 of assessed valuation, the consequences are readily visualized. Compare interest of $4 per $100 and amortization of $1.51: it will be seen that taxation occupies a place about midway in importance.

The State Board of Housing has made calculations showing that on the average its monthly room rentals would have to be increased by $2.24 if full taxation were required. The range for different projects was from $1.27 to $3.18. To produce an equivalent effect by reducing interest rates or otherwise, very drastic changes would have to be made. It is to be noted also that these projects do not enjoy tax exemption on the buildings, so that the municipality does not experience a complete lapse of income from the property.

The proposed Rutgerstown project assumes taxation on land and presents figures showing that rents must be increased to the extent of eighty-five cents per



Area of 488 acres in Queens studied by Carol Aronovici, Henry S. Churchill, Albert Mayer, William Lescaze, and Henry Wright They showed that the area, with easy access to Manhattan and other boroughs, could be replanned with two- to four-story buildings and more recreational spaces to house 77,500 people at rents averaging less than $9 00 per room per month. They also claimed that with a 30 per cent Federal grant and tax exemption rents could be reduced to about $5 00 or $6 00 Reproduced from *Architectural Forum*, July 1934

room per month if the buildings are taxed. Taxes on land and a reserve sufficient to start paying taxes on buildings at the end of twenty years are figured at $1.05.

In other calculations made in connection with plans of I. N. Phelps Stokes, the government figures for interest, amortization, grant, etc., being used, taxes were found to vary rentals from thirty-five cents to $1.17 per room per month according to the plan, height, and other factors This was for taxes on land only. We are justified in limiting our observations to this condition since, under the existing Housing Authority Law, the city may not call upon a public housing project for taxes exceeding the previous value of the site, which for the most part would represent the value of the land.

Turning to the physical features of a project, a great deal more thought needs to be applied to both design and construction. There is danger that a little knowledge will be crystallized into dogmas about height, coverage, equipment, and so on before adequate scientific data has been accumulated. Too much reliance upon European solutions of the housing problem is a case in point. There is no doubt that much can be learned from study of such precedents. But when the volume of inventions in other fields credited to American genius is recalled, one may reflect that if such genius is once aroused in the field of house construction it might go equally far.

Rental reductions are possible in a number of directions through savings in the original cost of construction. Large-scale operation in building is a source of economy often referred to. Major economies are undoubtedly to be expected from construction operations extending over many blocks. Examination of available figures indicates, however, that this is subject to a law of diminishing returns. There are, of course, savings in overhead, in more efficient use of labor-saving equipment, and in the opportunity of buying materials in large quantities as the project grows. This may show successive reductions in construction costs as we proceed from a single building to a block development but beyond that further savings are doubtful. So far as cubic foot costs of construction are concerned, some recent estimates show higher figures for multi-block projects than for ones of only a block in size.

There is some saving possible in design. The base over which this saving is to be made, however, requires definition. If such a base be taken as the average type of good apartment design, some competent builders estimate that no more than 5 per cent further can be saved by the utmost skill and ingenuity. All that can be done by grouping apartments about stairs, by insisting on straight lines of columns, by putting bathrooms and kitchens back to back so as to utilize a common plumbing stack, and other devices calculated to reduce costs show up

but meagrely in cubic foot costs, as many designers have learned. There is no doubt, however, that such exercise of care, together with the efficient use of space, repetition of unit designs, and refinements of many kinds, does help measurably in keeping costs down. But a good deal of this saving may be offset by other factors arising during the period of construction, unless the project is handled by a contractor who knows his job.

In all the copious recent literature on housing, the contractor appears, if at all, as a somewhat shadowy figure who supplies estimates gratis at considerable trouble to himself and sometimes eventually secures the job of bringing to life the plans that have been so ardently discussed. Anyone who knows the intricate procedure through which he has to go, learns to look with great respect on his operations. His bid is submitted on the basis of the best evidence at hand, but the unexpected is almost routine with him. He delves below the surface of the soil with only a few test borings to guide him. He deals with numerous sub-contractors who must be able to work in proper sequence and without interference. He must secure materials sometimes from over a wide area and see that these are delivered and fitted into the building at the proper time. He must deal fairly with large groups of building craftsmen and see that their work is performed satisfactorily. All this while subjected to continual supervision by the architect and by representatives of the various city departments that are required to inspect the structure and while faced with a definite date upon which he must complete his work.

Such an undertaking when performed on a large scale requires ability of a very high order, unquestioned credit, and suitable construction equipment. The number of local contractors able to qualify for projects of ten blocks or more is very small. No doubt contracts can be let in sections or to coalitions of several strong contractors such as the one formed to erect Boulder Dam. Because of the limited number of qualified bidders for large projects, competition may be less intense. To a certain extent this probably explains why large projects do not show the expected reductions in unit costs over small ones.

The influence of height of building on construction cost has been studied with varying results.[1] An article published in the *Real Estate Record and Builders' Guide*, June 17, 1933, summarizes figures tending to show that there is a progressive increase in cubic foot cost with building height. The table presented on the following page was taken from that article and is based on examples of actual construction.

1. The major study in this field is George B. Ford, *Building Height, Bulk and Form*, in the Harvard University City Planning Series. See also writings of Peter A. Stone listed in Bibliography; Thomas Adams, "Economic Height of Buildings," published in *Housing*, June 1930; *Report of Heights of Buildings Commission*, New York, 1914; and Commission on Building Districts and Restrictions, *Final Report*, New York, 1916.

BUILDING COSTS — NEW YORK CITY [1]

Type	Cost per cu ft. in cents	Story	Cost per sq ft ground area covered according to number of stories	Average cost per square foot of floor area
1	22–26	1	$3.84	$3.00
"	"	2	6.00	"
"	"	3	8.64	"
2.	28–34	1	4 65	4.20
"	"	2	7.44	"
"	"	3	11.16	"
3.	20–24	1	3.30	2.85
"	"	2	5.28	"
"	"	3	7.92	"
4.	25–30	1	4 12	3.60
"	"	2	6.60	"
"	"	3	9.90	"
5.	32–36	2	9 52	4 00
"	"	3	12.24	"
"	"	4	15 30	"
"	"	5	18.36	"
"	"	6	21.42	"
6.	38–45	5	22 41	4.25
"	"	6	26.14	"
"	"	7	30.14	"
			33.87	"
"	"	9	37.60	"
"	"	10	41.33	"
"	"	11	45.06	"
7.	55–60	5	31.05	6.00
"	"	6	36.22	"
"	"	7	41.39	"
"	"	8	46.56	"
"	"	9	51.73	"
"	"	10	56.90	"
"	"	11	62.07	"
8.	30–35	1	4.87	4.40
"	"	2	8.77	"
"	"	3	11.70	"
9.	35–40	3	13.50	4.00
"	"	4	16.87	"
"	"	5	20.24	"
"	"	6	23.61	"
"	"	7	26.98	"
			30.35	"
	"	9	33.72	"
	"	10	37.09	"
	"	11	40.46	"
	60–70	5	35.10	6.66
	"	6	40.95	"
	"	7	46.80	"
	"	8	52.65	"
	"	9	58.50	"
	"	10	64.35	"
	"	11	70.20	"

1. Data obtained from *Real Estate Record and Builders' Guide*, June 17, 1933, p. 3

TYPE 1: Simple frame residence; concrete block foundation and basement; steam heat; ordinary plumbing. No porches, mechanical refrigeration, or screens. One or two stories with unfinished attic.

TYPE 2: Detached residence, brick veneer, otherwise similar to No. 1.

TYPE 3: Frame row house, 1–3 stories high. Flat roof; no attic, steam heat; ordinary plumbing; gas range.

TYPE 4: Attached brick residence equipped and finished as with Type 2; garage not included.

TYPE 5: Semi-fireproof walk-up apartment; 2–6 stories, brick, concrete, and wood beams construction; all conveniences but of cheapest type; divided into 2–5 room apartments

TYPE 6: Fireproof elevator apartment; medium rental type; 1½ to 5 room apartments; brick, steel, and concrete construction with stone trim; automatic elevator; stores on ground floor; no special rooms or equipments.

TYPE 7: Elevator apartment of best type with superior conveniences, large lobbies, ballrooms, and other special features.

TYPE 8: One, two, or three-story and loft taxpayer type Sprinkler system and good exterior finish.

TYPE 9: Fireproof elevator, store and loft building with passenger and freight elevators, sprinklers, brick, steel and concrete construction. Concrete finish floors; inferior interior finish.

TYPE 10: Superior office building; all modern improvements and fine interior finish in lobbies and corridors

These figures were based on experience with actual buildings. An analysis made by the Housing Study Guild [1] covering a number of types of building plans ranging from two to twelve stories in height has led to illuminating conclusions so far as the effect of increase in height on rentals is concerned. Here rentals reflect changes in building cost directly, since land prices are excluded from the calculations. Variations in rental with height were not marked. The lowest rental was obtained with a four-story walk-up building. At eight stories rental had increased by only thirty-seven cents per room per month and at twelve stories the increase over the four-story figure was fifteen cents.

These variations would not necessarily hold true for other types of construction than that assumed. This type had reinforced concrete slab floors cantilevered out over structural steel columns and thin insulated exterior walls. The sole exception was ordinary bearing wall construction for the two-story flat. Much credit is due the Guild for selecting for study an advanced kind of construction which is likely to find increasing usefulness, although many builders are as yet unfamiliar with it. A shift in design from "strip" to "cross" plan between four and six stories was held not to change the comparability of the results. Various coverages ranging from 40 per cent for the two-story structure to 16 per cent for the twelve-story one were assumed. As land did not enter into the cost calculations, the effect of this change in coverage was necessarily limited.

An especially valuable feature of this report is the consideration of various methods of providing heat and light and an evaluation of the effect of each on the living expenses of the tenants. There is need for more study of this kind and a

1. *Analytic Study of Cost Differentials for the 2 Story Flat and 2-3-4-6-8-10-12 Story Apartments*, 1935.

recognition of the fact that rent is only one feature of the tenant's expenses when he takes up his abode in so-called low-cost housing.

The rentals arrived at by the Guild are consistently higher than those indicated by the nearest comparable cases covered elsewhere in this chapter. Part of this is probably accounted for by the much more detailed cost analysis used in the Guild study and part because of difference in basis of taxation, greater assumed maintenance charges, and other factors.

Further evidence of the effect of both building and land costs on rentals is contained in a table appearing in "Recent Efforts of the Federal Government in the Field of Low-Rental Housing." [1] The author's unusual opportunities to follow housing projects closely as an expert with the State Board of Housing gives special weight to his conclusions.

RENTS PER ROOM PER MONTH IN FOUR-STORY FIREPROOF BUILDINGS

RENT PER ROOM PER MONTH WITH CONSTRUCTION COST PER CUBIC FOOT OF

Cost of Land per Sq Ft	40c	45c	50c	40c	45c	50c			
	Room Size			Room Size					
	175 sq ft Gross Floor Area			200 sq ft Gross Floor Area			225 sq ft Gross Floor Area		
A. Municipal Authority with 30 per cent Grant and Full Tax Exemption									
$1.00	$6.50	$6.88	$7.26	$6.99	$7.42	$7.86	$7.49	$7.97	$8.46
2.00	6.92	7.30	7.68	7.48	7.91	8.34	8.03	8.51	9.00
3.00	7.35	7.72	8.10	7 96	8.39	8.82	8.57	9.06	9.54
4 00	7.77	8.15	8.52	8 44	8.87	9.30	9.11	9.60	10 08
5.00	8.10	8.57	8.04	8 02	0.35	0.78	0.66	10.14	10.63
B. Limited-Dividend Company with Tax Exemption on Building									
$1.00	$7.88	$8.41	$8.93	$8.57	$9.17	$9 77	$9 26	$9 93	$10.61
2.00	8.50	9 02	9.55	9.27	9.87	10.47	10.05	10.73	11.40
3.00	9.11	9.64	10.16	9.98	10.58	11.18	10.84	11.52	12.19
4.00	9.73	10.25	10.78	10.68	11.28	11.88	11.63	12.31	12.98
5.00	10.34	10 87	11.30	11.38	11.98	12.58	12.42	13.10	13.77
C. Limited-Dividend Company with Taxes on Land and Building									
$1.00	$9.71	$10.46	$11.22	$10.66	$11.52	$12.38	$11.61	$12.58	$13.55
2.00	10.33	11 08	11.83	11.36	12.22	13.09	12.40	13.37	14.34
3.00	10.94	11.70	12.45	12.07	12.93	13.79	13.19	14.16	15.13
4.00	11.56	12.31	13.06	12.77	13.63	14.49	13.98	14.95	15.92
5.00	12.17	12.03	13.68	13.47	14 33	15.19	14.77	15.74	16.71

Assumptions

Mortgage loan of 85 per cent to limited-dividend company; 100 per cent to municipal authority.
Interest rate on mortgage loan of 4 per cent.
Rate of amortization of mortgage loan of 1.51 per cent.
50 per cent coverage.
Maintenance cost per room per annum of $35.
A vacancy allowance computed at 5 per cent of gross income.
Taxes at the rate of 2.43 per cent.

1 "Recent Efforts of the Federal Government in the Field of Low-Rental Housing," by Asher Achinstein, in *Economic Essays*, New York, 1935

Construction costs per room in the Guild study varied from $696 60 for the six-story building to $775 36 for the two-story building of cantilever construction (the bearing-wall building of this height was lower in cost). The ten-story structure was found to cost $727.18 per room. Construction costs of State Housing Board projects have ranged from $887.64 to $1,375.53 per room for structures varying to a considerable extent in construction and in height.

It is pertinent to point out that in neither the case cited from the *Real Estate Record and Builders' Guide* nor in that of the Housing Study Guild were all other factors held constant while height was varied. The stated effects of height upon rentals are therefore not necessarily conclusive

Experienced contractors have submitted the opinion that, within the range of four to twelve stories, there would be little difference in the unit costs of low-cost housing structures of similar design and equipment. Walls must be somewhat thicker if height is carried beyond a certain point, columns larger, and elevator ropes longer, with each additional story. But on the other hand, the costs of excavation, roof, and elevators are spread over a larger cube; faster hoists can be used for conveying materials, thus compensating for greater carrying distances during construction, and other methods are devised to keep costs down.

Altogether, the evidence is somewhat contradictory. But apparently there are only moderate advances in cost, if any, with increased height, so far as fireproof elevator buildings of from four to twelve stories are concerned.

The type of construction is an important factor in governing costs. There are, in general, two types permissible under the law, one the fireproof building and the other the non-fireproof. Frame buildings are so limited in use for multiple dwelling construction as to require no discussion here. The typical fireproof apartment building in New York City is of steel framework, with cinder concrete arches for floors and exterior walls of brick. The typical non-fireproof, which is limited in height to six stories, has brick bearing walls with interior framing of wood. In current calculations a figure of forty cents a cubic foot is frequently used for the former and of thirty cents or thirty-two cents for the latter.

Except for greater safeguards against fire, the non-fireproof building of today does not differ in structure from its predecessor of a generation ago. In residential construction fireproof building because of its greater expense has thus far tended to be restricted mostly to apartment houses outside the low-rental group. An intermediate type requires sanction of the municipal authorities before it can be used.

While costs of materials and labor have had their effect, an analysis leads to the conclusion that much of the increase is to be found in what lies within the

building rather than in the shell of the structure. It is well to compare what the tenant got for his rental money in earlier days and what both housing standards and the law insist that he must have today. Adequate light must be provided for every room Central heat, hot and cold water, and a complete bathroom must be provided under the law by the owner. Mechanical refrigeration, although not legally required, is becoming standard equipment There are some serious students of housing who disparage the necessity for such conveniences, and who deny their suitability in the dwellings of the low-income group. Nevertheless, it should be recognized that such equipment is generally being installed and must be paid for, that the consumer has been educated to demand conveniences, and that provision for them at low rentals seriously complicates the whole problem of low-cost housing

Certain projects of the State Board of Housing have been selected to indicate the percentage of the total cost absorbed by specific items. These structures were erected in 1930

The figures cited give only an approximation of what is customary. Variations are explainable by differences in quantity and quality of fixtures — as for example the use of brass pipe instead of iron, the adoption of the one-pipe system of steam heat instead of the two-pipe system, and fluctuations in relative price of materials.

Although the recitation of such figures becomes somewhat tedious, it is only by keeping the proportionate costs in mind that possible economies in structure and in equipment can be canvassed intelligently. Obviously relatively little time need be spent upon such an item as electric wiring and fixtures which involves only about 3 per cent of the total cost. The "wet trades," such as plastering, absorb a considerable percentage of the cost and create delays in finishing a building. Measures to reduce this factor in cost through use of smooth concrete forms and a finish of thick paint applied directly to the ceilings and partitions have already met with some success.

Any efforts toward economy will disclose that wages, costs of materials, legal restrictions, and construction methods require examination.

A survey of the building material price situation gives little encouragement for reductions in this direction. Economies in materials, if any, will have to come from more skilful selection, and from the elimination of superfluous materials or excessive quantities. The rapid advances made in the manufacture of automobiles have been held up as evidence of what progress can be achieved by quantity production in the field of housing when minds are sharpened. There is an ease about this comparison that attracts many writers. Yet an industry that has evolved the

skeleton steel building, reinforced concrete, the elevator, modern plumbing, and numerous other improvements cannot be said to be completely without initiative. Some deeper reason exists for the apparent slowness in developing new forms.

PERCENTAGE OF TOTAL COST FORMED BY VARIOUS ITEMS[1]

	Amalgamated Dwellings East Side	Amalgamated Housing Corporations, Bronx Units 7 and 8
Excavation, foundation and basement	5.34	4.35
Masonry	16.23	19.02
Concrete and cement work	3.18	3.14
Cast stone, terra cotta and ornamental stone	.82	.77
Structural steel (including ornamental iron and fire escapes)	5.35	4.06
Carpentry	2.76	2.99
Lumber	3.29	3.52
Roofing (including roof ventilators)	1.11	.55
Wood and metal trim	4.36	4.00
Weatherstripping	.21	.27
Window frames and sashes (including glazing)	.80	.89
Hardware (including window weights and chains)	.67	.81
Lathing and plastering	7.98	10.30
Flooring (finish)	3.32	3.76
Painting and decorating	2.74	2.84
Tile and bathroom fixtures	2.23	2.02
Terazzo and marble	.48	.90
Plumbing and plumbing fixtures	7.94	7.74
Heating	6.85	6.96
Fuel oil burners	1.01	.15
Electrical work	2.09	2.42
Electrical fixtures	.84	.91
Elevators	4.01	4.46
Refrigeration	2.82	1.00
Ranges	.82	.77
Clothes driers	.08	.05
Medicine cabinets	.11	.11
Window shades	.17	.24
Dumbwaiters and ash lifts	.21	.06
Incinerators	.28	.13
Miscellaneous	.04	1.29
General Expenses and Overhead		
Architect's and builder's fees and supervision	5.13	
Watchmen and undistributed labor	2.38	
Insurance during construction	.25	
Interest during construction	2.02	
Other general expenses	2.08	
Total	100.00	100.00

The requirements for the exterior of the building are simple. They call for safe carrying of loads, shutting out the weather, providing a reasonable degree of in-

1. Figures from *Report of the State Board of Housing, 1932*, Legislative Document no. 84, pages 77–80.

sulation against extremes of heat and cold, a certain amount of fire resistance, and a fair appearance. Inside, there is need for adequate strength, fire resistance, quietness, and, again, appearance. Cost is the final determinating factor.

There is some disposition to stick to the heritage from other times when materials and labor were cheap and rules of thumb provided large factors of safety. With costs what they are today the use of old materials may be pared down when substitution of new ones does not bring with it, as it frequently does, increased costs. There is nothing reprehensible in this paring down if it is done wisely. No special merit attaches to making a wall twelve inches thick when eight will do, to requiring four inches of fireproofing around columns when two is ample, to designing floors for a load of seventy pounds per square foot when forty will never be approached in actual practice.

These changes are possible, and they furnish an intelligent approach to justifiable economies. When they come in conflict with the building code and can be supported by scientific evidence as to their safety the code can be changed.

Wages in the building industry are undoubtedly high, when measured in terms of hours and days. With about 40 per cent of the actual construction cost taken up by labor, it is apparent that a drive for reduction in wages, if successful would, all other things remaining equal, produce substantial economies There is another side to the matter, however, which deserves thoughtful consideration. Some years ago the Committee on Seasonal Operation in the Construction Industries appointed by Herbert Hoover, then Secretary of Commerce, made a careful study of the extent of employment among building trades workmen in normal times, and found that the average man had work for only about nine months a year. The rest was lost because of bad weather, changing from one job to another, and the uncertainties attendant on all building operations. While some may be more fortunate than the average, it does not appear that yearly earnings in the building trades, in general, are excessive. Wage rates in New York City are, however, higher than in many other localities.[1] Certainly the conditions cited justify a study of devices to provide continuous employment at annual rates no lower than those now received, but at lower rates per hour, — and of other ways of producing economies, before drastic wage reductions are advocated.

The relatively high hourly wages that building labor receives, compared with the wages earned by tenants of low-cost housing projects, do, however, carry with them obligations on the part of labor, of doing nothing to raise the cost and hence the rentals. In view of the community of interest among wage-earning groups the

[1] In January 1935 the wage scale for bricklayers was $12 per day (8 hours), for carpenters $11 20 per day (8 hours), for plasterers $12 (6 hours), for electricians $11 20 (7 hours), and for painters $9 (7 hours)

situation demands the giving of a high degree of efficiency by the building trades, for the wages earned and the elimination of jurisdictional disputes that tend to delay and increase in costs. The unhappy experience of the Boulevard Gardens Project in the fall of 1934, when operations had to be suspended for weeks while carpenters and steamfitters argued over who should cut notches in beams to receive steampipes, is a case in point.

Material costs are governed by so many factors that it is difficult to predict whether further economies in manufacture are possible. There have been sporadic instances of savings on materials through searching for new sources, such as the use of Dutch brick in the Metropolitan Apartment Buildings. In general, however, economies are to be expected more through quantity orders resulting from large-scale operations.

At the National Bureau of Standards in Washington, fundamental research into the properties of building materials and standardization of qualities and dimensions has been carried on continuously for a number of years. Manufacturers, in cooperation with the Bureau have agreed to designate certain stock sizes and varieties as standard so as to obtain the maximum benefits from quantity production and stocking up in advance of demand. The possibilities are being explored of producing each unit material in multiples of some common factor so that bricks will fit around windows without cutting and fitting, tile and block will meet without the need for any adjustment at header courses, and harmony in combination of materials will prevail where maladjustment now occurs. Improved building and plumbing regulations have also been developed in the light of the information provided by research. All these activities, which are too little known, when integrated have much to offer in bringing about economies in housing. Intensive research for the avowed purpose of developing new and perhaps radically different housing construction has not, however, found a part in the program.

Economies can be realized through more up-to-date local building code requirements if these are scientifically revised. There have been suggestions that these requirements should be relaxed in the case of low-rental tenements, the purpose being to bring about cheaper construction and thereby achieve lower rents. The proposal is an example of good intentions taking an improper course, for it betrays an ignorance of the subject among housing authorities that is unfortunate.

Building codes are minimum police power requirements through which the community exercises its right to protect its citizens against the ignorant, the unscrupulous, and the careless designer or builder. They do not incorporate ideal

standards and indeed are sometimes far from doing so. If they represent true *minima*, there is no room for cutting down their provisions, for this means danger to life and limb. If their requirements are excessive, as they frequently are, they can be pared down, but there is no sanction in law for one code of safety for the rich and another for the poor. The tenants of all rental classes should receive equal protection.

There is an abrupt gap in the New York Building Code between the semi-fireproof and fireproof types of construction. The first requires an amount of column fireproofing, a thickness of floor, and a degree of protection in other directions far beyond what is justified by the combustible contents in an apartment house. If these matters are provided for with relation to the hazard due to the contents, which is about one hour fire effect as determined by the standards approved by the American Society for Testing Materials, and if adequate exit facilities and fire-fighting devices are provided, all has been done that needs to be done from the standpoint of safety to the occupants. The building will not collapse, it will have provision for escape, and the fire will be confined to the room of origin if efforts to subdue it are intelligently directed.

Inquiry among builders and recourse to other sources of information bring out estimates of cubic foot cost for this type of construction about midway between the non-fireproof and fireproof types. Thus, a substitution of a lighter type of fire protection for that now demanded might produce a reduction in monthly room rental of forty cents without any reduction in the safety of the tenants.

The problem of regulations concerning exterior walls will also have to be faced. Although such walls are almost invariably of masonry materials at the present time, the presence of numerous windows in them weakens their potential fire resistance. Periodically there crops up a suggestion for other forms, — as, for example, mineral insulation between metal sheets, between stucco envelopes applied over metallic lath. Fundamentally, the question is one of determining what degree of fire resistance is necessary for safety, where there is exposure to other buildings, and what weatherproof and insulation qualities are required, it being assumed that loads will be carried by a structural framework.

In its requirements for floor loads and in its recently adopted stresses for structural steel, the New York building code is abreast of modern thought. There are, however, other refinements in matters of detail that would add to the significant economies possible in a more rational gradation of buildings according to the fire hazard of their contents.

When, some two or three years ago, large scale construction of low-cost housing seemed imminent as a result of Federal funds being made available, there was

much discussion in the columns of architectural and other magazines of how the proposed housing could be brought within the means of the prospective tenants. In those days, the thought of subsidy was approached with some reluctance and so minds were turned toward possible economies of various sorts.

Among the various proposals advanced were measures tending toward simplicity of construction and equipment, leaving to the tenant the choice of paying more for superior accommodations. Experienced and competent architects discussed how rentals could be kept down by providing in effect for shelter only, with conveniences and amenities to be added as the tenant could afford them. Some suggested providing outlets for steam radiators, for gas appliances, and for electricity but supplying the actual devices only at somewhat increased rents. Others suggested concrete floors throughout instead of wood, reduced size bathtubs, hot water produced by tenants in individual heating appliances and individual gas steam radiators. Elimination of clothes closets and of dumbwaiters was mentioned. Even individual stoves using solid fuel were suggested.

Such expedients held out possibilities of substantial savings, particularly in fixtures and in heating plants. Such suggestions, however, have been laid aside as impractical, except perhaps for row-house developments. Central heating has been regarded as more efficient than individual plants (although this ignores the fact that charges go on in the rentals in winter and summer and leave the tenant no choice as to personal economies in the matter) and calls for no clusters of chimneys with their attendant expense which are necessary where solid fuel is used.[1] It has been claimed that concrete floors are hard on the feet and dangerous for children. Orderly arrangement of clothing has been found difficult or impossible in actual projects when closets have been eliminated or wardrobes substituted. In short, a combination of analysis and experience has dampened the enthusiasm of specialists who at first suggested almost Spartan conditions.

Those who look forward as well as those who profit by experience have also been concerned with these suggestions. The former have pointed out that new housing, to be profitable as an investment, should be of such a type as to prove attractive to tenants over more than a generation to come. If erected with the bare essentials of equipment and finish, it may cease to be rentable long before it is paid for and thus become an economic as well as social loss.

Further thought has also called forth the familiar reflection that savings in first costs do not always turn out to be real savings because of increased maintenance costs of one sort or another. Water pipes which burst as a result of the

1. For laws governing supply of heat in apartment buildings, see Multiple Dwelling Law, Title 2, Sec. 64 and the Sanitary Code, Sec. 225.

frugalities of tenants who have been left to supply their own heat, and increased hazards due to the multiplicity of individual heating appliances, are examples of how initial savings may prove illusory.

High quality of construction and equipment are justified by subsequent savings in repairs. This is particularly true when periods of amortization as long as forty-four years are in prospect. Some of the most irritating of housing maintenance problems have been leaks because of defective flashings and poorly constructed walls. A certain amount of reduction in maintenance expense is possible through such expedients as the use of waxed natural woodwork instead of paint, the omission of plaster over brick work in stair halls where it is likely to be constantly marked up by children and by furniture moving, and the requirement that tenants repair any damage which is their own fault. Such minor savings added to the advantages of original sound construction may produce maintenance charges somewhat below those now typical of skilled low-rental housing management. But there are indications that they will not bring about very marked reductions.

As a consequence of these reflections and of a growing insistence on the part of housing enthusiasts for the highest standards in new projects, little is heard today of measures to keep construction and equipment down to the bare minimum. Emphasis has changed to the lowering of interest and amortization rates, to applying more skilful design, and the invoking of public subsidies.

Unfortunately in this there has come about an almost complete surrender of the very desirable objective of reducing construction costs, not by imposing low standards on the tenant but by the application of radically new construction systems and equipment designs.

The study of economics in construction through radical changes in structural design lies almost untouched. From time to time there have been attempts to introduce new ideas but they have been bogged down because of lack of support and a tendency to stick to familiar materials and standardized building craft methods. The classic series of experiments conducted under the direction of Grosvenor Atterbury [1] did much to show possibilities and limitations in the use of large prefabricated units. These researches, extending over a score of years from 1904 to 1925 are too little known. Had the Research Institute for Economic Housing which was planned to develop out of this work been successfully launched it would have provided a vitally necessary link in a real program of housing.

Atterbury's experiments were directed toward the production of large pre-cast concrete sections that could be readily dropped into place by cranes and were

1. See *The Economic Production of Workingmen's Homes*, by Grosvenor Atterbury, 1930

adaptable to detached and row houses rather than to multi-family dwellings. They did, however, constitute an approach to new methods of construction on a large scale that is needed in larger structures. Tenements have been constructed in France employing a steel frame to which are attached walls, floors, partitions, and roofs made in large precast concrete units. Such methods speed up the process of construction to such an extent that flats have been occupied five and one-half months after operations were started, and even better time is anticipated.[1]

Periodically the building industry is scolded for its lack of enterprise in trying new materials and methods. Through trial and error, however, it has come to accept certain practices as cheapest and best in the long run and hesitates to incur the possible losses from experimentation on a large scale. If such experimentation could be performed continuously under privately endowed or governmental auspices there is little doubt that distinct advances would be made.

Notable work in attacking the problem of lower building costs through new types of construction has been done by R. L. Davison of the John B. Pierce Foundation. Mr. Davison has approached the matter in a scientific spirit, seeking first to determine what is needed instead of making slight improvements in old materials. His philosophy and methods are summed up in an address delivered before the National Association of Real Estate Boards in 1934, an extract from which appears below:

> To understand the trend in building materials and equipment it is necessary to recognize the two opposite methods of approach to the development of new materials and construction methods: (1) The practical evolutionary approach or the improvement of existing ways of doing things and (2) The theoretical or research method which consists in listing the qualities desired and then attempting to find some material or method meeting these requirements. The principal reason greater progress in the development of new materials and construction methods has not been made lies in the question of approach. Attempts have been made to improve existing practice rather than to develop materials which will meet a predetermined list of qualities desired.

All of this is quite true. The hopeful aspect of the matter is that serious efforts are being made to apply the research method. As Mr. Davison points out, new products and methods so developed often turn out to cost more than old established systems of construction. This is one of the disconcerting features of research but it is not necessarily conclusive. With improved manufacturing processes and increased use such initial high costs tend to come down and may even fall below the costs for older forms.

Others in the experimental field, including Albert F. Bemis, have devoted

1. See *Slum Clearance and Rehousing*, P. S. King and Son, Ltd., London, 1934, pp. 48–49.

considerable time and money to the study and practical working out of proposed new forms of construction. Mr. Bemis has concentrated on the problem of the detached house but his work has applications to the multi-family dwelling as well.

It is desirable that the suggestion of Grosvenor Atterbury for the setting up of an institution equipped to study housing problems on a large scale will eventually materialize. In its report on future housing research, the President's Conference on Home Building and Home Ownership [1] revived this idea of a permanent research foundation, privately endowed, and divided into divisions of Research, Service and Information, and Demonstration. The recommendation still awaits fulfilment through the assistance of some one of the larger philanthropic funds.

Enough has been said to indicate that the lowering of costs is to be effected by intensive study and experiment all along the line rather than by insisting on one or two major items that may become obsessions unless the objective approach is carefully preserved. There are perhaps a half dozen major items and a swarm of smaller ones, and these affect the goal of low rentals sometimes in odd and unexpected ways. With fair land costs, reasonable interest rates, long amortization periods, partial tax exemption, vigilance in maintenance economies, an adventurous approach toward new kinds of construction, an overhauling of too severe legal requirements, and due regard for the miscellaneous factors that make up a considerable total, there is reason to believe that low-rental housing will ultimately prove possible.

1 *Housing Objectives and Programs*, Vol XI.

CHAPTER XL

MANAGEMENT OF HOUSING PROJECTS

THERE are two major divisions of management — business operations and social relations. The two are closely interrelated. A defect in either is reflected in the other.

The business operations of management include the framing and execution of policy, the protection and conservation of the investment, and all details incidental to these. The social relations comprise all contacts with tenants, employees, and the outside public, including government departments, professional organizations, and the press.

Since responsibility for competent management rests with the corporation which owns the project, there should be on its board of directors men or women competent in the field of investment, and persons of demonstrated capacity in the field of project construction and operation, who have a conception of the social as well as the financial possibilities of the undertaking. Among the members of the board there should be individuals capable of scrutinizing and interpreting accounts, of weighing legal advice, of analyzing both statistics of operation and the economic and social trends in the field within which the project falls. Equally important is a clear understanding of objectives. Without such breadth of outlook there is danger that a manager will be picked primarily because of his business experience, irrespective of his competence in social relations, or else that a manager of well-rounded capacity will find himself seriously handicapped by the narrow judgments of his board. With this rare combination of aptitudes, backgrounds, and vision, a high degree of achievement may be possible and the project may become a constructive factor in the social process.

The manager is the key personality of the project. His attitudes and behavior, quite as much as his judgments and decisions, influence, and even to some extent mold, the attitudes and behavior of tenants individually and collectively. Obviously he should be well-trained in the fields of business management, real estate, and accounting, but by training and interest he should be competent also in the field of human relations. If he believes in the project and its possibilities and in human beings and their latent capabilities, such belief, in conjunction with the training of personality and capacity as outlined, is a virtual guarantee of quality.

It requires a good sense of values to render management economical but not

penny-wise — to know where not to pare costs. Shrewdness is necessary for skilful buying. A rare combination of astuteness and human understanding is essential if one is to be equally skilful in one's dealing with office boys, plumbers, chore men, social workers, tenants, and politicians. Strength of will is necessary to withstand selfish interests. Friendly feeling and ability to see the point of view of others are requisite if one is to secure the cooperation of tenants.

The manager must be able and willing to experiment, for there is much that is new in ventures of this sort. But for the protection of the investment he must be discreet and be able to think his policies through. Above all, he should "know where he is going" — that is, he should have his social objectives clearly in mind so that he can operate on a consistent, well-thought-out policy. Yet he must watch effects, as there are many incalculable elements, and be able to redirect his policy when the carefully studied results of previous measures indicate the need for such change.

The routine of management includes careful and discriminating selection of staff. There is danger of overloading one branch at the expense of another, of paying salaries needlessly high or low, of failing to recognize what constitutes adequate training or capacity. Careful routing of work is also requisite to make each minute of each employee effective and to avoid waste of time and energy.

Tenants may be alienated by methods either too slack or too harsh, by promises unfulfilled, by brusqueness, snobbishness, impoliteness, or inconsiderateness. Since the manager's office and field staff represent him to the tenants, they should be picked with care. In addition, the traits of industriousness, accuracy, and cooperativeness are assets here as in any other business venture. Firing is as difficult as hiring, and capacity for recognizing the trouble-maker before he has done too much harm is vital. To help him change his personality, or transfer him to a different task, and to know when and how best to discharge him, are managerial functions of high importance.

The business operations involve skilful handling of equity, mortgages, loans, and amortization; insurance against fire, workmen's accidents, and other contingencies; tax payments, reserve, and surplus. Legal services will be needed, but care must be exercised to prevent their becoming excessive. Allowance for depreciation and obsolescence requires knowledge and wisdom as well as intellectual integrity.

The balance sheets and operating statements of Amalgamated Dwellings, Inc. and Brooklyn Garden Apartments are submitted as examples of the allowance for specific items.[1]

1. *Report of the State Board of Housing, 1935*, Legislative Document No. 41, pp. 43–46. See also Chapter XXXVIII.

BALANCE SHEET — AMALGAMATED DWELLINGS, INC.

November 30, 1934

Assets			
Current assets			$30,776.26
Fixed assets:			
Land		$336,560.18	
Buildings	$1,100,513.46		
Less reserve for depreciation	87,887.46		
		1,012,626.00	
Furniture and fixtures	1,681.37		
Less reserve for depreciation	921.37		
		760 00	
Refrigerators	14,667.93		
Less reserve for depreciation	2,550.00		
		12,117.93	
Total fixed assets			1,362,064.11
Deferred charges and prepaid expenses			7,926.20
			$1,400,766.57
Liabilities and Capital			
Current liabilities			$28,339.67
Debenture bonds			21,500.00
Fixed liabilities — 1st mortgage			920,000.00
Common stock			414,000.00
Renovating reserve			10,353.08
Surplus			6,573.82
			$1,400,766.57

OPERATING STATEMENT — AMALGAMATED DWELLINGS, INC.

Year ending November 30, 1934

Operating Income		
Rentals	$131,655.25	
Miscellaneous income	1,984.35	
		$133,639.60
Operating Expense		
Wages	$7,689.32	
Insurance	5,071.14	
Land taxes	9,646.67	
Water taxes	2,386.58	
Fuel	8,886.80	
Repairs	1,846.47	
Janitorial expense	816.53	
Exterminating	210.00	
Electricity	2,700.00	
Elevator expense	744.49	
Garden expense	660.17	

Interest payments		50,075.70	
Office salaries		3,195.31	
Office expense		437.52	
Legal and accounting fees		642.07	
Miscellaneous operating		958.83	
			$95,967.60
Balance before depreciation and accrued renovating			$37,672.00
Reserve for depreciation:			
Building	$22,010.40		
Fixtures	252.00		
Refrigerators	2,550 00		
		$24,812.40	
Renovating		8,776.80	
			33,589.20
Net operating gain			$4,082.80

BALANCE SHEET — BROOKLYN GARDEN APARTMENTS, INC.

November 30, 1934

Assets			
Current assets			$9,743.26
Fixed assets:			
Land		$190,951.69	
Buildings	$1,054,781.14		
Less reserve for depreciation	100,577.97		
		954,203.17	
Equipment	28,397.96		
Less reserve for depreciation	9,369.76		
		19,028.20	
Total fixed assets			1,164,183.06
Prepaid expenses			3,608.70
			$1,177,535.02
Liabilities and Capital			
Current liabilities			$2,020.48
Notes payable			5,407.52
Interest accrued			2,140.80
Fixed liabilities: Mortgage			636,100.00
Capital stock			495,325.00
Reserve for renovating			10,427.54
Reserve for federal income tax			390.00
Unassigned surplus			25,723.68
			$1,177,535.02

OPERATING STATEMENT — BROOKLYN GARDEN APARTMENTS, INC.

Year ending November 30, 1934

Operating Income		
Rentals	$111,781.75	
Miscellaneous income	207.04	
		$111,988.79
Operating Expense		
Wages	$9,018.82	
Insurance	1,858.48	
Land taxes	7,221.40	
Water	3,554 98	
Fuel	10,923.47	
Repairs	5,828.98	
Janitorial expense	723.96	
Exterminating	378.00	
Electricity	1,206.63	
Garden expense	61.57	
Interest on mortgages and notes	32,311.61	
Office salaries	4,289.58	
Office expense	832.79	
Legal and accounting fees	474.00	
Miscellaneous expenses	2,936.89	
		81,621.16
Balance before depreciation, accrued renovating and reserve for Federal income tax		$30,367.63
Reserve for depreciation	$21,322.86	
Renovating	5,841.96	
		27,164.82
Operating gain (before Federal taxes)		$3,202.81

Excellence in the upkeep of buildings and grounds may serve to keep down costs of advertising and to build up a waiting list. Buildings acquire reputations largely by the quality of their upkeep; hence continuous care must be exercised in matters of repair, renovation, and replacement. If the tenants believe the management fair in such matters, and if their respect and cooperation are won, they will urge their friends and relatives to seek apartments in the project. The waiting list thus developed may keep the percentage of vacancies at an absolute minimum. Adjustments of rentals may be necessary at times either because of changes in the value of money or the volume of employment, or ultimately because of changes in the districts or depreciation of buildings. This is one of the most difficult branches of policy-making, and the decisions will profoundly affect both the investment and the social relationships within the project.

Relations with tenants properly include experimentation with the Octavia Hill and Claude Leigh principles which have been discussed in another chapter.[1] In

1. See Chapter XXVIII.

slum-clearance and rebuilding projects it may prove wise, following Leigh's precedent, to separate the rent-collecting staff from the staff employed for personal and community service. In a large development several persons would be essential in the latter capacity. Some may serve as "visiting housekeepers" — personal and educational advisors, to help the families adjust to their new surroundings and train them to make the most of their new opportunities. If the methods employed are friendly and wise, but not soft and paternalistic, they will serve to retard depreciation and costs for repair, renovation, and replacement. They can be made to reduce vacancies, and to promote good will, which is a valuable though intangible asset. The number of persons employed in this capacity may be reduced as time goes on. For the more efficient and understanding the service, the more quickly it will develop considerateness, self-reliance, and cooperativeness among tenants and thus make the perpetuation of this staff unnecessary.

One device for keeping down the expenditures for repairs is to arrange for the remission of rent in the twelfth month of each year, if no repairs are needed after eleven months occupancy. Devices of this type have been tried with apparent success in Alfred T. White's buildings in Brooklyn and by the Toronto Municipal Housing Corporation. Remission of a fraction of a month's rent, if paid in advance on the first day of the month, is another device which works to the advantage of both owner and tenant.

The staff of social workers may render useful service, also, by making peace among quarreling neighbors, by sympathetic study of the causes of complaint, and in numerous other situations where human relations are involved. Their familiarity with the facilities for social service within the community will make it possible for them to keep down the morbidity rate and prevent the spread of communicable diseases by inducing tenants who are ill to attend the appropriate clinic at the neighboring health center. Arrears in rent can be kept down by assisting unemployed breadwinners to make use of the services of employment exchanges or centers for vocational guidance. Tenant ignorance can be reduced and wholesome ambition aided by helping residents to discover and make use of the city's abundant resources for adult education. Disturbances by difficult children can be forestalled by advising parents in the rearing of children or by arranging for competent study of the child at a habit clinic and by assisting in the execution of the recommendations of the clinic.

The Lavanburg Homes, which seek no profit on their investment, met the problem of reduced rent-paying capacity in the depression period by adjustments described in their report on *Practices and Experiences of the Lavanburg Homes*:[1]

1. *Practices and Experiences of the Lavanburg Homes*, pp. 11–13, Fred L. Lavanburg Foundation.

Two years after the project was started the problem of unemployment became a serious factor in rent collecting. At first it seemed as if a horizontal reduction in rates was the logical step. That was the way in which most private commercial landlords met the difficulty. But since the Lavanburg Foundation was in a position to know more about its tenants than the ordinary landlord does, it was apparent that a more equitable settlement could be made if each case were taken up individually.

A few tenants are earning as much today as they did six years ago; others are still earning, though less than in 1928, enough to pay the original charge without hardships; many others are earning so much less that it would be obviously impossible for them to pay the old rate; and a few are earning nothing at all. It has seemed the fairest plan to apply the ability-to-pay principle to the problem.

Associated with the question of rents is that of supporting the communal life of the development. It is found to be practicable and satisfactory to allow parents to serve in the Social Center as group leaders and play supervisors, and to work off part of their rent in this way. This plan permits the tenants a self-respecting exchange of services for apartment space.

The following table presents an approximate summary of the rent situation in 1933:

Families	Percent of "standard" rent paid
27	91–100
21	81– 90
7	71– 80
16	61– 70
12	51– 60
12	41– 50
4	31– 40
4	21– 30
2	11– 20
1	1– 10
4	0

The largest of the slum-clearance and housing projects should be equipped not only with interior parks but also with playgrounds, day nurseries, and indoor and outdoor recreational centers, and possibly a reading-room and lending library. The volume of such facilities would depend upon the amount and quality of similar services from public and philanthropic sources accessible within the district. In any case, the interior park and playground, whether deeded over to the city or maintained under private auspices by the housing project, will require some degree of supervision by the social relations staff. Otherwise, the play apparatus may be monopolized by the rougher children, and the young or timid will be unable to make use of the equipment. In the absence of supervision also, the playground may become too noisy for the peace of the neighboring tenants. Wise play direction involves the employment during play hours of a trained person, skilled in organizing children in games appropriate to their age, sex, and interests. This can be accomplished by competent play directors without robbing any child of

either true freedom or happiness, and many useful lessons in self-control, fair play, and considerateness can be subtly taught by suggestion and example.[1]

Social relations further include many matters not necessarily to be delegated by the executive to the social relations staff. Thus, difficulties should be avoided with trade unions, and quick decisions will often have to be made when labor troubles are brewing. Strikes must be met with an appropriate combination of business judgment, understanding, sympathy, justice, and firmness. Publicity, and the education of the public with regard to the project, may at times involve much effort in overcoming a hostile press. The same group of qualities may have to be utilized in relations with bureaus of the city, state, or Federal government. Active membership may prove desirable in local chambers of commerce, real estate boards, and organizations of building managers, as well as in the National Housing Association, National Association of Housing Officials, National Conference on City Planning, National Conference of Social Work, Welfare Council of New York City, and other organizations.

Progressively, from experience, more exact rules or principles can be drawn up on methods of selecting tenants, of eliciting tenant cooperation, and of treating rent delinquencies, vacancies, unemployment, quarrels, illness, hostile publicity, labor disputes, and political pressure.

One special problem is that of determining under what circumstances cooperative ownership is desirable. It seems probable from both American and European experience that cooperative organization is not applicable successfully to the unskilled labor group, or at least to groups in which unskilled labor predominates. Consumers' cooperative distribution has been practised successfully in all the northern and eastern countries of Europe. But cooperative housing, outside of Germany, Holland, and Denmark, has had a relatively meager development.

British experience with copartnership garden suburbs has demonstrated the possibility of cooperative ownership in which skilled labor predominates. But government loans and private loans with low, limited rates of interest have proved necessary. Increasing domination of such projects by the central organization (Copartnership Tenants, Ltd.) which provides the loan capital reflects investors' pessimism with regard to the efficiency of wage-earner control. Cooperative housing thus seems to be limited, in British experience, to the initial promotion of such schemes, to minority capital holding in copartnership estates, and to the operation of the internal affairs of the copartnership garden suburb.

1. See publications of the National Recreation Association, also Joseph Lee, *Play in Education*; G. E. Johnson, *Education by Play and Games*; Jay B Nash, *Organization and Administration of Playgrounds and Recreation*; Henry S Curtis, *Education through Play*; and City Housing Corporation, *Radburn Protective Restrictions and Community Administration*.

For lasting success, the cooperative principle requires an adequate economic incentive, the possibility of tangible savings through the cooperative form of organization, trained management, ample fluid resources available to meet emergencies from a sympathetic central organization, a tenant group of fixed tenure, relative homogeneity of population, and, above all, a membership firmly believing in the paramount importance of maintaining the cooperative structure even when personal sacrifice is involved. More succinctly, cooperation, for success, depends upon the predominance among the copartnership tenants of the "cooperative man" — idealistic, enthusiastic, convinced, and trained.

Most of the so-called "cooperative apartments" in America have failed to conform to the above principle at many points. They have not been initiated by the tenants themselves, but by some development company, which proceeds to unload upon tenants shares of stock equivalent to the proportionate cost of their apartments plus the promoter's gains. Such ventures suffer socially also from the clash of interests, for tenants with divergent interests form factions dominated by self-interested individuals or groups. Such "cooperative apartments" are in no sense a model for cooperative undertakings in rehousing projects.

America has had little experience with democratic cooperation. Authentic cooperation as recognized by the International Cooperative Alliance ordinarily involves open membership, equal voting irrespective of the number of shares held, a low limited rate of interest upon invested capital, and distribution of the common profits of the undertaking in proportion to the amount of business which each member has carried on through the organization. In the field of cooperative housing such rules might mean that each tenant may have one vote and only one; that any acceptable person becoming a tenant in the project would become a shareholder and member; that interest on the invested capital, if granted at all, would not exceed 5 per cent; and that distributable profits, if any, would be granted to each tenant shareholder in proportion to the annual rent he pays or in the form of rent reduction or increased community facilities — the decision being the result of majority vote of all tenant shareholders.

Aside from some sporadic cooperative ownership of older houses by Finnish immigrants, New York's most creditable examples of cooperative housing, of authentic type, — cooperative from the outset and in all aspects — are the tenements of the Amalgamated Housing Corporation and of Amalgamated Dwellings, Incorporated (see Figures 124 and 144, and Appendix, Plate 19 A). Their history was outlined by Aaron Rabinowitz for the President's Conference:[1]

1 President's Conference on Home Building and Home Ownership, *Slums, Large Scale Housing and Decentralization*, III, 131–136

The first unit built and finished by the Amalgamated Clothing Workers Union provided for 303 families. Since then buildings have been completed to house 511 families, with a population of almost 2,500

The cost of the first group of buildings was $1,925,000. It was financed this way: The Metropolitan Life Insurance Company took a first mortgage of $1,200,000 for 20 years at 5 per cent, as the law provided The cooperators had to provide $500 per room. How was this to be done by persons without the money?

The Amalgamated Credit Union, a subsidiary, supplied half the necessary cost per room, or $250, to each cooperator on his own notes. The remaining $250 per room was guaranteed to the Amalgamated Bank by *The Forward*, a foreign language newspaper of considerable resources. *The Forward* endorsed the cooperator's note. That made it two name paper and legal for discounting in the Bank.

The architects, under the direction of the State Housing Board, worked out a special design of architecture and layout and provided large courts that were beautifully landscaped.

Effect of New Environment. When these buildings in The Bronx were finished and ready to receive the tenants, things occurred that were revelations even to one who had been connected with the Henry Street Settlement for almost 30 years.

The tenants of these structures came from the Lower East Side. When they came up to view the new buildings, their sense of pride would not permit them to move up with the things they had in the old tenements. It is difficult to explain where the money came from to enable them to move in with new furniture and new fixings. Their whole lives changed. Overnight these people took on new standards. After a while 300 families, formerly unknown to each other, lived in peace and tranquillity and with a sense of consideration for each other that was beautiful. The change was amazing.

Cooperative Activities. Every activity that was started was cooperative. They were an isolated community in The Bronx. The nearest shopping centers were perhaps half a mile away. They began to create activities that have preserved their independence as a community. They established a commissary which at the beginning went in for groceries, fruit, meat, milk and laundry.

The price of groceries purchased by the tenants was somewhat less than they would have had to pay in the neighboring grocery stores, and after paying for the administration, they were left with a profit of about $750 per month. Last year there was rebated to the cooperators more than $7,500.

A cooperative venture in the purchase of milk saved 4½ cents per quart on every bottle of milk consumed. There are 1,000 quarts of milk consumed per day.

The grocery store alone does $2,000 worth of business a week, and as another indication of their financial genius — the capital used in this business is $2,000. How many businesses do you know that have such a turnover on so small a capital?

Then the Amalgamated went into the laundry business, thereby revolutionizing the lives of these women so far as the family washing was concerned. In the past, the women of the Amalgamated spent on the average of sixty cents per week for soaps, sodas, etc. By contracting for all the laundry consumed in the house, these women were able with the same amount of money that had been previously spent in soaps and sodas, to get the laundry done without the back-breaking labors.

Other accomplishments were also quite extraordinary. There was a demand for a library. The buildings contributed the space, the cooperator-painters did the painting, and the cooperator-electricians wired the room. The women cooperators gave a bazaar and raised $2,700, with which they bought books. The place is as charming as you will find anywhere and it has a librarian in charge from 3 to 10 P.M. In the afternoon, in addition to her duties, she helps the children with their lessons.

It was necessary to have a clubroom and the same performance was repeated. The carpenters, plumbers, painters, electricians and the various other mechanics were called in — each contributed what he could and they now have a most attractive room set aside for recreational purposes.

There is a huge auditorium in the building. It was necessary to decorate it. The various committees took charge — they bought out a performance in a theatre and made a profit of about $1,300, and with the proceeds, a painter living in the house decorated the auditorium beautifully. There are an endless number of these activities going on today. They have a tea room, similarly built and furnished by the cooperators. That tea room is a most interesting place. After dinner the heads of families congregate there and the purchase of a five cent glass of tea gives a fellow the right to make a speech — and the things discussed there and the problems solved, are very illuminating. . . . It is a great outlet for blowing off steam. These men are employed in their various trades and are continually scheming and planning and thinking of their own problems and the problems of the world, and in that tea room they give expression to those accumulated thoughts.

The occupants of the buildings in The Bronx are about 30 per cent garment workers, about 55 per cent workers in other trades, and about 15 per cent professional and small trades people.

The surroundings that they have created for themselves are beautiful and charming and belie the charge that people and not buildings make slums. They came from quarters that were filthy and vile and unsanitary, not of their own choice. They moved to quarters that are beautiful and clean and have every modern facility, comparable to any buildings anywhere in New York City. They treasure them. They keep their apartments and the courts immaculate.

The way these people hurdle serious problems and are being educated to hurdle them is quite extraordinary. For instance: Families with children at the adolescent age have quite a problem. There were some 40 children of that age in this colony. By each family contributing a very nominal sum, something like 50 cents a week, they were able to employ a social worker who takes these children, after school, walking, hiking, biking, and keeps them physically employed while they bridge that difficult period.

Last summer, they arranged for the use of a swimming pool nearby and at a cost of $16 for the summer of 12 weeks, 200 of the children were kept in a modified camp with the swimming facilities attached. It is only by the entire community acting together that such things are possible.

The finest instincts in these people are continually being brought out — each cooperator feels he owes something to the community. There were two wood-carvers living in the building — they volunteered to teach some of the boys wood-carving and a class was established. It is interesting to see some of the fine things those boys produced.

The cooperators write their own plays and act them. The resourcefulness with which they raise money for their different activities is amazing. They needed some money for some activ-

ity or other, a little while ago, and they staged a debate between Norman Thomas and Scott Nearing. They paid these debators $75 apiece and cleared something like $225.

Examples could be multiplied indefinitely. The other thing that impresses one most is that each resident is helping to raise the standard of the whole. These people have changed their attitude toward one another. Their manners have changed and their whole mode of life has changed. They have changed, facially and physically.

Amalgamated Dwellings on the Lower East Side . . . the land was bought, demolition of the old Hoe factory on Grand Street was begun on March 16th, 1930, and the buildings were tenanted by December of the same year. The project is constructed on the same general plan as the buildings in The Bronx excepting that the architectural treatment is different. The building covers a square block and has a 40,000-foot court in the center. It occupies 60 percent of the land — is 6 stories high — and the last word in construction. The rooms are all large, in 3-, 4-, 5-room suites — they have push-button elevators, electrical refrigeration, incinerators, and for the first time the roof is utilized for recreational purposes.

The Grand Street venture cost slightly over $1,500,000, of which the Bowery Savings Bank loaned $900,000. The apartments were sold on a plan similar to those of the Amalgamated apartments in The Bronx, excepting that in The Bronx the cooperators were asked to make a down payment of $250 per room and repay the remaining $250 per room in five years (terms that always appeared much too harsh) and the terms of payment on the East Side were altered so that the cooperators pay the same $500 per room by a down payment of $150 and liquidation of the balance of $350 per room in 10 years at 5 per cent.

There is an auditorium where the tenants have their meetings, and social work, similar to that conducted in the Bronx houses, is being undertaken.

The Grand Street project, in competition with some of the finest apartment buildings on Park Avenue and elsewhere, won the Gold Medal awarded by the New York Chapter of the American Institute of Architects, for 1930. The significant thing about the award is that architectural effects were attained without spending five cents for ornamentation. The only materials that were used were bricks and mortar. The only other ingredient was the interest and the love for the doing of the job by the laborers and contractors. They put their souls into their work.

An incident that happened will illustrate this point. The piping of water to the roof gardens had been forgotten. An Italian bricklayer called attention to the oversight by designing and building a fountain out of bricks and mortar and refusing pay for the job. That was his contribution.

The Paul Laurence Dunbar Apartments (see Figures 138a and 138b, and Appendix, Plate 18 B), though originating in a philanthropic investment, are operated on a cooperative basis for their relatively homogeneous group, with an ever-increasing ratio of cooperative ownership and responsibility. This is America's best example of cooperative ownership stimulated by outsiders. Judgment should not be passed upon any of these enterprises in the absence of study more intensive than has been possible here. If great care be exercised, together with considerable ingenuity and vision, each of these two methods of cooperative ownership might

be properly extended experimentally to some, but certainly not to all, of the future developments for housing skilled wage earners. They cannot be extended to all because skilled labor must have freedom of movement in seeking employment for its particular skill, and hence home ownership in any form, cooperative or otherwise, is undesirable. For persons likely to be displaced by technological improvements, by labor troubles, by reduction of demand, by migration of industry, by depression, or by any other factor, freedom to bargain or move is necessary and family capital must consequently be kept fluid — precluding home ownership.

It is urged that the cooperative principle in housing be applied only after very careful study. This statement is made not from skepticism concerning the value of the cooperative principle, but rather from the conviction that the cooperative form of organization is one of such ultimate significance that it should be approached and applied only with greatest care. Sound applications of the principle are retarded by the wreckage of spurious, ill-conceived, and mistaken ventures [1]

Training for the management of large-scale housing developments would wisely involve intensive graduate study in the fields of business administration, government or political science, economics, sociology, as well as statistics, accounting, real estate practice, housing, city planning, and social case work. Since it would be difficult to combine all of these backgrounds in a single individual, a general course which would open up each of these fields would be advisable for each manager, who would then be equipped to employ and supervise persons better trained than he in each of these specialties. Obviously executive experience in the real estate field is quite as essential as training. In selecting a manager one would seek, in addition to training and experience, evidence of discrimination and judgment, of vision in policy framing, of capacity to elicit the cooperation of staff and associates, of contagious enthusiasm, and of ability to interview, write, and speak convincingly. Deficiencies in one or two of these qualities in the manager might be made up for by their presence in one or more members of the board of directors or the staff, but each of the qualities should be represented at appropriate points within the organization.

Ideally, the function of management should begin prior to the planning of the project and not upon its completion. Experienced project administrators can supply invaluable advice upon the arrangement of rooms for efficiency of household operations and comfortable living, upon appropriate room sizes, and upon the more satisfactory types of equipment for plumbing, heating, cooking, lighting, refrigeration, incineration, and elevators. The manager's advice on kitchen lay-

[1] On the subject of cooperation, see the works of Sidney and Beatrice Webb and of Catherine Webb in England and of Dr James P Warbasse in America Many of the difficulties in applying this method in America are outlined in James Ford, *Cooperation in New England Urban and Rural*

out, closets, service quarters, the common laundry and drying space, park and play space, the day nursery, and the social center should have great value. His recommendations should be supplemented, however, by the advice of home economists, and of social workers who are familiar with the habits and modes of living of the group to be housed. Such specialists should therefore be consulted early enough to incorporate in the design and plans of the project the findings of practical experience and the recognition of the actual needs of the potential residents.[1]

1. Much highly pertinent material will be found in President's Conference on Home Building and Home Ownership, *Publications*, volumes V, IX, and X. Outdoor planning is covered in volume I and large-scale operations in volume III.

CHAPTER XLI

IS PUBLIC OWNERSHIP ADVISABLE?

THE problem of direct government building is serious in its implications in view of the fact that mistakes may not only waste public funds, cause injustice, and injure the government's prestige, but may also establish and perpetuate unfortunate theories, practices, and standards. The cost of rehousing the low-income families in the slums must be met very largely out of taxes paid by persons whose incomes are not much higher — the thrifty economical group of low annual income who make up the vast majority of our national population. It is definitely to their interest that persons less fortunate than themselves should be decently housed; for such good housing will remove sources of danger to health, reduce the volume of low-grade citizenship, and work in many ways for the benefit of taxpayers and their children. Yet it is not fair to utilize the taxes of citizens of low income to house a limited group of their own economic class — a class made up of persons sufficiently competent and independent to be able to look after themselves reasonably well.

More specifically, Federal participation in the elimination of substandard structures is to the advantage of all citizens; but the use of Federal monies in rebuilding for any group whose needs can be met by private capital under proper standards of housing would be unjust to the majority of taxpayers. If this argument is accepted it is logical to conclude that one of the main functions of governmental housing before and during the clearance of slum land is to discover the best ways of inducing private enterprise to rebuild, and to discover at the same time how far down in the economic scale private capital can venture in rehousing projects without loss.

The problem is not simple. The private investor's response is dependent upon the volume of capital which he may borrow, the terms with regard to amortization, the rate and amount of taxes to be paid, the requirements of law and supervising departments as to standards of design and construction, as well as the income-yielding possibilities of the property — which covers not only the rent-paying capacity of presumptive tenants, but also the probable rate of vacancies, delinquencies in rent payments, the destructiveness of tenants and consequent rate and volume of probable expenditures for repair, renovations, and replace-

ments — and, above all, the security of his investment. It is to the government's interest to make its terms sufficiently enticing to private investors so that it will not be forced into the dangerous alternative of direct government building.

The alternative is the ownership and operation of housing projects by Federal, state, or municipal government. It obscures the issue to stigmatize municipal or Federal housing as socialism, for actually it is not socialism and would not be at all likely to stimulate a trend in that direction any more than it has in England, Germany, and many other European countries. The term socialism means very different things to different people. To one it may connote forcible expropriation of his hard-won personal fortune; to another the domination of government, by an ignorant, selfish rabble; and to a third, an idealistic reorganization of business and industry under efficient democratic ownership and control to eliminate all selfishness and strife and prevent the exploitation of man by man. Since the term arouses emotions which obscure judgment, it is one which may wisely be avoided in the discussion of public housing policy.

A careful analysis of governmental activities in the construction field, whether in housing or elsewhere, will reveal that the government is sorely handicapped in its actions as compared with the private investor. The very safeguards designed to prevent waste of public capital, such as civil service and budget control, legislative restrictions, constitutions, and court decisions, limit the scope of the government's activities, severely restrict its freedom of operation, prevent the immediate execution of decisions, make it difficult to employ competent personnel, to take advantage of markets, or to place contracts in the most advantageous manner. The prevalent opinion that the government is wealthy makes it difficult for it to drive advantageous bargains.

In the long run the social value of any public housing project will be determined by the quality of its management. The best designed of housing developments might accomplish more harm than good if managed by scheming politicians, or by grossly underpaid routine-minded public employees devoid of business training, ignorant of the needs of their tenants, or lacking in vision of social objectives In such circumstances, though the tenants might enjoy the physical advantages of improved housing and neighborhood planning, they would lose as much or more in social and moral well-being from the bickerings and contentions incidental to political management or from the petty irritations engendered by ignorant officialdom. Emotional turmoil and the sense of injustice, whether or not they result in mass meetings, rent strikes, and elaborate signed protests, can rob a development, and each family residing therein, of the restfulness, peace, and happiness associated with the word home.

An obvious conclusion from such premises would be that the management of projects, even when financed with public money, should not lodge with the government, but should in some way be delegated to competent private bodies. This presumes, however, that pessimism with regard to public operation is justified. The question should be faced squarely.

Each unit of government, whether nation, state, or city, has at sundry times in its history been subjected to political pressure; to domination by selfish interests; to the purchasing of votes by special favors; to wastage of public funds diverted to "friends" of the administration; to domination of programmes, conceived in the public interest, by men incapable because of deficiencies in mentality, training, or character of operating them to the public advantage. Any or all of these things might occur in government housing projects if operated directly by any one of the three units of government, and would inevitably occur unless some successful plan can be devised to keep the operation of such projects free of political influence, not only at the outset but throughout their future history.

During the World War America had a bitter experience with this problem. The United States Housing Corporation was established to build and manage housing developments that were public property. It was hoped that an organization of this type would free the government of the traditional handicaps of bureaucracy and make possible the employment of men of a type and training who cannot ordinarily be induced to accept government appointments. Unquestionably the work of war housing was speeded by this type of organization and a high grade of service was rendered. But one will probably not find among the surviving officials of the United States Housing Corporation a single individual who would advocate the continuing operation of housing projects directly by the government. All who endured this experience were painfully impressed with the colossal difficulties and handicaps of public operation. These presumably included:

(1) The high costs of maintaining all records in such quantity and detail that any question of any citizen might be instantaneously answered; for the government belongs to the people and they as its stockholders are entitled to attention.

(2) Every step had to be taken with due regard to law but with equal regard to publicity and to the probable effect of each decision upon political enemies and upon future action of the budget committee, which if offended might cripple the entire work of the organization through inadequate appropriations.

(3) It is rumored that there is an unfortunate tradition in Washington that "a request from a Senator, who is a member of the party in power, is a command." If this is so, government officials who hope for permanent employment might seldom feel free to act counter to the wishes of a considerable number of officials in-

cluding the President and perhaps one or more of his secretaries, influential members of legislative bodies, cabinet officers or advisors, members of committees that must approve the budget, and certain of the political bosses of the party in power. Only the most courageous among them will pick from the Civil Service list the employee most competent for a given task, if any one of the above suggests another and less competent person.

(4) Another difficulty of public operation lies in local pressure. The experience of the United States Housing Corporation was one in which organized local protests were made against rentals determined by a system that was apparently fair. From some of their projects such protests became a continuous source of irritation and difficulty. For the protests were sent not only to the officials of the Corporation but also to the Chief Executive, to Senators and cabinet officers from whom large numbers of inquiries, often unfriendly, were received every day over a considerable period of time.

(5) Each of the above difficulties tends to divert attention, energy, and an immense amount of time for executives and their staffs, from the major issue of housing, which is to build decent houses in a well-planned community and maintain them at minimum public expense in an efficient, wholesome manner conducive to healthful, harmonious home and community life.

It is conceivable, but not for the present probable, that devices can be worked out for direct government operation and management of projects which will avoid all of these difficulties. These handicaps upon public operation are, however, so deeply ingrained in the American system of government that it might take many decades of skilful study and policy framing to eliminate them all. It seems questionable whether such elimination can be accomplished by any mere change in law or administrative technique. The difficulties are grounded in tradition and in prevailing attitudes toward government. As long as there are people interested in manipulation or "fixing things" and others content to have them do so, public housing will be in danger. Similarly, while there remain persons in our populace who are willing to live parasitically upon public funds, public housing is equally imperiled. The only lasting safeguard against these dangers in any branch of government lies in a type of citizenship training which is, in essence, character training. Men must be taught to subordinate immediate individual interests to those interests which are shared. Training for citizenship should develop a universal sense of responsibility among citizens for equity, integrity, and efficiency in all matters relating to government.

The above arguments against construction of housing by any unit of government should not be construed to apply categorically to all housing. It will con-

tinue to be necessary for the Federal government to house specific groups of its employees, whether park superintendents, life-saving corps, lighthouse keepers, soldiers and sailors in permanent encampments, teaching staffs of government colleges, or even clerical workers in Washington. There are many state and municipal employees whose work is of such nature that quarters must be provided for them by these units of government. Nation, state, and city must continue to provide housing as an incident to care for many special groups among the aged, ill, infirm, handicapped, and delinquent classes of the population. Such provision should be extended to include, under appropriate environing conditions, many of the more seriously maladjusted individuals who now live in city slums. It is a safe presumption that considerably more than ten per cent of present slum dwellers would profit by withdrawal to schools, hospitals, asylums, infirmaries, or colonies devised to meet their specific personal handicap. Some, for their own good as well as that of society, should be permanently segregated. Others need only temporary colonization for retraining. Both the withdrawal from society and the restoration to it should be carried out under the expert direction of highly trained specialists in social work and in mental disease or other handicaps.

If the abnormal and subnormal were thus withdrawn, the problem of rehousing the remainder would be enormously simplified. By removal from active urban living of all individuals who, by nature or miseducation, are incapable of self-support under normal industrial conditions, the problem of rent delinquencies and of lowest cost housing (under $6 per room per month if the state can be induced to adopt this welfare standard) is automatically removed.

The only remaining field of wise public investment in housing is that of experiment. There would be great value in having scientifically organized and properly supervised experimentation in the use of building materials and in new processes conducted by the National Bureau of Standards, by universities endowed by any one of the three major units of government, and possibly by other government departments or laboratories. Such houses would not necessarily be erected for the poor, as the problems to be studied relate to physical properties rather than directly to social conditions. If the National Bureau of Standards and other competent units should be authorized to test materials in this manner, selling properties after construction, but taking easements, with right of periodic entry and inspection throughout the life of the building, much of importance could be learned concerning the wearing properties and relative soundness of each specific type of building material and equipment. The knowledge gathered in this manner could properly be made available to each of the professional groups concerned, and might ultimately lead to the discovery and promotion of prefabricated units at

costs lower than now prevail, thus facilitating the extension of improved housing to income groups lower than can now be reached.

For reasons already outlined, it is questionable whether any unit of government may wisely construct houses for any portion of the remaining population out of public monies. Though one might justify such expenditure on the grounds that it is an extension of poor relief, the hazards of public ownership and operation in so intricate a field of business and under existing conditions of government would make this programme an unwise expedient. Pending radical change in prevailing systems of thought and behavior the function of government in the field of housing should be limited to research, provision for special classes of governmental employees, colonization of the handicapped, promotion, supervision, and the setting and maintenance of standards for private limited-dividend housing assisted by public loans or guarantees.

To these should be added the condemnation of land for housing purposes and, as rapidly as possible, the perpetual ownership of land through some unit of government. Extension of public ownership of land is necessary to avoid recurrence of the evils [1] of exploitation of land against the public interest and to give the government a firm control of the housing situation. Land is a proper field for public ownership. Management of land is chiefly a legal rather than a business problem. It is a type of business that government could handle efficiently. Accounting is simple. Public interest is paramount.[2] Governmental land ownership is better than the single tax as a device to protect the public interest, because it eliminates the pressure of selfish interests and ultimately does away with the incentive to speculation, jockeying, and corruption, which are against the public interest. But it accomplishes the same purpose of letting socially created increments to land values accrue to the public who create them and not to private speculators.

Public ownership of land should not be confused with socialism, for the latter technically connotes the socialization of all means of production and distribution, eliminates private ownership of capital and private operation of business and industry. Public ownership of land does neither. It has already been shown why building and operation of housing projects by the government is inadvisable.

Ownership of land by the city or state is advocated here as a means to make slum land available to lease to private capital for the construction and management of approved housing developments under governmental supervision. Without it the process of slum elimination and rebuilding may be seriously delayed.

Public ownership of land has been greatly extended in recent decades for parks, forest reservations, and engineering projects — by both the nation and the state.

1. See Chapters XIX and XX.

2. See F. W. Taussig, *Principles of Economics*

In Europe public ownership of housing is chiefly municipal and in some German cities, such as Ulm and Frankfort on the Main, has involved acquisition of a large percentage of the city's suburbs by the municipality in advance of development, making possible the leasing of the land under clauses permitting reverter and purchase by the city of the improvements at cost.

If the land after condemnation or purchase can be made available to properly approved private enterprise operating under government standards and supervision, on leases of appropriate terms and length, the problem of slum rebuilding can be handled by private enterprise. The government's immediate financial loss would lie in writing off a portion of the costs of condemned property, to make the land available at a price inviting to private capital. In most urban locations the cost of the obsolete buildings upon the condemned land and of their demolition would have to be carried exclusively by the government. Some of the cost of the land, as well, might have to be written off before private enterprise, even with public money and long terms of amortization, whether or not supplemented by tax exemption, would be able to provide new houses of reasonable standards at rentals which present slum dwellers could meet. The government's gain would be new housing furnished in present slum areas at a cost which would be met once and for all when the loss is written off.

Another very great advantage, both to the government and to the rapid elimination of all slums, is that the investment of public money — Federal, state or municipal — might cease with the writing off of the loss following the completion of condemnation proceedings, instead of extending to the actual construction, and presumably also to the operation and maintenance of the rebuilt property. This saving in funds could be applied to additional condemnation, thus bringing about much more rapid slum clearance and covering a much larger territory with the same total amount of investment of government funds.

It seems probable that, in spite of the above arguments, public housing will be undertaken by Federal, state, or municipal governments. There is much impatience with alternatives. Wherever governmental housing is undertaken serious consideration should be given to the following safeguards:

(1) Careful experimentation with alternatives should, so far as possible, precede the investment of public funds in direct building. To protect public monies it is desirable to discover just how far down in the economic scale private capital can be induced to invest in housing with encouragement through loans at minimum interest rates, long terms of amortization, public guarantee of equities — each contingent upon conformity of the investment and the estate and house plans to high minimum government standards. If these devices are combined

with provision by public agencies of land for such housing to private investors at "site values," with or without tax exemption for a specified period, there is a presumption that the majority of present slum dwellers could be rehoused in new housing of high standards in projects a block or more in size, and thus avoid the necessity of direct government building, in such a city as New York, except for families who are unable to pay a rent as high as $8 per room per month. The latter could be accommodated in reconditioned old tenement properties of decent standards. If the government is to enter the field, its operation should be confined exclusively to the housing of those income groups which private capital, even with the types of government assistance above mentioned, is quite unable to house.

(2) Government operations, if undertaken, should be large enough to apply the neighborhood-unit principle covering a sufficient number of city blocks at the very core of present slums, so as to make a definite change for the better in the area in question.

(3) Every precaution should be taken to combine high standards of service to tenants and district with high standards of public performance — to insure civic integrity and business acumen in each detail of the operation. The difficulties are great but not insuperable. Strong organizations of citizens established to cooperate with the public authorities, to prevent or eliminate corruption and low standards, to provide backing for honest and efficient officials, and to see that budgets are ample, would be able at least to reduce the blight of public ownership. If the efforts of such private organizations were well-directed, judicious, and never relaxed, the movement for slum demolition and rebuilding might not be injured but definitely helped by the entrance of the government into the field as owner, builder, and operator.

PART VI

CONCLUSIONS AND RECOMMENDATIONS

CHAPTER XLII

SUGGESTIONS AS TO FUTURE HOUSING POLICY FOR NEW YORK CITY

THE clearance and rebuilding of slum areas is unquestionably necessary for the health and well-being of citizens. It is one of the devices of primary importance in the development of soundness both in individual character and in the civic and social institutions of a republic.

History reflects definite progress in conditions and standards. Such progress has been rapid since the latter part of the last century. It has invariably been the product of personality, intensive study, and coordination of effort. History thus demonstrates as three major essentials — adequate and accurate information, competent leadership, and the cooperation of interested individuals and organizations.

In view of the fact that the lives of more than a million persons in New York City are injured by conditions of housing or of slum living, there is no excuse for the continuance of *laissez faire*, nor for policies that are timid or limited in scope. The volume of time, energy, and effort now spread over a variety of isolated or competing programmes if coordinated, wisely massed, and directed according to a well-conceived policy would produce results vastly more effective and significant than are now being obtained.

Popular and civic interest in the problem has at no time in our history been so great or so intense as it is at this time. This means that it would be possible to secure backing from governmental, financial, and private sources of a volume and quality greater than in any previous period of our history. If improvement of metropolitan housing can be made the dominating interest for a group of competent leaders who will concentrate the prevalent interest and enthusiasm upon the most timely of measures — doing the most important things first and avoiding too great dispersion of effort — slums of the type with which we are now familiar can be virtually eliminated within a generation.

Since old-law housing is the core of the slum, effort should naturally be concentrated first upon elimination of old-law housing. Railroad tenements and rear dwellings could be eliminated under a "five-year plan," and dumb-bell tenements remodeled or replaced within the following decade. The worst of the converted

dwellings would be dealt with by similar methods during these same years, the process being one of continual raising of minimum standards by progressive elimination of the least fit housing.

Among the most essential means to this end would be the organization of public opinion and of civic and social service groups to demand and secure appropriations to the Tenement House Department sufficient to increase severalfold its services for inspection, records, and its legal branch. The worst housing in any given year should be located and subjected to detailed record — including photographic record — and the legal case for demolition should be skilfully drawn. Continuous competent representation of civic groups at hearings is necessary so that each move toward demolition of specific properties may bring with it the weight of public opinion and the backing of civic organizations.

The general conviction that "slums are a danger and a disgrace" and that "they must be wiped out" could be made a means of inducing the cooperation of a fair percentage of owners — families of wealth who still draw some of their income from slum properties, and trustees of corporations in charge of such properties. Many could be persuaded voluntarily to offer such properties for demolition. A part of the comprehensive social policy for slum elimination might involve periodic circularization of such owners, or still better interviews with each to discuss with them the possibilities and the advantages entailed, as well as the civic service which they might render by cooperating in the programme.

In addition to this programme of diffused attack for the elimination of those individual buildings which are most substandard, a programme of concentrated attack is clearly important. The latter would take areas not less than a city block in size, organizing the owners to pool their interests for concerted partial demolition and remodeling, or for total demolition and rebuilding. Each block would inevitably be conceived as a special problem and the relative merits of remodeling and reconstruction would be determined largely with reference to layout, coverage, the relative soundness of structures, and the expense involved. Social advantage from such operations would, however, require the abandonment of individual lot ownership and the substitution of certificates of ownership in a corporation established for the specific block. The amount of any given owner's certificate would be determined by his pro-rated share in the original total property of the block. The reconstruction would be a corporate procedure.

In rooming-house districts and in regions where private houses have been converted into tenements, this method might be modified to permit continuance of individual ownership of dwellings and either corporate ownership of the combined rear yards or adequate contractual agreements with reference to such open

space within the block In general, however, slum elimination should involve the complete abandonment of the 25′ × 100′ lot in congested areas and the conception of the block as the unit for housing operations Rehousing should involve insistence upon units not more than two rooms in depth in order to provide adequate sunning for all rooms, through ventilation for practically all apartments, and outlook upon adequate parked areas. With, however, proper attention to the preservation of the 45° angle of light or its near equivalents it might be possible to permit deeper structures at fifty foot intervals, with such exterior design and such interior planning as to provide adequate sunning and ventilation and an attractive outlook when viewed through the windows of neighboring apartments or from the block's interior park.

Slum demolition necessitates provision for the housing of evicted families. Although the nominal vacancy rate for the city as a whole is high, and that of the Lower East Side still higher, the quantity of wholesome and suitable quarters for the families who would be evicted would be exceedingly low. The rent-paying capacity of the tenants of the rear dwellings, railroad tenements, and the worst of the converted single-family houses which would be selected first for demolition is, in the main, the lowest rent-paying capacity in the city. For only the poorest families will put up with the inconveniences and unwholesome conditions of such tenements.

An essential part of the housing programme to be handled by specialized welfare agencies, both public and private, would be the intensive study of each such family to ascertain the causes of their poverty. It is probable that a fair percentage could be helped to greater earning capacity through vocational analysis and guidance, assistance in meeting their domestic problems, medical and social service, and advisory assistance of the type made available by the more competent of case-work agencies. The lives of many could be made over by removal to other portions of the city or outlying boroughs. Others could be helped to a larger income yield which would make it possible for them to pay higher rents in new housing to be erected on the site of their slum dwellings. But a large and unknown percentage of the tenants of the city's most inferior tenements are misplaced in our competitive, industrial world, and because of mental or physical handicaps should be recognized by competent analysts and turned over to the proper public agencies for permanent treatment or colonization.

A comprehensive housing policy necessitates the provision of rural colonies under medical and social supervision in which handicapped individuals or families can dwell at minimum public expense to the state. These would logically be established within the departments of the state government concerned with public

welfare, mental disease, and other handicaps. The colonists would be trained to contribute as largely as possible towards the cost of their permanent support through their daily labor. By making this practice universal, it would be possible to remove from the slums all families that are constitutionally unable to earn the $6 per room per month which is presumably at this time the lowest figure at which reasonable wholesome housing can be provided in quarters either new or old.

Having thus removed the worst of old tenements, and the tenants of lowest rent-paying capacity (under $6 per room per month), the problem of rebuilding is much simplified. For it is known that private capital under existing conditions can rehouse suitably those tenants who can pay $10 or more per room per month, and probably with present types of public assistance might reach down below $9 — a figure which with careful measures may be reduced to $8 or even less. Apparently, therefore, the group remaining for public action consists chiefly of those who pay from $6 to $8 per room per month with very few additional families below or above these figures. For them, space in reconditioned old-law or new-law tenements, erected by commercial enterprise, would be available. Deficiencies in housing for this group can be met also by (1) homes registration service, to bring all available quarters to their attention; (2) industrial decentralization, which would make single-family housing available on low-cost suburban land; (3) residential decentralization and a stimulated suburban movement, which might be made to increase greatly the volume of wholesome accommodations for their use; (4) rural resettlement for those who have the necessary aptitude; (5) philanthropic housing, undertaken without thought of profit; and (6) cooperative housing, under expert direction: or by (7) direct government building by Federal, state, or municipal governments.

The prevention of future slums involves the substitution of a comprehensive housing policy for random measures, of coordinated effort and massed attack in place of scattered effort, of a Master Plan for contemporary planlessness in urban development. Guidance of urban growth by principle rather than expediency involves scientific study and the formulation of objectives. Thereafter the detailed plans for transit and transportation, highways, streets, blocks and lots, decentralization and recentralization, garden cities and suburbs, and new neighborhood units can be determined with reference to such objectives. Urban development can be rendered systematic, organic, unified, and controlled.

The following concrete recommendations are suggested for consideration.

(1) Establishment of a housing association for Greater New York, amply endowed, with carefully selected representatives of each of the professional groups and organizations interested in one or another aspect of housing (but not elected

by such groups or organizations to represent them) to direct and coordinate housing measures, frame policy, and develop a five-, ten-, or twenty-year plan in which effort would be concentrated primarily upon fundamentals.

Lack of such an association today results in poor representation of consumer and civic interests, dispersion of funds and effort, and dodging of central issues or futility in attack upon them.

(2) Establishment of a centralized well-endowed agency of coordinated research in housing.

Accurate knowledge prevents waste of time, energy, and resources.

(3) Development of leadership for a comprehensive, well-thought-out, social policy for improved housing.

All progress to date has been accomplished under dynamic, enthusiastic, well-informed, and respected leadership.

(4) Recognition of the fact that the major concern of a programme for housing is the removal of factors that thwart human development and the provision for each person within the community of an environment in which he will find continuous opportunity to take the next steps in the development of his own character and capacities.

Slums cramp or warp development. They are not necessary and can be eliminated.

(5) Cultivation of the determination or will to eliminate all slums. This must be a dominating interest of leaders in this movement or it will die of inanition. Skilful publicity (not routine news releases) will stimulate essential backing.

There are so many "reforms" competing for attention and for funds that a comprehensive housing programme will move very slowly unless its leaders will devote their best thought and major attention to it.

(6) Mobilization of public opinion to provide essential backing at all times to public officers and departments in the exercise of their official duties, to secure reappointment of competent officials and the replacement of those who are incompetent.

Selfish interests are active, organized, and exert continuous pressure to secure their selfish ends. If honest officials can count upon the full support of organized public opinion they can resist such pressure.

(7) Assurance of adequate budgets to the many public departments that deal with housing so that they can employ expert services, keep adequate records, make all necessary inspections, secure competent legal advice and action, and perform all their assigned duties quickly and efficiently.

(8) Assumption of the full responsibility for the elimination of all local slums and the improvement of all local housing conditions — making efficient use of Federal or state aid which may be available or which should and can be stimulated — but only as an incident in a plan locally conceived and executed.

The Federal treasury is not inexhaustible Policies of Federal or state governments may be reversed at any time and are likely to change fundamentally with each new administration. The tendency to abandon self-reliance in the hope of Federal or state aid means delay, disappointment, and dissipation of the energy and enthusiasm essential to effective performance.

(9) Recognition of the complexity of the housing problem. No individual or group can have a monopoly of information or wisdom in this field. Effective policies and measures do not proceed from compromise but grow out of honest cooperation, consideration of principles, objectives, and values, followed by study, challenge, and the free exchange of ideas.

Compromise between selfish interests has heretofore been the prevailing method. Its results have been piecemeal progress and periodic retrogression.

(10) Continual analysis of the results of current and past measures and willingness to change policies as a consequence of new findings. Seek data and judgments continuously from professional groups and governmental, commercial, or philanthropic agencies. Cooperate closely with the Regional Plan Association and Welfare Council, the Housing Authority and all other centralizing agencies, but do not let the housing association be absorbed by any of these as long as it can keep its vitality in independence.

Larger resources will be available for an independent organization consecrated to a task as fundamental as this. Entangling alliances would militate against the freshness of viewpoint, independence of judgment and freedom of action essential to a comprehensive attack upon the slum problem. A civic movement to "Get Rid of New York's Slums" under competent sponsorship would command much more popular interest and enthusiasm and active financial cooperation than any present agency can command. After completion of a ten-year plan, it might perhaps advantageously be merged with one or more other agencies.

(11) Careful consideration of a programme which would comprise organization, study, legislative measures, publicity, and all other essential devices to bring about directly or through affiliated agencies (to which the function would be delegated with some definite understanding as to procedure, record-keeping, cooperation, and periodic reporting) the following:

(*a*) Discovery and analysis of all substandard dwellings and areas.

(*b*) Demolition each year of the worst tenement houses in the city.

Starting with unfit dwellings and railroad tenements, and proceeding to the dumb-bell

tenements and most unwholesome of converted tenements A ten-year programme would involve demolition of 7,000 tenement houses per year

(12) Accomplishment of this through (*a*) centralizing public responsibility, (*b*) clarifying any uncertainties or weaknesses in the law, (*c*) providing responsible public officials with firm and continuous backing, (*d*) organizing the public opinion for demolition which will make it clearly apparent that slum demolition is the "will of the people," (*e*) extending the powers of administrative authorities through new legislation where necessary.

(13) Development of a condemnation procedure that is as fair to the taxpayer and the slum dweller as it is to the property owner.

The latter is not entitled to a larger percentage of his principal as recorded in 1929 than if he had invested in general securities Like others, he should take his "depression losses" — most easily accomplished locally by condemnation either at assessed valuation or by capitalization of net earnings over the past five years, or a combination of the two. There should be no compensation for dwellings declared unfit for habitation, but merely for the land.

(14) Promotion of the pooling of interests of block owners and of either remodeling or rebuilding of the block under standards determined by competent governmental authority (e.g. State Board of Housing or local Housing Authority). Thereafter shares would be owned in the block rather than in specific lots. Securing all legislation necessary to facilitate this.

(15) Recognition of units larger than the single lot, and preferably recognition of the block, as the unit of all future government-aided housing of the multiple dwelling type.

(16) Encouragement of private remodeling on edges of slums or blighted areas.

(17) If possible, restriction of Federal government participation in local slum clearance and rehousing to (*a*) loans at low interest — not over 1 per cent higher than is paid on current Federal bonds; (*b*) long terms of amortization — proportioned to life-expectancy of buildings and project; (*c*) guarantee of equity; (*d*) each of above conditioned upon conformity of architectural plans, business methods, land costs, rentals, and operation methods, to governmental standards; (*e*) research and information service, (*f*) experimentation in construction methods, and (*g*) condemnation, purchase and transfer of land. To these add Federal subsidies to local authorities for approved slum clearance, and subsidies to approved limited-dividend housing companies and to local authorities for rebuilding if no satisfactory alternative can be found.

(18) Development of state government participation to provide loans, long terms of amortization, guarantee, standards, and supervision of projects to supplement or, if necessary, displace those provided by the Federal government. For otherwise insufficient capital would be available for a thoroughgoing slum-clearance programme. In addition, the state should continue all of the present functions of the State Board of Housing and enact all necessary laws to facilitate any detail of the programme herein outlined. It should give every essential encouragement to municipal land purchase, ownership, replotting and leasing and cooperate where necessary in this process.

(19) Determination by the municipality of the areas for clearance. Subsequent use of cleared land to be determined under joint approval or direction of the Housing Authority and the branches of the city government concerned with the city plan.

There should be a clear distinction between slum clearance and low-cost housing. The latter would not necessarily follow the former in any given location, for the site might be better adapted to more expensive housing, or to parks, or commercial and industrial uses.

(20) Reconsideration of the whole problem of tax exemption of housing projects with reference to (*a*) municipal needs for revenue, (*b*) the incidence of the tax burden, and (*c*) the gains to the municipal treasury from increased values of neighboring property where housing developments are built.

If as a result of such study tax exemption of buildings is made possible for supervised housing, there should be a definite understanding as to the terms, so that limited-dividend companies and others may know definitely how far they can count upon tax exemption in figuring their budgets and long-term investments.

(21) Careful consideration by the municipality of the taking over of the parked areas of housing projects as public playgrounds.

This involves the closing of streets in such areas; therefore city plans, recreational needs, and effects upon traffic must be studied. Investors in housing should have a definite understanding as to the availability of such aid.

(22) Purchase and clearance of slum blocks at a condemnation cost approximating the tax appraisal value. The buildings should be torn down and the cleared land leased, or resold at "site value," for government-supervised, private housing projects or other appropriate uses.

The municipality might take its loss solely in this operation instead of investing in public rehousing — or else might hold title to the land and lease it on long-term leases (ninety-nine years) for private or limited-dividend housing projects under governmental supervision.

(23) As a last resort (if other plans prove inadequate) the municipality should issue housing bonds for slum clearance and rehousing, engaging in direct government building through the municipal Housing Authority, but, if possible, leasing or selling the project upon completion, to avoid the perils of government operation.

(24) There should be established within the city government a city plan commission coordinating planning functions now scattered through many departments of the city government. It should have an ample, continuing budget. Within this department there should be prepared and maintained a Master City Plan. Continuous and costly research will be necessary if urban growth is to be guided with reference to the present and future needs of the population. Ample power should be given for the replatting of real estate subdivisions, for which plans have previously been accepted, but upon which building has not yet begun. The housing association should cooperate fully with such planning commission, should make its findings continuously accessible, should advise and seek advice on each detail of its policy, should be represented at all hearings, and in cooperation with the Regional Plan Association should represent public opinion and consumer interests and give effective backing to the planning commission in its contests with selfish interests.

This recommendation lies outside of the field of housing proper. Yet the efficacy of the best conceived of housing plans is dependent upon guided and protected urban growth. A Master Plan for the whole city is indispensable as a means to the prevention of needless deterioration of districts and of future slums. There are many branches of the city government concerned with planning in one aspect or another, but the need of closer coordination, centralization of responsibility, increased power and authority, recognition, and permanence is apparent. Comprehensive data are available from the *Regional Survey* and guidance in this phase of housing policy should be secured from the Regional Plan Association.

(25) Fundamental to the slum-clearance programme is the redistribution of population through the relocation of industry. As this problem has ramifications which lead far beyond a mere programme of housing, the role of the housing association might be one of initiative, promotion, study, and cooperation, rather than one of direction. Many of the essential preliminary studies have been made in the *Regional Survey*; pertinent continuing studies are being made by the Regional Plan Association and the Port of New York Authority. Associations of manufacturers and chambers of commerce and many other groups should be included with the housing association in an organization which would frame and push necessary legislation and cooperate with the established authority in research, selection of sites, representation at hearings, encouragement of industrial

decentralization, the framing of recommendations for community planning, selection of appropriate house types and plans, and the formulation of garden city principles to be applied in each such newly constituted factory district.

Although industrial and residential decentralization are major devices for slum clearance and for the promotion of decent housing for all industrial workers, the programme for industrial decentralization and for the establishment of garden cities in the outlying boroughs is too large and covers too many factors other than housing to warrant domination of the movement by the housing association The function of the housing association in this regard is one of stimulation, initiative, advice, representation, and cooperation. A still larger role would be played by the Regional Plan Association and many other organizations pending the establishment by legislation of the necessary public authority for official formulation and execution of plans.

(26) Judicious promotion of residential decentralization, the suburban movement, and detached housing for various income groups in suburban locations, both for rent and for sale. This should be taken over either by a special division of the housing association or by an organization created for the purpose which would cooperate at every point with the housing association, the Regional Plan Association, real estate organizations, banks, and mortgage companies. Home ownership should be made available to every family which would wisely undertake it. Communities should be planned on the neighborhood-unit principle. Types and locations should be determined with reference to consumer needs and demand as well as with reference to the Master Plan. Central listing and advisory centers should be available in each borough.

The present situation with regard to detached housing and home ownership is chaotic. No intending home owner is aware of more than a small fraction of the possible facilities to meet his needs. Orderly wholesome development of the boroughs is dependent upon the careful framing of policy and upon centralization of information, studies, and records. An important incident to such a programme would be the careful study and full efficient utilization of Federal aids now nominally available but only sporadically utilized.

(27) Development of a coordinated plan for the housing of single men and women. This might be undertaken either by the housing association directly or by a specially constituted group cooperating closely with the housing association.

The problem to date has been met in a piecemeal fashion by earnest, but inadequately endowed, agencies. The problem should be viewed in its totality. Gaps in contemporary service should be discovered. Comprehensive central listing of available accommodations in rooming and lodging houses, clubs, and light housekeeping apartments, which come up to an established standard, is essential to ascertain both consumer demand and gaps in service, and to provide competent advice and guidance for applicants. Provision for various groups in the population is now inadequate. The desirability of experiments in the remodeling of groups of old but substantial rooming houses under competent management and of providing for experimental con-

struction of lodgings for non-family groups in larger housing projects, urban and suburban, for appropriate groups, is apparent.

(28) The problem of Negro housing is so urgent as to require further study, in cooperation with Negro associations and agencies concerned with health and delinquency. A joint programme should be worked out either by the housing association in collaboration with the above and with the Regional Plan Association, Housing Authority, and city plan commission; or else an affiliated organization should be established in cooperation with the Urban League and the above agencies to deal with this problem or with special aspects of it.

Negro representation is indispensable, but the programme should dovetail at every point with the general housing policy of the city, whether dealing with slum clearance, rooming houses, the suburban movement, or any other aspect of the problem of Negro housing.

(29) Study of European experience with slum clearance and rehousing. Findings should be applied where appropriate. From England particularly the distinction between clearance areas and improvement areas and the results of recent and past experience in slum clearance and rehousing would each deserve close analysis. The working of the Torrens Act and the methods of the city of Manchester in getting rid of all rear dwellings might, if analyzed, prove to be applicable here. The more general use of Octavia Hill principles and of co-partnership types of organization for housing, and the organization of garden cities of the types of Letchworth and Welwyn, are recommended. From Germany the *Lex Adickes* methods of pooling and redividing land, the Hamburg methods of slum clearance, the Frankfort methods of municipal land ownership, deserve close study with a view to application. Holland's methods of temporary housing for the dishoused also suggest closer study.

The data at present available are still too largely descriptive and superficial, and judgment of each should be reserved until results can be scrutinized in a scientific manner. Presumably much may be learned from vicarious experience.

(30) Revision, periodically, of local housing legislation — especially the Multiple Dwelling Law and Building Code — to keep pace with contemporary standards and with scientific discovery and to ensure better coordination of enforcement.

(31) Recognition of unbuilt areas throughout the city as an opportunity for preplanning, in which the mistakes of the past may be avoided and the amenities of life may be provided for future residents.

(32) Consideration of the possibility of making a fresh start on Staten Island, where the population is small and where land values are low. There is still an opportunity to make of this borough the leading garden city of the world.

(33) Progressive elimination of the incentive to speculative gain by the gradual extension of public ownership of land, by a policy for forced improvements upon existing properties, at the owner's expense, and by a condemnation policy so drastic that the holding of substandard properties will be unprofitable.

(34) Recognition that the chief cause of slums is human selfishness and that the elimination of slums involves a fundamental change in attitudes.

It is possible to change human attitudes by well-directed, concerted effort The nation achieved such a fundamental change of attitude when it turned from toleration of human slavery to abolition and emancipation

(35) Education of the population to feel a deeper sense of civic responsibility and to recognize that the interests of others are interests of self.

This is to be accomplished not by the usual routine methods of instruction but by the case method Principles are reached by a close analysis of specific cases

(36) Application to the housing programme of the same qualities of engineering skill and business acumen that have brought success to our soundest commercial and industrial enterprises.

(37) Detailed consideration, with the advice of constitutional lawyers, of the advisability and possibility of the reorganization of all branches of government concerned with housing, the coordination of related functions, the reallocation of powers, the redistribution of the credit burden and of advisory, supervisory, regulative, preventive, and constructive responsibilities between Federal, state, and municipal governments.

(38) Recognition of the inevitability of social change, and of the consequent responsibility of leaders for periodic challenge of their own objectives, policies, and methods. Effective progress requires openmindedness, continuous unbiased research, experimentation, recognition of error, high standards, wisdom, courage, cooperation, astute leadership, faith, determination, and persistency.

APPENDIX

SUMMARY OF FACTS, THEORIES, AND SUGGESTIONS MAINLY ARCHITECTURAL CONCERNING LOW-COST HOUSING ON MANHATTAN ISLAND

BY

I. N. PHELPS STOKES

"The Heart of the Lower East Side," bounded by The Bowery, Cannon, Stanton, and Cherry Streets. Made for this report in 1935 by Aerial Explorations, Inc., from an altitude of 8,000 feet. Examples of virtually every type of tenement erected on Manhattan Island may be recognized in this interesting picture. The Amalgamated Dwellings, on Grand, Broome, Sheriff, and Columbia Streets, are clearly discernible, and a portion of the pioneer buildings opened in 1887 by the Tenement House Building Company can also be made out, adjoining the northwest corner of Cherry and Montgomery Streets. Knickerbocker Village lies five blocks to the west, between Cherry and Monroe Streets, just west of the Manhattan Bridge. The seven unnamed streets running in a northwesterly direction between Cherry and Division Streets (beginning at the left) are Pike, Rutgers, Jefferson, Clinton, Montgomery, Gouverneur, and Scammel, Streets. Sarah Delano Roosevelt Park and the Manhattan Bridge Plaza are shown at the left, and the Williamsburg Bridge approach in the right center. See also *The Hamilton Aerial Map of Manhattan*, the first aerial atlas of the whole island, made in September, 1927, by The Hamilton Aerial Map Service (copy in New York Public Library).


STANTON
ST
RIVINGTON
DELANCEY
BOWERY
BROOME
CHRYSTIE
FORSYTH
ELDRIDGE
ALLEN
ORCHARD
LUDLOW
ESSEX
NORFOLK
SUFFOLK
CLINTON
ATTORNEY
RIDGE
PITT
WILLETT
SHERIFF
COLUMBIA
GRAND
HESTER
DIVISION
EAST BROADWAY
HENRY
MADISON
CANAL
PLAZA

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PART I

THE PAST

SCOPE

THE following summary embodies, as briefly expressed as has proved possible, the results of the author's experience, and his ideas on the general subject, but particularly on the architectural aspect, of the housing of the poorer classes on Manhattan Island. Although the conclusions take into consideration the more important facts obtained during the investigations of the Research on Slums and Housing Policy of the Phelps-Stokes Fund, no comprehensive attempt has here been made to analyze or to evaluate these facts as a whole.

The material has been read by Dr. Ford and Mr. Thompson, and it may be assumed that the conclusions and recommendations, generally speaking, are not inconsistent with theirs, although the author assumes full responsibility for them. It is only fair to point out, however, that the conclusions and recommendations regarding heights, densities, court and room sizes, and other "standards," are generally less "advanced" than theirs, although it must be borne in mind that these refer primarily to Government-subsidized housing — for a class of tenants unable to pay rents representing even a modest return upon the cost of the most economically designed and constructed urban housing. It should also be stated that the Appendix was written before the author had read the chapters written by Dr. Ford and Mr. Thompson, believing it to be, on the whole, more profitable that, after general discussion, each should reach his conclusions independently. While well aware of the fragmentary nature and casual form of this Appendix, which is not much more than a collection of random observations, he hopes, nevertheless, that these may serve a useful purpose by throwing additional sidelights upon the complex problems which have been more fully discussed in the text proper by Dr. Ford and Mr. Thompson. For most of the drafting and figuring in the Appendix the author is indebted to Mr. Oliver M. Wiard, and for the library research to Miss Ellen C. Ahern.

No study of the problem of slum-clearance and re-housing in New York City would be complete without some consideration of the more important steps taken during the past century — principally during the last forty years — in the architectural development — especially the planning — of tenements. In the present survey I shall limit this consideration to the following:

(1) A brief historical summary, and the chronological reproduction of, and some comments concerning, a selection of the best, and a few other, of the succes-

sive plans which constitute the more important steps in the development that has taken place in New York City during this period in those types of "tenements" intended solely for the occupation of the working classes, or wage-earners.

(2) A brief examination of the architectural features of the present problems of slum-clearance and re-housing, on a large scale, in New York City, and the difficult financial problem of producing low-cost housing which will satisfy the rapidly expanding demands of tenants, as well as those of many recent students of housing — even with Government, state, and municipal assistance. This survey is accompanied by studies prepared to illustrate some of the possibilities of block, sub-block, and super-block, units designed to produce, under varying conditions and requirements, practical low-cost housing, and thereby the lowest rents compatible with adequate living conditions — $6 to $8 per room per month under present (1935) conditions. This amount represents the highest rent which a family of four, occupying three rooms and having a joint earning capacity of about $1,500 a year, can afford to pay, and the lowest for which, even with the proposed Federal, municipal, and possibly state, assistance, we can hope to produce *new* housing today where, in combination with slum-clearance, it is most urgently needed — in the worst slum districts of Manhattan. Unless otherwise stated, it may be assumed that the observations and suggestions in this study refer primarily to housing of this character.

(3) Certain suggestions regarding various possible forms of Federal, state, municipal, and private capital, participation.

HISTORICAL SUMMARY[1]

The first tenement house in New York City — that is, the first house built exclusively for the occupation of tenant families — of which we have any definite record is the one referred to by Charles H. Haswell, in his *Reminiscences of an Octogenarian* (New York, 1896), as having been completed in October 1833 by James P. Allaire, in Water Street. This house stood "a short distance east of Jackson Street" (site now included in Corlear's Park), was four stories high, and was designed for the occupancy of "many tenants." Mr. Haswell further notes: "It is what is now termed a 'single decker,' that is having one suite of rooms on a floor.... In 1860 there were several hundred of such houses ... Sixty-five of all ages is an average number [of tenants] for a house, and in some houses of but 25 feet front, on lots 100 feet in depth, 100 occupants are frequently found." The *Plumber and Sanitary Engineer* for December 15, 1879, contains the following reference to what may have been a still earlier building erected as a tenement: "At No. 65 Mott Street stands a tenement house. It is seven stories high, contains twenty-eight families, and has been occupied some *fifty-five* years. There is a rectifying distillery on the first floor Dark interior rooms are abundant. . . ."

Apparently in 1850, Gotham Court (Pl. 1, F), a more pretentious tenement on Cherry Street, was built (see *Iconography of Manhattan Island*, vol. v, Chronology, under August 20, 1850), and in the course of years became notorious as one of the worst tenements in town, although in the *First Report of a Committee on the Sanitary Condition of the Laboring Classes*, etc., issued by the Association for Improving the Condition of the Poor in 1853, it is referred to as "of the better class." Whereas these are the only tenements built in New York up to this time of which definite records have been found, the city directories, from their inception in 1786, as well as earlier records, indicate that long before the nineteenth century instances were common of two or more families occupying the same house.

For instance, we know from a report by Dr. Valentine Seaman on the yellow fever epidemic of 1795 that at that time many poor immigrants and other inhabitants of New York were crowded "in very small confined apartments; a number of houses contained as many families as it had rooms in it." And Dr. E. H. Smith, writing on the same epidemic, said that the poor were crowded together in "miserable dwellings . . . many families in one house; and not infrequently many fami-

1 A comprehensive summary of the history of slums and housing in New York City will be found in Chapters II–VI.

lies of different nations. In some instances, a single room in one of those half-under-ground huts, served as bedroom, kitchen and shop, to a whole family." [1] In 1835 the triangle at Grove and Christopher Streets, which contained only 1⅛ city lots, was entirely covered with buildings which housed forty-one families, and it had been for a considerable time so occupied.[2] After a disastrous fire inhabitants and property-owners in the neighborhood petitioned that, because of the disgraceful conditions, the land be expropriated by the city, and in 1837 it was condemned and laid out as Christopher Street Park.[3] In the same year the Old Brewery at Five Points was converted into a tenement,[4] and thereafter social and moral conditions in that locality, the worst slum in New York, became even more notorious. As early as 1833, in an effort to improve the neighborhood, the city had fenced in and sodded the "Five Points Triangle," at Cross, Anthony, and Little Water, Streets. Later, after the Five Points Mission had been erected on the site of the Old Brewery, this was called Mission Square, and still later Paradise Park.[5] It is now known as Columbus Park.

During the decade and a half between 1840 and 1855, and coincident with the introduction of steam navigation, the population of New York almost doubled, owing largely to immigration from Ireland. Although probably as many immigrants came from England, and a large number from Germany, a much larger percentage of the Irish remained here and became citizens of New York. This expansion necessarily brought about much new building, principally by the better classes, who moved uptown, abandoning their old houses to the newcomers. This immigration, which began before 1835, was noticeably accelerated by the "Great Fire" of that year and by the almost equally disastrous one of 1845. For several decades prior to this period of marked expansion the working classes had been, for the most part, housed in converted dwellings, originally designed for single families. The change in occupancy was generally accompanied by little or no attempt at remodelling — sometimes one but usually two families occupying each floor (Pl. 1, A, B) — and the toilet facilities consisted of privies in the yard, plumbing not having been generally used until after the introduction of Croton water in 1842, and water-closets not having been in general use in tenements before 1879, although in a few cases, such as in the tenement known as the "Workingmen's Home" (Pl. 1, G), built by the Association for Improving the Condition of the Poor in 1855, they were provided.

1 Noah Webster, *A Collection of Papers on the subject of Bilious Fevers prevalent in the United States for a few years past* (New York, 1796), pp 6, 88
Documents of the Board of Aldermen of the City of New York, Vol II, No 35

3 Stokes, *Iconography of Manhattan Island*, III, 969

4 *The Old Brewery, and the New Mission House at the Five Points By Ladies of the Mission* (New York, 1854)

5 Stokes, III, 971

The first modern fixed bath supplied with running water of which definite mention has been found was one installed in a private house in Cincinnati in 1842. Apparently, however, water-closets at least were in use in New York at a very much earlier date, as is proved by advertisements in the newspapers, as, for instance, one in the *New York Gazetteer* for December 28, 1784, in which Emery & Newman, at "No. 16, on the Dock, near the Fly-market," advertise "Water Closets for ships, and from top to bottom of a house, with pipes for conveying water."

For many years after the introduction of city water the entire plumbing system in the average converted dwelling consisted of a sink supplied with cold water in the stair hall on the ground floor. Most of these converted dwellings were only two rooms deep. These rooms were generally large and high; later on they were often subdivided in such a way as to produce interior rooms, without direct light or air (Pl. I, B, C).

Shortly after 1850 the erection of buildings especially planned as tenements became prevalent. These usually took the form of deep, narrow, buildings of the "railroad" type (Pl. I, D, E), in which most of the rooms were unlighted and unventilated except by doors and transoms opening into adjoining rooms, or occasionally by small flues built into the walls (Pl. I, G).

The first so-called "model tenement" had been designed in 1847 by the Association for Improving the Condition of the Poor, after two years study of the housing problem, but was not built. The plan, however, was lithographed and widely distributed.

In 1855 the A. I. C. P. built what was intended to be a model tenement, on a plot 53′ x 188′ running through from Mott to Elizabeth Street (Pl. I, G), but the plan was poorly conceived, being very similar to that of Gotham Court, although the outlook and surroundings were considerably better, and there were no subterraneous water-closets. This building was the well-known "Workingmen's Home" already referred to.

In 1869 Richard M. Hunt, the distinguished New York architect, designed and built, at Nos. 138–146 East 18th Street, a five-story building, on a lot 112′ 9″ wide and having four apartments to a floor, which became known as the "French Flats" (Pl. II, D). This apartment house, which is still standing and is still occupied by the class of tenants for which it was originally designed, marked a distinct and important step in advance in the design of multiple dwellings, and was far-reaching in its ultimate influence, although during the decade which immediately followed its completion probably not more than a dozen high-class apartment houses were built in New York City.

The subjoined plans (Pls 1–29) show the more important successive steps in the development of the tenement from the single family, three- or four-story, non-fireproof, converted dwelling (usually on a lot 25′ x 100′) prevalent before 1860, up to the multiple, six- to ten-story, fireproof, modern building, always supplied with elevators when more than six stories high, and usually erected on a lot 100′ x 100′ or larger. For our present purposes these plans are sufficiently described by their captions, which, having outgrown their original designation, for greater convenience, have been gathered together in the form of notes, and will be found following the plans In many cases additional information regarding them, or the developments which they represent, will be found in the main body of the book.

It is interesting to note that the most marked advance in tenement-house planning took place as a result of the tenement-house competition held, under the auspices of the Tenement House Committee of the Charity Organization Society, in the old Sherry Building on the southwest corner of Fifth Avenue and 37th Street, in the winter of 1899–1900. The Tenement House Law of 1901 was based largely upon a study of the plans submitted in this competition. It should, however, be recorded that many of these plans owed their inspiration to the designs submitted by Ernest Flagg (Pls. 7, C and 29, D) and James E. Ware (Pls. 7, D and 9, A) three and a half years earlier, in a competition held by the Improved Housing Council (which resulted in the formation of the City and Suburban Homes Company), in which competition the author also submitted designs (Pl. 7, F).

Even before this — in July 1894 — Mr. Flagg, in an article published in *Scribner's Magazine*, presented plans for 50′, 75′, and 100′ tenements (Pl. 7, A, B) which embodied all of the essentials of the best of these later plans and proved conclusively the wastefulness of the old type 25′ unit and the many advantages of larger units.[1]

The Flagg and Ware plans (Pl. 7, C, D), which were used, respectively, for the first and second groups of tenements built by the City and Suburban Homes Company, in 1898 on West 68th and 69th Streets, and in 1900 on First Avenue and 64th Street, were much the best and most scientific types developed up to that time and, with slight modifications, have held their prestige ever since, comparing favorably with the best types of "walk-ups" in use today. Mr. Flagg's 1901 design for a 25′ unit (Pl. 10, E) is also the best for this size lot developed up to that time, and, except for the location and arrangement of the toilets, compares favorably with anything built since.

1 See pp 899-901 for a still earlier dissertation on the advantages of larger units, etc.

All of these plans were derivatives of those devised by Mr. Flagg and published in 1894 in the *Scribner's Magazine* article above referred to. Through this article, which attracted widespread interest, and through the erection in 1897–1898 by the City and Suburban Homes Company of the first group of modern model tenements, in West 68th and 69th Streets, based on his prize-winning design of the preceding year, Mr. Flagg clearly established his right to be considered the father of the modern model tenement in this country.

Mr. Flagg brought to his studies in economic planning a combination of business experience and common sense, with a good measure of that rare quality which the French call "le sentiment du plan" — an unusual combination in those pioneer days, when, generally speaking, little more was expected of an architect than some skill in the adaptation of a well tested plan and the production of a not unpleasing exterior.[1] James E. Ware and Henry Atterbury Smith also possessed this quality to a marked degree in the tenement-house field, as did J. E. R. Carpenter and Rosario Candela, two and three decades, respectively, later, in the field of apartment-house design.

It is an interesting fact that, although many modifications of the original 100′ x 100′ plan used in the 69th Street buildings have been made during the past forty years, no better type of walk-up tenement for the independent 100′ x 100′ city lot has been devised.

In most of these plans, indeed in virtually all of the low-rent tenements built on Manhattan Island before the World War, the area of the living-rooms averaged well under 140 sq. ft., and that of the bed-rooms under 85 sq. ft.

As a matter of record, and in order that the reader may have an idea of the requirements existing at the time, as interpreted by some of those most actively interested in securing better housing for the working classes, the main features of the programmes of the competitions held in 1879 by the *Plumber and Sanitary Engineer*, in 1896 by the Improved Housing Council, and in 1899 by the Tenement House Committee of the Charity Organization Society, are reproduced here (at the end of this section of the Appendix), as well as those used, respectively, twenty-four and thirty-five years later by the Phelps-Stokes Fund for the same purpose, and that issued in connection with the recent competition of the New York City Housing Authority.

As already noted, the first so-called "model tenement" erected in New York was the one built in 1855 by the A. I. C. P. (Pl. 1, G), which, eight years earlier, as a result of two years investigation, not being able to raise the necessary capital to

1. See p. 884 for a letter from Mr. Flagg describing his housing theories.

erect a building, had prepared and distributed broadly a lithographed plan for model tenements; no copy of this plan, unfortunately, seems to have survived (see, however, pp. 878–879).

In 1876, Mr. Alfred T. White built the first group, or block, of model tenements, in Brooklyn, known as the "Home Buildings" (Pl. 3, A).

In 1879 a tenement-house competition was held by the *Plumber and Sanitary Engineer*, which offered prizes aggregating $500 for the best architectural designs for a tenement house on an ordinary city lot, 25′ x 100′. One hundred and ninety architects submitted designs and an exhibition was held which attracted widespread interest. The first prize was awarded to James E. Ware (Pl. 3, C), and the twelve best plans were reproduced in successive numbers of the *Plumber and Sanitary Engineer*. The winning plan, which became known as the "dumb-bell" or "double-decker" plan, because of its shape and of the fact that it housed two or four families on a floor, retarded the construction of better housing in New York more than any other plan ever devised.[1] Several of the other premiated plans are also here reproduced (Pl. 3, D, E, F, G), not so much because of their intrinsic value as because they became prevalent types.

In this same year the *Plumber and Sanitary Engineer* reproduced also a very interesting plan by George B. Post, the well known architect, in association with George W. Dresser, C.E., for a block of model tenement units (Pl. 4). In a letter addressed to the editor of the *Plumber and Sanitary Engineer* and printed in that paper Mr. Dresser says:

> The plan is rather for a colony of tenement houses, and, I believe, secures all the benefits demanded for tenants of the class that cannot afford to pay over $8.00 [per apartment] a month. If anything was needed to convince people that a lot 25′ x 100′ is not properly adapted for the construction of suitable buildings, for the comfortable and healthy housing of a large number of people, that evidence has been most fully developed by the late competition which you instituted, and so successfully carried out. . . . These houses cover about 63% of the ground occupied. . . . As much ground is covered as ought to be occupied by buildings, and as many people can be accommodated as is consistent with health and decency . . . each block should have, at the centre, its baker, grocer, butcher, reading-rooms, etc.

Probably because of the interest aroused by the *Plumber and Sanitary Engineer's* competition in 1879, the Improved Dwellings Association was formed in this same year, and in 1881 completed the erection of the first group of model tenements on Manhattan Island (Pl. 5, H and Figs. 38 and 116, d).

The first legislative commission on tenement housing was appointed in 1856,

1. Mr. Ware retrieved his reputation seventeen years later by winning second place with an admirable plan (Pl. 9, A) in the competition held, in 1896, by the Improved Housing Council

and made its final report in the following year. There were also commissions and reports in 1885, 1887, 1895, 1901, and 1929, the last of which prepared the Multiple Dwelling Law. This law is now in force, and in some respects marks a retrogression, containing as it does a considerable number of regulations of doubtful value, and others which have materially increased the cost of construction without providing adequate compensating advantages. Sometimes, as in the prescribed minimum widths of courts, it calls for conditions of light, air, and outlook, which seem to many experts in such matters to be unnecessarily generous, even wasteful, resulting, as they must, in higher rents, and practically precluding the building of tenements or apartment houses of more than six stories in height on lots less than 100′ in width.

This unfortunate result is due primarily to the composition of the commission, which, instead of being made up principally of experts and men of large experience in housing matters, was composed almost exclusively of politicians and other laymen, so that it had to depend upon the advice of outside experts, who are not always unprejudiced. Furthermore, in reaching its conclusions it too often sought a compromise between widely divergent views, which would not have been necessary if its own members had possessed wider experience in the housing field. It is a significant fact that the membership of the commission did not include an architect.

As we look back over the past century we cannot help being impressed by the progress which has been made in New York City, as elsewhere, in the housing of the poor, although every decency-respecting citizen must feel ashamed when he reflects that there are still in the city 1,328 old-law tenements — of which 442 are on Manhattan Island—whose only toilet facilities are privies or school sinks in the yards,[1] and thousands of scarcely less intolerable "double-deckers," which owe their origin to the ill-fated architectural competition of 1879.

The erection of the Home Buildings in Brooklyn in 1876–1877 and of the Improved Dwellings Association buildings in New York in 1881 marked the dawn of a new era in housing. Fifteen years later, in 1896, another important step was taken by the incorporation of the City and Suburban Homes Company and the erection of its first group of tenements, on the Upper West Side (Pl. 7, C, D).

Since the competition and exhibition held by the Charity Organization Society in 1900, resulting in the Tenement House Law of 1901, it has not been possible legally to build really bad tenements in New York City. Furthermore, it is interesting to note that the great improvement in the planning of apartment houses which became general about twenty years ago probably owed its origin in no small

1. New York City, Tenement House Department, *Survey of Vacancies in Class A Multiple Dwellings* (1923).

degree to the interest in the planning of multiple dwellings which this competition aroused among architects, speculative builders, and investors.

Between 1901 and 1929, when the Tenement House Law was superseded by the Multiple Dwelling Law, about 7,000 tenements were built in Manhattan alone, housing over 850,000 people. During this long and active period, although a great advance was made in the planning of apartment houses, comparatively little improvement is noticeable in the design of tenements erected for the poorer classes on Manhattan Island. This is doubtless due primarily to the fact that, with the exception of the comparatively small group of "model tenements" enumerated on p. 903 and built between 1901 and 1915, and of a few important large-scale developments undertaken since the War and referred to later in this Appendix, most of the tenements erected during the twenty-eight years covered by the Tenement House Law of 1901 were put up by speculative builders, in many cases without the intervention of an architect. Even when starting with a good "parti," often suggested by one of the plans premiated in the competition of 1900, the designer usually found himself unable successfully to adapt the niceties of adjustment and arrangement possessed by the original plan to the particular requirements of the site to be developed, or, perhaps even more often, to the short-sighted insistence of the speculative builder on every possible economy, even in the architect's fee, which is one of the last items of cost in which the real owner can afford to economize. Unfortunately, too, successive amendments and judicial rulings so complicated the original law as to discourage better architects from seeking to practise in the housing field. Furthermore, the mandatory provisions of the Tenement House Law, coupled with the frequent, sometimes unjustified, and often unfortunate, interpretations of the law by the Tenement House Department itself, soon resulted in the establishment of certain types of plan favored by the Department — often for unfathomable reasons.

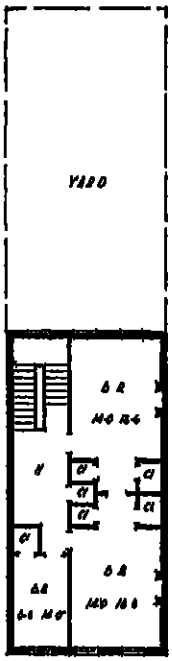
Securing the approval of a new type meant almost endless difficulties and delays, quite beyond the endurance of most architects and owners. These facts, with the constant tendency to alter the law, or its interpretation, to cover specifically successive deviations from established standards, resulted in the discouragement of originality and led to slavish reduplication of plans which were known to be acceptable to the Department. In other words, the average architect and the average owner followed the line of least resistance — with discouraging results, as will be seen by an examination of the plans reproduced in the successive reports of the Tenement House Department from 1902–1903 to 1907–1908, after which no urban plans are given. As a matter of fact, owing to high building costs, which took a sudden jump of over 48 per cent between 1915 and 1916, and almost

doubled between 1915 and 1918,[1] the War, and a steady shrinkage of the tenement-house population of Manhattan, comparatively few tenements have been built here since 1915. The few which have been built on Manhattan and in the suburbs — principally in the Bronx and on Long Island since 1922, when the ten-year period of tax exemption began — show a marked tendency to larger rooms, more comforts, and greater, as well as more concentrated, unbuilt-upon areas, a tendency which is even more marked in connection with the plans prepared during the past year (1934) in connection with the developments projected by the Federal and local Housing Authorities.

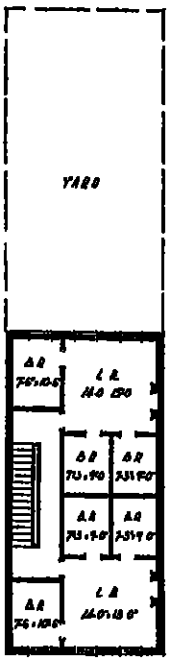
1. Dow's 1935 Index gives the following figures from 1913 to 1934, using 1926 as a base of 100:

1913....		1916....	64.5	1919....	95	1922..	84.7	1927....	99.5	1931.	84
1914....	43	1917....	87	1920....	110	1923..	101.5	1928....	99.4	1932.	74
1915....	44	1918....	91	1921....	97	1924..	103.3	1929....	100.3	1933.	68.6
						1925..	99.5	1930....	99.3	Oct., 1934.	82
						1926..	100				

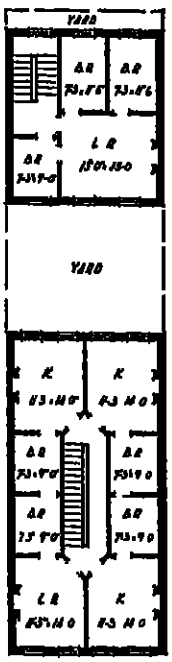
The plans reproduced on the following 29 plates illustrate the development of the tenement house in New York City from before 1850 to 1935. Notes describing these plans will be found on pp. 877–905.



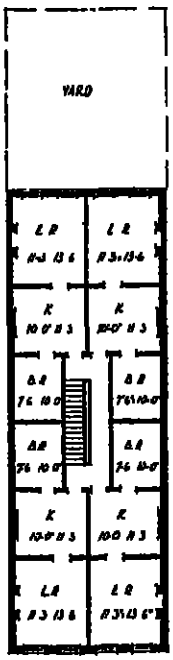
A BEF 1850



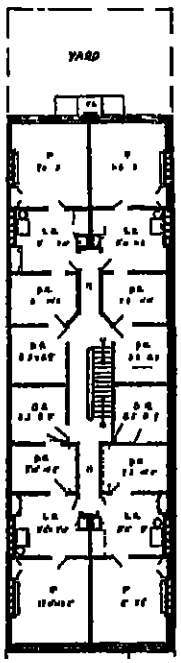
B BEF 1850



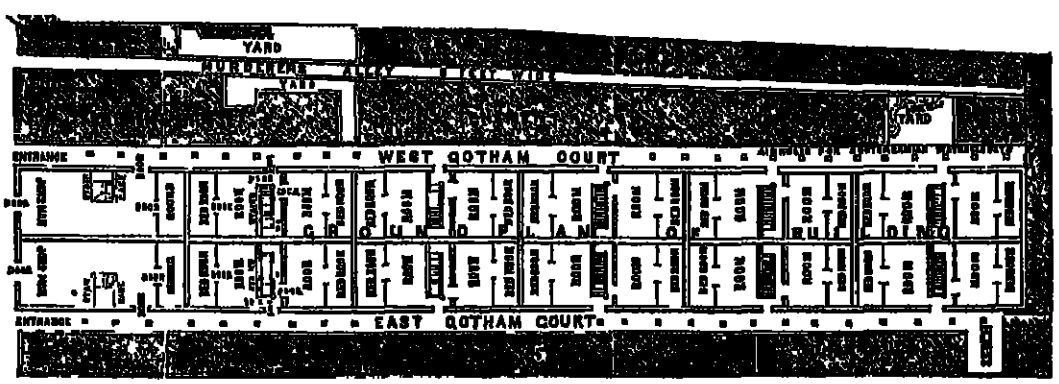
C C.1850



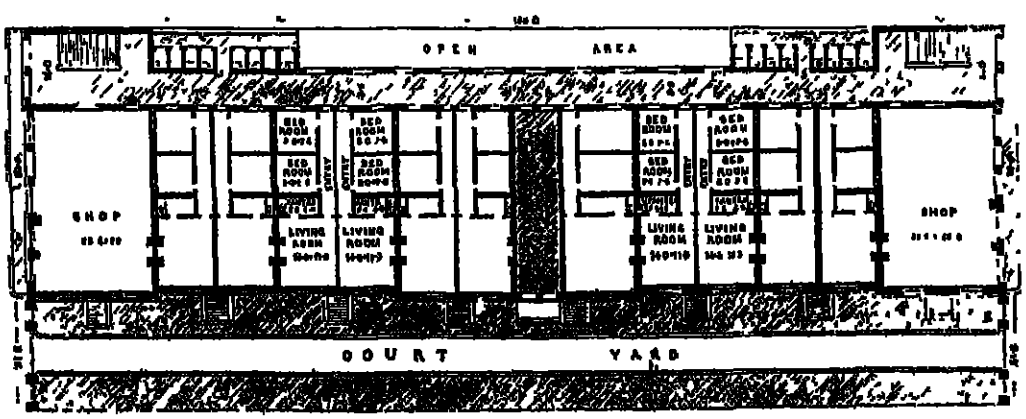
D AFT 1850



E AFT 1850

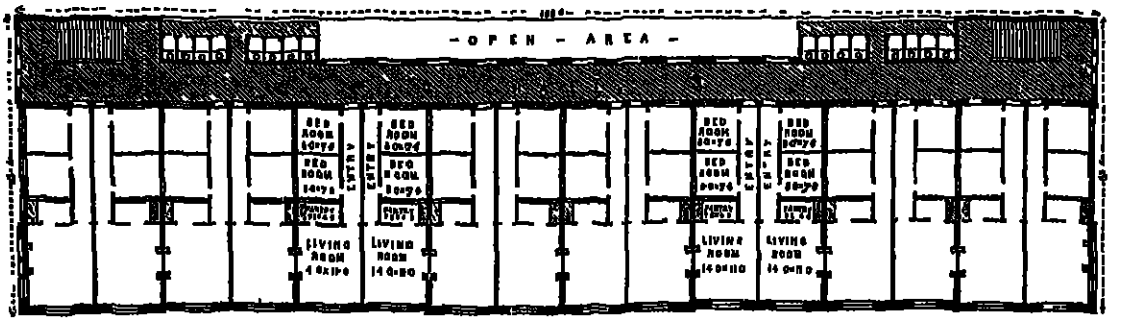


F 1850



G 1855

PL 1



H 1855

Upper floor plan of Workingmen's Home (see Pl. 1, G).

The following description of the building is taken from *Thirteenth Annual Report of the New York Association for Improving the Condition of the Poor*, pp 45–48:

The building was erected by a company formed on August 3, 1854 and organized by the election of officers and trustees on August 3, 1855 "This Company carries out the original view of the parent Association, which involved [*sic*] the idea of a separate organization, for the erection of one or more model tenement houses for the laboring classes, in order to solve the problem of providing commodious, well ventilated apartments, supplied with most modern conveniences, at a price within the means of the poorer classes, which should, if practicable, defray interest on the outlay, repairs, insurance, and keep good the capital invested. . . .

". . . Every part of the building is constructed in the most substantial manner — the walls being eighteen inches thick below, and twelve inches above At intervals of 28 feet, or including two suites of rooms, brick walls are carried from the foundation to the roof. The staircases are iron, broad, and of easy ascent. The halls . . . being constructed with iron beams, brick arches, and blue flagging, are fire-proof — and for all practical uses, covered passage ways or streets, which may be washed with no more injury to the building than the washing of street sidewalks. The entire building is nearly fire-proof, and as well protected against damage or accident from fire, as ingenuity can well devise.

"The ceilings of the different stories are eight feet nine inches in height . . . There are no rear suites of rooms, thereby making a distinction; but each tenant's house being as good as his neighbor's, there can be no front room superiority. The dimensions of the principal apartment are fourteen feet by eleven; of the two next largest, eight feet by seven; and of the closet eight feet by four. Each tenement is supplied with Croton water and separate water closets, and the halls are lighted with gas. . . . Each tenement is in effect a separate house . . . being so entirely shut off from every intrusion, that no one's hall or apartments can be annoyed or encumbered by another. The dividing walls or floors being deafened, so as to exclude noises from adjoining rooms, an air of quietness and seclusion prevails throughout.

". . . On the south is a spacious flagged court yard, 22 by 188 feet, which is used by the inmates for washing and drying their clothes — the families on each floor having the exclusive use of it for specified days of the week. The yard connects with the main hall, by cross halls, and is shut off from the streets by high gates that are kept closed, except fuel is brought to the premises, when carts can be driven to each tenant's cellar, and at once deposit their loads. The cellar is divided into 94 apartments, that is, one for each tenement, with a lock and key for each.

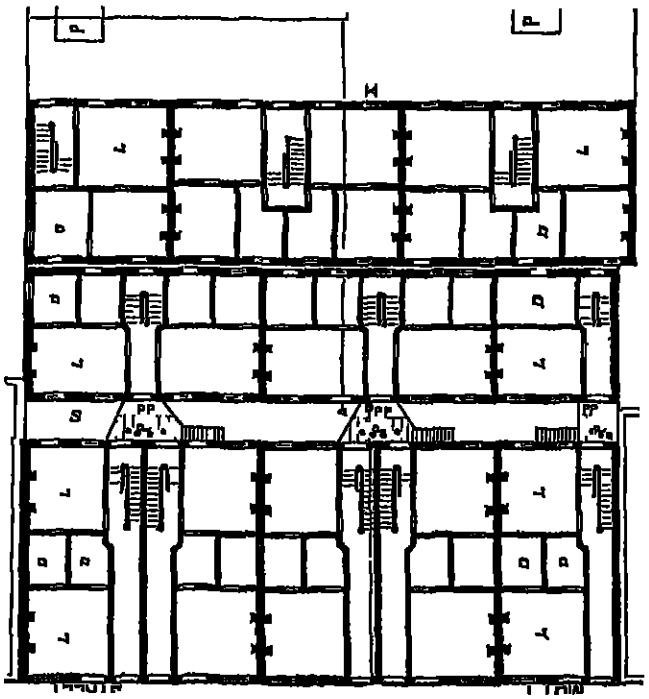
"On the upper floor are two large adjoining rooms, measuring together 53 by 50 feet, which can be thrown into one, or disconnected at pleasure. They are designed for lectures, concerts, or moral and educational uses for the inmates during the week, and for Sunday school and religious observances on the Sabbath.

"In order to obtain the best architectural skill in the construction of the building, plans were procured from several eminent architects, all which possessed great merit; but those of Mr. John W. Ritch, under whose superintendence the building was erected, were preferred from their great simplicity of design, economy of space and cost, and very skilful arrangements for convenience, ventilation, and security against fire.

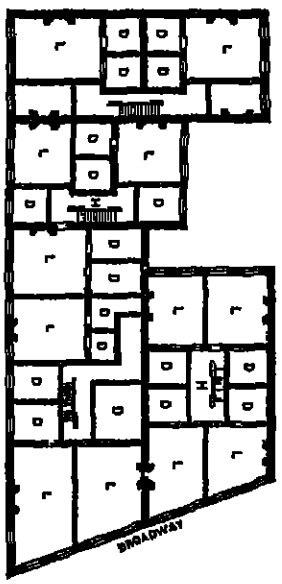
"Rules for the government of the building are strictly enforced by the superintendent in charge."

The water closets were reached from balconies opening from the public hall on each floor. These balconies, apparently, were of cantilever construction, as no columns are shown.

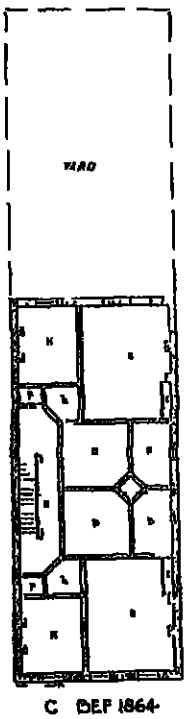
PL. 1A



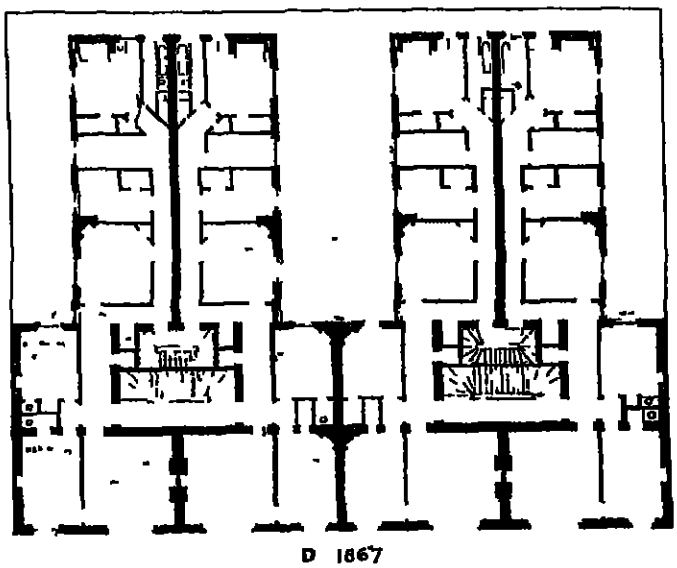
A C 1660



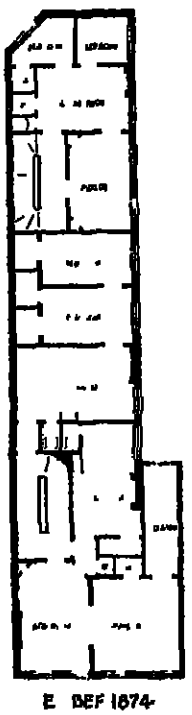
B 1863



C DEF 1864

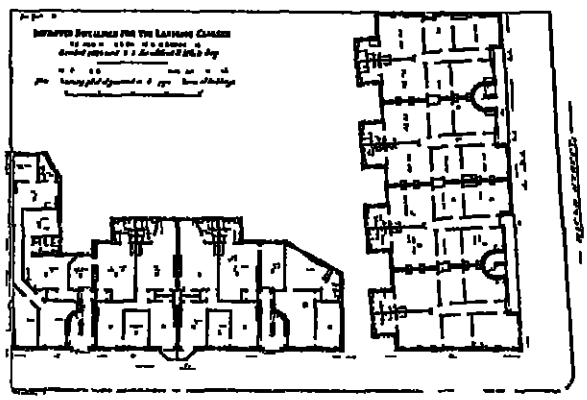


D 1867

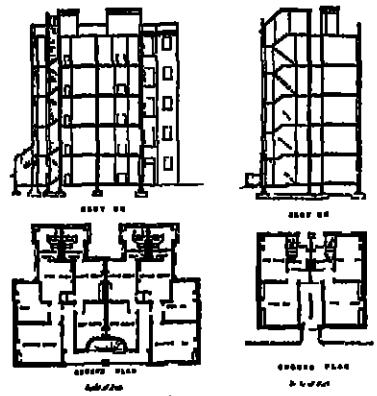


E DEF 1874

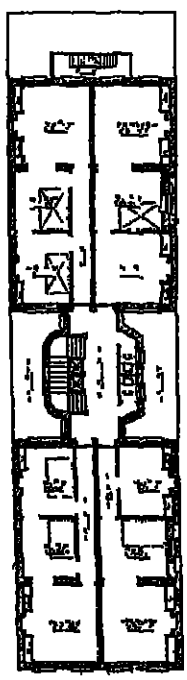
PL 2



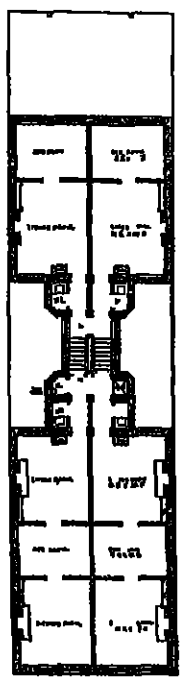
A 1876



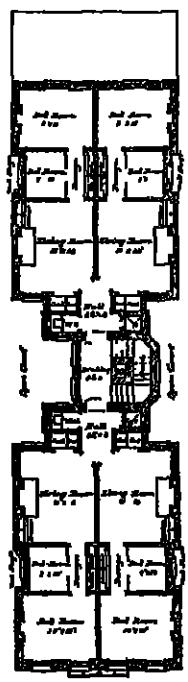
D DEF 1876



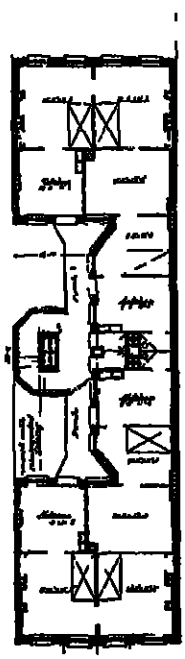
C 1879



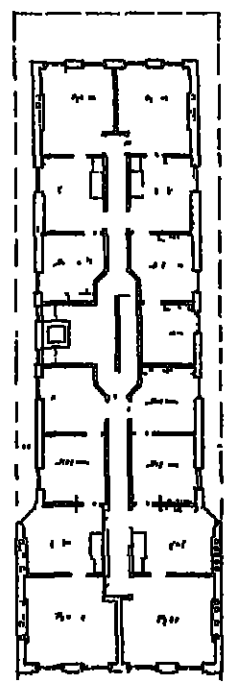
D 1879



E 1879

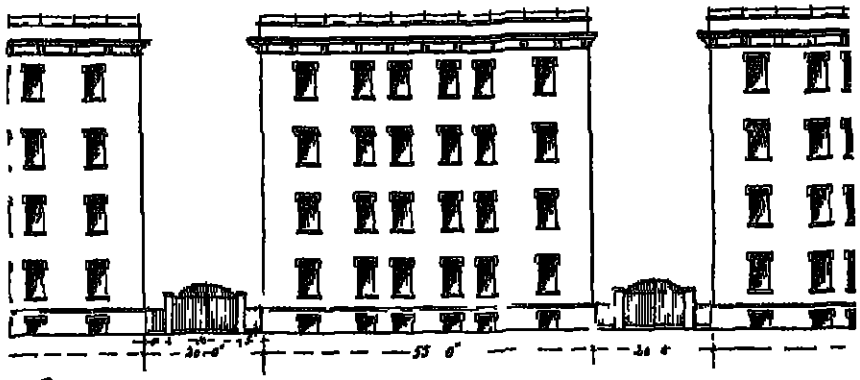


F 1879

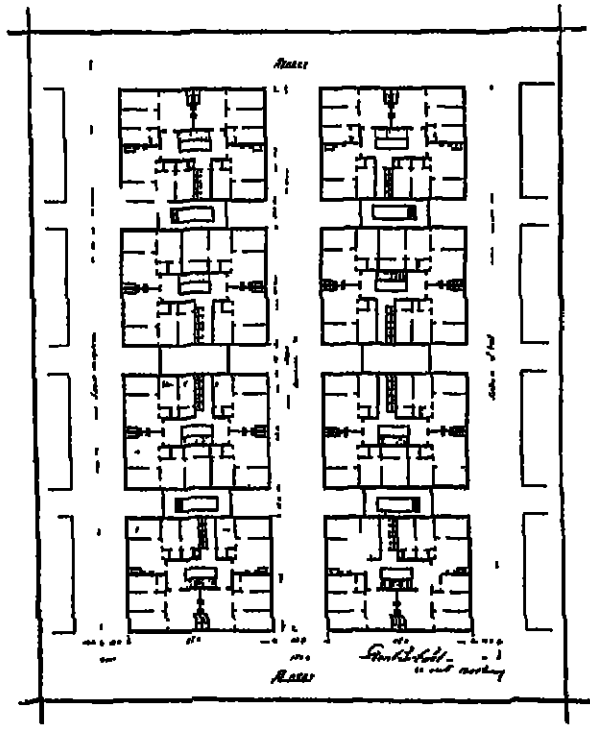


G 1879

PL 3



Elevation on Street



PLAN FOR A COLONY OF TENEMENTS

No. 42 PINE STREET, NEW YORK.

March 30, 1879.

To the PLUMBER AND SANITARY ENGINEER.

In accordance with your request I send you sketches of the plan I recommend by one for arranging the rough cast iron fronts and light interior houses. (Owing to the smallness of the scale no flues are shown.) The plan is to have a colony of houses with flues and [illegible] as well as the ventilating ducts to [illegible] of the three [illegible] cannot afford to pay over [illegible] for a room. If anything was needed to convince people that a lot system [illegible] proper is adapted for [illegible] for the comfortable [illegible] of a large number of people that can be built on more fully developed by the late competition [illegible] needful to secure ideal [illegible]

The above plan contemplates taking an entire block or a part of a block and opening through it from street to street two lanes upon which the detached houses are placed with walks of sufficient width between them. The plan and arrangement of the fronts of these buildings is submitted in due entirely to Mr. Geo. B. Post an architect who has given much study to this subject. As will be seen by inspection every room has one or more windows in the exterior wall securing direct and light from [illegible] The halls are well lighted and [illegible] A coffin can be carried down the [illegible] stairs. Water closets properly ventilated from the outside and there are well ventilated by windows in an exterior wall and by independent ventilating shafts extending through the roof. Arrangements are provided for coal in the cellar and for drying clothes on the roof. These houses cover about 65% of the ground occupied.

The narrow streets are 20 feet wide on each side of each row of four houses and are paved from street to street.

The houses are separated by an open space of ten feet. It is contemplated to place guards at the entrances of the three streets and to have a complete system of drainage. The whole surface of the ground about the buildings to be smoothly paved and kept thoroughly washed and swept.

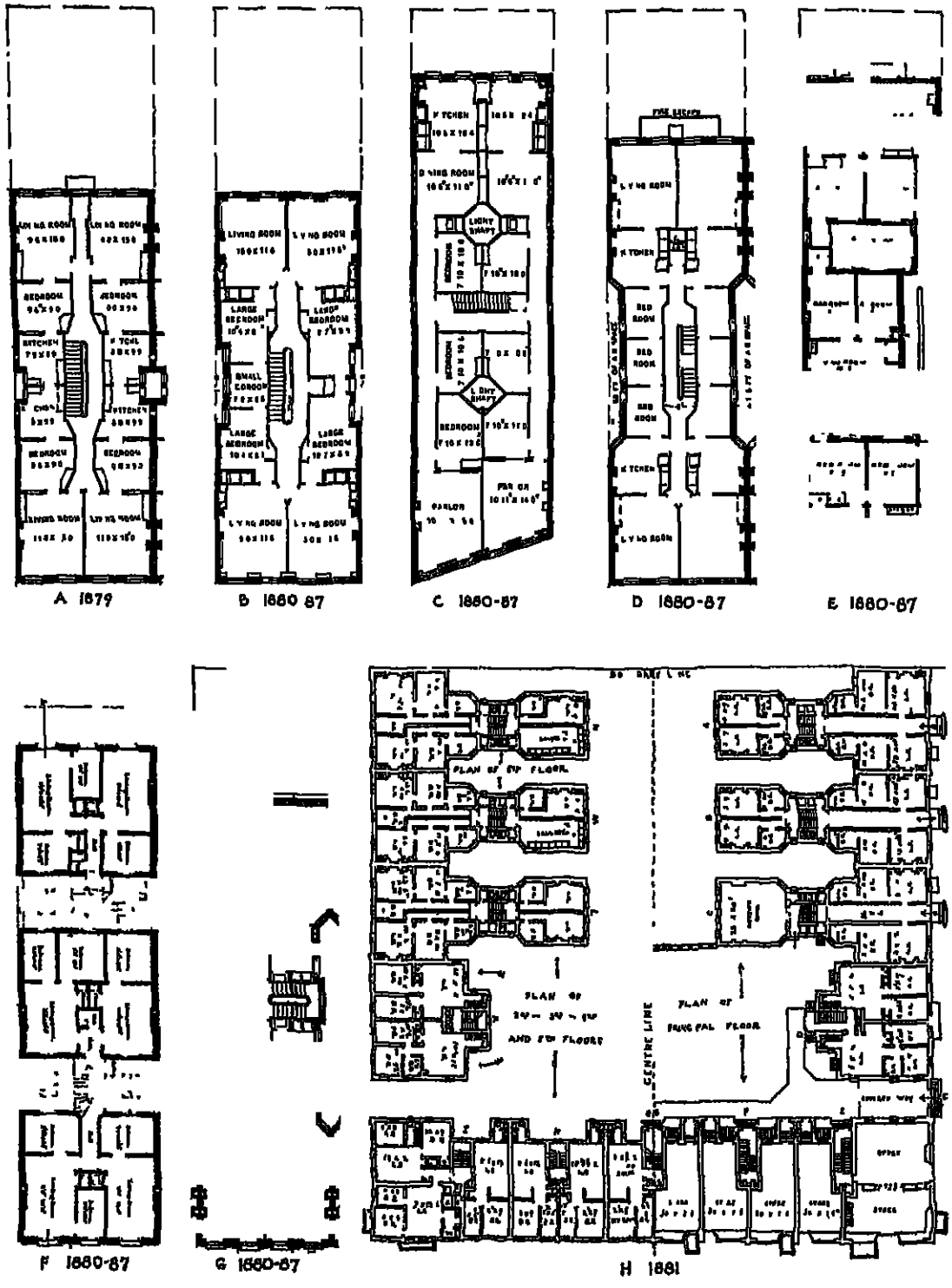
There are other principal points of the plan. Of course the personal supervision is a part of the plan and without it no plan can be a success. Where the ground is covered as one lot to be occupied by the building as long as necessary people can be accommodated on it, [illegible] and the entire [illegible] The last question is "Will it pay?" I have no hesitation in saying that I think it can easily be made to pay a fair 4 per cent rate of interest. There are many things that may be added for the comfort, convenience and protection of the occupants, each block should have at the corners a boiler, grease [illegible] washing machines, etc.

Very respectfully yours, etc.

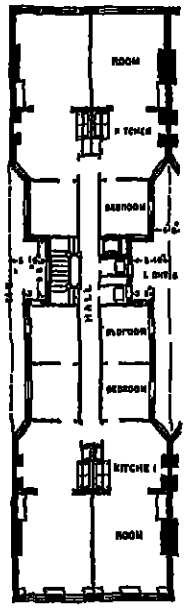
Geo. W. Dabney, C.E.

A 1879

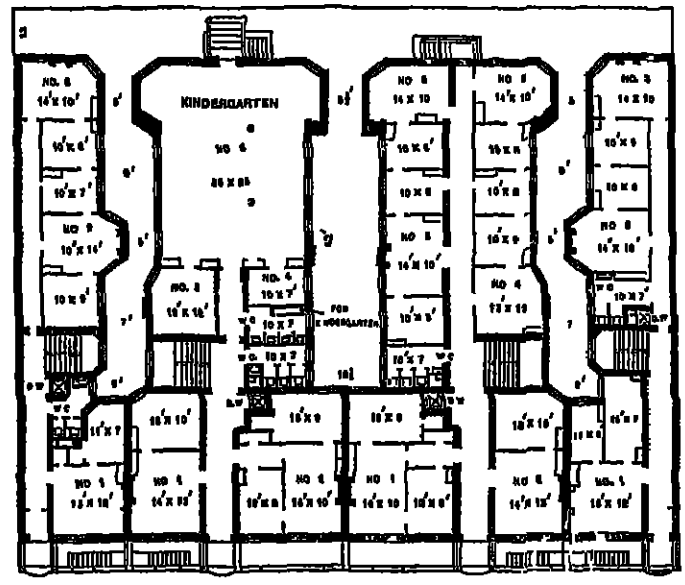
PL. 4


A 1879
B 1880 87
C 1880-87
D 1880-87
E 1880-87
F 1880-87
G 1880-87
H 1881

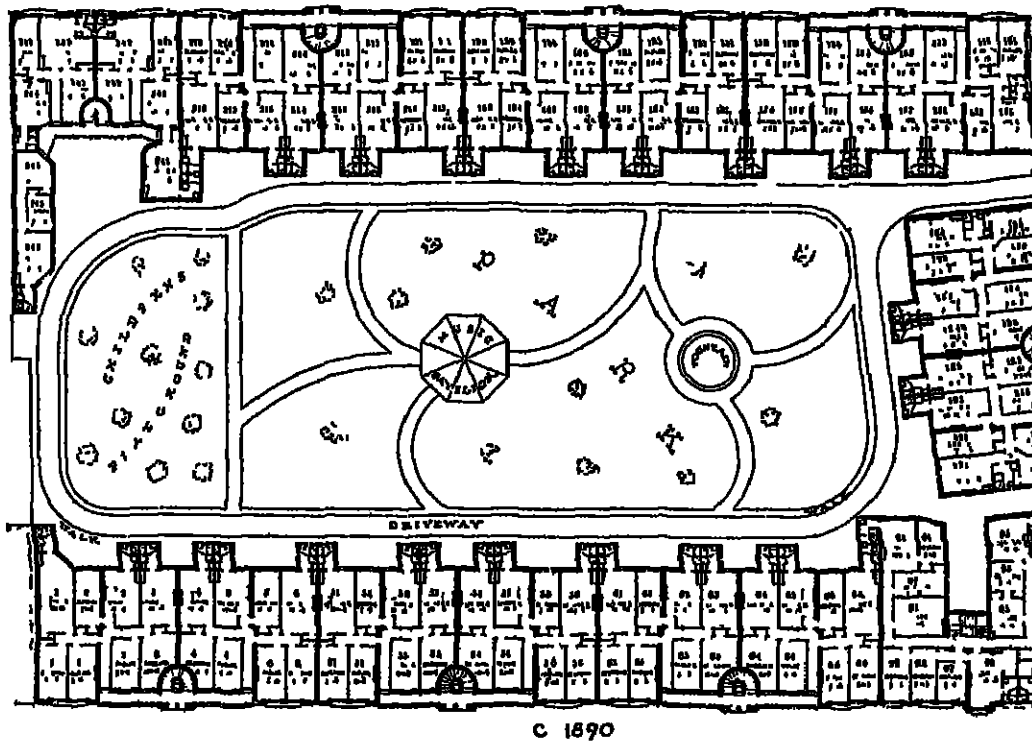
PL 5



A 1887

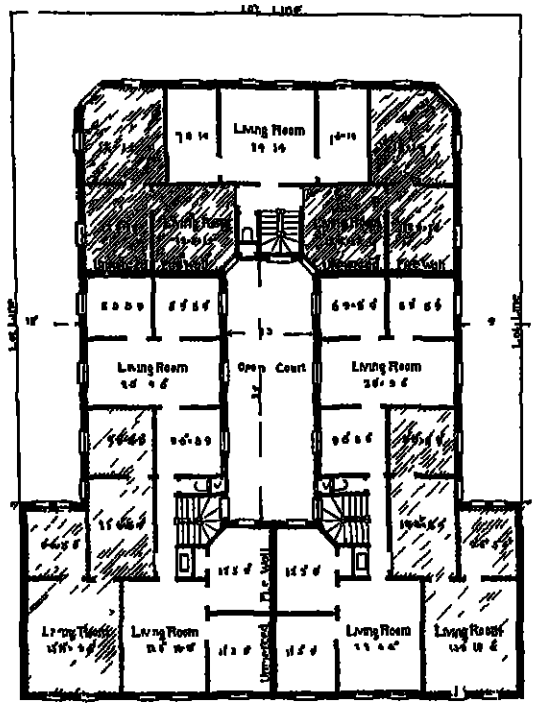


B 1887

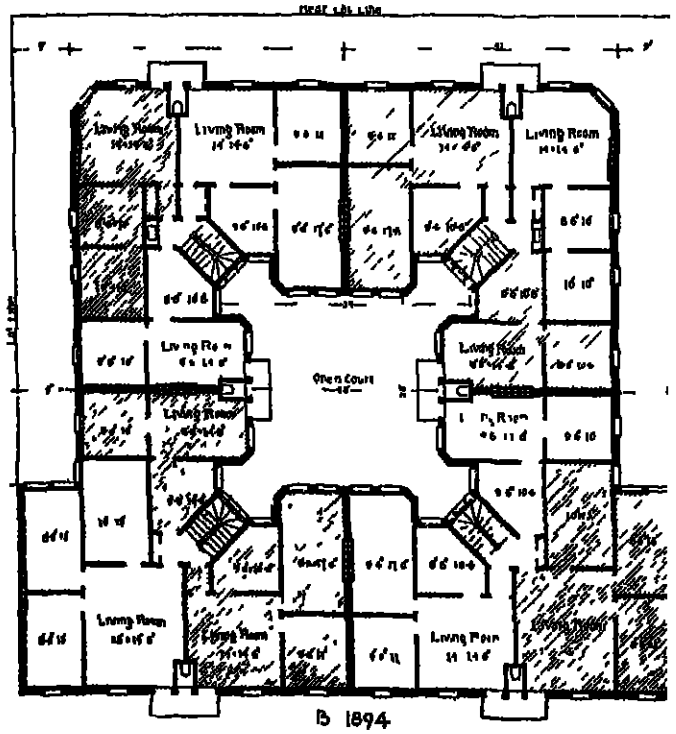


C 1890

PL 6

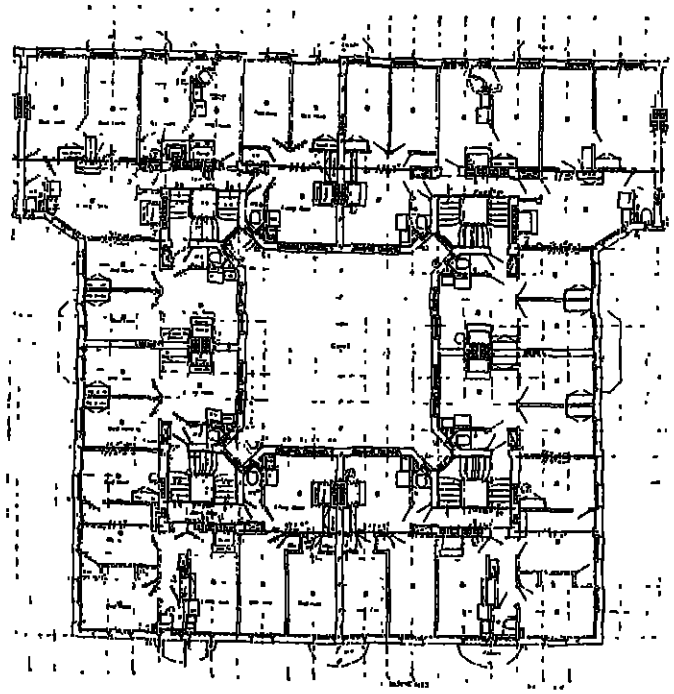


A 1894.

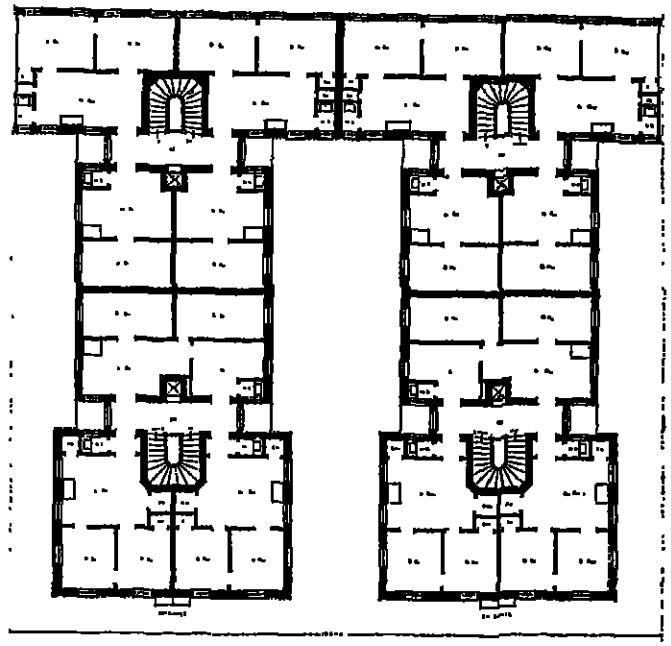


B 1894.

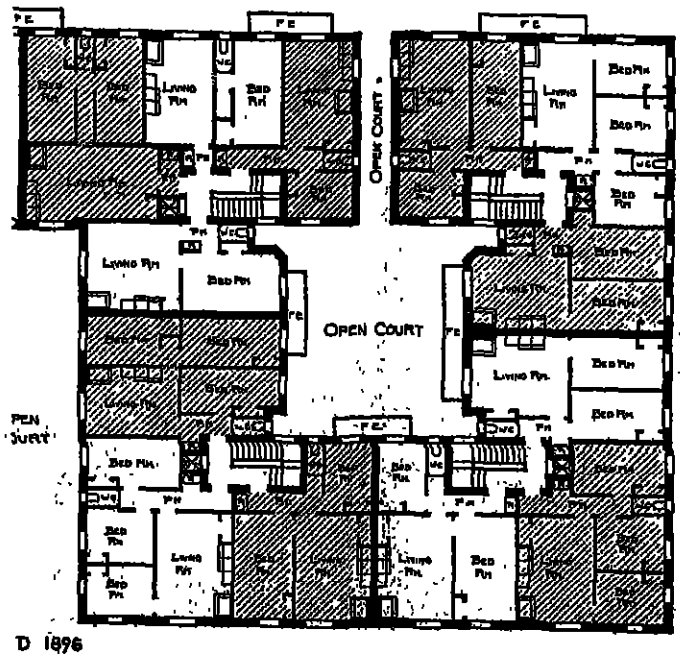
PL 7



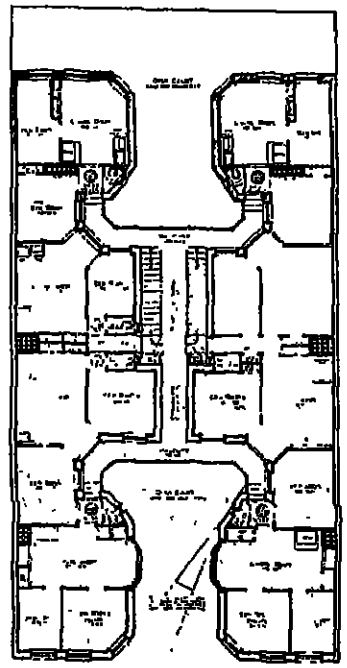
C 1896



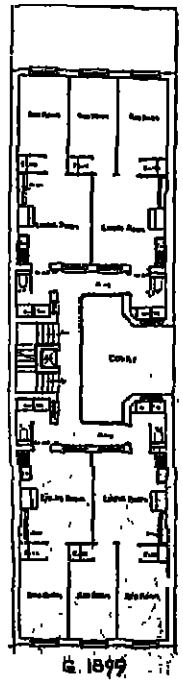
E 1896-99



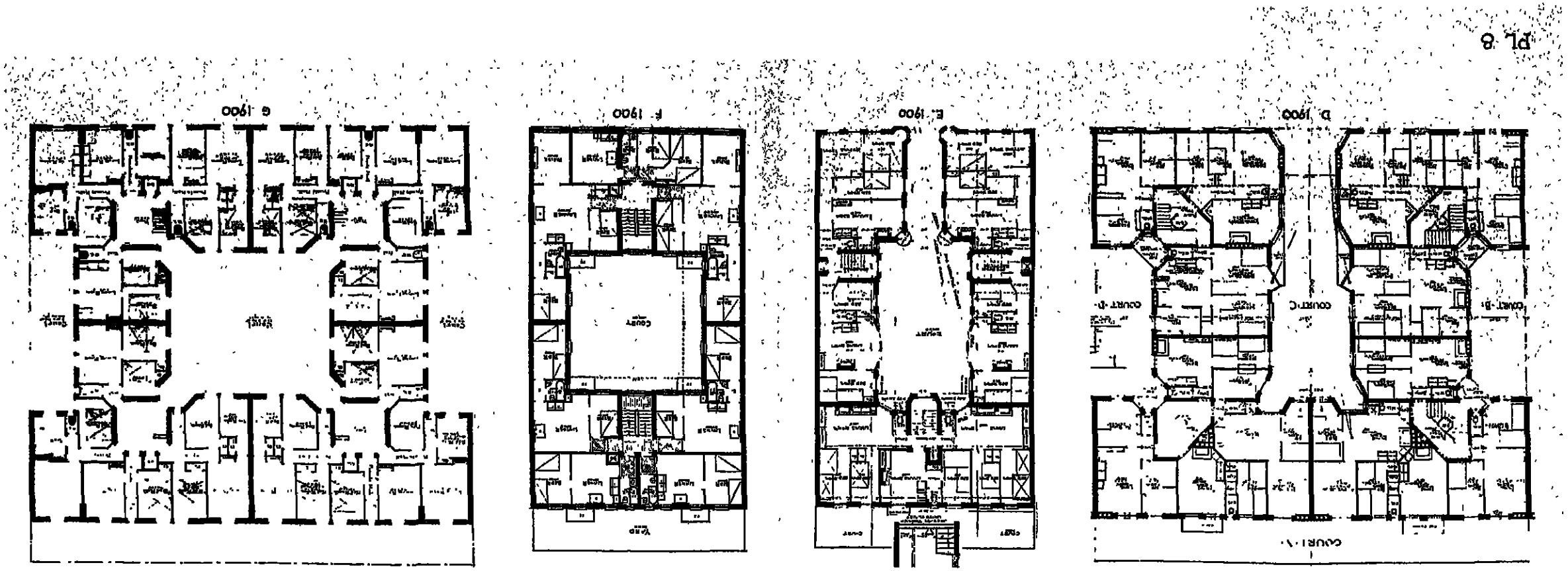
D 1896

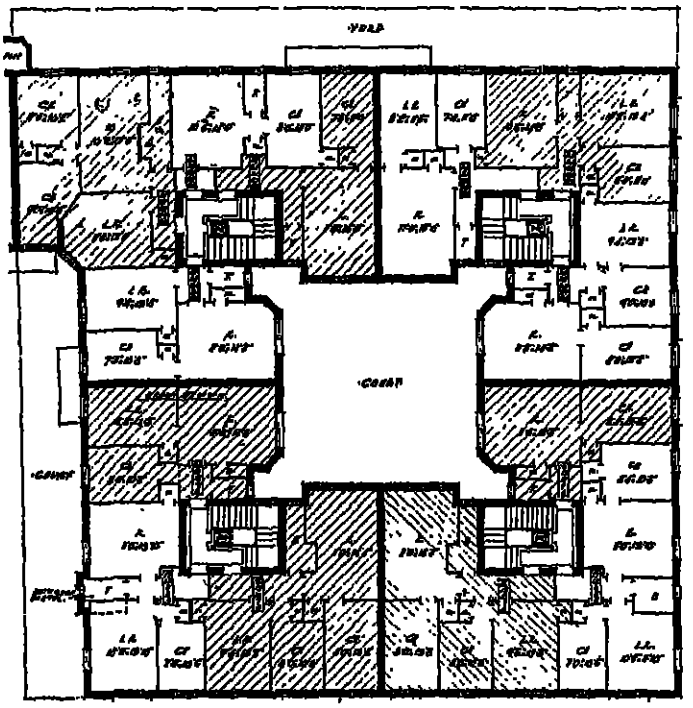


F 1896

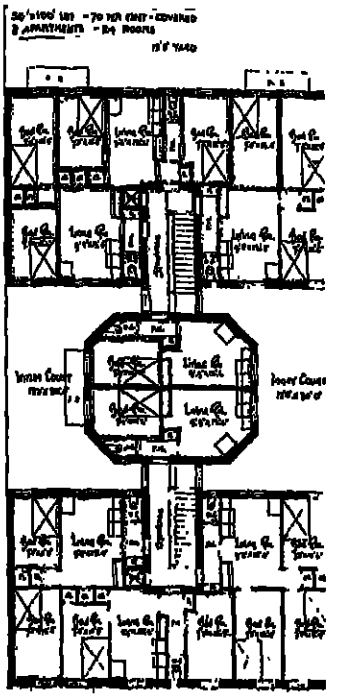


G. 1899

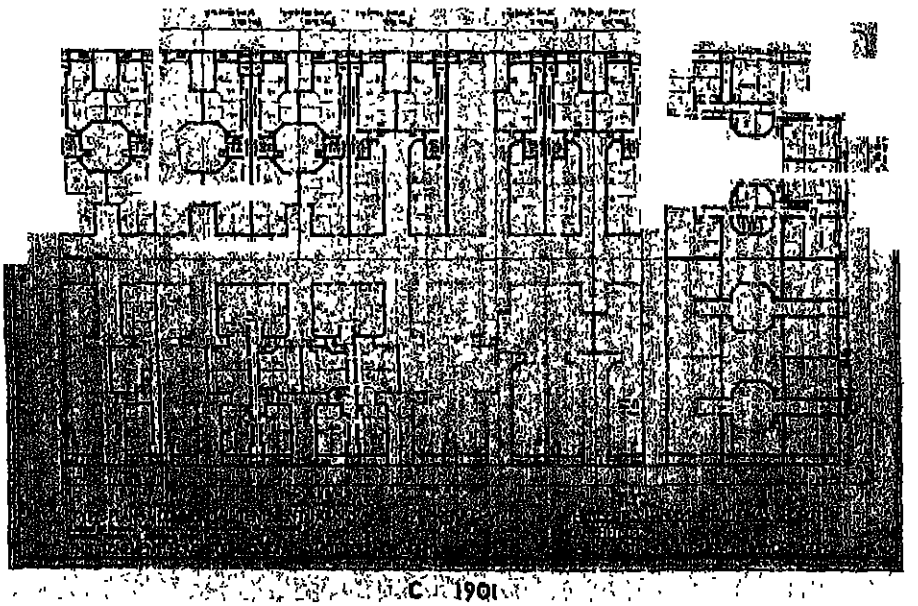

G 1900
F 1900
E 1900
D 1900
C 1900
B 1900
A 1900



A 1900

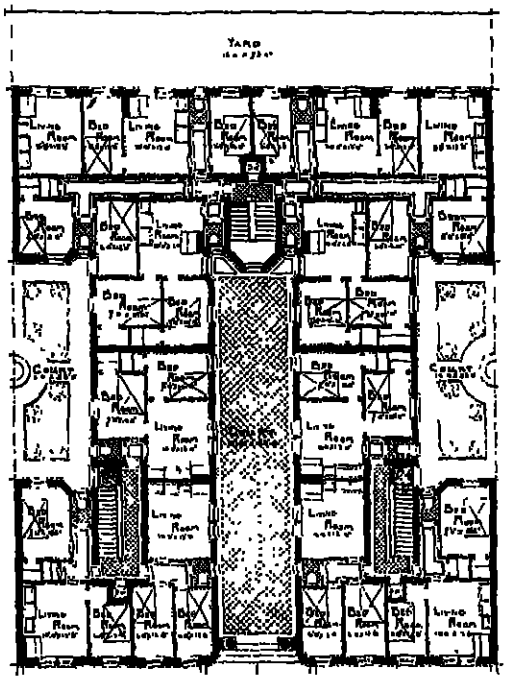


B 1901

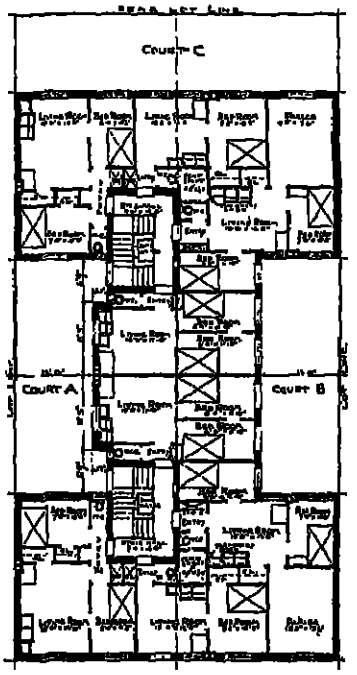


C 1901

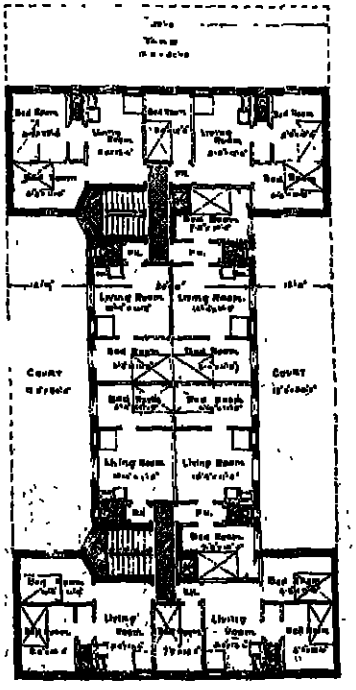
PL 9



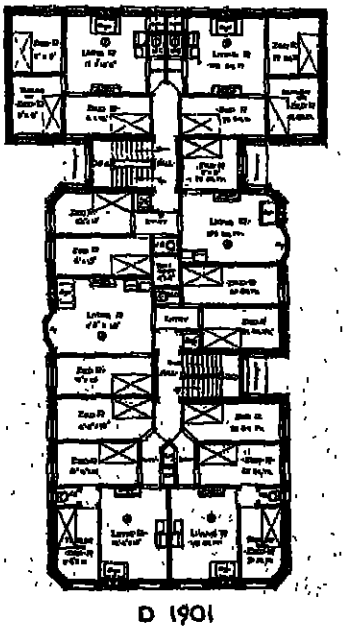
A. 1901



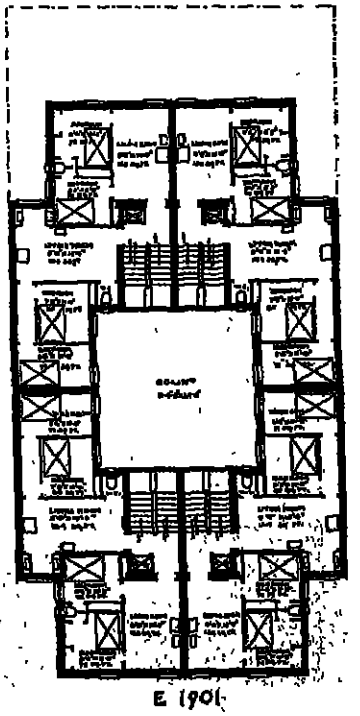
B. 1901



C 1901

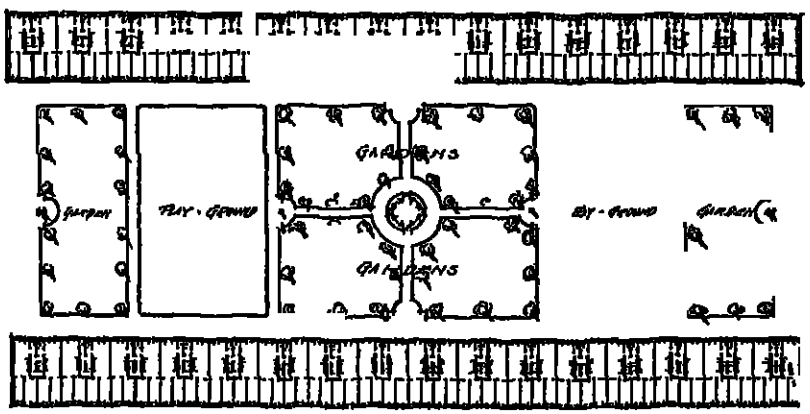


D 1901



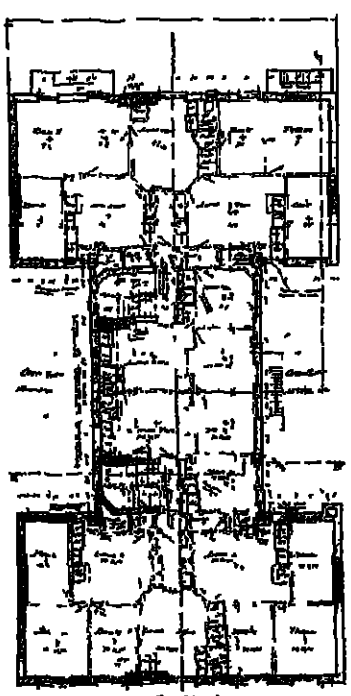
E 1901

PL. 10

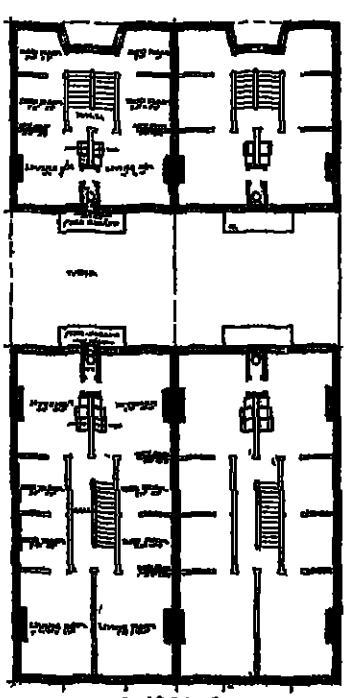


SUGGESTIVE PLAN FOR BLOCK OF PARK-TENEMENTS

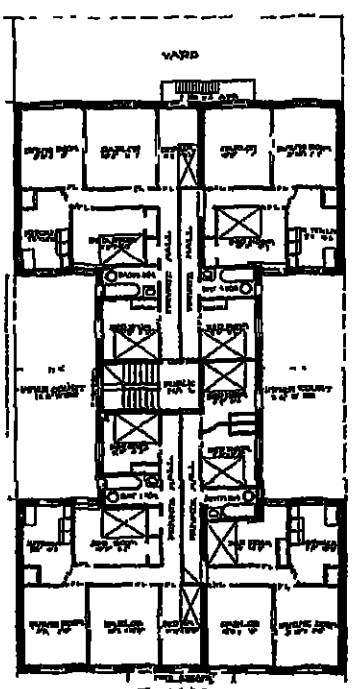
A 1901



B 1901

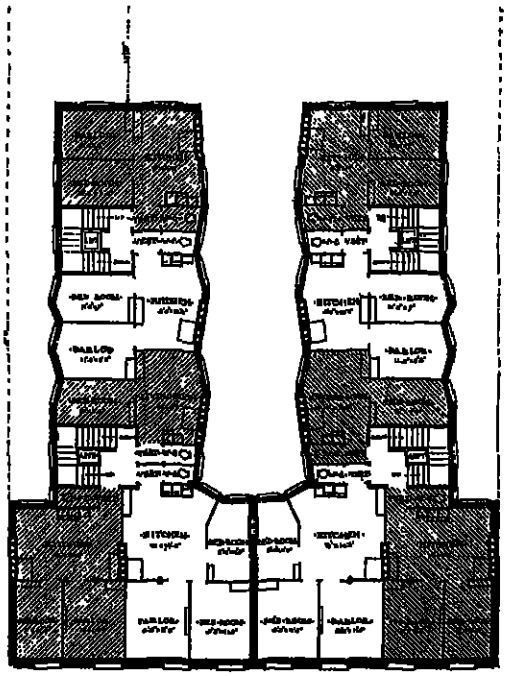


C 1902-3

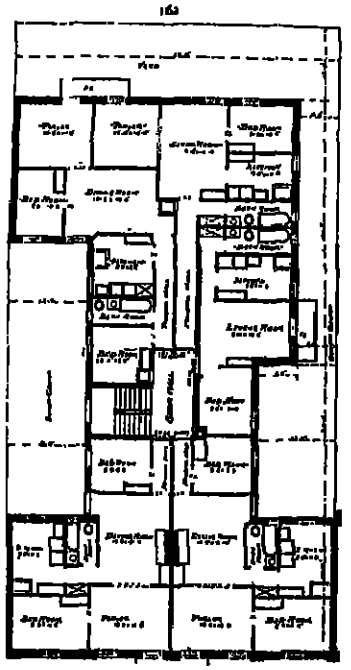


D 1902-3

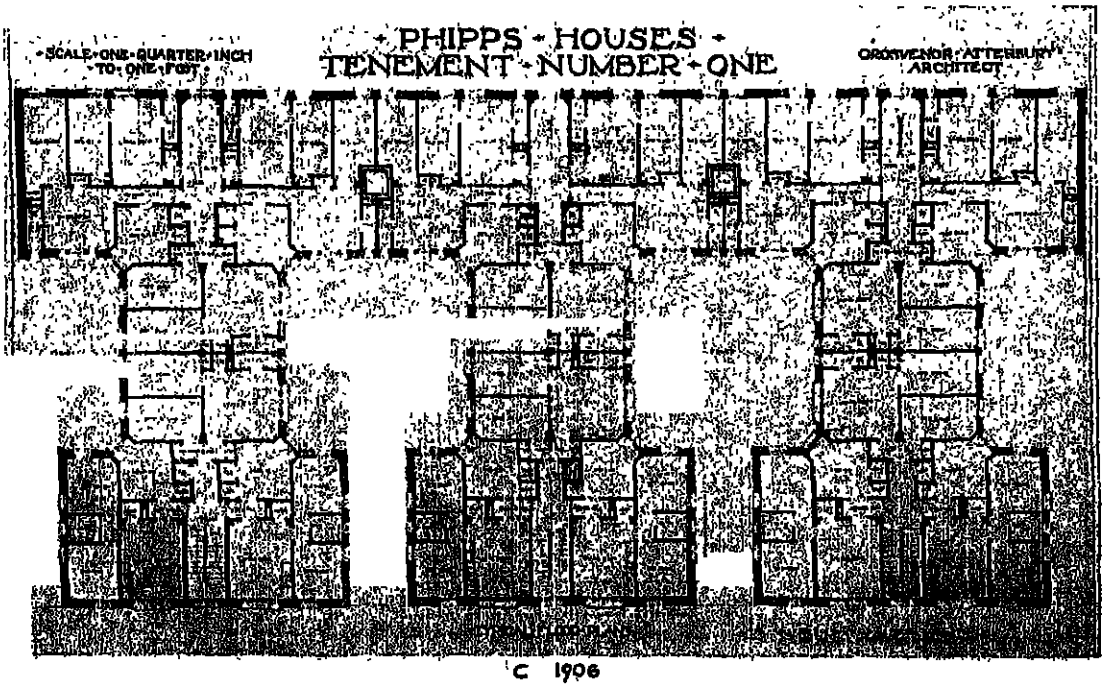
PL 11



A. 1905

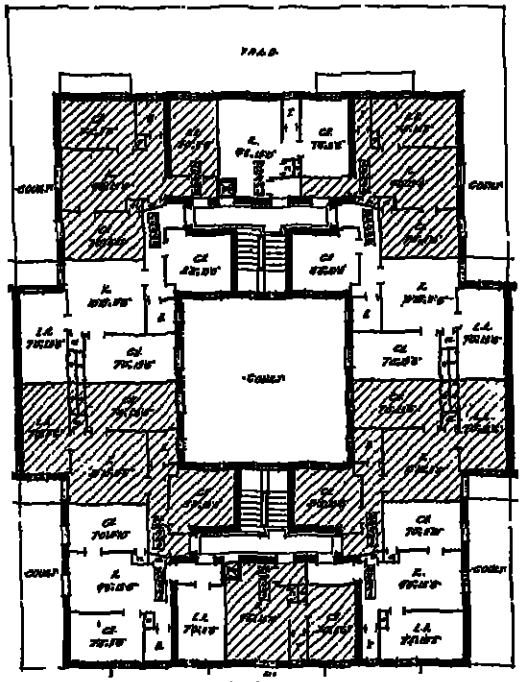


B. 1906

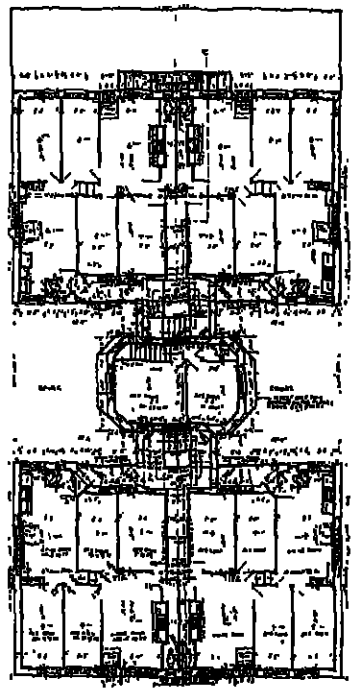


C 1906

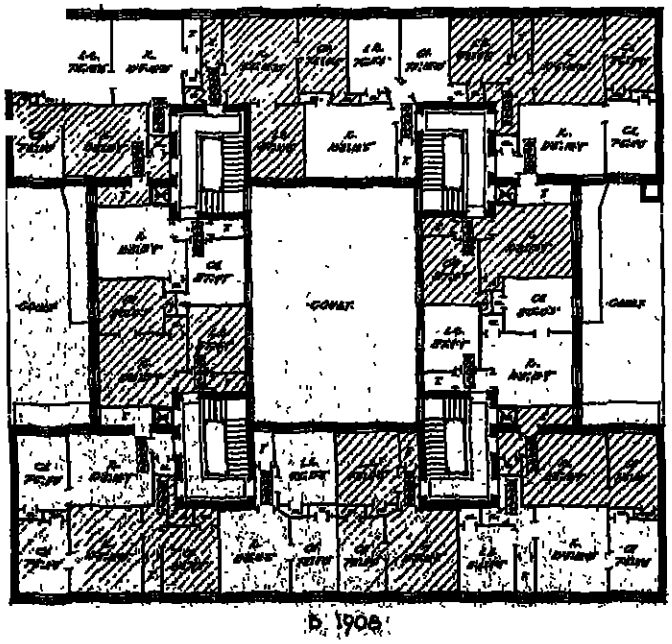
PL 12



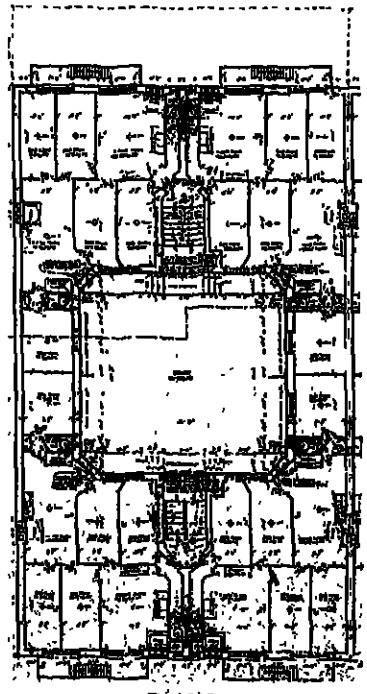
A 1906



C 1908

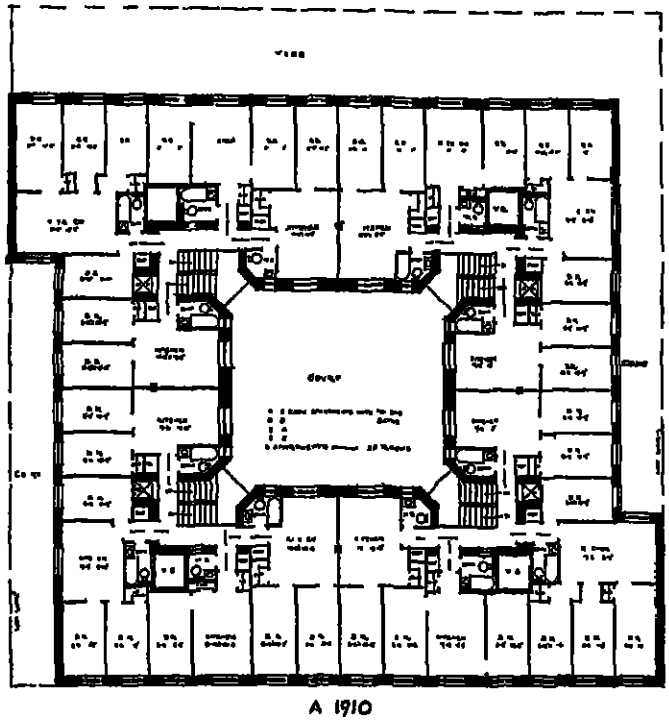


B 1908

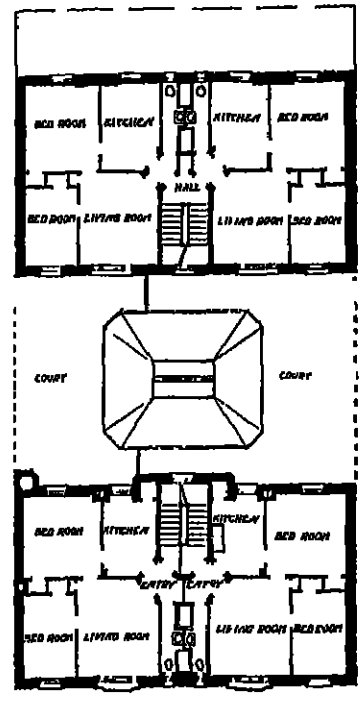


D 1910

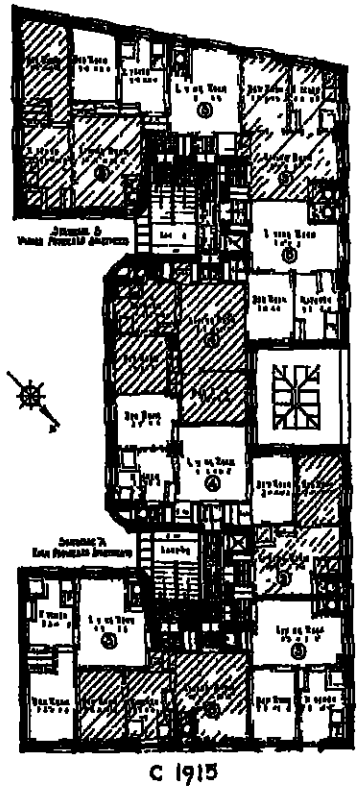
PL 13



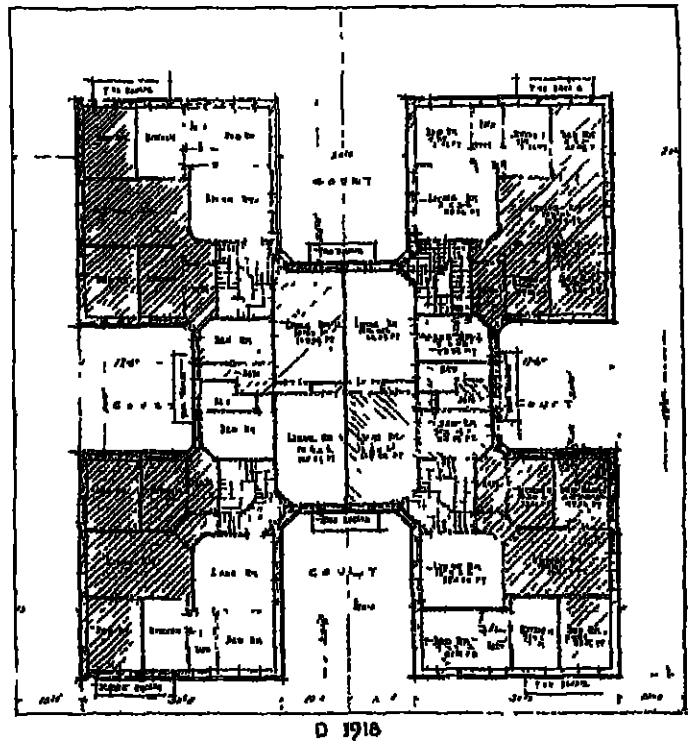
A 1910



B 1915

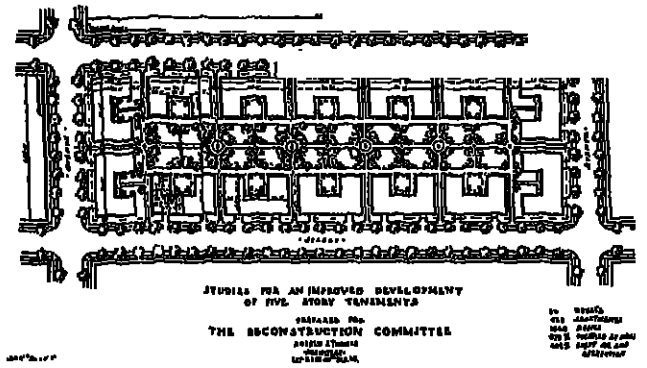


C 1915

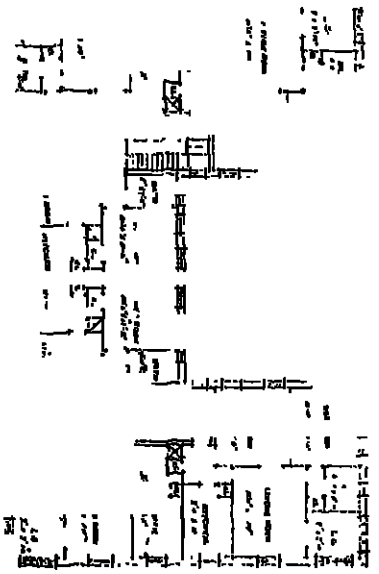


D 1916

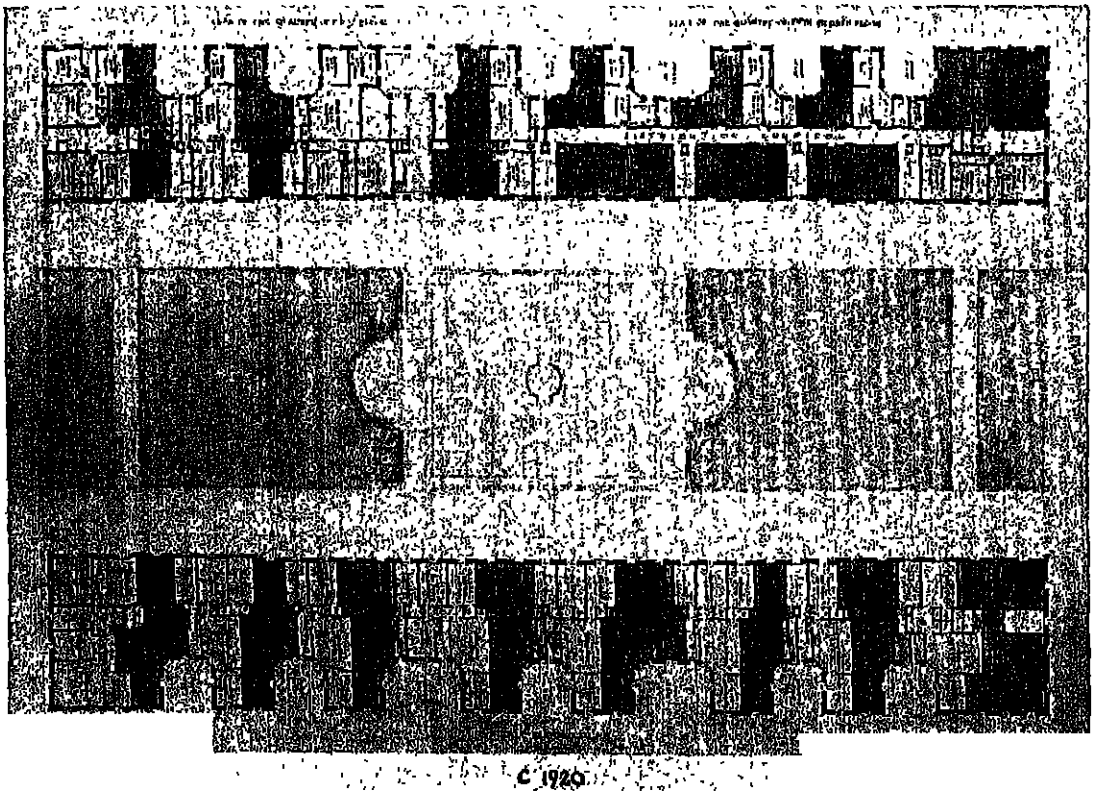
PL 14



A 1919

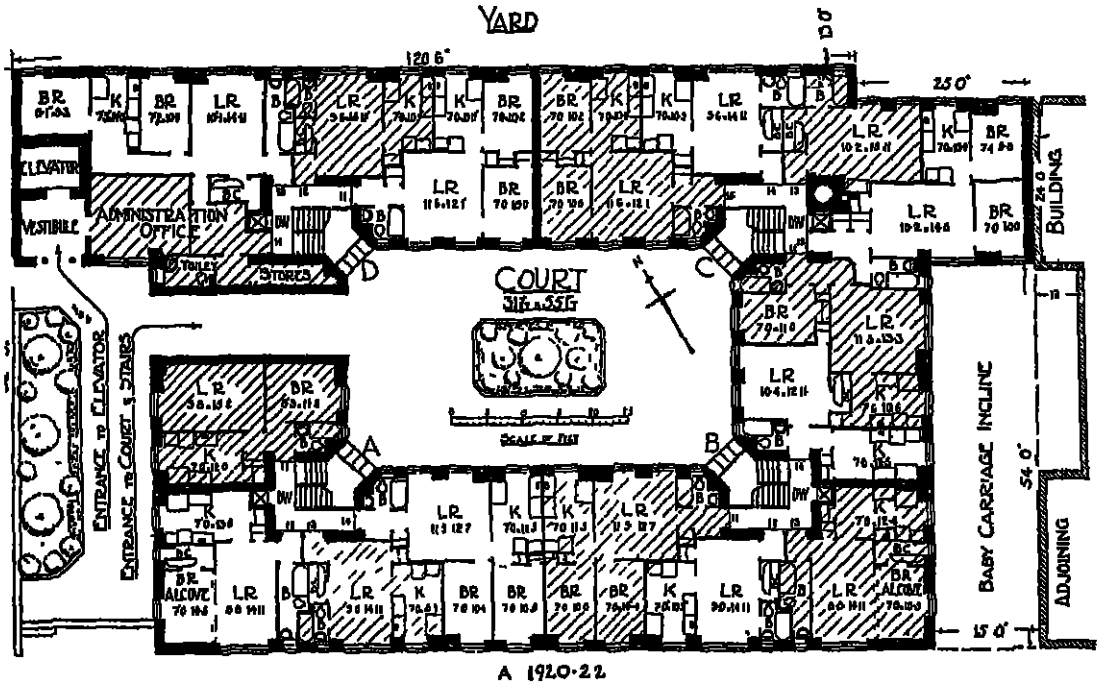


B 1920

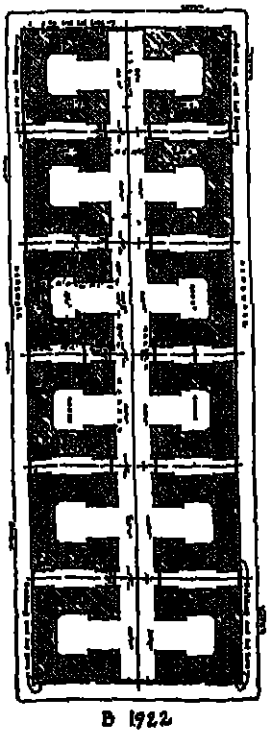


C 1926

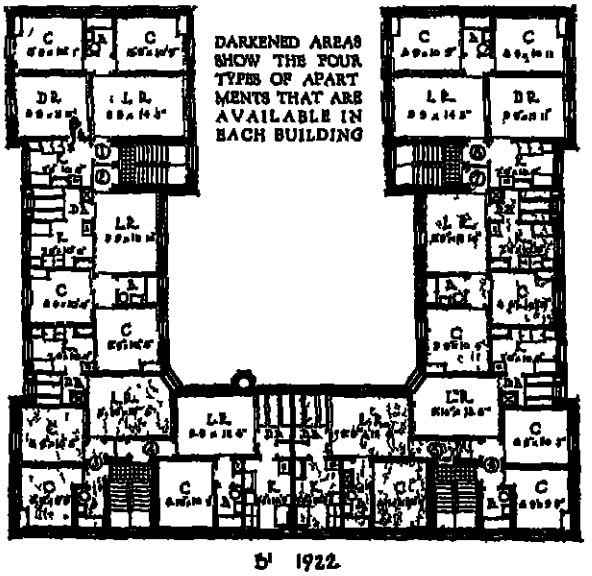
PL 15



A 1920-22

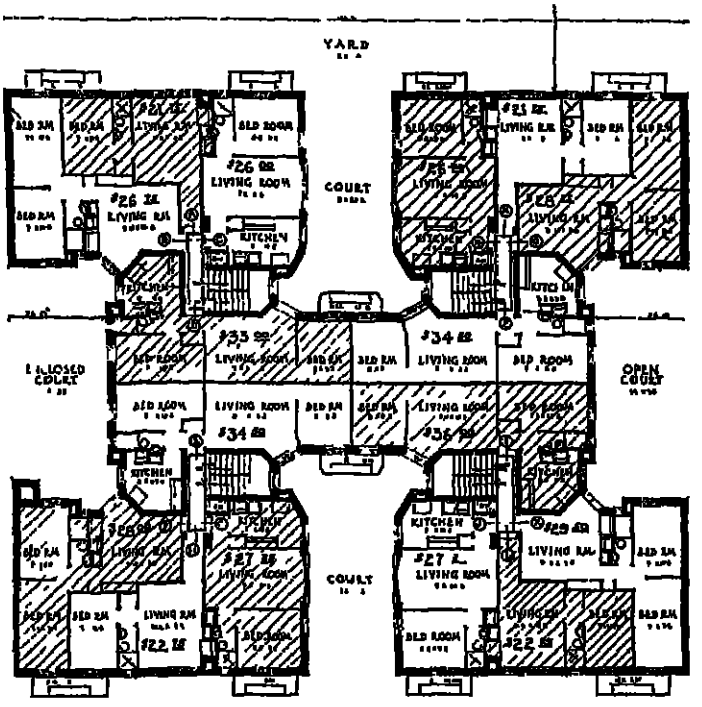


B 1922

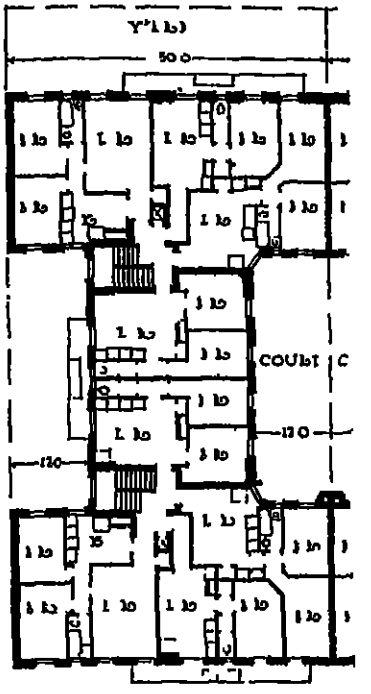


B' 1922

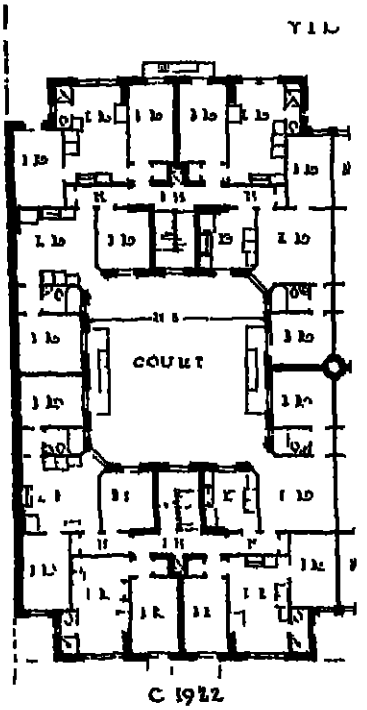
PL 16



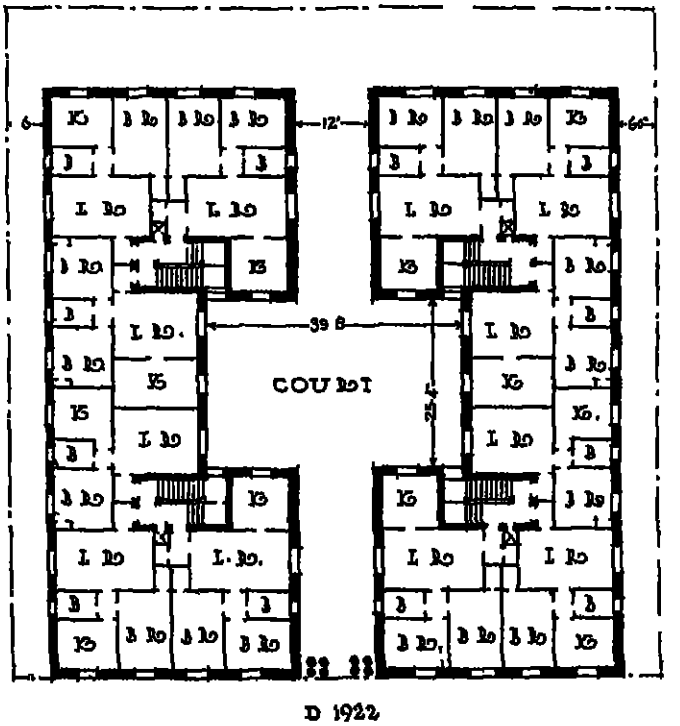
A 1922



B 1922

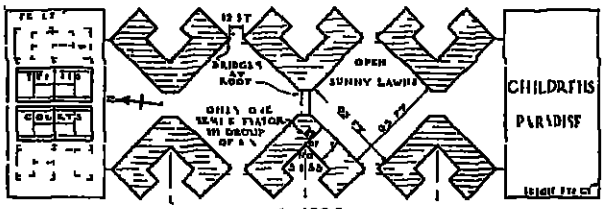


C 1922

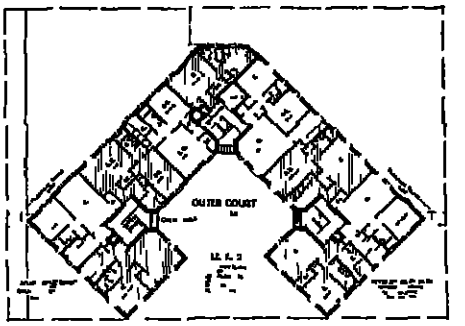


D 1922

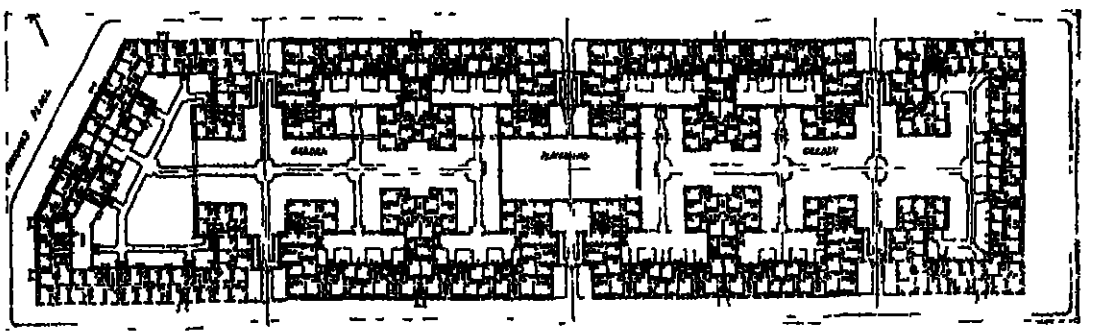
PL 17



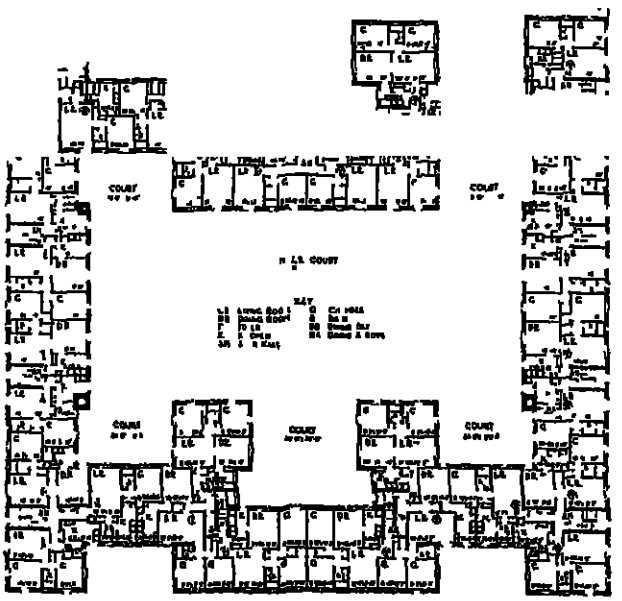
A 1926



A' 1926

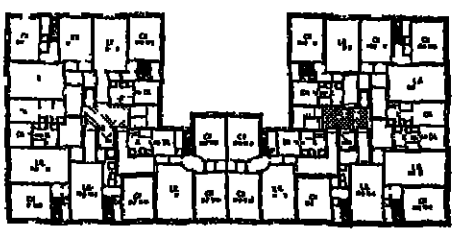


B 1926-28



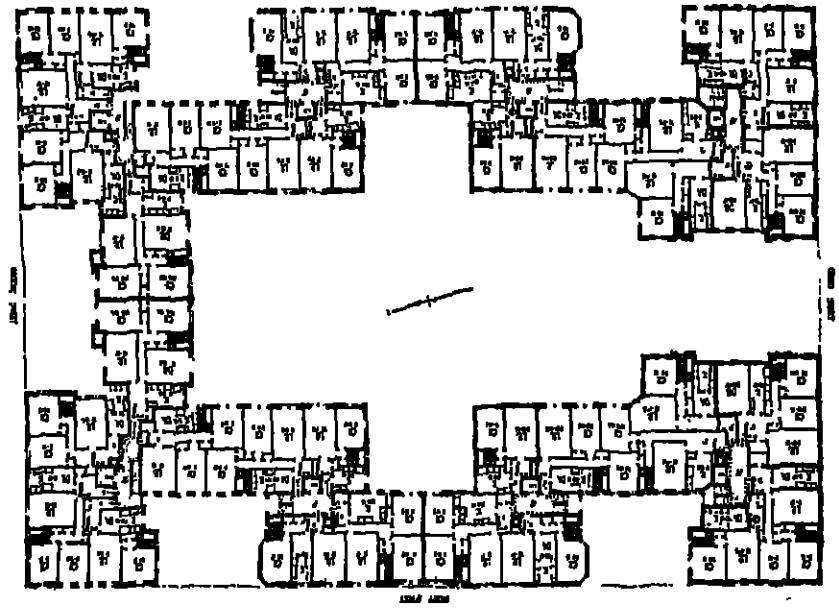
C 1929



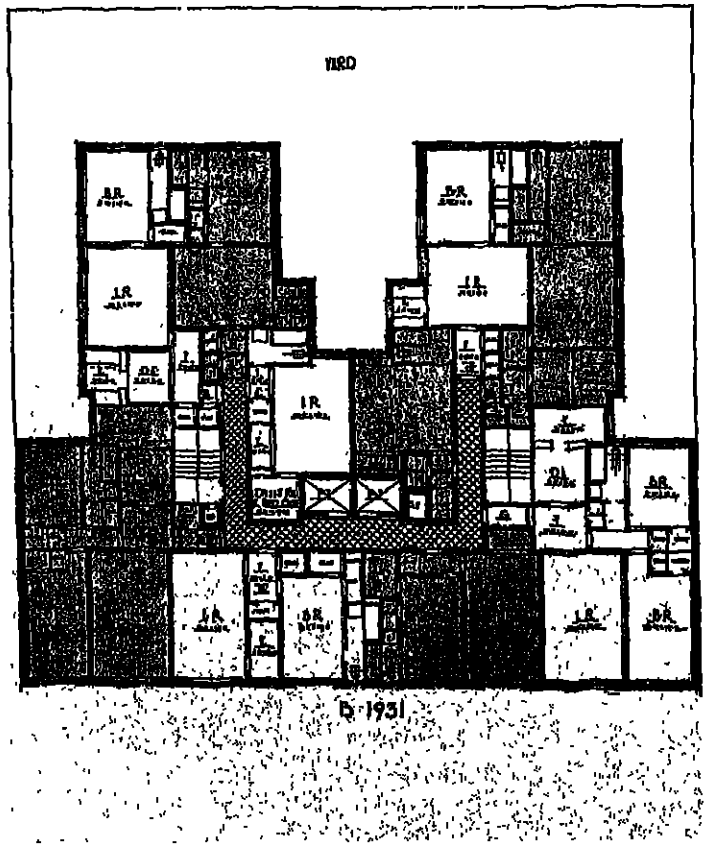


D 1930

PL. 18

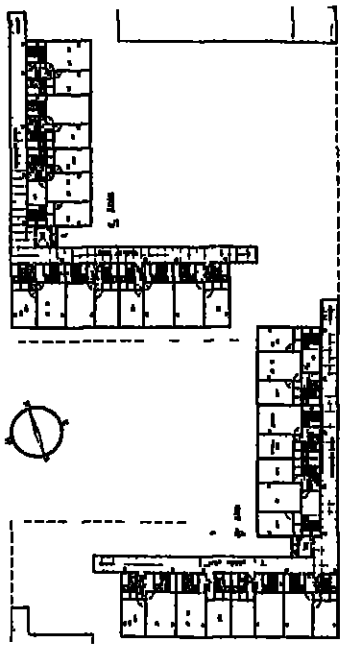


A 1930

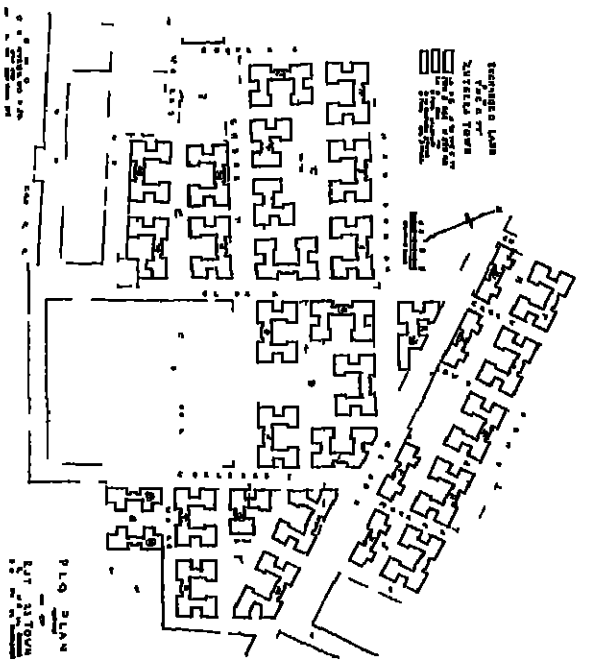


B 1931

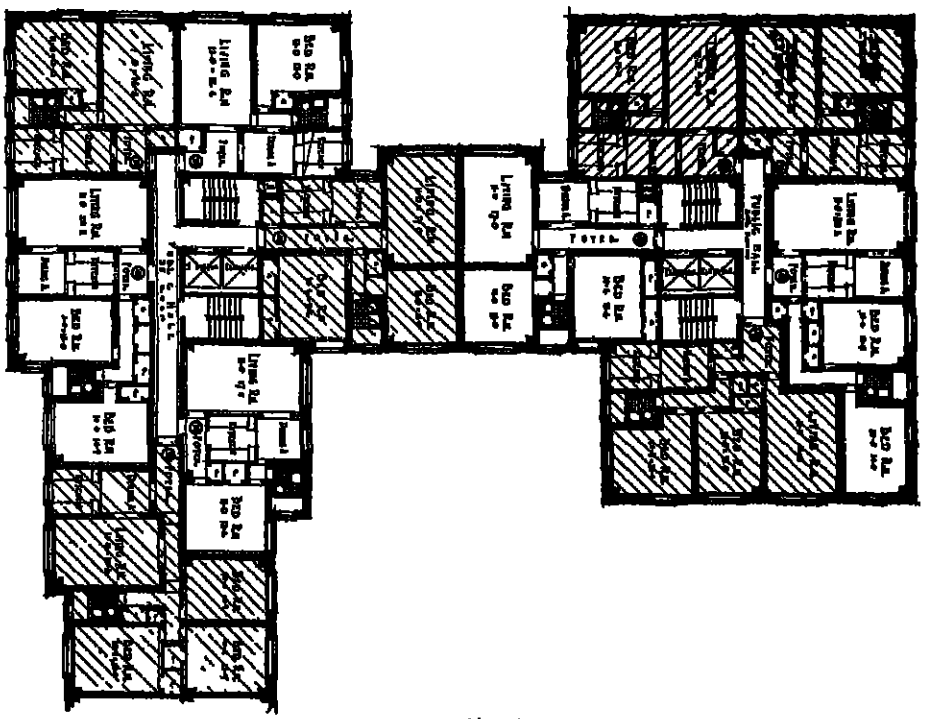
PL 19



A 1931

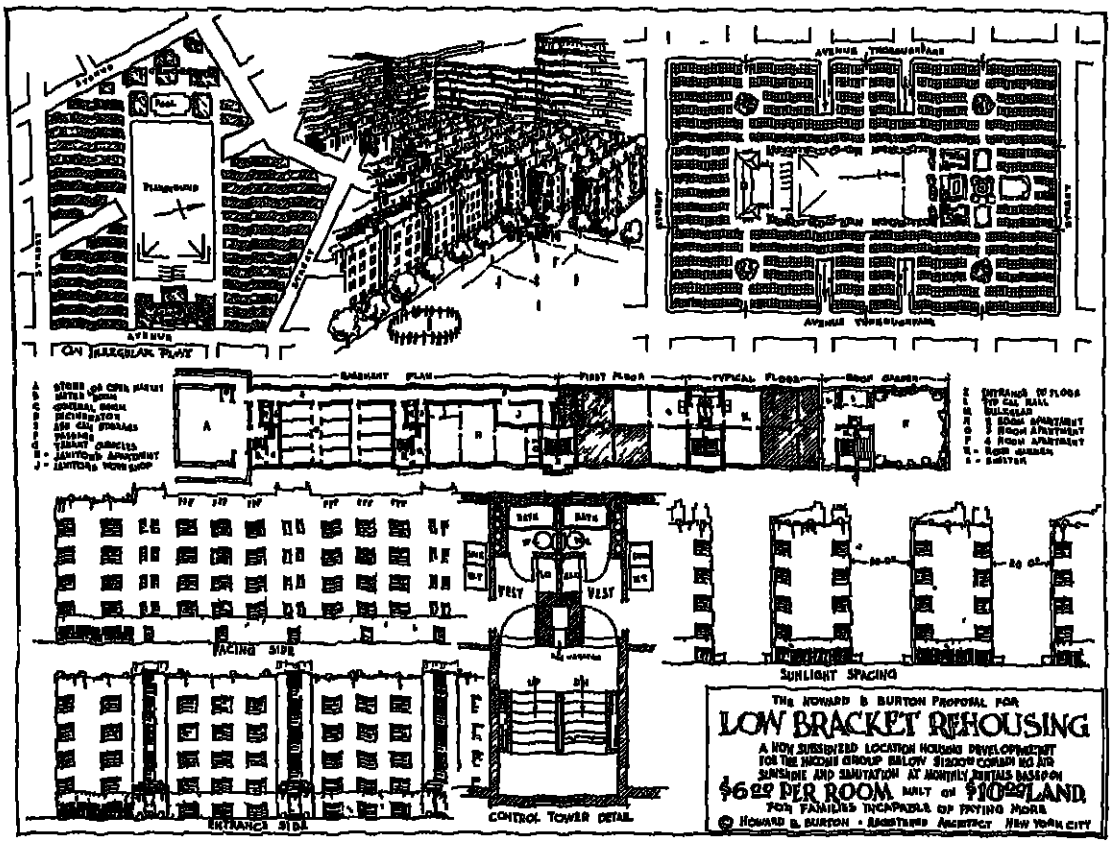


B 1932

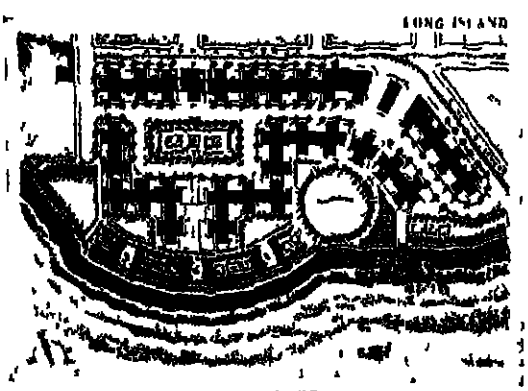


B' 1932

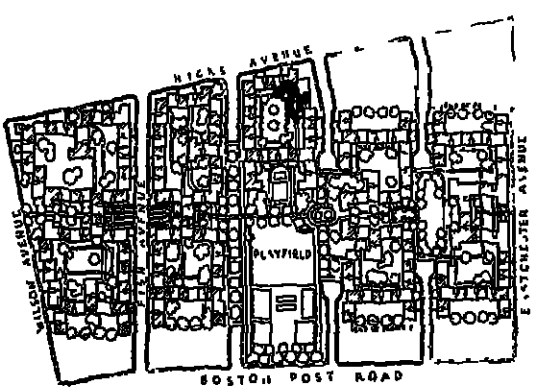
PL 20



A 1932

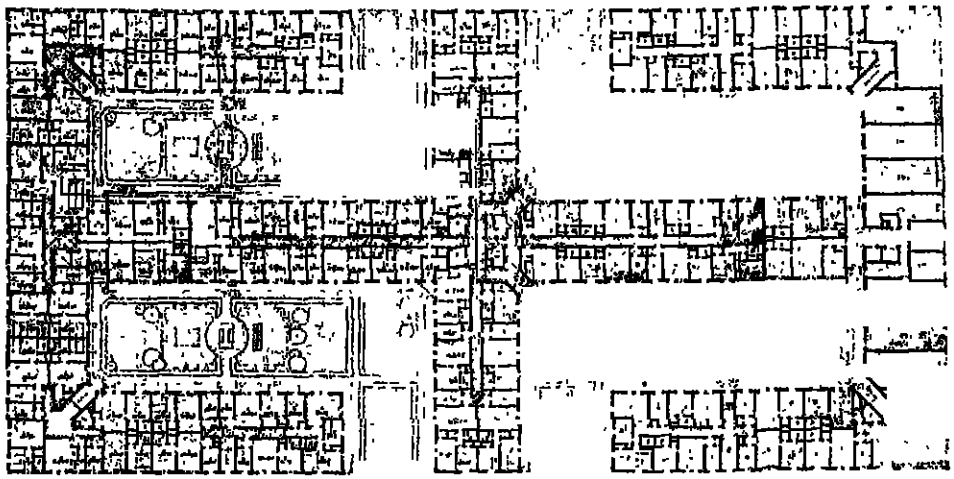


B 1933

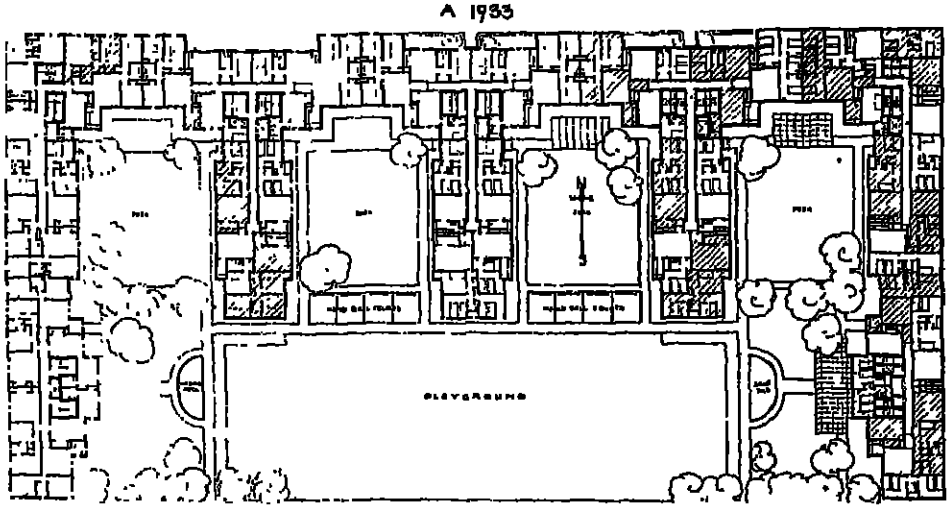


C 1933

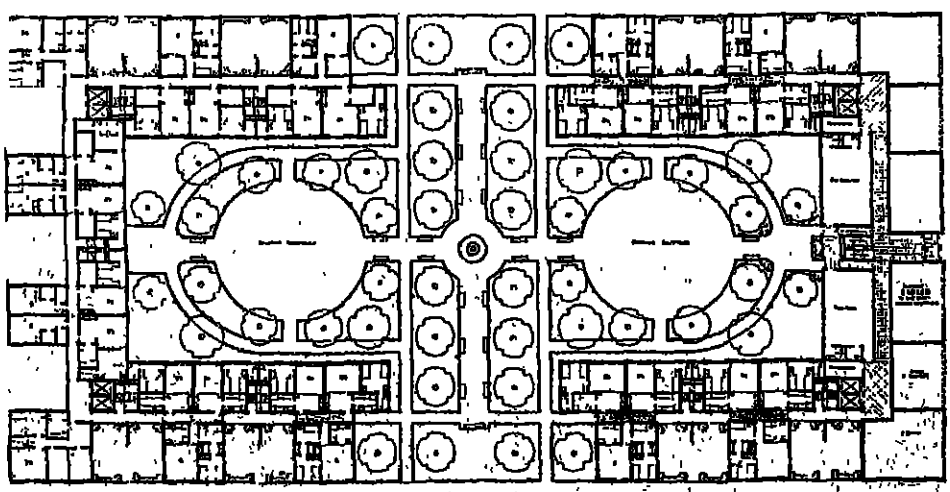
PL 21



A 1935

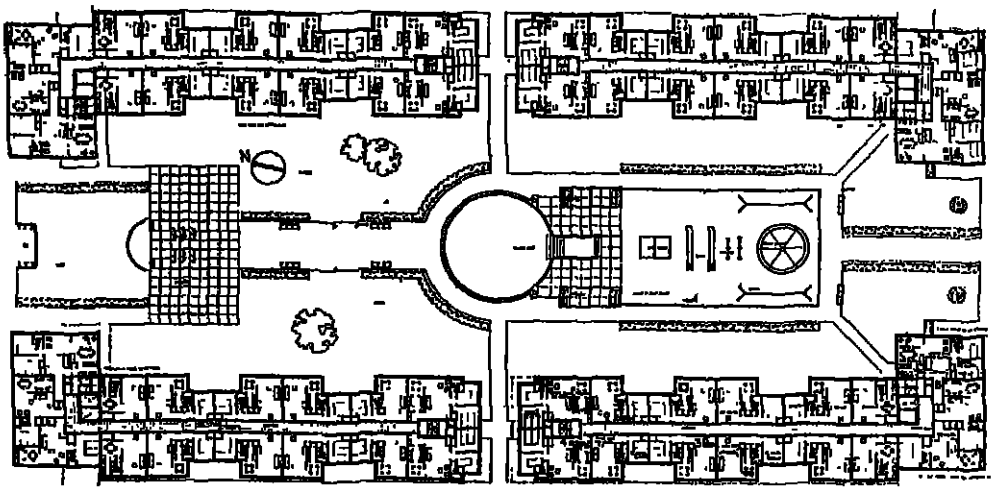


B 1935

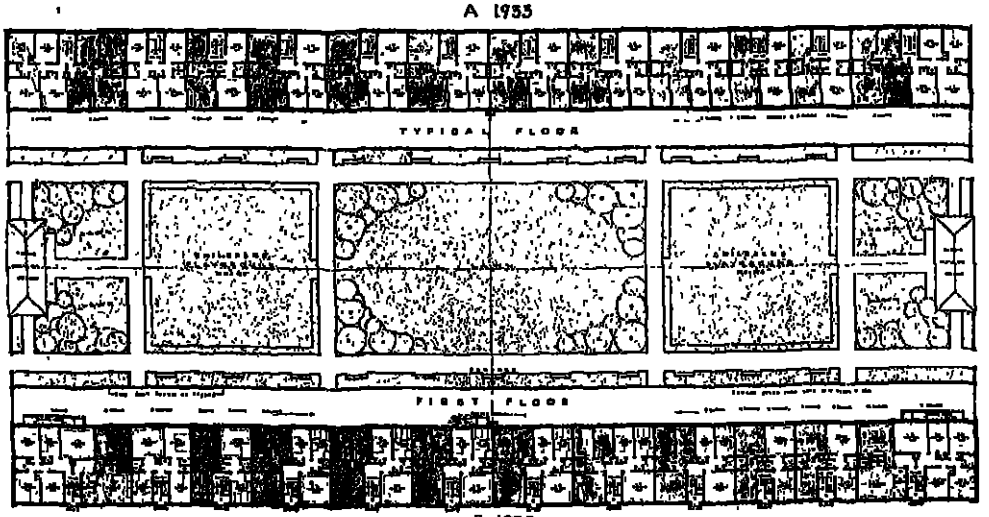


C 1935

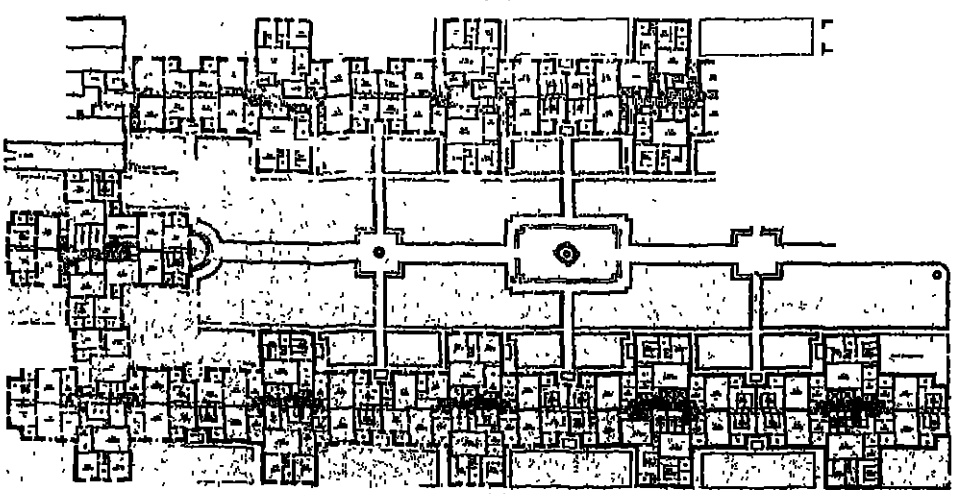
PL 22



A 1933



B 1933

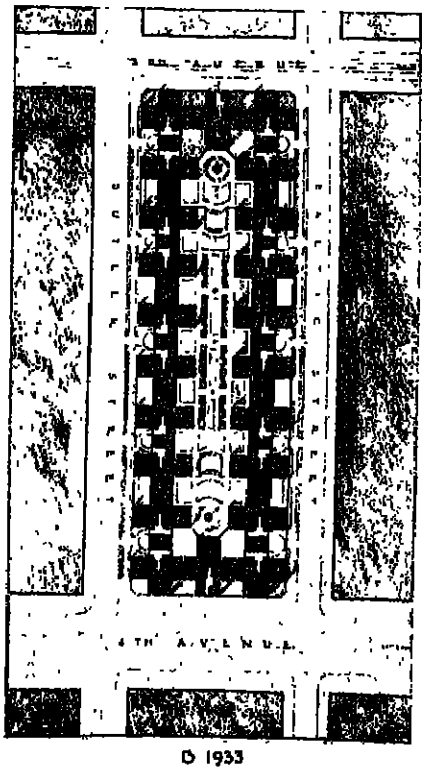


C. 1933.

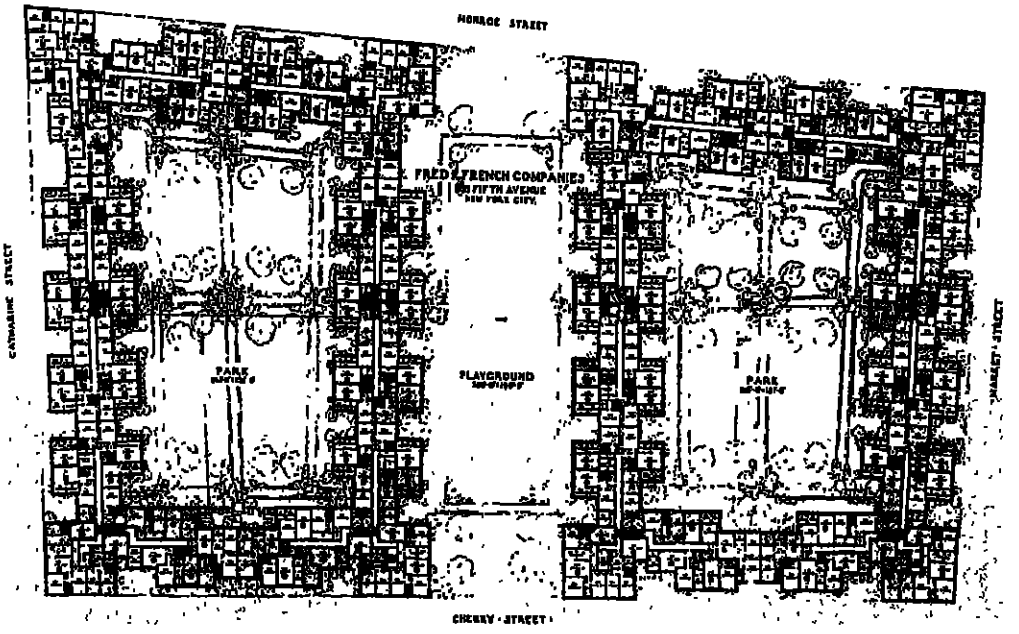
PL. 23



A 1933

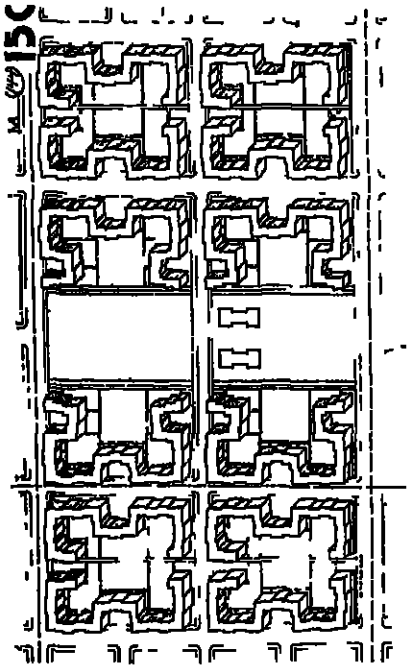


D 1933

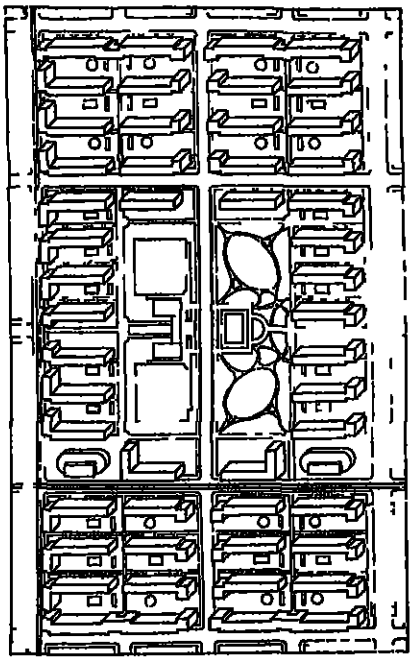


C 1938

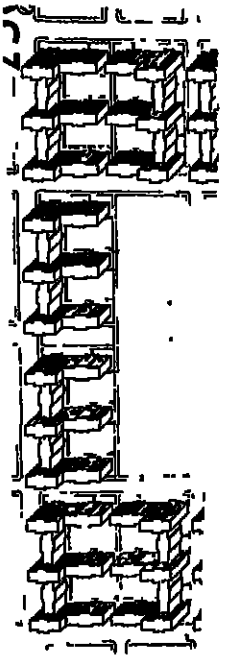
PL 24



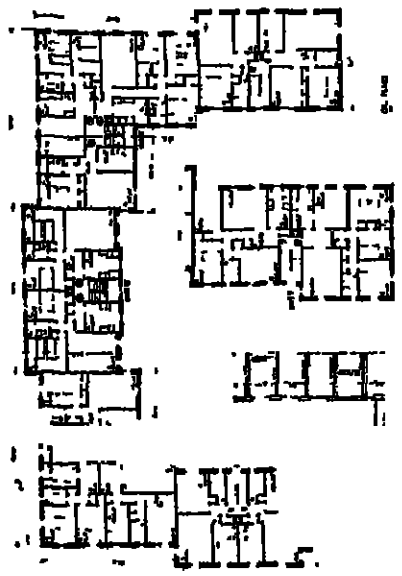
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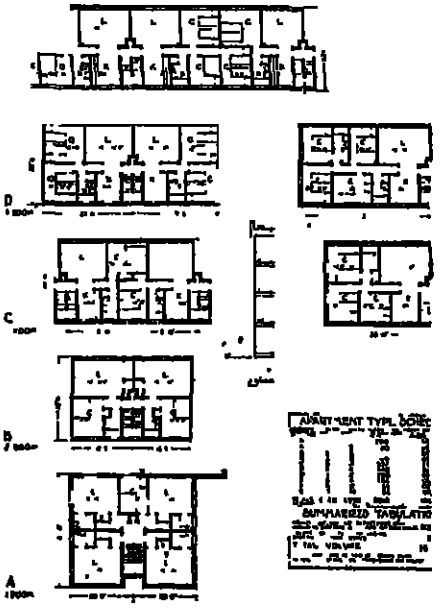
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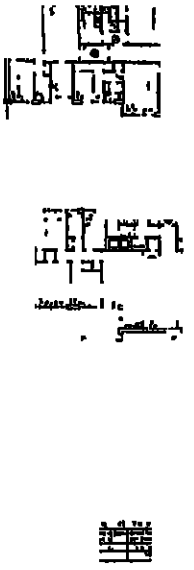
C 1934



A' 1934

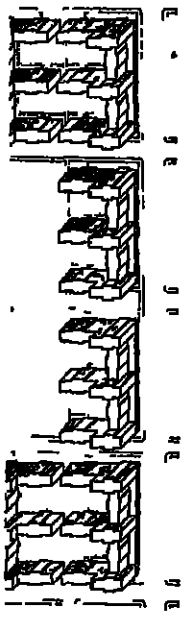


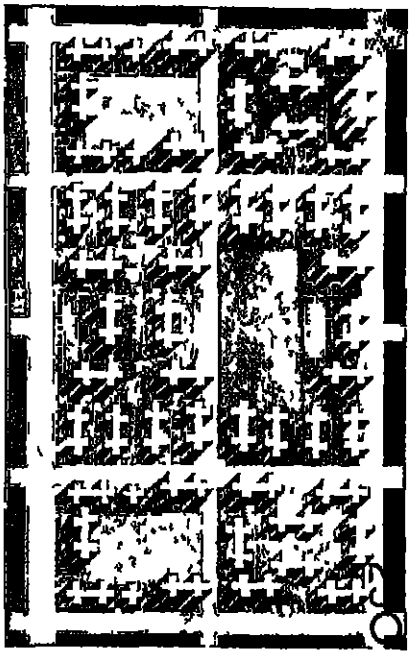
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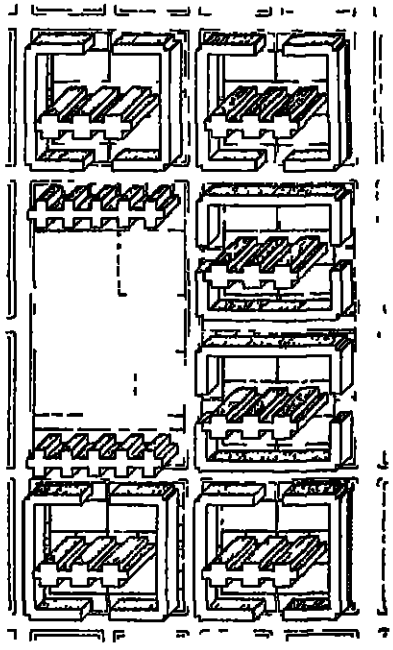
C' 1934

PL 25

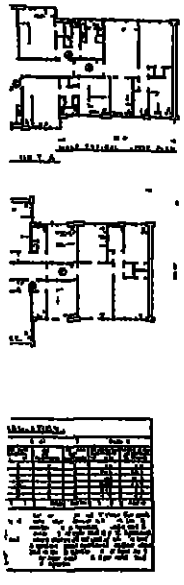


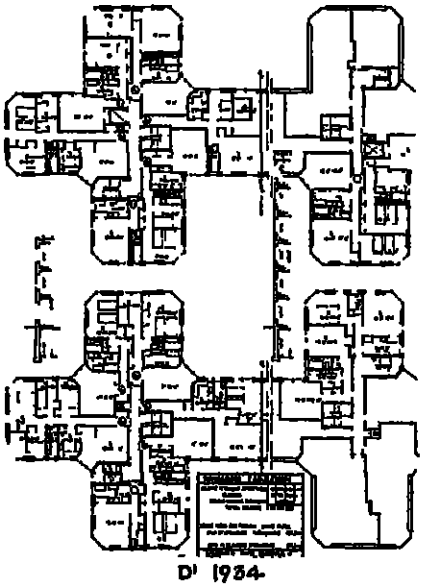


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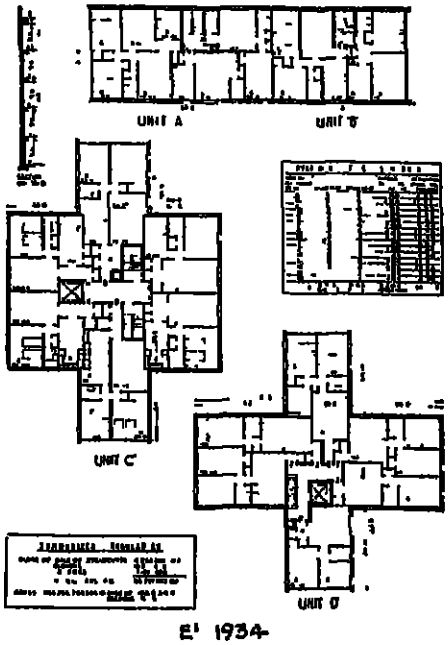


E 1934

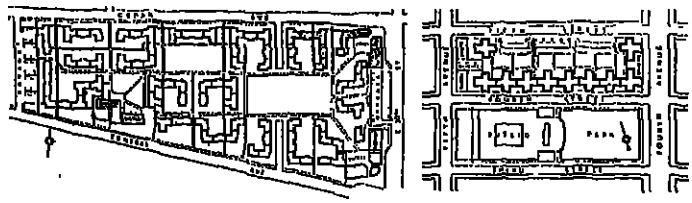




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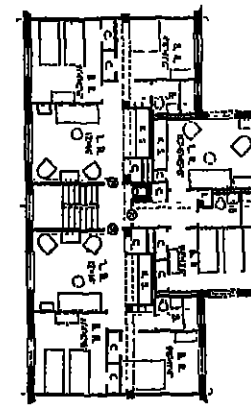


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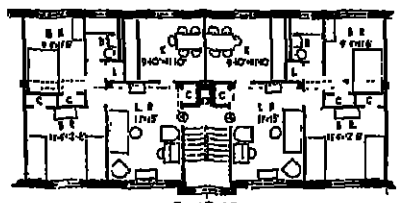


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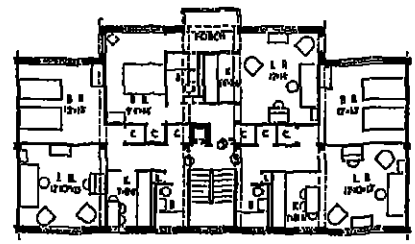
B 1935



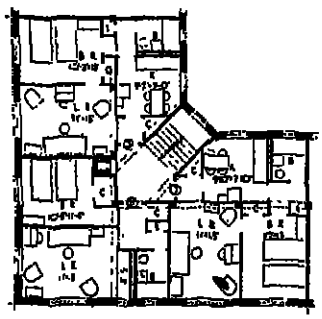
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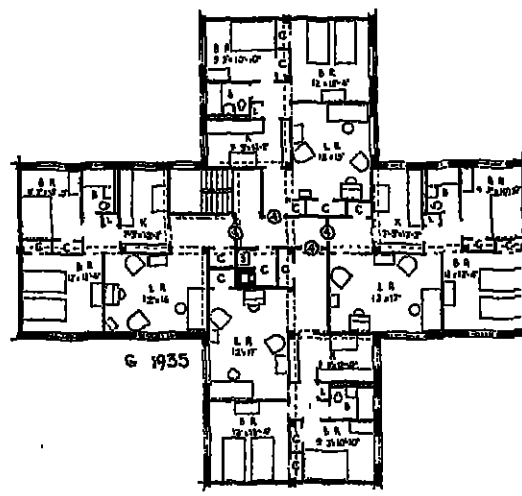
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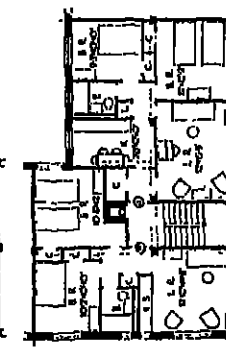
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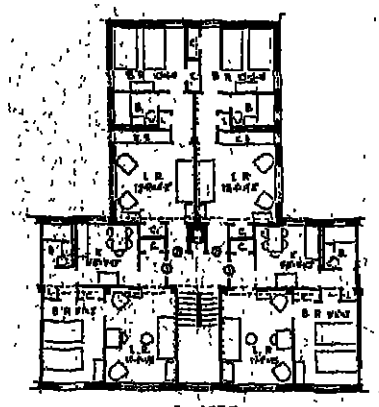
F 1935



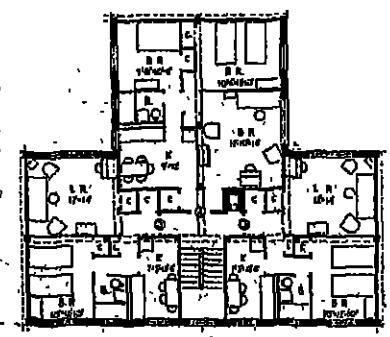
G 1935



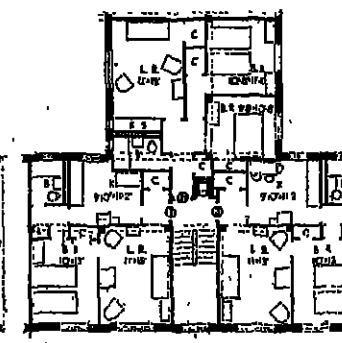
H 1935



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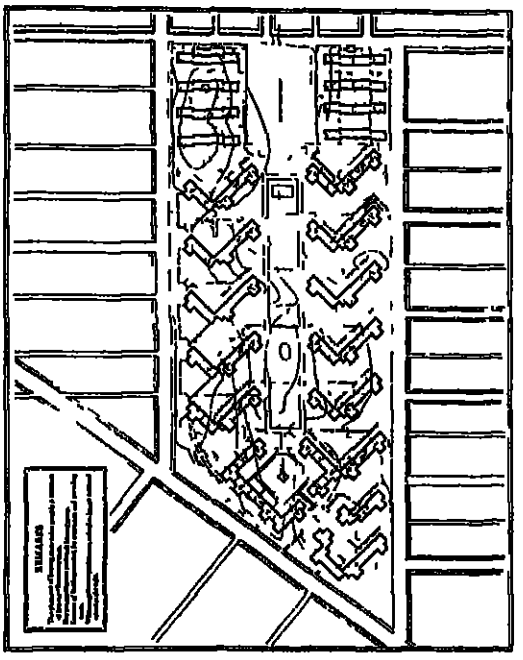


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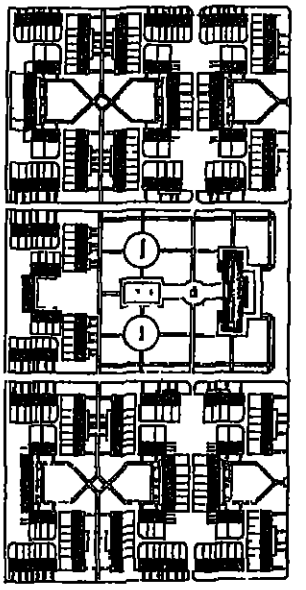


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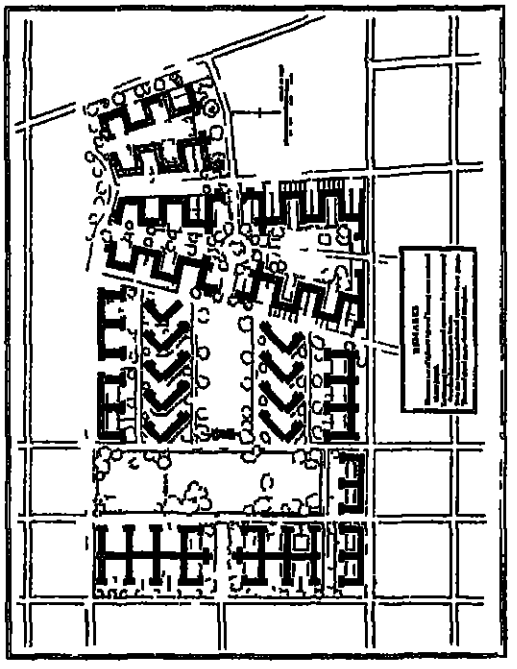
PL 26



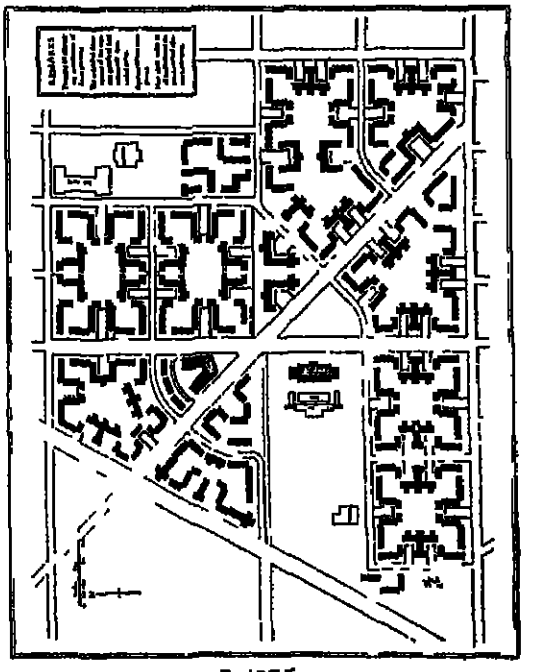
A 1935



B 1935

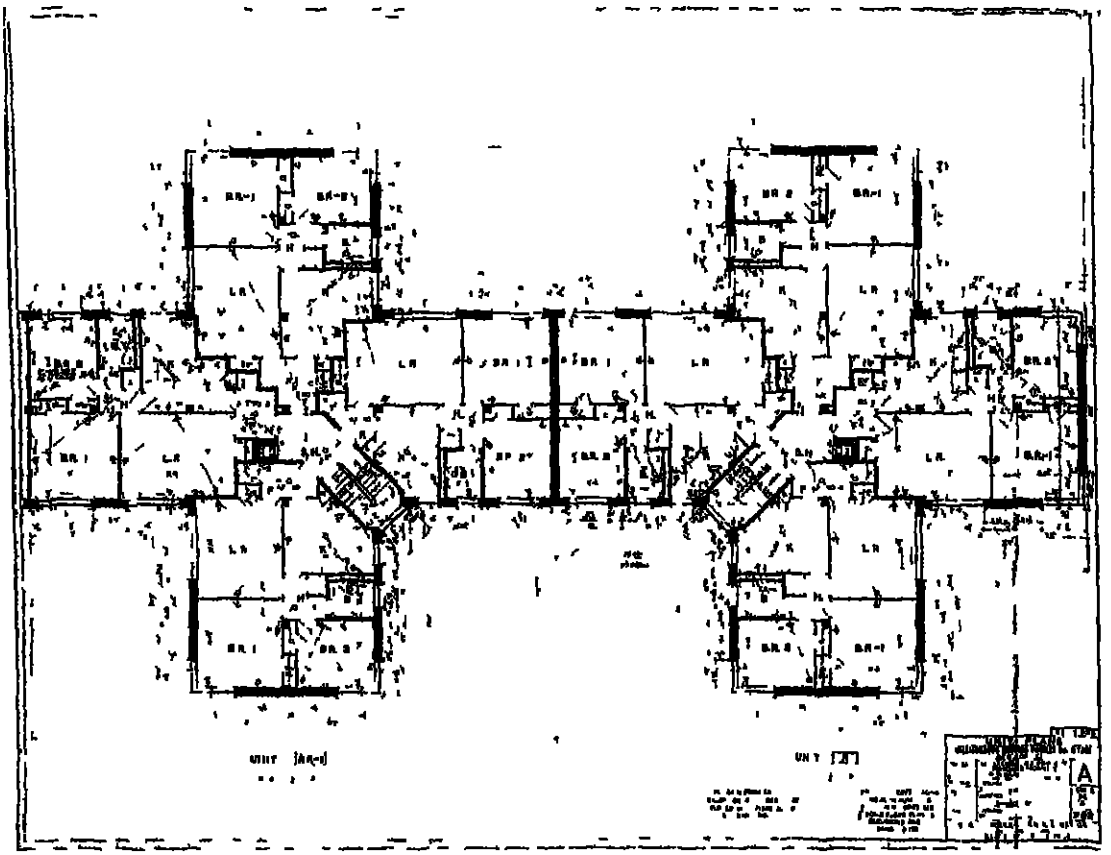


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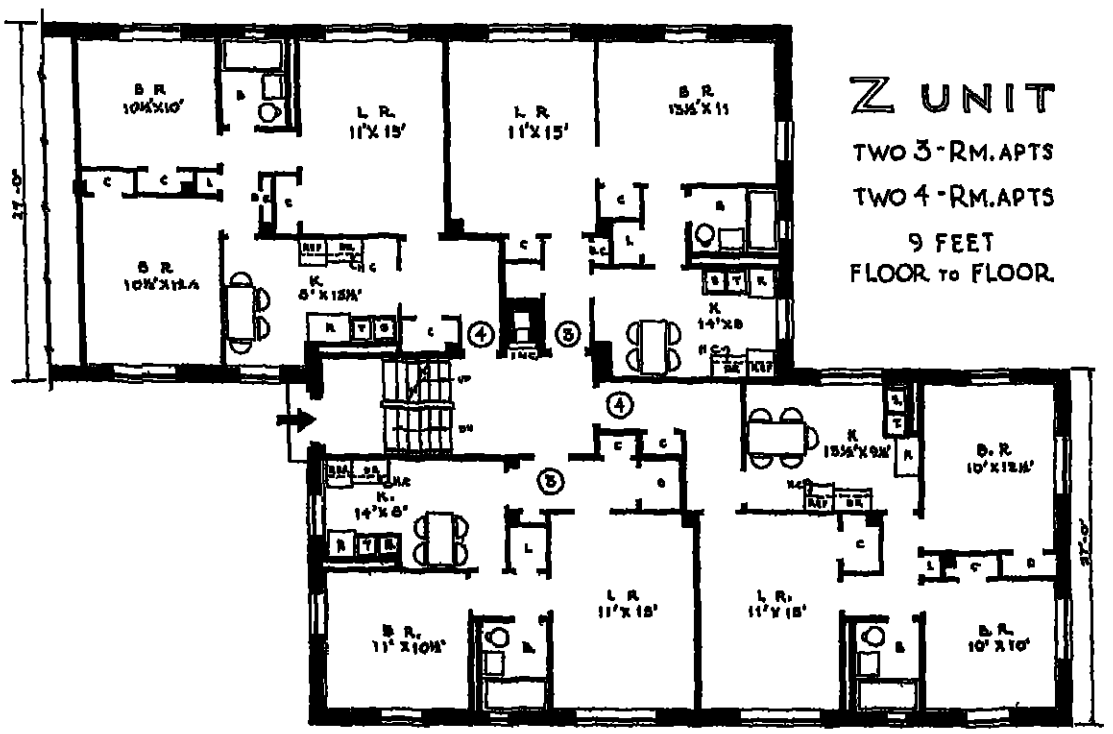


D 1935

PL 27

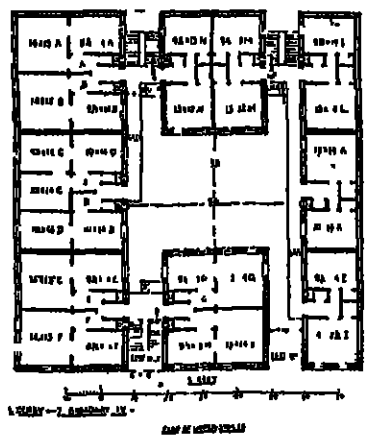


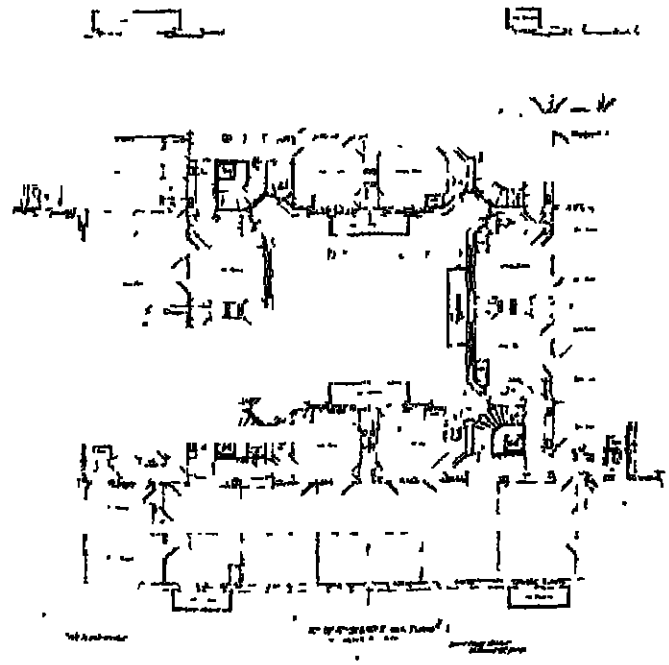
A 1935



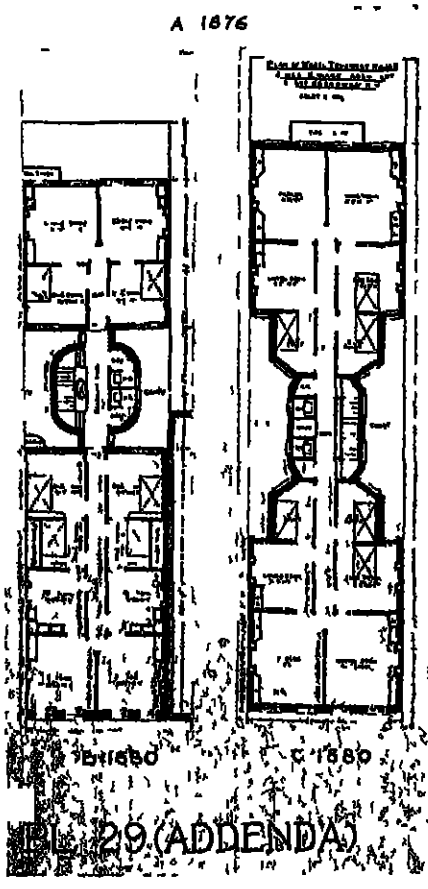
B 1935

PL. 28

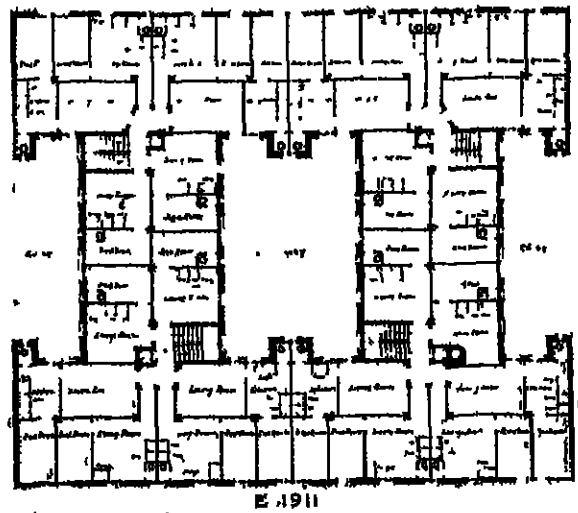




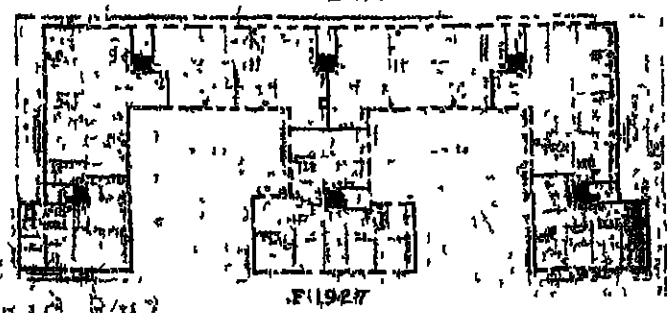
A 1876



D 1899



E 1911



F 1927

B 1680 C 1680

PL. 29 (ADDENDA)

PL. 29

NOTES ON PRECEDING PLANS (PLATES 1–29)

The preceding plans have been selected as characteristic of the various types of tenements in use in New York City since the tenement house, or multiple dwelling, became the established housing unit for families of wage-earners.

Whereas, undoubtedly, a few multiple family dwellings were erected before 1850, besides the one built in Water Street in 1833 and referred to in the following notes (Pl 1, F), and those referred to on p. 867, unfortunately no plans of such buildings are now available.

Although, generally speaking, the plans here reproduced have been selected, and chronologically arranged, to show successive steps in the development and improvement of tenements, it will be noticed that in some instances the plans show distinct retrogressions.

A few plans of *apartment* houses have been introduced for the purpose of comparison, and also a few characteristic examples of lot overcrowding and other notoriously bad conditions which have existed during this whole period, especially in the slums on the Lower East Side. As a general rule the plans of only such tenements as rent at the present time for $12 or less per room per month are included.

It is hoped that the following notes will be found useful, chiefly by indicating to students the sources of additional information. Examples of virtually all of the types of plans here reproduced, and several others, may be recognized in the frontispiece, "The Heart of the Lower East Side."

Pl. 1, A. *Prior to 1850.* Typical three- or four-story, one-family dwelling. Reproduced from diagram prepared for the Tenement House Exhibition held in 1900 by the Tenement House Committee of the Charity Organization Society, and from recollection of many such buildings visited by the author between 1895 and 1900, and since.

Pl. 1, B *Prior to 1850.* The same, converted into tenement for use of two families on a floor Provenance same as above.

Pl. 1, C *About 1850.* Converted one-family residence with rear tenement on same lot. Rear tenement probably erected at time of remodelling. Provenance same as above. Sometimes a rear tenement represents the original building, the new building being subsequently erected in the front yard.

Pl. 1, D. *After 1850.* "Railroad" type, one of the earliest types constructed as a tenement house. Twelve rooms to a floor. Provenance same as above.

Pl. 1, E. *After 1850.* Example of the worst type of "railroad" plan, in which four apartments of four rooms are found, twelve of which receive their sole light and ventilation through intervening bed-rooms. Provenance same as above. These same types, taken from actual buildings, can be found in many books on housing and in several contemporary reports.

Pl. 1, F. *1850–1851.* Gotham Court, Nos. 36–38 Cherry Street. Five stories, 126 two-room apartments, erected by Silas Wood. Reproduced from *Frank Leslie's Sunday Magazine*, June 1879, where an elevation and other drawings, as well as a description, will be found See also, for a further description, *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City* (New York, 1865), pp. 49–55. This description is quoted at considerable length in DeForest and Veiller, *The Tenement House Problem*, I, 78–81. This building, the earliest erected in New York City as a tenement of which plans have been found, became a notorious center of disease and crime. It was not demolished until 1896. Although the plan itself was not really bad, except that none of the apartments had through ventilation, the location of most of the rooms, upon two narrow alleys, which also furnished light and air to several overcrowded rear tenements on adjoining lots, resulted in particularly unsatisfactory conditions. Water-closets were underground, and received their light and ventilation through grilles in the pavement of the side courts. For views of Gotham Court, see Fig. 19, b and c See *ante*, p. 867, for description of first New York tenement, erected as such, in 1833.

Pl. 1, G. *1855.* Workingmen's Home, at Mott and Elizabeth Streets, on plot 75′ x 188′. Six stories, eighty-seven three-room apartments, John W. Ritch, architect. Reproduced from *Thirteenth Annual Report of the New York Association for Improving the Condition of the Poor* (New York, 1856). This building was erected by the Association for colored families, or at least was so occupied, and was the first so-called "model tenement" in New York. The upper floors (see Pl. 1 A and description) were identical with the ground floor here shown, except that apartments occupied the entire area. It will be noticed that the plan is not very different from that of Gotham Court, but that the approach to the apartment is by means of an outside hall, or covered balcony, with a stair at both ends, and that an interior room has been added — a curious retrogression; the side courts, however, were wider, and the immediate surroundings were much better. This is the first tenement in which water-closets were provided on each floor, and, so far as known, the only one built before 1879 having a water-closet for each family. The interior rooms were provided with small flues (4″ x 8″) carried to the roof. The building cost $60,000 and the land $30,000. The rents ranged from $5.50 to $8.50 per apartment per month. For elevation, see Fig. 114, a.

An earlier and more ambitious plan had been proposed by the A. I. C. P. in 1847, but was abandoned owing to lack of funds.

The editor of the *Morning Courier and New-York Enquirer*, under date of January 30, 1847, writing on the subject of "Dwellings for the Poor," and referring specifically to this earlier plan, says in part:

> We have already expressed the belief that buildings of this kind might be erected, which would afford the poor far better accommodations than they have at present, and at the same time yield a very handsome interest, in the shape of rents, upon the money invested. We are heartily rejoiced to learn, that the subject has engaged the earnest attention of the *"Association for the Improvement of the Condition of the Poor"*; and that a committee appointed by that Society has been prosecuting for some time past a close and careful inquiry into practicability of such provisions for the laboring poor of the city. The result of their investigation, we can state at present only in general terms. They propose to pur-

chase, in some eligible part of the city, a plot of ground 200 feet square; to erect upon this a block of buildings four stories high, divided in one direction into two parts by a passage twenty feet wide, and in the other direction into *four* parts, by three passages, twenty, ten and twenty feet wide respectively; — each of the eight buildings thus made, consists of three houses, — each house having a single entrance, with a hall, piazza in the rear for each story, and upon each floor *two* rooms 15 feet by 11; each room having two bedrooms 7 feet by 12½, with sink, water closet, &c. — Thus there would be, in the four stories of each house 24 rooms for as many families; — and the block would accommodate 192 families Very admirable provisions have been made for ventilation, for securing a constant supply of Croton water, for keeping the apartments of each family separate from those of every other — each one having even a good *cellar* entirely by itself — and generally for securing the greatest possible degree of comfort which the requisite limits will allow. Plans of the buildings have been prepared and the estimates made; and the result fully justifies the opinion we have expressed. It is found that these apartments may be rented for *one dollar* per week to each family, and yield a handsome income to the owners of the building

The project is yet in its inception; but the results already demonstrated leave little room to doubt that the benevolent and enterprising gentlemen who have it in hand, will carry it forward to complete success It is intended to form a chartered company which shall own the buildings, hire an agent to take care of them, collect rents, &c. &c., and share the profits. It cannot fail, we should think, to find general favor; and when carried out, it must prove highly beneficial to the immense number of our laboring poor. We shall watch its progress with great interest

Pl. 2, A. *About 1860.* Characteristic example of overcrowding of lot. Reproduced from *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City* (New York, 1865), pp. 135–136. Three tenements between Broadway and the Bowery, on a lot about 90′ x 100′ (8,100 sq ft.), with only 6 feet between the front and middle buildings and 1 foot between the middle and rear buildings. Many of the bed-rooms are about 40 sq. ft. in area.

Pl. 2, B. *1863.* Tenement said to have been erected in this year on Broadway near Central Park. Reproduced from *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City* (New York, 1865), pp. lxxxi–lxxxii, where it is cited as an example of an unsatisfactory type of building. The bed-rooms are even smaller than those shown on Pl. 2, A, some of them certainly well under 40 sq. ft. in area. Although this building is described in the *Report* as having been recently erected, the heavy walls dividing it into four distinct sections may indicate that it was remodelled from four existing buildings.

Pl. 2, C. *Before 1864.* Improved tenement at No. 107 West 24th Street. Reproduced from *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City* (New York, 1865), p. 204. This building was erected shortly before this time and was recommended as a model by the Council of Hygiene. Notice particularly the shaft ventilating the interior bed-rooms and also their comparatively large size, the smallest having an area of about 65 sq. ft.

Pl. 2, D. *1867.* The Stuyvesant, at Nos. 138–146 East 18th Street. Reproduced from plan supplied by the Stuyvesant Estate. The first high-class apartment house built in New York. Designed by Richard M. Hunt, the distinguished New York architect, who also designed a somewhat similar building on 13th Street. The Stuyvesant,

which became known as "The French Flats," was the forerunner of a considerable number of similar buildings (among them the Haight House at the corner of Fifth Avenue and 15th Street and the Stevens House on 27th Street between Broadway and Fifth Avenue), and had a marked influence on apartment-house planning in New York and elsewhere. Notice particularly the first appearance of two stairs, one of which was evidently intended as a service stair. This building, which consisted of two similar units on a plot 112′9″ wide, is still standing and is still occupied by the same class of tenants for which it was designed. A much more elaborate apartment house was designed about 1874, by Arthur Gilman, but evidently not built. For reproduction of the plan, see *Scribner's Monthly*, May 1874. Mr. Gilman, who seems to have been thoroughly familiar with the best types of European apartment houses of this period, was the architect of the Boston City Hall and one of the architects of the State Capitol at Albany. In 1868 he moved to New York, where he helped to design the old Equitable Building at 120 Broadway. The article in *Scribner's Monthly* also contains other interesting designs for apartment hotels and "co-operative residences." There is also an interesting article on "Model Lodging-Houses in Boston" in the *Atlantic Monthly*, June 1860, which contains as well plans of actual apartments. In this connection see also Dr. E. R. L. Gould's *The Housing of the Working People* (1895), pp. 207–211, for an interesting plan of a tenement house built in Boston in 1888, which is in some respects far in advance of anything in New York at that time.

Pl. 2, E. *Before 1874.* Common early type of 25-foot, two-flats-to-a-floor, building prevalent in the 1870's. Reproduced from *Scribner's Monthly*, May 1874, p. 66. This was an inexpensive flat rather than a tenement.

Pl. 3, A & B. *1876.* Home Buildings, erected by Alfred T. White at Hicks and Baltic Streets, Brooklyn. Wm. Field & Son, architects. Reproduced from contemporary lithograph in office of the Estate of Alfred T. White. The plan on the left shows the first group built, which was opened in February 1877; the group shown at the right was completed eight months later. The small plans reproduced as Pl. 3, B, show a type of tenement prevalent in London at this time, of which Mr. White's Brooklyn tenements were all adaptations. For an account of these buildings, see Alfred T. White's *Improved Dwellings for the Working Classes* (New York, 1879). For elevation, see Fig. 114, b.

Pl. 3, C, D, E, F, G. *1879.* Prize and other designs submitted in the tenement-house competition held by the *Plumber and Sanitary Engineer*, in December 1878, and exhibited to the public in February 1879. Reproduced from the *Plumber and Sanitary Engineer*, March, April, and June, 1879. Four prizes were given, and eight other plans were included in a list of the twelve best. Pl. 3, C, by James E. Ware, won the first prize; Pl. 3, D, third prize; Pl. 3, E, fourth prize, and Pl. 3, F and G, were placed respectively fifth and twelfth among the twelve. See pp. 907–911 for extracts from programme of this competition. For elevations of several of these buildings, see Fig. 116, a, b, and c.

The type of plan shown in the first prize design (C) became known as the "dumb-bell" or "double-decker" plan, and was more responsible than any other plan ever devised for retarding the development of better housing in New York, thousands of

tenements erected during the succeeding decade and a half having been closely modelled upon this prototype (see Pl. 6, A).

It will be noticed that this plan has one water-closet for each two families and that this is placed in the stair hall Plan D has a separate water-closet for each apartment, opening from the entrance hall or vestibule within the apartment. In Plan E the water-closets are placed in a separate hall (not the stair hall) outside the apartment Dumbwaiters first appear on these plans. In Plan F access to the apartments is by means of an open porch or balcony. Plan G marks the first appearance of long side courts open to the rear and providing direct light and ventilation for all rooms. The *Plumber and Sanitary Engineer*, under date of January 15, 1880, recorded that during the preceding year 399 tenement houses valued at $3,500,000 were built in New York, and added: "The plans of these buildings show a vast improvement over those previously erected — thanks to the late competition." In the February 1 number, two plans are reproduced from drawings by James E. Ware, one of which, for two 25-ft. units (reproduced as Pl. 29, B), is described as having just been finished at a cost of $12,000 for each building The other, which is reproduced as Pl. 29, C, is a great improvement over Mr. Ware's prize-winning design and is probably the first 25-ft. tenement in which all of the rooms (12) receive direct light and air from a central court on the lot line.

Pl. 4. *1879.* Plan for a colony of tenements, submitted by George B. Post, the well known New York architect, and George W. Dresser, C.E. Reproduced from the *Plumber and Sanitary Engineer*, April 1879. This is the first suggestion for a block of independent model tenement units and the first appearance of Mr. Post as a designer of tenement houses. He later served as the architectural member of the 1894 Tenement House Commission.

Pl. 5, A. *1879.* Said to be one of the earliest plans approved by the Board of Health under the law passed in June 1879, and apparently the first plan built upon having the stair hall carried to the light. Reproduced from *The Tenement House Problem in New York. For the information of the Commission on Legislation affecting Tenement and Lodging Houses, provided for in Chapter 84, Laws of 1887. December 14, 1887* (New York, 1887). This and plans Pl. 5, B, C, D, and E are curious retrogressions from the plans premiated in the competition held earlier in the same year by the *Plumber and Sanitary Engineer*. They apparently show, however, successive steps in actual buildings erected between 1879 and 1887, although it is possible that they are holdovers from the immediately preceding period.

Pl. 5, B. *1880–1887.* Pathetically inadequate attempt to light all interior rooms on a "court." Reproduced from *The Tenement House Problem in New York*, etc (New York, 1887). This plan seems to be the first to show a sink and wash-tray in each apartment, as apparently first required by the regulations supplementing the plumbing law of 1881. It will be noticed that this plan and that shown as Pl. 5, A, have no water-closets, but are dependent on yard privies.

Pl. 5, C. *1880–1887.* Type approved by the inspectors under the law of 1879, but probably not built before 1881, as it shows the sinks and wash-trays required by the plumbing

regulations of that year. Reproduced from *The Tenement House Problem in New York*, etc. (New York, 1887).

Pl. 5, D. *1880–1887*. Reproduced from *The Tenement House Problem in New York*, etc. (New York, 1887) It will be noticed that a serious attempt has been made in this plan to combine and concentrate the plumbing.

Pl. 5, E. *1880–1887*. Reproduced from the first of three "Scrap-books of Architects' Plans for Apartment and Tenement Houses," acquired by the New York Public Library from Columbia University in 1916, and dated in manuscript on the fly-leaf 1880(?)–1900(?). This seems to be the first appearance of interior courts sufficiently large to adequately light and ventilate the interior rooms. The location of the water-closets is peculiar, as they can be reached only by passing through a bed-room. Had they been placed at the other end of the courts this difficulty would have been obviated.

Pl. 5, F. *1880–1887*. Provenance same as Pl. 5, E. This is a novel and ingenious plan and gives a larger number of rooms, with better light and ventilation, than anything suggested up to this time for a 25-ft. lot.

Pl. 5, G. *1880–1887*. First appearance of a plan having the stair and public hall, and *all* the rooms, lighted directly on interior side courts. Reproduced from *The Tenement House Problem in New York*, etc. (New York, 1887). It will be noticed that the plumbing is highly concentrated, although the water-closets are placed outside of the apartments.

Pl. 5, H. *1879–1881*. Group of buildings erected by the Improved Dwellings Association, on First Avenue between 71st and 72nd Streets. Reproduced from E. R. L. Gould, *The Housing of the Working People* (Eighth Special Report of the Commissioner of Labor, Washington, 1895). This was the first group of "improved" tenements erected on Manhattan Island and the forerunner of the modern model tenement, introduced by Mr. Flagg sixteen years later (see Pl. 7, C). The Improved Dwellings Association was organized in 1879, as a result of the tenement-house competition held earlier in that year, the activities of the State Charities Aid Association, and the report of the Mayor's Committee of Nine. The buildings, which are still in use, are six stories high; those on First Avenue were designed by Vaux & Radford and those on the streets were a modification by the same architects of a design originally prepared by George W. DaCunha. They contain accommodations for 220 families in 638 rooms. The cost of the land was $45,000 and of the buildings $225,000. Described in the *First Annual Report of the N. Y. Sanitary Reform Society* (New York, 1880). Mr. DaCunha's original plan is reproduced in *The American Architect and Building News*, April 17, 1880. For elevation, see Fig. 116, d. See also Fig. 38 for appearance of the buildings in 1935.

Pl. 6, A. *1887*. Type of tenement based on prize plan of 1879 (Pl. 3, C), and prevalent from 1887 to 1900; during this period several thousand houses of this type were built, a large portion of which are still occupied (see Frontispiece). Reproduced from *The Tenement House Problem in New York*, etc. (New York, 1887). This plan, which represents the ultimate and most popular form of the "dumb-bell" type, is repro-

duced as an example of the most widely used type adopted after the Board of Health's regulations of April 11, 1887.

Pl. 6, B *1887.* Houses erected at 338–344 Cherry Street by the Tenement House Building Company and opened in December 1887. Reproduced from *The Tenement Houses of New York City* (pamphlet published by the Company, 1891). The second group of improved tenements erected on Manhattan Island. No upper floor plan of this group of tenements has been found. An elevation and a view of the central court of these buildings will be found on Fig. 117, a and b. These photographs were made in 1929 when the property was bought and remodelled by Mr. William Sloane Coffin.

Pl. 6, C. *1890.* Riverside Buildings, erected by Alfred T. White at Joralemon Street, Columbia Place, and Furman Street, Brooklyn Reproduced from *The Riverside Buildings of the Improved Dwellings Company* (pamphlet issued by the Company, 1890). These apartments are practically identical with the second group of Home Buildings, erected in 1876, and the Tower Buildings, erected in 1878–1879. This is the first group of improved tenements in Greater New York built about a large open space or park. For elevation and court view, see Figs. 114, c, and 115, b. All of Mr. White's buildings, and also the Astral Apartments erected at Franklin, India, and Java Streets, Brooklyn, by Pratt Institute and opened in 1887, were based on the London[1] type prevalent at that time, with stairs open to the street (Pl. 3, B).

Pl. 7, A. *1894.* Plan for tenement on a 75-ft. lot designed by Ernest Flagg. This and the following plan are taken from an article by Ernest Flagg in *Scribner's Magazine*, July 1894, which includes also a similar plan for a 50-ft. lot. This article exerted a widespread influence by attracting interest to the possibilities of better housing, principally by the use of larger lots and units. It may be regarded as the starting point in the designing of modern low-rent model tenements in New York.

Pl. 7, B. *1894.* Plan for tenement on a 100-ft. lot designed by Ernest Flagg. Reproduced from *Scribner's Magazine*, July 1894. This plan is the prototype of many succeeding tenement-house plans. One of the novel features is the arrangement of the toilets, which are reached from a balcony connecting each two apartments. This feature, however, was never embodied in any of the buildings constructed on this plan.

Pl. 7, C. *1896.* A 100-ft. unit of the improved Flagg plan which won first prize in the competition held by the Improved Housing Council in 1896, and which was used for a group of several units completed in 1898 at 217–233 West 68th Street and 214–220 West 69th Street by the City and Suburban Homes Company. Reproduced from the working drawings supplied by Mr. Flagg. Six stories, 372 apartments, 1,107 rooms. The average size of the living-rooms is 140 sq. ft. and of the bed-rooms 111 sq. ft. This, as has already been noted, is the starting point of modern model tenement-house planning in New York. See pp. 911–913 for extracts from competition programme. For elevation, see Fig. 119, a. See also Pl. 29, D, a variant in which all of the apartments are reached from the same level. Mr. Flagg also designed the first fireproof

1. This type was introduced by Mr. George Peabody, the Boston banker and philanthropist, who spent many years in business in London.

tenements in New York City, erected in 1899 on Tenth Avenue between 41st and 42nd Streets by the New York Fireproof Tenement Association. These were similar in design but contained two more rooms to a typical floor. An elevation and a floor plan of these buildings are reproduced in the *Architectural Record*, April 1902. *Cf.* Pl. 29, E, plan of two 50-ft. fireproof units built by Mr. Flagg in 1911 on West 47th Street.

In a letter to the author, dated June 18, 1935, Mr. Flagg says:

> If I were to diagnose the present tenement situation I should say that it is suffering, and has been suffering for the last thirty-five years, from an overdose of reform. . . . The reformers, with the intention of improving living conditions, do the very reverse. The new houses are all right for a limited number who can pay higher rent, but are beyond the reach of the great mass of people, who are thus compelled to live in the squalid old buildings. A more moderate course would, I think, have produced far better results. Restriction after restriction has been piled on, so that now we have an article so superlatively good that it is practically useless. . . .
>
> I don't think any reform can be successful which disregards sound economic principles. If the reformers had been content with houses of a type which could be built and operated at a profit upon rents which the ordinary tenement dweller could pay, they would have multiplied, as did the old houses, but having removed an incentive to build, the tenement evil still remains with us.

Mr. Flagg further states that his fireproof tenement house, built in 1911 as an experiment on a 100′ x 100′ plot in West 47th Street, cost practically the same as four 25′ units of the old "dumb-bell" type, and has ever since been rented at a good profit, at rents competing with those in old buildings in this neighborhood. The plan of this building (Pl. 29, E), recently demolished by the New York Central R. R. in connection with its new right-of-way, was very similar to those reproduced as Pls. 7, C, and 29, D, but contained 56 in place of 44 rooms to a floor, a result which was obtained by using somewhat smaller rooms, and by entering the toilets directly from the living-rooms.

He concludes:

> Of all means used to stimulate building it seems to me that tax exemption is the worst, because the most unjust. It simply means that the taxes which the exempt property ought to pay must be borne by others, who must also compete on unfair terms with the exempted property. When the natural law of supply and demand is disregarded, there is sure to be trouble.

Pl. 7, D. *1896.* A 100-ft. unit designed by James E. Ware, which was placed second in the competition held by the Improved Housing Council in 1896 and was used in modified form for several buildings completed in 1900 on First Avenue between 64th and 65th Streets by the City and Suburban Homes Company (*cf.* Pl. 9, A). Reproduced from *Review of Reviews*, December 1896. The entrances to the four sections of the plan are through the open court leading from the street, not from the yard, as the plan, which was inadvertently reversed in printing, seems to indicate. Both the Flagg and the Ware plans are shown and discussed in *Architecture and Building*, January 2, 1897. This may be regarded as a refinement of the Flagg plan. As actually built the open court leading to the street was omitted, thus securing two additional rooms on each

floor above the first. In later buildings a passage on the ground floor was substituted for the open court — for example, in the two units of the York Avenue (Avenue A) development at the corner of 79th Street and Marie Curie Avenue (see Fig. 39, a).

Pl. 7, E. *1896–1899.* Plan designed by Percy Griffin. Reproduced from *Municipal Affairs*, March 1899. *The original plan, of which this is a re-study, was placed third in the* competition of 1896.

Pl. 7, F. *1896.* Plan made by I. N. Phelps Stokes in Paris in this year, while studying housing and economic planning at the École des Beaux-Arts (1894–1897). Submitted in the competition held by the Improved Housing Council, and shown in the exhibition held in February 1900 by the Tenement House Committee of the C. O. S. (See elevation, Fig. 118, a.) Reproduced from the original drawing in possession of the author. In 1900 Howells & Stokes prepared plans for the City and Suburban Homes Company for a group of four of these units, to be built on the Upper East Side, but owing to complications growing out of the Spanish-American War this group was never built. One of the principal features of the plan was the approach from the open stair to the apartments facing the street and yard by means of balconies dropped 18" below the floor levels so that the head of a person approaching these apartments was well below the 4-ft. sills of the windows, thus securing greater privacy than would ordinarily be the case with balcony approaches.

Pl. 7, G. *1899.* This plan, which was accompanied by a charming perspective of the little Italian patio on which the inner rooms opened (see Fig. 118, b, c), was prepared by Mary Nevan Gannon and Alice J. Hands; it caused widespread and favorable comment, but unfortunately never was built upon. Reproduced from *Municipal Affairs*, March 1899.

Pl. 8, A. *1900.* The first prize design, by R. Thomas Short, in the competition conducted in connection with the housing exhibition held in February 1900 in the old Sherry Building on the southwest corner of 37th Street and Fifth Avenue by the Tenement House Committee of the C. O. S. Reproduced from *Architecture*, March 1900. The programme of this competition was written by the author, who acted as professional advisor. Over 170 architects submitted designs for tenements on 25-, 50-, 75-, and 100-ft. lots. The second prize was awarded to Israels & Harder for their 75-ft. unit (Pl. 8, B), and three third prizes were awarded — to Covell & Smith for a 100-ft. open stair unit (Pl. 8, C), Joseph Wolf for a 50-ft. unit, and Israels & Harder for a 50-ft. unit. A prize for the best plan on a 25-ft. lot was awarded to George Sébille, a French architect who had never visited the United States. See pp. 913–914 for extracts from the programme of this competition.

Pl. 8, B. *1899–1900.* Second prize design in above competition, by Israels & Harder for a 75-ft. unit. Reproduced from *Architecture*, March 1900.

Pl. 8, C. *1899–1900.* Third prize design, by Covell & Smith, for a 100-ft. unit in above competition. Reproduced from the *American Architect*, March 10, 1900. This is the first appearance of the so-called "open stair" tenement and was designed by Henry Atter-

bury Smith. The plan caused a great deal of discussion, because of the ventilating of the toilets on the open stairways, and finally was turned down by the Building Department, although many buildings have since been erected on this plan, modified by the addition of vent shafts or of windows opening on courts (see Pls. 14, A, 16, A, 18, A).

Pl. 8, D. *1900.* A 100-ft plan submitted by Israels & Harder in the C. O. S. competition and one of the dozen selected by the jury as the best. Reproduced from photograph in the author's set of these selected plans. This is the first appearance of toilets receiving their light and ventilation over closets.

Pl. 8, E. *1900.* One of the twelve plans selected as the best in the competition held by the C. O. S. Reproduced from photograph in the author's collection.

Pl. 8, F *1900.* One of the twelve plans selected as the best in the competition held by the C. O. S. Reproduced from photograph in the author's collection. The first low-rent tenement plan in which bathrooms appear.

Pl. 8, G *1900.* Plan by Joseph Wolf selected as one of the twelve best submitted in the competition held by the C. O. S. Reproduced from photograph in the author's collection. The author of this plan received a supplementary third prize for his 50-ft. unit, which was practically identical with one-half of the 100-ft. unit here shown. This is the first model tenement plan having twenty-four rooms to a 50-ft. unit.

Pl. 9, A. *1900.* Revised Ware plan (corner unit). Built in this year on First Avenue and 64th Street in a group of buildings erected by the City and Suburban Homes Company. Reproduced from plan supplied by the Company.

Pl. 9, B. *1901.* Re-study (24 rooms) by Harde & Short of R. Thomas Short's first prize design (Pl. 8, A). Prepared at the request of the Tenement House Commission to test the provisions of the proposed new tenement-house law. Reproduced from *Advance Sheets of Part of the Report of the Tenement House Commission. Printed privately for use of the Commission.* It is doubtful whether the two additional rooms justify the elimination of the court open to the street. This plan, unfortunately, was never built upon.

Pl. 9, C. *1901.* Harde & Short block plan showing various re-studies of their competition plans. Prepared at the request of the Tenement House Commission to test the provisions of the proposed new tenement-house law. Reproduced from photograph in possession of the author.

Pl. 10, A. *1901.* Study by Joseph Wolf. Prepared at the request of the Tenement House Commission to test the provisions of the proposed new tenement-house law. Reproduced from *Advance Sheets of Part of The Report of the Tenement House Commission. Printed privately for use of the Commission.*

Pl. 10, B. *1901.* Study by Israels & Harder. Prepared at the request of the Tenement House Commission. Reproduced from *Advance Sheets of Parts of The Report of the Tenement House Commission,* where it is erroneously assigned to George S. Drew.

Pl. 10, C. *1901.* Study by George S. Drew. Prepared at the request of the Tenement House Commission. Reproduced from *Advance Sheets of Part of The Report of the Tenement House Commission.*

Pl. 10, D. *1901.* Study by I. N. Phelps Stokes. Prepared at the request of the Tenement House Commission. Reproduced from original drawing in the possession of the author.

Pl. 10, E. *1901.* Study by Ernest Flagg Prepared at the request of the Tenement House Commission. Reproduced from *Advance Sheets of Part of the Report of the Tenement House Commission.*

Pl. 11, A. *1901.* Suggestion submitted as part of the Report of the Tenement House Commission by I. N. Phelps Stokes for a block development in which the street frontages, 40 ft. deep, were to be sold, with restrictions, for private development and the center of the block retained by the city as a small public park, 120′ x 200′. Reproduced from Robert W. DeForest and Lawrence Veiller, *The Tenement House Problem, including the Report of the New York State Tenement House Commission of 1900* (New York, 1903), II, 59–60, where the following description is given:

> The 25-foot lot has been accused of responsibility for much of the evil that exists in the condition of New York tenement houses. While this to a certain extent is true, it must be borne in mind that it is not [so much] the width of the lot, but the proportion, or rather disproportion, between its width and depth that is to blame A lot 25 feet wide by 100 feet deep presents conditions almost exactly the reverse of the ideal, making necessary a more or less complicated type of plan in which recourse must be had to courts or shafts to light those rooms which do not open directly upon the street or yard.[1] With these dimensions reversed, we have an area which in shape and dimensions is adapted to the simplest and best form of plan — a building only two rooms deep with apartments running through from front to rear. Unfortunately, from a commercial standpoint, the high cost of land in the crowded districts of New York practically prohibits a distribution, no matter how desirable, which would leave a large fraction of the block vacant and unproductive. To overcome this difficulty it is suggested that the city acquire, through condemnation proceedings, some of the most overcrowded and unsanitary blocks of old tenements in districts where there is the greatest need of small parks or playgrounds; that the old buildings be removed, the central portions converted into small public parks or playgrounds, and the narrow strips between the parks and side streets sold, under proper restrictions, for the erection of tenement houses. Or if it be found that the city has not the constitutional right to acquire more than it intends itself actually to use — then the central portion only might be taken, and in all probability the owners of the remaining property would be willing, either themselves to erect tenements, or to sell their land for this purpose to individuals or corporations. As every square foot of these outer strips could be used productively, without any loss from courts, shafts, or yards, their value in proportion to their area would be much higher than that of the middle portion of the block. . . .
>
> From the following brief calculations it will be seen that in sections of the city where land can be bought at an average price of $9 per square foot, or $22,500 per 25 × 100 foot lot, if these strips were sold at $11.14 per square foot, the cost per room, for land and improvements, would be the same as the cost per room (equivalent in size, but in other respects far inferior) in the ordinary type of double-decker.

1. See, however, pp 929–930.

I. Ordinary type of double-decker (14 rooms to a floor).

Cost of construction of 6-story double-decker tenement house containing 84 rooms and covering 75 % of a lot 25′ × 100′ at 16¢ per cubic foot	$22,500.00
Cost of land (2500 square feet) at $9 per square foot	22,500.00
Total cost of land and improvements for 25′ × 100′ lot	$45,000.00
Cost per room	$535.71

II. Proposed park plan (2 rooms deep).

Cost of construction of 6-story park tenement containing 36 rooms and covering 33 % of lot 25′ × 100′ at 16¢ per cubic foot	$10,000 00
Assuming the city to buy the entire lot (in connection with the rest of the block) at a cost of $9 per square foot, to retain for a park 2/3, or 1666.66 square feet, at $7.93 per square foot or $13,216.61, and to sell the remaining 1/3, or 833.33 square feet, at $11.14 per square foot	9,285.56
Total cost of land and improvements	$19,285.56
Cost per room (same as in I)	$535.71

The following comparison of the housing capacity of various blocks of tenements of a uniform size of 200 × 400 feet is interesting. The calculations are based upon buildings 6 stories in height and an assumed population of 1½ persons per room.

I. Block composed entirely of typical double-decker tenements.

No. rooms	2,688
No. persons	4,032

II. Block built upon plans such as those recently drawn by architects in conformity with the provisions of the proposed new Tenement House Code (average number rooms to a floor per 25-foot unit equals 12).

No. rooms	2,304
No. persons	3,456

III. Actual block bounded by Chrystie, Forsythe, Canal, and Bayard Streets — model and statistics concerning which were exhibited at the late Tenement House Exhibition.

No. rooms	1,588
No. persons	2,781

(No allowance has been made for the stores which occupy the front portions of the ground floor of most of the buildings. If these stores were replaced by rooms, the total number of the latter would be increased to about 1700 and the number of persons to about 3000.)

IV. Block of park tenements.

No. rooms	1,152
No. persons	1,728

From this comparison it appears that 62.13 per cent, or about two-thirds, of the population of an average block in one of the most densely populated sections of the city could be rehoused under almost ideal conditions on one-third of the same block, leaving the other two-thirds — open to the street at both ends — available for a public park or playground. And this could be accomplished without raising rents and at a saving to the city of over $1 per square foot in the cost of the land.

A plan very similar to this has recently been carried out, in Newark, New Jersey, by the Prudential Life Insurance Company in conjunction with the city (see article in *National Real Estate Journal*, March, 1935).

Pl. 11, B. *1901.* The Tuskegee, at 213–215 West 62nd Street. Six stories; forty-eight apartments; 140 rooms Reproduced from architects' working drawing. Built by Miss Caroline Phelps Stokes, founder of the Phelps-Stokes Fund, and her sister, Miss Olivia E. Phelps Stokes. First plan submitted under the new Tenement House Law, Howells & Stokes architects. This building was designed for Negroes and was subsequently acquired from the Phelps-Stokes Fund by the City and Suburban Homes Company. For elevation and interior view, see Fig. 137.

Pl. 11, C. *1902–1903* Building at Nos. 31–33 Attorney Street. Reproduced from *First Report of the Tenement House Department of the City of New York. January 1, 1902–July 1, 1903* (New York, 1903), I, 74. Two old-fashioned front and rear tenements as remodelled under the new law by the addition of toilets, sinks, and wash-trays. This is given as a typical example of one kind of remodelling required, under the new law, by the Tenement House Department at this time.

Pl. 11, D. *1902–1903.* Building on 149th Street near Eighth Avenue. Reproduced from *First Report of the Tenement House Department of the City of New York* (New York, 1903). Typical better-class 50-ft. new-law tenement with bath-rooms

Pl. 12, A. *1905.* Tenement erected on 75-ft. lot at Nos. 326–330 East 35th Street by Miss Laura Billings (now Mrs. F. S. Lee). Reproduced from photograph supplied by the owner. This plan is a re-study of one of the twelve best plans submitted in the C. O. S. competition of 1900. In the original plan the courts were open to the street and decreased in width as they receded from the street, so as to secure a better outlook for most of the rooms.

Pl. 12, B. *1906.* Typical better class new-law tenement. Reproduced from *Third Report of the Tenement House Department of the City of New York, Report for the year ending December 31, 1906* (New York, 1907).

Pl. 12, C. *1906.* First Phipps tenements, at No. 331 East 31st Street, Grosvenor Atterbury architect. Reproduced from architect's working drawing, which was modified in some minor details before execution. For elevation and view of roof, see Fig. 121. Several other groups were built later by the Phipps Estate — at 235–247 West 63d Street, at 234–248 West 68th Street, and in Long Island City. See *Charities and the Commons*, October 6, 1906; *Architecture*, February 15, 1907; and *Architectural Record*, March 1931 and March 1932.

Pl. 13, A. *1906.* One (No. 414) of the group of buildings erected by the City and Suburban Homes Company at Nos. 402–416 East 65th Street. Reproduced from drawing supplied by the Company. The building here illustrated was on a 75-ft. lot. For elevation, see Fig. 119, b.

Pl. 13, B. *1908.* One of the group of buildings erected by the City and Suburban Homes Company at 511–515 East 78th Street. Reproduced from drawing supplied by the Company. For elevation, see Fig. 120.

Pl. 13, C. *1908.* Tenement at Nos. 545–547 West 51st Street. Designed by Howells & Stokes. Reproduced from architects' working drawing. This double building was designed

for a lot 50′2″ wide to show the advantages of the rear-tenement type of plan, which could not legally be constructed except on a lot over 50 ft wide. The center wing was only two stories high and contained on the ground floor a passage connecting the two buildings, store-rooms, and a room for perambulators; the second floor contained the janitor's apartment. The balconies were dropped and the sills raised so as to secure greater privacy.

Pl. 13, D. *1910.* One of two buildings erected in this year by the Dudley Homes Company at Nos. 339–349 East 32nd Street and afterwards sold, first to the Phelps-Stokes Fund and later to the City and Suburban Homes Company. Howells & Stokes architects. Reproduced from working drawing in possession of the author. Open stairs, dropped balconies, and raised sills were used in these buildings. Separate groups of bath-rooms for men and women were provided on the ground floor. For elevation, see Fig. 122, a

Pl. 14, A. *1910.* John Jay Open Stair Apartments on 77th Street near the East River. Six stories, 281 apartments; 861 rooms. Designed by Henry Atterbury Smith and built by the Open Stair Tenement Company. Reproduced from *Architecture*, July 1910. See Fig. 39, b.

Pl. 14, B. *1915.* Tenements at Nos. 425–427 West 44th Street Reproduced from *Architectural Forum*, May 1915. Five stories. Rear tenement type of plan with large central court. Designed by Grosvenor Atterbury for Mrs John S. Rogers. The building in the center of the court is only two stories high. *Cf.* Pl. 13, C.

Pl. 14, C. *1915.* The Emerson Tenements at No. 746 Eleventh Avenue, corner 53rd Street, William Emerson architect. Reproduced from the *American Architect*, February 14, 1917.

Pl. 14, D. *1918.* One of a series of studies for urban war housing. Designed by the author when a member of the staff of the United States Department of Labor, Bureau of Industrial Housing and Transportation. Reproduced from original study in author's possession. The other plans belonging to the series have disappeared.

Pl. 15, A. *1919.* Block plan of garden apartments for a typical New York City block prepared by Andrew J. Thomas, architect, for the New York State Housing Committee. Reproduced from John Taylor Boyd, Jr., *Garden Apartments in Cities* (New York, 1920).

Pl. 15, B. *1920.* Homewood Gardens Apartments at 17th Avenue, 73rd to 74th Streets, Brooklyn. Four stories, Andrew J. Thomas architect; erected by the City and Suburban Homes Company. Reproduced from blue-print supplied by the Company. A plan, models, and various views of four of these units, on a half block, are shown in John Taylor Boyd, Jr., *Garden Apartments in Cities* (New York, 1920).

Pl. 15, C. *1920.* Proposed block development in connection with a small city-owned public park. Designed by the author, and very similar to Pl. 11, A, but introducing for the first time the principle of "distributing floors," whereby a whole block of tenements can be adequately served by four elevators. Reproduced from original plan submitted to Mayor Hylan's Housing Conference Committee of 1920. In a ten-story building

these distributing floors would be placed at the fifth and tenth, or roof, levels, where they communicate with all of the stairways so that every apartment in the building can be reached by walking up or down one or two flights. *Cf.* Pl. 16, A.

Pl. 16, A. *1920–1922.* One of a pair of tenements — the Cathedral Ayrcourt Apartments — at No. 531 West 122nd Street and 540 West 123rd Street, Manhattan. Six stories; 213 apartments; 563 rooms. Designed somewhat on the principle described under Pl. 15, C, and built by Henry Atterbury Smith in 1922. Reproduced from *Open Stair Housing Applied to Industrial Towns and Villages* (booklet issued by the Open Stair Dwellings Company, June 1, 1929). Two elevators in each building carry tenants to the roof, from which they reach their apartments by means of the nearest stairway. This type was later known as the "walk-down" type. For a bird's-eye view, see Fig. 123, a. Mr. Smith states that the plan was first developed in 1920. Another group of "walk-down" apartments was erected by the Open Stair Dwellings Company in 1926 (Pl. 18, A). Several other groups have been built by this company.

Pl. 16, B. *1922.* Block plan of apartments erected in 1922–1924 in Long Island City by the Metropolitan Life Insurance Company, Andrew J. Thomas, architect. Reproduced from *Architectural Record,* August 1922. These buildings were erected under an act passed by the Legislature in 1922, which amended the laws governing life-insurance companies to permit such companies to buy land and build apartment houses on condition that the rents should be limited to $9 per room per month. For elevation, see Fig. 144, a.

Pl. 16, B'. *1922.* Typical floor plan of one unit of preceding general plan. Reproduced from *Comfortable Homes in New York City at $9. a room a month* (pamphlet issued by the Company). This pamphlet contains some interesting remarks concerning the findings of the Lockwood Committee of the New York Legislature, appointed in 1919 to investigate the high cost and scarcity of housing accommodations in the state and particularly in the city of New York.

Pl. 17, A. *1922.* Re-studied first prize design, by Sibley & Fetherston, in competition held by the Phelps-Stokes Fund in this year for 50- and 100-ft. unit plans. Reproduced from architects' drawing. The winning design was carried out, in this slightly modified form, on a 100-ft. plot at Nos. 52–58 East 97th Street. The *Architectural Forum,* April 1922, contains a reproduction of the competition plan. See pp. 915–918 for extracts from competition programme. See also Fig. 123, b.

Pl. 17, B. *1922.* Second prize design, by Frank J. Shefcik, in above competition. Reproduced from *Architectural Forum,* April 1922. The cut shows one-half only of the original plan.

Pl. 17, C. *1922.* Third prize design, by John Tompkins, in above competition. Reproduced from *Architectural Forum,* April 1922.

Pl. 17, D. *1922.* Plan by Andrew J. Thomas; based on one which he submitted in the competition held by the Phelps-Stokes Fund. Reproduced from *Architectural Forum,* April

1922. This plan shows a solution of the problem in which a considerably smaller area is covered than in the prize plans, resulting in lower cubage and apparently a better return on the money invested. The following figures are taken from Frederick L. Ackerman's analysis of this plan in comparison with the plans premiated in the Phelps-Stokes Fund competition. Mr. Ackerman says:

The Thomas plan follows the general scheme of one he submitted in the preliminary competition except that it has 42 rooms to a floor instead of 46 as required in the competition. This plan in a block development would provide side courts, making a 12-ft opening between the buildings It is here used in comparison with the prize design, since when its two isolated units are reversed in position we have a form which compares with that of the prize design, but with this important difference — the courts extend through from front to rear The area of the Thomas plan is 5988 sq. ft. per floor of 42 rooms. Comparing it with the prize plan and assuming a cost of $40,000 for the land, 35 cents per cu. ft. for cost of construction and the average rental per room $8 per month, the building to be considered a 6-story walk-up, 70 ft. high, we have:

Prize plan, land and building	$207,359
Thomas plan, land and building	186,706
Difference	$20,653

The Thomas plan contains four less rooms (per floor) than the prize plan, which would reduce the rental income by $2,304 per year. With this reduction the figures are:

	Land and building	*Gross income*	*Per cent*
Prize plan	$207,359	$26,496	12.7
Thomas plan	186,706	24,192	12.9

In addition to the savings which these figures seem to demonstrate clearly, the simple shape of the enclosing walls and the less complicated partitioning of space within the building should provide a further advantage in cost of construction to the Thomas plan, which would be reflected in the rate of income. The disposition of the space not occupied by the building constitutes an important part of the plan problem. In a block development it is quite generally admitted that the arrangement of the Thomas plan, which provides for through ventilation, is more desirable than that of the first prize plan where at a point there would be a through sweep of air from front to rear. . . .

In spite of the evident physical advantages of this open type of plan, a paradox is uncovered when we consider it from the viewpoint of financing. The average loaning institution to-day appraises new property on a basis of land valuation plus the value of the new building according to its character and the number of cubic feet contained — in other words, the skill of the architect in creating a plan providing greater rental efficiency in the building is not given sufficient consideration. An examination of these two types of plan shows several logical reasons why, other things being equal, a building covering the smaller portion of the given area and costing less money to build should be considered better collateral by a loaning institution. It is true that this is principally a consideration of plan, but when an analysis of the plan shows more desirable rooms from the viewpoint of light, ventilation and size, it is evident that during periods of rental competition between landlords, — in other words, when there is no housing shortage, — the more desirable property will remain fully rented and will constitute a better real estate investment. . . .

In considering the building up of the congested residential sections of American cities, a decision must be made as to whether the purpose in planning is to house as many families as possible on every city lot or to provide buildings in which better living conditions are really established and which offer better realty values from the investment viewpoint. Somewhere a halt must be called in the constant effort to concentrate domestic life within small spaces. — *Architectural Forum*, April, 1923.

Mr. Ackerman's argument is based on Mr. Thomas' theory — first published, I believe, in 1920 — that, generally speaking, except on very high cost land, better returns financially can be secured by a coverage of 50 per cent than by one of 70 per cent — a theory which Mr. Thomas and others have since gone far toward proving.

Pl. 18, A. *1926.* General layout of group of "Diagonal Walk-down Open Stair Type" tenements — La Mesa Verde Apartments at No. 3433, 90th Street, Jackson Heights, L. I Six stories; 323 apartments; 967 rooms. Designed by Stephen Lengyl in association with Henry Atterbury Smith for the Open Stair Dwellings Company. Reproduced from *Open Stair Housing Applied to Industrial Towns and Villages* (pamphlet issued by the Company, June 1, 1929). See also article in *Encyclopedia Britannica*, which gives a perspective view of these buildings and other interesting information regarding this type of tenements (reproduced as Fig. 122, b). It will be noticed that one elevator, centrally placed, serves for the entire group of six buildings, access to the various buildings being supplied at the roof level by "hurricane bridges."

Pl. 18, A'. *1926.* Detail of a typical upper floor plan of one of the units in the group described under Pl. 18, A. Reproduced from *Open Stair Housing Applied to Industrial Towns and Villages* (pamphlet issued by the Company, June 1, 1929).

Pl. 18, B. *1926–1928.* Paul Laurence Dunbar Apartments in Harlem, at 149th and 150th Streets, Seventh and Eighth Avenues. Designed by Andrew J. Thomas and built by John D. Rockefeller, Jr., for Negroes. Reproduced from *Architecture*, January 1929. Six buildings housing 511 families. This enterprise is really a cooperative development. Prospective tenants agree to purchase, on a liberal instalment plan, an amount of the common stock of the corporation equivalent in value to the apartment in question. On this basis they are permitted to lease the apartment for an initial period of three years. Without loss they may at the end of this term either apply for a further lease or request the corporation to re-sell their stock at par. See pamphlet written by Roscoe Conkling Bruce, resident manager, and issued by the Company. The rents, including principal, interest, etc., average $14.50 per room per month. For elevation and court view, see Fig. 138.

Pl. 18, C. *1929.* Brooklyn Garden Apartments on Fourth Avenue, 23rd and 24th Streets, Brooklyn. Andrew J. Thomas architect, Frank H. Quimby associate. Reproduced from circular issued by the Company. Accommodations for 165 families in 670 rooms. The cost of the land was $2.52 per sq. ft. The rents average $8.85 per room per month.

Pl. 18, D. *1930.* Apartments of the Academy Housing Corporation at 758 Brady Avenue, The Bronx. Springsteen & Goldhammer architects. Reproduced from *Architectural Forum*, March 1932. One of the largest housing projects for wage-earners thus far completed under the New York State Board of Housing, providing rooms for 476 families. The eight buildings are equipped with all modern facilities, including automatic, push-button, elevators and incinerators. The cost of the land was $1.40 per sq. ft. The rents average $10.20 per room per month. See also *Report of the State Board of Housing* (Albany, 1934, 1935). For elevation, see Fig. 146, a.

Pl. 19, A. *1930.* Amalgamated Dwellings, Grand, Broome, Sheriff, and Columbia Streets, Manhattan. A fireproof, six-story, apartment, 921 rooms, with automatic elevators. Built by a limited dividend corporation from plans by Springsteen & Goldhammer. Reproduced from plan supplied by the architects, and described in *Architectural Forum*, February 1931. This is the first large-scale re-housing operation built in Manhattan under the auspices of the State Board of Housing with a Federal appropriation. The cost of the land was $5.61 per sq. ft. Rents average $12.23 per room per month. See 1931 Report of the State Board of Housing. For elevation and court view, see Fig. 124 This development is on the site formerly occupied by the printing press factory of R. H. Hoe and Company. It is interesting to note that in February 1879 the *Plumber and Sanitary Engineer* stated that

> The workmen at R. Hoe & Co.'s printing press works in Grand Street, numbering some 400, have been much interested in the subject of model houses for working people. They have appointed a committee of seven to examine into existing houses, notably those of Mr White in Brooklyn, and a number of conferences have been held to discuss the matter It is quite possible that Messrs. Hoe & Co. may join with their workmen in building houses for the use of the latter. The only point to be decided is whether it is best to choose a site near their works, or in some suburban locality accessible by rapid transit. The works are situated on unusually high and healthy ground, where land is not extravagantly high, and it would seem as if it were wiser to build there than to seek a more distant location — even in view of the late extension of rapid transit to Yorkville and Harlem. The cost of living is quite as high in these places as in the city, and it is questionable if many men with small earnings can afford to pay even 10 cents a day for car fare. . . .

Pl. 19, B. *1931.* Apartment designed by Emery Roth at the request of Borough President Julius Miller of Manhattan to show the possibilities of apartments for the average wage-earner on 100-ft. lots under the Multiple Dwelling Law. Reproduced from *Architectural Record*, July 1931. This plan and one by Charles H. Lench are discussed in the above-mentioned magazine, where the statement is made that in a twelve-story, fireproof, building of this type on a plot costing $15 a square foot, the average rent per room would be $11.11, which seems quite impossible.

Pl. 20, A. *1931.* The first living floor of two typical units designed for the proposed Chrystie and Forsyth Streets development and submitted by Howe & Lescaze. Reproduced from *Architectural Forum*, March 1932. The design shows a building resting on "stilts," so as to make the greater part of the ground area available for recreational purposes. The plan indicates how part of a typical unit spans a street. For elevation, see Fig. 145. Other plans were submitted by Sloan & Robertson, Andrew J. Thomas, and Maurice Deutsch, but eventually it was decided that this site was not suitable for low-cost housing, and it was therefore converted into parks and playgrounds. The site, consisting of seven blocks bounded by Chrystie, Forsyth, Canal, and Houston, Streets, was acquired by the City in 1929 for a municipal housing development, on the strong recommendation of Mayor Walker and Mr. August Heckscher, despite the protests of several housing authorities, including the author, who submitted figures showing that, because of the high cost of the land, it could not possibly be developed to produce rents averaging $10 per room per month, whereas its promoters indicated rents averaging around $7. Although the cost of the entire area, 200 feet in width,

averaged over $30 a sq. ft., the center of the blocks, a strip 155 feet in width which was reserved for housing, was figured at slightly under $14 a sq. ft.—manifestly an unfair division.

Pl. 20, B. *1932.* General plan of Rutgerstown, at Broome, Columbia, Madison, Gouverneur, and Front, Streets, Corlears Hook Park, and the East River. John Taylor Boyd, Jr., architect. Reproduced from *Rutgerstown and Queenstown. Low Cost Housing Projects for the Average Man* (pamphlet issued by the Rutgerstown Corporation). One of the first large-scale slum-clearance and re-housing developments proposed in connection with Government subsidies. Approved by the State Board of Housing and the Engineers' Advisory Board of the Reconstruction Finance Corporation, but as yet not accepted by the Government. If built, it will replace eighteen blocks, including some of the worst slums on the Lower East Side. For elevation, see Fig. 146, b. The pamphlet above mentioned, which contains much interesting information, was prepared in cooperation with Brown, Wheelock, Harris & Company.

Pl. 20, B′. *1932.* Detail of one of the units of Rutgerstown. Reproduced from pamphlet mentioned above.

Pl. 21, A. *1932.* Howard B. Burton Plan for a highly concentrated, non-subsidized, development, estimated to produce rents of $6 per room per month (exclusive of steam, gas, and electricity), on land costing $10 per sq. ft. Reproduced from *Architectural Forum,* December 1932.

Pl. 21, B. *1933.* Hallet's Cove Gardens, Long Island, designed by Alfred Fellheimer and Steward Wagner. Reproduced from *Report of the State Board of Housing,* 1934. See Fig. 129, b for an interesting perspective showing the relation of this development to Upper Manhattan. Six-story elevator buildings with an aggregate of 756 apartments and 2,940 rooms. The land is being acquired at about $1.32 per sq. ft. The rents will average $11 per room per month.[1]

Pl. 21, C. *1933.* Hillside development, in the Bronx. Designed by Clarence S. Stein for Nathan Straus, Jr., financed with the aid of a Federal appropriation, and completed in 1935 on land costing $.72½ per sq. ft., according to the 1935 *Report of the State Board of Housing* (*cf. Architectural Forum,* February 1934). One hundred and eight four-story "walk-up" units and four six-story elevator units, with an aggregate of 1,416 apartments and 5,328 rooms (*cf. Architectural Forum,* February 1934). The rents average about $11 per room per month. For aerial view, see Fig. 129, a.

Pl. 22, A. *1933.* Re-study of first prize plan, by Richard Hutaff and Severin Stockmar, in the competition held in May of this year by the Phelps-Stokes Fund. Reproduced from original drawing. This design contemplates a twelve-story, fireproof, central building, with elevators, surrounded by five- and six-story "walk-ups," the six-story wings being served by the elevator system of the central building. See pp. 918–921 for extracts from competition programme. For perspective of re-studied design, see Fig. 127.

1. Apparently this development has recently been abandoned

Pl. 22, B. *1933.* Second prize design, by Maximilian Bradford Bohm, in the Phelps-Stokes Fund competition. Reproduced from original drawing.

Pl. 22, C. *1933.* Honorable mention in the Phelps-Stokes Fund competition. Design by William Platt, Geoffrey Platt, and John M. Gates. Reproduced from original drawing. The distributing system of this plan was considered by the jury to be particularly interesting.

Pl. 23, A. *1933.* Design by Richard Wood and Alfred Clauss which, in the Phelps-Stokes Fund competition, received the first prize for buildings designed in combination with a small public park Reproduced from original drawing

Pl. 23, B. *1933.* Design by L. W. Eisinger in the Phelps-Stokes Fund competition. One of the three third prizes awarded. Reproduced from original drawing.

Pl. 23, C. *1933.* One of twenty plans selected by the jury as the best in the Phelps-Stokes Fund competition. Reproduced from original drawing.

Pl. 24, A. *1933.* Apartments erected by the Boulevard Gardens Housing Corporation at Woodside, Long Island. T. H. Engelhardt architect. Reproduced from *Report of the State Board of Housing* (Albany, 1934). Ten six-story, fireproof, elevator buildings, with an aggregate of 3,620 rooms. Coverage 22.4 per cent. The cost of the land was $.98 per sq. ft. The rents average about $11 per room per month. For general layout, see pamphlet issued by the Company. See also Fig. 129, *a*.

Pl. 24, B. *1933.* Proposed apartments of Spence Estate Housing Corporation, Third and Fourth Avenues, Baltic and Butler Streets, Brooklyn. Alfred Fellheimer & Steward Wagner architects and engineers. Reproduced from *Report of State Board of Housing* (1934). Twenty-two six-story, fireproof, elevator buildings, with an aggregate of 2,150 rooms, community rooms, kindergarten, gymnasium, handball courts, and sheltered playgrounds. The land was to be acquired at about $4.80 per sq. ft. The rents were to average about $11 per room per month. This development has recently been abandoned.

Pl. 24, C. *1933.* Knickerbocker Village, at Monroe, Catherine, Cherry, and Market Streets, Manhattan, Fred F. French Company architects, builders, and owners. Reproduced from photograph supplied by the owners. Two twelve-story and penthouse, fireproof buildings, with automatic elevators, containing 6,030½ rooms and provided with kindergarten, nursery, game rooms, library, workshops, and assembly rooms. The cost of the land is stated to have been about $14.06 per sq. ft. The State Board of Housing in its report for 1933, said:

> The old law tenements that are to be replaced by this project have been the center of attack of housing reformers for several decades. The unhealthy condition of the block [that bounded by Monroe, Catherine, Cherry, and Hamilton Streets] has earned for it the name of the "Lung Block." In 1903 Mr. Robert W. DeForest, then Tenement House Commissioner, paid tribute to the "worst" block in the city: "I know of no tenement-house block in this city which is so bad from a sanitary point of view, or from a criminal point of

view. Every consideration of public health, morals and decency require that the buildings on this block be destroyed at an early date. I understand that several of these houses are permanently infected with the germs of tubercular disease, and that the only remedy and method of preventing the further spread of this disease from these houses is the destruction of the buildings."

This is the largest and most important slum-clearance and re-housing operation so far undertaken on Manhattan Island; indeed it is the only real slum-clearance operation worthy of the name. It is the only project undertaken with a loan ($8,075,000 at 5 per cent, amortization rate 2 per cent) from the Reconstruction Finance Corporation. The loan was on the basis of an estimated total cost of $16,000,000. See article by Henry J. Rosner in *The Nation*, April 19 and May 24, 1933. See also *Report of the State Board of Housing* (Albany, 1934, 1935). Rents average $12.50 per room per month (see, however, footnote, p. 928). For aerial views of this development and a view of one of the courts, see Figs. 44 and 128.

Pl. 25, A, A'. *1934.* Design by William L. Hohauser. One of twenty-two plans selected by the jury as the best in the competition held in June of this year by the New York City Housing Authority for the selection of architects in connection with housing developments in New York undertaken by the Federal Government. Reproduced from architect's drawing supplied by the Authority. Four-story buildings. See pp. 921–923 for extracts from programme of competition.

Pl. 25, B, B'. *1934.* Design by Peabody, Wilson & Brown. One of twenty-two plans selected by the jury as the best in the above-mentioned competition. Reproduced from architects' drawing supplied by the Authority. Four-story buildings.

Pl. 25, C, C'. *1934.* Design by George Trinin. One of twenty-two plans selected by the jury as the best in the above-mentioned competition. Reproduced from architect's drawing supplied by the Authority. Nine- and six-story buildings.

Pl. 25, D, D'. *1934.* Unplaced design submitted by Frederick Hirons in the New York City Housing Authority competition. Reproduced from architect's drawing. Three- and six-story buildings.

Pl. 25, E, E'. *1934.* Unplaced design submitted by Stephen Heidrich in the New York City Housing Authority competition. Reproduced from architect's drawing. Four- and six-story buildings.

Pl. 26, A, B, C, D, E, F, G, H, I, J, K. *1935.* Plan units for low-rent housing, developed by the architectural staff and the housing consultants of the PWA, Housing Division. The nine typical plans reproduced here have been selected from the thirty-seven plans reproduced in *American Architect*, February 1935, and intended for the guidance of architects designing this class of housing, especially in connection with Government housing projects. Spans of all plan units are 27 ft. over-all. These plans are all intended for four- and five-story buildings without elevators. The average area of living-rooms shown in these type plans is approximately 175 sq. ft.; that of main bedrooms approximately 140 sq. ft.; second bed-rooms approximately 109 sq. ft.;

kitchens approximately 90 sq. ft. The actual minimums suggested by the Federal Housing Division are as follows: living-room[1] 150 sq. ft ; main bed-room 110 sq. ft.; second bed-room 100 sq. ft.; kitchen 65 (formerly 100) sq. ft.; bath-rooms 4 ft. 11 in. by 6 ft. 8 in. The following minimum widths are also suggested: living-room 11 ft.; main bed-room 10 ft.; second bed-room 9 ft. 3 in.; kitchen 7 ft. 4 in. Describing these plans, Mr. Alfred Fellheimer, in the *American Architect* for February 1935, writes:

> . . . Unit plans of the Housing Division can do no more than stimulate the architect to a more generally feasible and economical solution to his own problems. Through an understanding of the standards which they represent, however, the architect's plot-planning problem can be enormously simplified.
>
> . . . To the Technical Department of the Housing Division and its consultants, Ernest A. Grunsfeld, Jr. and the writer, it seemed most practical to attack the whole problem from the standpoint of these units. From analysis of general schemes sprang the conclusion that the most generally efficient unit was the tee. The strip unit was recognized as a necessity in many instances and consequently it also was developed in all its most practical potentialities.
>
> In combination, these two units can be used to produce an effective solution to the low-rent housing problem . . .
>
> Given the preliminary advantages of detailed standards of planning, the architect's job is one of synthesis. Such advantages are presented in the unit plans of the Housing Division. The standards that are embodied in them have been set as the most practical for the rank and file of American families. Given a definite building site, restriction of local codes and limitations of a financial structure, the architect will be able to adapt the suggestions in substantially their present form toward the most efficient solution of his problem.

The two small site plans represent actual operations in which these plan units have been used. The plans were later revised and published by the Housing Division as *Unit Plans*, which included a discussion of the basic features of low-rent housing (location of project, design of buildings, treatment of grounds, costs), types of plans, and standards, as well as diagrams of forty-three typical unit plans, nine site plans, details (twenty-six pages), and six ineffective plans. See also Pl. 27.

The *Architectural Forum*, April 1933, pp. 253–274, contains an interesting article by Lewis Mumford on "The Planned Community," illustrated by twenty layouts and a corresponding number of typical plans, elevations, etc. of some recently erected or projected large-scale housing developments in various parts of this country and Europe. Two important recently published books, *The Building of Small Dwellings with Reasonable Rents* (Frankfurt-am-Main, 1933) and *Town Planning and Housing Throughout the World* (Berlin, 1935), contain the largest collection so far published of plans and other information regarding housing all over the world. See also Chapters IX, XXVII, and XXXV.

Pl. 27, A, B, C, D. *1935*. Site plans reproduced from *Unit Plans*, a brochure just issued (July 1935) by the Housing Division, PWA.

Pl. 28, A. *1935*. Plan of typical unit of Ten Eyck Houses, Federal (PWA) low-rent project being erected on twenty-six acres bounded by Bushwick Avenue, Scholes, Maujer,

1. In comparing the areas of two apartments, where a kitchen or a dining-room bay exists in addition to a living-room it is only fair to consider its area as added to that of the living-room

and Leonard Streets, Williamsburg. Chief architect, R. H. Shreve. Reproduced from architects' drawing. Estimated cost of development, $12,783,000. Four-story walk-ups with 48 two-room, 769 three-room, 732 four-room, and 65 five-room, apartments. Coverage about 35 per cent; gross density, figured at 1.16 persons per room, 200 per acre. Rents are estimated by the Housing Authority at about $7 per room per month, but are likely to be higher. For general view and view of typical buildings, see Frontispiece, Vol. II, and Fig. 131.

Pl. 28, B. *1935*. Plan of Harlem-River Houses, Federal (PWA) low-rent project for Negroes, being erected on a nine-acre site bounded by 151st and 153d Streets, Macombs Place, and Harlem River, Manhattan. Chief architect, Archibald Manning Brown. Reproduced from architects' drawing. Estimated cost of development, $4,700,000. Four- and five-story walk-ups with 60 two-room, 259 three-room, 232 four-room, and 23 five-room, apartments. Coverage 37.4 per cent; gross density, figured at 1.16 persons per room, about 215 per acre. Rents are estimated by the Housing Authority at about $7 per room per month, but are likely to be higher. For general views, see Figs. 64, b, and 139, b.

Pl. 29, A (Addenda). *1876*. Proposed plan submitted by Nelson L. Derby, F. A. I. A., for a corner building on a 100-foot lot, accompanying a paper read before a committee of the State Charities Aid Association on December 8, 1876. Reproduced from *American Architect and Building News*, January 20, 1877. It will be noted that this plan is a modification on a smaller plot of the one described in the paper, in which Mr. Derby gave expression to the following carefully considered ideas and suggestions, most of which were well in advance of the times:

> The improvement of the dwellings of the poor has been but recently attempted in England, and can be said to have been scarcely thought of as yet in other countries. . . .
>
> Starting with the assumption that buildings erected by the wealthier part of the community, for the accommodation of the poor, must return in rents a reasonable interest as times go, — say six or seven per cent net, — it remains to consider how much can be done to better the existing state of things. Various difficulties stand immediately in the way of all reform; and first of these comes in this case the unwillingness of the miserable poor to forsake their present loathsome quarters for lighter, airier, and cleanlier ones, especially as they will see themselves forced to assume habits of neatness and care to which they are unaccustomed. I see no better way of meeting this evil than by making the rents of the better quarters *even less* than those of the present bad ones. . . . The great defect of the New York dwelling house, be it the home of rich or poor, is its great depth in proportion to its width. A frontage of (say) twenty feet, accompanied by a depth of often seventy or more feet, leaves a large central unlighted space in the house, which is occupied by the hall, stairways, and dark rooms This is not found in Continental Europe. . . . In the New York tenement houses six to eight utterly dark rooms are found upon every floor, unless the building be a corner one, when the number is reduced by one-half.
>
> I consider the first desideratum of all to be a relief of this evil, which is easily effected by erecting the building around a hollow square of sufficient size. To gain the proper room, however, it would not be desirable to attempt to build upon a plat of ground of less than a hundred feet square; otherwise the rooms and passages surrounding the internal square, and having a necessary width on all sides of some thirty feet, would reduce the hollow square alluded to below the dimensions of forty feet on a side. If balconies are built around this at each story, — an approved plan in England to which I shall refer later, — the hollow

square is still further diminished to a width of thirty feet. Now, tenement buildings to prove profitable should be about six stories in height at the present prices of land, or with the roof should attain to some seventy feet in height. Thus the hollow square would become a well into which light and sunshine would penetrate with difficulty. Dampness and its ensuing evils would result. . . Impressed by this fact, I handed to your committee some months ago a plan of an improved building running through from street to street, a depth of two hundred feet, and having a frontage of a hundred and fifty feet on both streets. This provided for ample circulation of air and for sunlight in the interior. . . An expense of between one and two hundred thousand dollars having been incurred in building such a structure upon a desirable plat, it would doubtless return the six or seven per cent net referred to and even more. . .

. . . another advantage of a large plat of ground is that if the adjacent buildings were carried to great depth and height they would not interfere with the light or air of the building considered to as great an extent as if it were smaller. The best position of all would be the north-east corner of an avenue and street, with exposure on two sides, south and west, to the midday and evening sun, and shelter from the north and east. In the interior fittings of such a house direct light should be provided for every room, passage, stairway, and water-closet. All partition walls, floors, and stairs should be fire-proof. A separate water-closet should be provided for every tenement, and communication with it by a passage enclosed in the tenement. The external walls should be built hollow and of brick, so that cold, heat, and dampness are excluded, thus enabling the finish to be applied directly to all the interior faces of the walls without the intervention of furring and laths. The latter spaces which now harbor vermin would be done away with; and upon the walls themselves would come a coating of cement, not plaster. This cement coating would extend from floor to ceiling without a mop or wash board. . . . Upon it should come a coat of paint to render it non-absorbent and easily washed. Wall-paper should be abolished. Hollow walls thus treated would prove stronger and no dearer than solid ones.

The floors should be constructed of iron filled in with patent blocks of cement, and covered with wood. The windows should extend up to the ceiling to assist in ventilating the upper portion of the rooms On the interior it would be well to extend the recess to the floor, leaving no shelf. In the kitchens and wash-rooms the sashes could be hung upon pivots, so as to swing wide open and disclose the entire opening of the window, for the exit of steam and vapor. The size of each tenement has been found in London to be best fixed at two to three rooms. A few may be added of only one room for the use of single persons and childless widows. A greater number of rooms than three has been found to prove too expensive for the poorest classes, with whom this paper deals. A ventilated recess in the kitchen could contain a bed which by day would be covered. Experience has shown that it is well to have as few rooms as possible of the nature of bath-rooms, laundries, privies, etc., common to several tenements. . . . The kitchen would be used as a living-room and dining-room as well; the other rooms of a three-room tenement would be bedrooms. Each tenement would be entered by a door leading into a hall from which other doors would if possible give access to each room and the closet. This hall would have a window. In the kitchen should be placed a copper boiler, range, sink, and lockers. A special locker could be contrived in the hall just mentioned, for meat, etc, ventilated by perforations through the wall. Here should be also ventilated boxes for wood and coal, supplied from bins arranged for each tenement in the cellar. In the kitchen, at one end of the sink, a conical deepened extension of cast iron would be useful for emptying readily pails of water. By the side of the privy I should place a dust-shoot or channel, down which ashes and sweepings could be thrown; . . .

The question of the location of stairs is an important one. In the construction of a model building two plans are possible. First, a stone and iron fire-proof stairway could be built in a well-lighted hall, provided with plenty of windows, and communicating with as few tenements as possible on a floor. This of course, in a large building, would necessitate several stairways. Each tenement would be entered from the landings by one door leading into the small hall before described. A skylight above, capable of opening, aided by the windows,

would thoroughly ventilate the stairs. . . . For our climate it would be well to warm these in winter, and this could be readily effected by steam-coils. It is said that these stairways form a means of communicating disease from one tenement to another. This would be remedied if they were well ventilated and cleansed by a janitor. The other system is the one referred to before, of building balconies of iron around the court-yard, at the level of each floor. From these open the doors into the tenements, and they are approached by fire-proof stairways. In our climate, exposed as these are to the air, ice and snow form upon them in winter, and cause great danger to the passers. All the interior room, however, devoted to main halls and stairways, is saved by them, and this is a great advantage; but they seriously darken the rooms, and diminish the size of the courtyards. . . .

The roof of our structure should be nearly flat, and cemented, be surrounded by an iron railing, and used as a place for drying clothing. . . .

On the ground floor, especially if the building be located on the corner of a street and avenue, a number of stores would swell the rent-rolls much more effectually than tenements. Various inner portions could be utilized for reading, sewing, coffee, card, and bath rooms.

The location of such a building in New York would probably, as far as I can learn, best be fixed somewhere near the East River avenues and Seventieth to Eightieth Streets. There land is comparatively cheap, while communication is easy, and will be better when the elevated road is built. There are gas-works about a mile distant, from among whose laborers many tenants might be expected If a site were looked for near the Five Points, or even near Fourteenth Street and the East River, land would prove very dear, buildings would have to be demolished to make room for the model house, and stores and ware-houses would eventually drive it away. . . . Land further up town can be procured at from $2,000 a lot upwards.

. . . Cheap tenement houses are now building at the cost of six or seven dollars a square foot covered, being six stories in height. It would perhaps be safe to set our improved building at ten dollars per foot. If we took four lots, or 10,000 square feet, we should have to subtract for a forty-five foot interior square, about 2,000 feet, leaving 8,000 feet built upon, at a cost of $80,000. The land would cost another $10,000, making $90,000 in all. For a tenement of one room fourteen by ten, and a dark closet eight feet square, the poor pay now about eight dollars a month. For the same price, if we gave them two light rooms and a water-closet with the little hall, we should, getting some fifteen tenements on a floor, bring in thus $1,450 annually.

The three-room tenements would in this proportion rent at eleven dollars a month. For five stories we should get a return of $7,250, and from the stores $2,000 more, — making $9,250, or more than ten per cent gross, which is ample to provide for a seven per cent net return. This computation assumes the selection of a corner plat.

Pl. 29, B (Addenda). *1880.* Plan of two tenement houses erected at 758 and 760 Second Avenue, James E. Ware architect. Reproduced from *The Plumber and Sanitary Engineer*, February 1, 1880. The houses, which cost $12,000 each and were four stories high with stores on the ground floor, were thus described:

Two, three, or four families can occupy a floor. They are lighted from a large central court and by shafts 8 x 2½. The stairs are built in a cylindrical fire-proof shaft. There are separate halls to each suite of rooms. The parlors have the best location, and it is not necessary to enter through a bed-room. The w. c.'s are in a lobby opening on the court, with no direct connection to halls or rooms. The floors are deafened. There are ash-shoots, fire escape, and a dumb waiter, and the workmanship is all of the best.

Pl. 29, C (Addenda). *1880.* Re-study by James E. Ware of his prize-winning design in the competition of 1879 (see Pl. 3, C). Reproduced from *Plumber and Sanitary Engineer*, February 1, 1880. This was one of two plans of "Model Tenement Houses" which were shown at a conference of the New York Sanitary Reform Society with the Board

of Health on January 10, 1880. These plans were commended by President Chandler of the Board of Health as "the best that he had seen for a single city lot 25 x 100 feet," and the one here reproduced was described as "very ingenious — the light from the court being admitted into the inner rooms direct, and thus avoiding the need of small shafts."

Pl. 29, D (Addenda). *1899.* Variant of the Flagg plan for the West 68th–69th Street buildings of the City and Suburban Homes Company (see Pl. 7, C), having the entrance to all apartments on the same level.

Pl. 29, E (Addenda). *1911.* Fireproof tenement at 506–516 W. 47th Street, Ernest Flagg architect. Reproduced from architect's drawing. Built in 1911 by the Fireproof Tenement House Company. These two 50′ units each contained twenty-eight rooms per floor — seven rooms more than Mr. Flagg's plan for the City and Suburban Homes Company's first units (see Pl. 7, C). It will be noticed, however, that to secure this increase it was necessary to reduce considerably the size of the rooms and to open all of the toilets directly from the living-rooms or kitchens, except in the case of the two-room apartments, where they open from the bed-rooms. It is interesting to note that this plan secured the same number of rooms on a 50′ lot as two 25′ double-deckers of the worst type. See also p. 884.

Pl. 29, F (Addenda). *1927.* Typical floor plan of Lavanburg Foundation buildings at 124–142 Goerck Street. Sommerfeld & Sass architects. Reproduced from architects' drawing supplied by the Foundation. This is not a strictly commercial enterprise as no return is expected on the investment, the buildings being intended largely as a sociological experiment and the rents being adjusted to meet the ability to pay of the individual tenants. In 1934 the rents averaged $7.67 per room per month, but resulted in a deficit of $1,330.52, after charging off 2 per cent depreciation on the building and 10 per cent on fixtures. The cost of certain social activities and services is included in the rent. See *Practices and Experiences of the Lavanburg Homes* and *Toward Fuller Living Through Public Housing and Leisure Time Activities*, by Abraham Goldfeld. We are indebted to Mr. Goldfeld for the following information regarding these buildings:

Area of land	22,148 sq. ft.
Area of buildings	13,000 sq. ft.
Perimeter of buildings	896 ft.
Coverage	58%
Cubage (approximate)	988,000
Height of ceilings in apartments	8 ft. 6 in.
Number of apartments	113
Number of rooms	415
Height (number of stories)	6 and basement
Number of elevators	None
Average area of living-rooms	157½ sq. ft.
Average area of bed-rooms	108 sq. ft.
Average area of kitchens	77 sq. ft.
Cost of land	$164,494.82
Amount of land used per room	53.36 sq. ft.
Cost of land per room	$396.37
Construction cost per room	$1,230.33

Construction cost per cubic foot	0.5167
Total cost	$675,080.46
Total cost per room	$1,626.70
Ownership and management	Non-cooperative
Standard rental per room	$9.53
Average rental per room (1934)	$7.67
Approximate date of completion	December 1927

The following list of "Model Tenements" in Manhattan is reproduced from the 1915–1916 *Report of the Tenement House Department.*

Premises	Title	Bldgs.	Year completed	Height	Apts	Rooms
203–205 E. 27th St.	De Forest	1	1907	7	52	168
325–335 E. 31st St.	Phipps Houses	3	1907	6	142	432
500–512 W. 42nd St.	Flagg	12	1895 [Should be 1899]	6	610	1650
505–515 W. 41st St. (567–569 10th Ave.)	N.Y. Fireproof Tenements					
525–531 W. 47th St.	Hartley	1	1913	6	96	314
506–516 W. 47th St.	Model Fireproof Tenements	1	1911	6	132	308
541–545 W. 49th St.	Tri-Court	3	1898	6	57	160
746 11th Ave (556 W. 53rd St.)	Emerson	1	1915	7	62	191
213–215 W. 62d St.	Tuskegee	1	1901	6	48	140
210–218 W. 63d St.	Hampton	1	1910	6	128	350
235–247 W. 63d St.	Phipps Houses	4	1907–1908	6	164	472
234–248 W. 64th St.	Phipps Houses	2	1912	6	184	512
217–233 W. 68th St.	Clark Estate	9	1898	6	372	1100
214–220 W. 69th St.	Clark Estate					
401–423 E. 64th St.	1st Ave. Est.	13	1900	6	869	2306
402–416 E. 65th St. (1168–1200 1st Ave.)	City and Suburban Houses	4	1906	..	..	..
429 E. 64th St., 430 E. 65th St. (1193–1207 Ave. A.)	City and Suburban Houses	2	1915	6	190	522
415–419 E. 73d St.	City and Suburban Houses	1	1907	6	96	245
502–520 E. 77th St.	John Jay Dwellings	3	1912–1913	6	281	861
509–523 E. 77th St., 508–522 E. 78th St. (Cherokee Place)	Vanderbilt (East River Homes)	4	1912	6	382	1212
501–539 E. 78th St., 502–542 E. 79th St., 1470–1496 Ave. A., Exterior St.	City and Suburban Houses Ave. A. Estate	17	1901 1905 1906 1907 1908 1909 1910 1912 1913	6	1257	3090
183–185 Sullivan St.	Mills	1	1900	6	40	117
183–185 Thompson St.		1	1908	7	54	179
441–443 W. 28th St.	Chelsea	1	1916	6	33	114

This list is accompanied by the following remarks, which are not printed in quotes as they have been somewhat epitomized:

The eighteen groups enumerated in this table comprise eighty-six buildings. Thirteen of these groups are new-law tenements; three are old-law; and two

are composed of both old- and new-law houses. While affording much better accommodations and conveniences, their rentals are practically the same as, in some instances somewhat lower than, many of the ordinary tenements in the same section. These rentals are usually payable weekly, ranging from $1 to $1.90 per room per week, for apartments of one, two, three, and four rooms. They are all scientifically managed, have few vacancies, and often have long waiting lists.

DATA CONCERNING ALFRED CORNING CLARK BUILDINGS OF THE CITY AND SUBURBAN HOMES COMPANY, 217–233 WEST 68TH STREET AND 214–220 WEST 69TH STREET, COMPILED FROM THE ANNUAL REPORTS OF THE COMPANY[1]

Cost per cu ft	c. .18	Percentage of three-room apartments	63.17
Cost of land per sq. ft.	c. $ 4.00	Percentage of four-room apartments	16.39
Cost per room, including land	c. 510.00	Average size of the living-rooms	140 sq. ft.
Percentage of two-room apartments	19 89	Average size of the bedrooms	111 sq. ft.

Fiscal Year ending April 30	Average rent per room per month	Yearly maintenance cost per room	Average weekly no of vacancies *apartments*	% of loss from vacancies	% of loss from irrecoverable arrears
1898*	$3.70	...	...	...	...
1899†	3.70	$22.22	7.50	2.14	1.04
1900	3.72	30.74	17.00	4.56	0.71
1901	3.72	30.09	13.00	3.44	0.51
1902	...	...	13.50	3.77	0.47
1903	...	...	12.33	3.33	0.44
1904	...	..	12.25	3.38	0.33
1905	...	...	4.66	1.15	0.24
1906	...	.	4.60	1 33	0.17
1907	...	...	2.78	0.99	0.06
1908	...	...	1.04	0.58	none
1909	...	...	0.77	0.46	0.01
1910	...	...	0.13	0.14	none
1911	...	...	0.04	0.09	none
1912	...	...	0.17	0.15	0.02
1913	...	...	0.56	0.22	none
1914	..	...	0.46	0.22	none
1915	...	...	1.25	0.25	none
1916	...	...	0.15	0.15	none
1917	...	...	...	..	...
1918	...	..	none	none	none
1919	...	...	none	none	...
1920	5.72	40.56	none	none	none
1921	6.32	...	none	none	none
1922	7.71	...	none	none	none
1923					
1924	Buildings sold by the Company in 1924				

* First building not opened until February 15, 1898.

† Report covers only second six months.

1. It was hoped that this table might be completed from the records of the City and Suburban Homes Company, but it proved impossible to secure access to these records. This is very regrettable as these buildings constitute the first group of modern model tenements on Manhattan Island and have been in operation for thirty-seven years, so that the data collected, if available, would be important and interesting for purposes of comparison.

COMPARATIVE DATA PERTAINING TO PROJECTS UNDER THE STATE HOUSING LAW, COMPILED FROM THE ANNUAL REPORTS OF THE STATE BOARD OF HOUSING

	Coverage	No. of apartments	No of rooms	Gross area per room	Average area of living rooms	Average area of bedrooms	Average area of kitchens	Cost of land per sq ft	Construction cost per cu ft	Total cost (estimated)	Loans	Average rent per room per month
	%			*Sq ft*	*Sq ft.*	*Sq ft*	*Sq ft*					
Academy Housing.....	43.9	476	1,778	239.3	187	141.5	124	$1.40	$0.3936	$1,985,704 89	$1,320,000	$10 20
Amalgamated Dwellings . .	59.4	233	921	268.4	204	160	129	5.61	0.3930	1,437,073.64	960,000	12.23
Boulevard Gardens	22.4	960	3,620	228.1	189	133	90	.98	0 3785	4,086,600.00	3,450,000	11.00
Brooklyn Gardens, 4th Ave.	52.5	165	670	163.2	135	99	77	2.52	0 5203	738,854 39	420,000	8.85
Hallets Cove Gardens	25	756	2,940	...	...	.		1.32	0.3833 (estimated)	3,267,000 00	2,975,000	11 00
Hillside Homes*	32.3	1,416	5,328	225.0	210	150	80	.72½	0.4262	5,717,871.00	5,060.000	11 00
Knickerbocker Village . ..	45.7	1,593	6,030½	198 6	205	129	66.5	14.06	0.4808	9,500,000.00	8,075 000	12.50
Rutgerstown †.....	33	...	30,684	. .	...	...	..	9.64	0.4300 (estimated)	45,000.000.00	..	...
Spence Estate ‡	53.2	508	2,150	197.5	195	124	102	4 80	0.3400 (estimated)	3,036,118.00	2,025 000	11.00

* Cf. *Architectural Forum*, March 1934.
† Data taken from *Rutgerstown and Queensboro* (booklet issued by the Rutgers Town Corporation)
‡ Cf *Architectural Forum*, February 1934.

ARCHITECTURAL COMPETITION PROGRAMMES (ABRIDGED) 1879–1934

PROGRAMME OF COMPETITION HELD BY THE "PLUMBER AND SANITARY ENGINEER" IN 1879, AS PRINTED IN THE ISSUE FOR DECEMBER 1878

It being desirable to improve the condition of the tenement houses in this city, we have with that object in view united with Messrs. D. Willis James, F. B. Thurber, Henry E. Pellew, and Robert Gordon, in offering five hundred dollars ($500) as a premium for the best four designs for a house for workingmen, in which may be secured a proper distribution of light and pure air, with an arrangement of rooms that will yield a rental sufficient to pay a fair interest on the investment.

It is hoped that architects will generally respond to this invitation and that as a result of the competition, the single lot owner as well as the capitalists may be shown how they can benefit those who are forced to live in tenements, and, at the same time have a paying investment. . . . To be permanently successful, the building of the houses for the poor must not be undertaken as an act of charity, but as a business operation, . . . The problem of building on a large block successfully has been solved by Mr. White in Brooklyn; in this city we must see what can be done on the 25 x 100 foot lot, and it is hoped the ingenuity of our architects will suggest a plan by which the single lot owner may profitably build a sanitary apartment house. . . . The unfortunate division here into lots 25 x 100, compels us to see what can be done on the ordinary sized lot, though it is hoped in laying out new sections or changing old ones, a different division may be adopted.

The terms of the competition are as follows:

The designs are to be for a Tenement House, to be erected on a city lot, 25 x 100 feet; the lot being enclosed by buildings on adjoining lots at the sides and rear. The building to be built of brick and with floors of timber.

The features which will have weight with the Committee of Award, to whom the designs will be submitted will be —

1. Security against Conflagration. (Including fire-proof stair-cases open to the air.)
2. Distribution of Light.
3. Ventilation.
4. Drainage and other Sanitary Appointments.
5. Seclusion of each Suite of Rooms, and Publicity of Access to them.
6. Convenience of Arrangements.
7. Inexpensiveness. . . .

The drawings [a plan of the principal story, a plan of the second story, a longitudinal section, and a front elevation] are to be made all upon one sheet of paper, and comprised within a rectangle of 17½ by 24 inches. . . .

The committee of award is to consist of

Mr. R. G. Hatfield, architect
Prof. Chas F. Chandler, President Board of Health
Rev. John Hall, D D
Rev. Henry C. Potter, D D.
Robert Hoe, Esq. . . .

The Committee of Award . . will select from such as are meritorious; ten designs or less, and number them consecutively from No. 1 to the highest number, in the order of merit as determined by the judgment of the Committee, or by a majority of them . . .

Mr. Hatfield, who was the chairman of the committee, was taken ill on February 12, 1879, and died on the 18th; in his place James Renwick acted as professional adviser.

In the issue of January 1879, the editors of the *Plumber and Sanitary Engineer* commented on the progress of the competition and printed the following information for competitors:

The average cost of an ordinary city lot, 25 x 100, in New York, may be taken at $5,000. The cost of an ordinary tenement is about $9,000. From four to six families are usually on a floor, each family having at least two rooms and paying a rent of from $5 60 and $7.60 to $10 per month. It is usual to build over most of the lot and to depend upon front and rear windows for lighting. Side walls must be twelve inches thick, ceilings are commonly 9 feet in height. The number of stories is optional with each builder, but tenants object to living too high on account of the labor of ascending stairs and carrying coal, provisions, etc. Where the yard is small, clothes must be hung to dry on the roof, or from the windows, . . .

Each set of rooms must be independent of all the others. The usual water fixtures, even in the best class of tenements, consist of a kitchen sink with cold faucet only, there being no boiler or other means of heating water.

Most tenement houses have only one large privy or water closet, situated in the yard for general use This on moral grounds alone has many objections. In the London Model Houses "shoots" for getting rid of ashes and other refuse are introduced and found convenient and cleanly. Where water fixtures are placed in exposed situations they must be guarded from frost.

In many cases the lower story and basement also of tenement houses is leased as a store.

Among the practical arrangements especially deserving the attention of competitors are these:

1. Automatic arrangements for ventilation. In most tenements the apertures of the ventilating shafts are stuffed with rags and the windows are entirely closed at night.

2. Adequate measures to prevent improper and clogging substances from entering the water closets, privies, etc., and their pipes, or for their removal.

3. Arrangements for cleansing of yards, areas, passages, and entries, and for keeping the passages into the sewers open and unobstructed.

4. Lifts for raising coal and other supplies, and shoots for ashes. . . .

The following sanitary features are required by law in all tenements in New York:

The halls on each floor must open directly to the external air and have no obstruction or rooms at the end Every bedroom must communicate directly with the external air or with the hall by a transom window over the door not less than three feet square. It may also in certain cases be thus connected with another room which has such an opening into the hall For every habitable room of less area than one hundred superficial feet, *not* communicating directly with the external air, and not having an open fire-place, shall special means of ventilation be provided by a shaft reaching to the roof, or otherwise. Every tenement must have a *clear space* of ten feet at the rear, between them and any other building, *unless by a special permit*. The landlord is bound to provide proper water closets and supply them with water, and maintain the sewer connection unobstructed. Ventilation of such appliances is obligatory, and the method of obtaining it by flues or shafts projecting above the roof is now esteemed the best. Separate traps for each water closet are required besides sewer traps. Water closets or privies are never to be less in number than in the proportion of *one* to every twenty occupants. Proper drainage includes the cure of wet or dampness in cellar floors, the draining of water from the roofs and yards and the provision of a proper passage for such water into the sewers. Running water is required in one or more places in the house or yard.

As the question has been asked we would state that it is usual to have the various stories above the first or main floor duplicates of each other. Hence plans of the first and second floors will suffice for a house of any height.

We would say finally that this competition is intended to enlist architects' invention, not merely to set a copy for imitation. Hence it is a matter of individual discretion what plan of arrangement is followed. If each designer will put himself in place of the owner, and strive to plan a sanitary building which will *bring in the most revenue*, he will not err. The item of profitableness includes appearance, comfort, healthfulness, and convenience. If ill planned or badly built the house will not draw tenants, and that building which will meet the conditions named and attract the most occupants at the highest rent must be considered the best. Capitalists will not invest in this direction unless they can obtain at least seven per cent. interest, net. How they can do this is the problem.

Some rather interesting comments on nearly 100 of the plans submitted in the competition were printed in the *American Architect and Building News*, February 22, 1879.

The following remarks made by the Committee of Award were published in the *Plumber and Sanitary Engineer* of March 1879:

. . . The object of the competition was to demonstrate if it is possible to build a model house for workingmen on the existing city lot 25 x 100, and while the plans selected for approval come nearest to fulfilling the terms of the competition, the committee emphatically declare that in their view it is impossible to secure the requirements of physical and moral health within these narrow and arbitrary limits.

Nevertheless your committee is free to say that many of the plans are an improvement on the existing tenement houses of New York, not excluding in this comparison those most recently built.

To secure a proper reform in our tenement house system, laws must be carefully enacted and strictly enforced regulating the number of occupants, the amount of open space, the provisions for light, ventilation and cleanliness, on sound sanitary principles, there would then result a

gradual redistribution of our city population which would end in leaving the income of real estate owners relatively as great as before. . . .

In another article in the same issue, giving some "General Reflections" on the competition, the following statements appear:

Nearly 200 designs were received from the following places:

London, Eng.,	Detroit,	Pittsburgh,	Albany,	Jersey City,
Toronto,	Grand Rapids,	Erie,	Brooklyn,	Bridgeport,
Ottawa,	Princeton, Ill.,	Philadelphia,	Rochester,	New Haven,
San Francisco,	Cleveland,	Baltimore,	Rondout,	Springfield,
Chicago,	Cincinnati,	Washington,	Saratoga,	Providence,
St. Louis,	Toledo,	Buffalo,	New York,	Boston,
		Lawrence.		

Most of the plans were from architects, but a few were sent by builders, civil engineers, plumbers, and three by ladies.

Through the courtesy of Messrs. Geo. A. Leavitt & Co., the plans were exhibited to great advantage at their rooms in Clinton Hall. . . .

Balconies were a notable feature in many plans, but were thought to be open to the objection of obscuring the light and air from tenants occupying rooms below. . . .

. . . one fair sized court is decidedly better than several small ones, so also a court connecting some way with the street is better than an enclosed well, where the air is likely to become stagnant and foul.

In some plans arrangements were shown for bringing fresh air to the bottom of these courts from out-doors, but while the effort is commendable, it would hardly succeed unless an upward current was created by some means.

As a rule there was too much plumbing shown in most of the designs, and it was badly arranged. Bath tubs, hot water boilers, and steam heaters are quite out of the question in the average tenement. The occupants would not take care of them, and they would soon be defaced or destroyed. A kitchen sink and a w. c. for one or perhaps two families is, perhaps, the limit of sanitary appliances. In these days of "skin" builders and cheap plumbers, it is questionable if even so much plumbing work is desirable in the homes of the very poor.

No w. c. should ever be placed in any house except where accessible to the open air. Hence to place such appliances in a kitchen or bed-room, or adjoining either without this requisite, as was shown on many designs, is open to grave objections. So also the grouping of several w. c. for the use of a whole floor, possibly in a dark passage used as a thoroughfare, is a very bad feature.

The prime objection to the present rear yard privies, common in most tenements, is the moral contamination which they breed, especially with grown up children who congregate about such places. The indoor arrangement above-mentioned would prove but a poor substitute for the old method. The most perfect isolation and privacy are necessary with all such appliances. . . .

An awkward division of rooms was noticeable in many instances, a "living room," kitchen, and one bedroom being allotted to each family, instead of two bedrooms and one other room for general use, as is the custom in most tenement houses.

In an editorial in this same issue the following statements were made:

The conclusion was irresistibly impressed upon the Committee that, while the present plans are a vast improvement over existing tenement houses, yet they do not fully solve the problem of reforming the condition of the poor. It is irrational to suppose that a commodious and healthful house for a large number of families can be built upon an ordinary lot 25 x 100, and some other division of land should be taken as a standard.

The present competition has demonstrated that stringent restrictions should be made upon the erection of houses of this class. The size and height of buildings should be limited, as well as the number of tenants on each floor. Every house should also be in charge of a janitor and kept under strict supervision. With the present license allowed to builders and landlords, no capitalist with a conscience can attempt to compete with unscrupulous and sordid men, whose sole aim seems to be to crowd the largest number of persons under one roof, at the highest rental. . . .

PROGRAMME OF COMPETITION HELD IN 1896 BY THE IMPROVED HOUSING COUNCIL FOR PLANS OF "IMPROVED" TENEMENTS, FROM PAMPHLET ENTITLED "CONDITIONS OF COMPETITION FOR PLANS OF MODEL APARTMENT HOUSES." THIS COMPETITION RESULTED IN THE FORMATION OF THE CITY AND SUBURBAN HOMES COMPANY

In pursuance of the objects of the Conference on Improved Housing, held in this city March 3d and 4th inst., the Committee on Model Apartment Houses of the Improved Housing Council have determined to make a beginning in the effort to provide suitable dwellings for the wage earners of New York.

The conditions of the competition were as follows:

Architects are invited to submit plans for a group of tenements designed for an entire city block. The plot is supposed to measure 200′ x 400′, or the equivalent of 32 city lots. It is bounded by streets on the long sides and by avenues on the short sides. The object of the competition is to obtain a satisfactory type of plan adapted to the conditions which prevail in New York.

To be successful, such a plan should be at least as economical as the plans in common use, but without their objectionable features. Perhaps the best and most popular of existing plans are those based upon the prize plan of 1879 [!]

A building of this kind occupies about 80% of the area of inside lots. It gives a clear rentable area on each floor, free of walls, partitions, corridors, staircases, and other parts used in common, equal to about 55% of the area of the lot.

Requirements

1. The plans must comply with all the requirements of the New York Building Law.
2. Except in the case of those portions of the building occupying the corner lots not more

than 70% of the total area of the land is to be occupied, the rest being left vacant for light and air. This does not apply to the ground floor or to the basement.

3. The space occupied on floors above the ground floor by walls, partitions, corridors, staircases, and other parts used in common, must not exceed 15% of the total area of the land.

4. The clear rentable space in apartments free of walls, partitions, corridors, stairs, and other parts used in common must on every floor above the ground floor be equal to at least 55% of the total area of the land. In those portions of the buildings occupying the corner lots it is expected a greater percentage of rentable space may be obtained.

5. No courts enclosed on all sides shall contain less than 900 square feet and should be as nearly square as possible; and no court enclosed on three sides shall be less than one-quarter as wide as it is deep from the open end.

6. No wells or light shafts shall be used.

7. All rooms must be lighted by windows opening directly upon the outer air.

8. All apartments must have cross ventilation.

9. All staircases and corridors must be well lighted at every floor by windows opening directly upon the outer air.

10. The building must be divided into compartments by unpierced fire walls extending from top to bottom, and there shall be an average of at least one such compartment for each city lot occupied, but such compartment need not conform to the size and shape of the 25′ x 100′ lot.

11. Each compartment must have its own independent fireproof staircase enclosed by brick walls with separate entrance from the street.

12. *Each compartment must have a hand-lift from the basement, so placed as to be accessible to all the families of the compartment.*

13. Each suite must have a separate water-closet, opening directly upon the outer air.

14. It must be possible to enter directly into the living room of each suite from the public corridor or staircase hall without passing through any other room.

15. It must be possible to reach every bedroom of a suite without passing through any other bedroom or the public corridor.

16. Every living room must contain not less than 144 square feet of floor space, and every bedroom must contain at least 70 square feet of floor space; but the average of all the apartments in a house or in a block, shall not be less than 400 superficial feet of clear floor area.

17. It is desirable that as many apartments as possible shall have at least one window opening toward the street so that they may be classed as front apartments.

18. Buildings facing the avenues should be so contrived that they may be entered from the streets, in order that none of the frontage suitable for stores need be lost.

The buildings are to be six stories high. The ground floors on the avenues are to be arranged for stores, which shall have ceilings eleven feet high in the clear. Ceilings of apartments are to be 8′6″ high in the clear. Each suite shall have a sink and a place for a range. The apartments are to be in suites of two, three and four rooms, and the following ratio is suggested: 30% each of two- and four-room apartments, and 40% of three-room apartments.

The officers of the Improved Housing Council were: R. W. Gilder, Chairman; W. Bayard Cutting, Vice-Chairman; Charles Stewart Smith, Treasurer; William

H. Tolman, Secretary. Miss Caroline Phelps Stokes, founder of the Phelps-Stokes Fund, was a member of the special Committee on Model Apartment Houses.

This competition was followed by the formation of the City and Suburban Homes Company, which, in the following year, constructed a group of tenements on the premiated designs of Ernest Flagg (Pl. 7, c).

PROGRAMME OF COMPETITION HELD BY THE TENEMENT HOUSE COMMITTEE OF THE CHARITY ORGANIZATION SOCIETY, IN JANUARY 1900, FOR PLANS OF "IMPROVED" TENEMENTS ON LOTS 25′, 50′, 75′, AND 100′

The purpose of this competition is:

1. To stimulate the intelligent interest of architects in the scientific and economic planning of City Homes for wage-earners, and thereby to obtain type plans of high character adapted to the conditions which prevail in the City of New York.

2. To encourage the building of model tenements by showing that by the application of scientific principles in the designing of the plan, such buildings can be made to yield proper commercial returns. . . .

3. . . . To obtain type plans of model units which will embody in themselves to a high degree the advantages of economy of construction, convenience of plan, good light and ventilation, cheerful outlook, and as great as possible a concentration of light and air space, and which, when reproduced or combined in block form, will insure in a still higher degree these advantages.

The competition is divided into three classes, for houses on lots 50, 75, and 100 feet wide, with a subsidiary class for houses on lots 25 feet wide.

Plans offered in competition should be at least as economical as the plans in common use, *i. e.*, they should provide a clear rentable area on each floor, free of walls, partitions, corridors, staircases, and other parts used in common, equal to about 55% of the area of the lot. They should avoid the objectionable features of the so-called "double-decker" plan, the type now most generally used, and a cut of which is given on the opposite page. . . .

Chief among the objectionable features [of prevailing types] are the narrow side courts, which woefully fail of their purpose of supplying light and fresh air to the apartments, rather serving as conveyors of odors, noise, fire and disease, from house to house and from floor to floor.

The plans must comply with all the requirements of Sections 1304–1325 of the Greater New York Charter, and the provisions of the Greater New York Building Laws.

Not more than 70% of the area of the lot shall be covered [measurements to be taken at the ground floor]. . . .

No court or shaft shall be less than 6 feet wide in any part, and such court or shaft shall not be less than 150 square feet in superficial area, but this provision shall not be construed as preventing windows at the angles of such court or shaft, provided that the running length of the

wall containing such windows does not exceed 5 feet. And further, where such court or shaft[1] exceeds 30 feet in length, that portion of the court or shaft in excess of 30 feet shall be increased in width in the ratio of 1 foot in width for every 5 feet of additional length.

All rooms must be lighted by windows opening directly upon the outer air. All apartments should have cross ventilation. All staircases and public halls must be well lighted at every floor by windows opening directly on the outer air.

Each building should be divided into compartments by unpierced fire walls extending from top to bottom, and there should be one such compartment for each 25-foot city lot occupied; but such compartment need not conform to the size and shape of the 25 by 100-foot lot.

Each compartment must have its own independent fire-proof staircase enclosed by brick walls. This shall not be held as excluding outside staircases and galleries. Each compartment must have a dumbwaiter from the basement, so placed as to be accessible to all the families of the compartment.

Each set of rooms must have a separate water-closet with window opening directly upon the outer air, and such water-closet must not open directly from a living or bed-room.

When possible, especially in the larger apartments, a small vestibule or private hall should be provided, from which the water-closet, living room, and if possible one other room, should open. Where no such hall is provided, it must be possible to enter the living room directly from the public corridor or staircase hall. It must also be possible to reach every bed-room of an apartment without passing through any other bed-room. In each apartment shall be shown a range, a sink and two fixed wash tubs, and all plumbing should be concentrated on as few lines as possible.

The apartments are to be in suites of two, three, and four rooms, and the following ratio is suggested: 30% each of two-room and four-room apartments and 40% of three-room apartments; convenience of arrangement, privacy, cheerful outlook, and abundance of light and air, are essential conditions. It is important that as many apartments as possible shall have at least one window opening toward the street, so that they may be classed as front apartments.

Living rooms in the three-room and four-room apartments must contain at least 130 square feet of floor area; in the two-room apartments they must contain at least 120 feet of floor area. Bed-rooms shall have at least 80 square feet of floor area, but in three and four-room apartments there may be one single bed-room containing not less than 60 square feet of floor area. . . .

The "Jury of Award" consisted of W. Bayard Cutting, President of the Improved Dwellings Association, John D. Crimmins, E. R. L. Gould, President of the City and Suburban Homes Co., Mrs. Roland C. Lincoln, of Boston, Lillian D. Wald, Head Worker of the Nurses' Settlement, and W. R. Mead, of McKim, Mead & White, Architects.

I. N. Phelps Stokes, of the Tenement House Committee of the Charity Organization Society, drew up the programme and served as Professional Adviser. The competition was anonymous.

1. There is evidently some confusion here. It should read, "where a street or yard court exceeds 30 feet in length, that portion of the court in excess of 30 feet shall be increased," etc.

PROGRAMME OF COMPETITION HELD IN DECEMBER 1921 BY THE CHAMBER OF COMMERCE OF THE STATE OF NEW YORK, THE MERCHANTS' ASSOCIATION OF NEW YORK, THE ADVISORY COUNCIL OF REAL ESTATE INTERESTS, AND THE REAL ESTATE BOARD OF NEW YORK, WITH THE COOPERATION OF THE PHELPS-STOKES FUND, FOR PLANS OF "IMPROVED" TENEMENTS ON 50′ AND 100′ LOTS

Purposes of the Competition

The following named representative New York City organizations, with the hope of stimulating the development of better and more economical types of tenement houses, and of securing preferential consideration and higher building loans, based primarily on superiority and economy of design and construction rather than on actual cost, thus helping to solve the present housing problem and shortage, and encouraging new construction, invite architects to submit plans in an anonymous competition for the design of improved city tenements.

The Trustees of the Phelps-Stokes Fund, believing that this undertaking offers an unusual opportunity for public service, as well as for safe and profitable investment, have offered to defray the expenses of this competition, and to supply, as an investment, the funds necessary to construct one 100′ unit, or two 50′ units, on the designs of the architect receiving the first award in the competition.

It is hoped that this competition will stimulate the interest of architects and investors in the economic planning and construction of city homes for wage earners, by showing that, through the application of scientific principles of design and construction, such buildings can be made to yield satisfactory commercial returns, combined with lower rents than pertain at present. It is also hoped that this competition will compare favorably in results with the competition held in 1899–1900 by the Tenement House Committee of the Charity Organization Society, which competition was largely instrumental in procuring the appointment of the State Tenement House Commission of 1900, which prepared the present Tenement House Law. This law, which eliminated the old dumb-bell type of tenement and made really bad housing conditions impossible, has become so complicated by amendments and official interpretations as to be in serious need of thorough revision, and it is hoped that the present competition will furnish valuable suggestions for such a revision.

The primary and specific object of the competition is to obtain type plans of model units which shall embody in themselves to a high degree the advantages of economy of construction, convenience of plan, privacy, good light and ventilation, cheerful outlook, and as great as possible a *concentration of light and air space. Other things being equal, a preference will be given* to plans which, without sacrificing any of these qualities, insure them in a still higher degree when reproduced or combined in block form.

General Conditions

The present competition will be divided into two parts, Preliminary and Final. Not more than five architects, who have specialized in "economic planning," and especially in the

design of improved tenement houses, will be invited to take part in the PRELIMINARY COMPETITION, and each will be paid a fee of $500. The PRELIMINARY COMPETITION will be open, without fee, to all other architects, members or past members in good standing of the New York or Brooklyn Chapters of the American Institute of Architects, or of the New York Society of Architects. . . . The authors of not less than five nor more than seven designs selected as the best by the Jury will take part in the FINAL COMPETITION, and will receive therefor a fee of $500. each. The author of the design selected by the Jury as the best in the FINAL COMPETITION will be employed by the Phelps-Stokes Fund as architect of the building, in accordance with the terms and fees prescribed and recommended by the American Institute of Architects. . . .

PRELIMINARY COMPETITION

Two typical upper floor plans shall be submitted for each unit selected (50′ and / or 100′), — one (marked A) showing the author's conception of the best lay-out which can be secured under the present Tenement House Law (for buildings 60′ in height), and the other (marked B) showing the author's conception of the best lay-out which could be obtained with reasonable modifications of the present Tenement House Law. These plans may be submitted for a 50′ unit (on an interior lot), a 100′ unit (on an interior lot), or for both.

Plans offered in competition should be at least as economical as the plans in general use; i. e., they should provide a clear rentable area, exclusive of walls, partitions, public halls or corridors, staircases, and other parts used in common, of not less than 56% of the area of the lot, and should have at least twenty-two (22) rooms (exclusive of baths) for the 50′ unit, and forty-six (46) rooms for the 100′ unit.

Apartments are to be in suites of two, three, and four rooms, in the ratio of approximately 30% each of two- and four-room apartments, and 40% of three-room apartments.

All living-rooms, except in two-room apartments, shall have an area at least 10% above the minimum required by the present Tenement House Law. One bed-room in each apartment shall have an area at least 15% above the minimum required by the present Tenement House Law.

Private bath-rooms shall be provided in connection with not less than one-quarter nor more than one-half of the apartments. All other apartments shall be provided with separate water-closet compartments.

If possible, especially in the larger apartments, a small vestibule, or private hall, shall be provided, from which the living-room, water-closet, and, if feasible, one other room, shall open. . . .

In each apartment there shall be shown a range, sink, dresser, and two fixed wash-tubs; all plumbing should be concentrated on as few lines as possible. . . .

FINAL COMPETITION

. . . The drawings submitted in the Preliminary Competition establish the fact that it is possible to obtain, under the present Tenement House Law, on a 50 ft. lot twenty-four, and on a 100 ft. lot forty-eight, rooms on a typical upper floor, all apartments having bath-rooms, and at the same time to secure ample courts, and rooms averaging at least 15% above the minimum sizes required by the Tenement House Law. For this reason it has been deemed advisable to

require that, subject to the exception hereinafter noted, plans submitted in the Final Competition shall provide at least this number of rooms; (a larger number, coupled with smaller size, even if above the prescribed minimum, seems hardly advisable); that the areas of all living-rooms, except in two-room apartments, or as hereinafter otherwise specifically provided, shall be at least 10% in excess of the minimum required by the present Tenement House Law; that the areas of all bed-rooms shall be at least 5% larger than the minimum required by the present Tenement House Law; and that one bed-room at least in each apartment shall be not less than 15% larger than the minimum required by the present Tenement House Law. Any excess over 75 ft. and 85 ft., respectively, in single and double bed-rooms, should preferably be thrown into living-rooms

In deference to the feeling expressed by a majority of the Jury, and many of the Competitors, as well as by outside tenement house experts generally, it has been decided to require that bath-rooms be provided in all apartments

All drawings are to be prepared in accordance with the requirements of the existing Tenement House Law and the New York City Building Code, etc, applicable to non-fireproof buildings, 60′ (six stories) in height.

All partitions between apartments are to be 4″ thick Partitions between rooms in apartments are to be 2″ thick.

In all apartments there shall be shown a gas-range, sink, 2 fixed wash-tubs, dresser, and refrigerator. . . .

Suggestions

The following suggestions are made, based on a study of the plans submitted:

It is desirable that as many apartments as possible have at least one room opening on the street or yard

As there is a growing tendency in three, and especially in four, room apartments, to use one of the smaller rooms as a kitchen, placing therein the range, sink, tubs, etc., it is suggested that Competitors give serious consideration to this arrangement in connection with some of the larger apartments.

It is strongly recommended that in each apartment the bathroom shall open from an interior hall or entrance vestibule, and be so arranged as to be accessible from as many rooms as possible, without passing through the living-room, which is often used for sleeping purposes.

In connection with all two-room apartments, and approximately one-half of all other apartments, W. C. s and showers only need be provided, and, if desired, in order to more readily connect these with an interior hall or entrance vestibule, they may be entered from the end by passing through the portion used for the shower. Such bath-rooms should be 2′ 8″ wide in the clear. Other bath-rooms should be provided with bath-tub or shower [*sic*], W. C., and basin.

It is suggested that, where possible, the sink, wash-tubs, gas-range, and refrigerator, when placed in the living-room be grouped in such a way as to make it possible to shut these fixtures off by a curtain, or light doors, from the rest of the apartment, and that the sink and tubs, at least, be placed as near the source of light as possible. Where this arrangement is followed, and where the area of the room, exclusive of the strip thus shut off, is at least equal to the minimum area required by the Tenement House Law, 46 rooms will be considered as the equivalent of 48. Such kitchenette, or scullery, strips, should be 2′ wide in the clear.

At least one fair-sized closet is to be provided in connection with each apartment. This closet should be accessible from the living-room without passing through a bed-room.

Where a deep room is lighted by a corner window, it is suggested that, where possible, the window be placed at an angle to the main axis, so as to secure the best possible penetration of light. Interior window recesses, if used, shall not be more than 2′ in depth, nor less than 4′ in width. Where possible, two windows shall be shown in connection with the larger rooms.

It is hoped that the Competitors in the Final Competition will take full advantage of the opportunity afforded to restudy and improve their plans. . . .

(signed)

CHAMBER OF COMMERCE OF THE STATE OF NEW YORK,
ALFRED E. MARLING.

MERCHANTS ASSOCIATION OF NEW YORK,
WILLIAM FELLOWES MORGAN.

ADVISORY COUNCIL OF REAL ESTATE INTERESTS,
ADOLPH BLOCH.

REAL ESTATE BOARD OF NEW YORK,
ALEXANDER M. BING.

The Jury was composed of the above named representatives, two architects (John W. Cross and Emery Roth), named respectively by the New York Chapter of the American Institute of Architects and the New York Society of Architects, and Otto M. Eidlitz. Mr. Alfred E. Marling acted as Chairman of the Jury, and I. N. Phelps Stokes, President of the Phelps-Stokes Fund, drew up the programme and served as Professional Adviser.

PROGRAMME OF COMPETITION HELD BY THE PHELPS-STOKES FUND IN APRIL 1933 FOR PLANS SHOWING THE PROPOSED DEVELOPMENT OF A TYPICAL NEW YORK CITY BLOCK (200′ x 400′) OF "IMPROVED" TENEMENTS

The officers of the Fund feel that although a number of plans have been suggested, and recently one or more subsidized by loans from the Reconstruction Finance Corporation, no adequate study of block development, to meet existing conditions and needs, has yet been made, and that the present is a favorable time to encourage such study, as, owing to the lack of building activity, architects generally are now in a position to devote the necessary time to the problem. It is hoped that this study will prove useful, not only by furnishing new ideas and devising new types of plans for block and neighborhood developments, but also in suggesting desirable modifications of the Multiple Dwelling Act.

One of the pressing physical needs on Manhattan Island today is a comprehensive plan which eventually will clear up the lower East Side slums. Manifestly, it is impossible to clear the slums without substituting something better, and better housing seems to be the natural substitute, perhaps in combination with new industrial developments. Even if most of the

present inhabitants of the lower East Side could be moved to the country or to the suburbs, the problem would not be solved. The most promising solution seems to be more scientific and more economical housing design and construction, in block units, combined with some form of municipal cooperation. The first necessary step seems to be a thorough study of block design, especially in its relation to neighborhood development. It is this study, particularly, that the Trustees of the Phelps-Stokes Fund hope to stimulate by the present competition. . . .

The concentration and centralization of the space left vacant for light and air, in the form of gardens or parks, are obviously advantages worthy of the most serious consideration; nevertheless, it has been determined that in the development of the most practical types of plans for housing the poor of the city it would be unwise to *insist* upon conditions more ideal than those which usually pertain in the housing of the rich. The decision is therefore left to the judgment of the individual competitor.

The programme furnishes also an opportunity of choosing for development a type of plan suggested in the report of the Tenement House Commission of 1900 — the so-called "Small Parks Plan" — in which two comparatively narrow strips of land, extending the full length of the block, are sold [under restrictions] for development and the centre of the block is developed by the city as a small public park, open at the two ends. Various modifications of this plan naturally suggest themselves. All have the merit of making possible a very simple and economical type of plan and construction, on land practically every foot of which can be utilized to advantage. In such a plan the city would be expected to pay about one-third of the purchase price of the block for something over the one-half of the block area used for park purposes, which would, of course, be accessible to the whole neighborhood. The advantages offered by *the combination in a neighborhood development of several such block units are manifest.*

Another suggestion, which is offered for the consideration of competitors, is that, in the interest of economy both in construction and operation, a type of elevator service be considered which was originally suggested in a tenement house competition held some years ago, in which a building several hundred feet long and 12 stories high was served by two elevators. This was accomplished by the introduction of distributing floors, at the ground, fifth, and tenth floor levels. On these floors a central corridor gave access to all stairways, so that any intermediate floor could be reached by walking up or down one or two flights. This arrangement, as well as the number of stories used in this particular plan, are mentioned merely for the information, and possible consideration, of competitors.

The types of development which it is sought to encourage by this competition are those which will produce a sufficient number of rooms, coupled with the best procurable combination of economic construction, adequate space, convenient arrangement, privacy, attractive outlook, good ventilation, and well proportioned rooms, at rents not exceeding an average of $10.00 per room per month — no specific charge being made for bath-rooms — and $5.00 [being allowed] for dining bays or alcoves and kitchens less than 70 square feet in area, if such are suggested, and which on this basis will produce a fair and safe return, after making adequate provision for vacancies and a sinking fund, perhaps aided by some form of tax concession more generous than that now in force.

A typical block unit of minimum size — 200′ x 400′ — has been fixed upon, and a land cost of not over $8.50 a square foot assumed. With types of design and construction now in use it seems unlikely that a cubic foot cost of less than 50 cents for fireproof construction, and

42½ cents for non-fireproof construction (including carrying charges during construction, fees, etc.) could be realized, nor an operating and maintenance cost of less than $40.00 per room per year

The above facts and figures are given for the general information only of competitors. It is hoped, however, that a careful study of the plans submitted, and especially of those selected by the jury as the best, will supply interesting and instructive information which will help materially in the solution of this difficult and pressing problem.

Competition Requirements

While a block 200 x 400 feet has been selected, it is obviously desirable that the sub-division of the plan shall be of such a character as to lend itself readily to expansion or contraction to fit longer or shorter blocks — either by the repetition of standard units of two or more widths, or in some other way. . . .

There should be, approximately, 25% of two room apartments, 50% of three room apartments, 20% of four room apartments, and 5% of one and five room apartments. Living-rooms in the two room apartments should be not less in area than 150 sq. ft; in three room apartments not less than 160 sq ft, and in four room apartments not less than 170 sq ft. In four and five room apartments there may be one single bed-room of an area of not less than 70 sq ft.; all other bed-rooms are to have an area of not less than 80 sq ft.

The jury consisted of:

George McAneny
Alexander M. Bing
William Sloane Coffin
Grosvenor Atterbury
Emery Roth

I. N. Phelps Stokes drew up the programme and acted as Professional Adviser, and Wm. A. Robertson, Chief Plan Examiner in the Tenement House Department, acted as adviser on the requirements of the Multiple Dwelling Law, the Tenement House Law, the Building and the Zoning Law.

Remarks

The present competition is intended, primarily, to focus the attention of New York City architects upon a problem of much civic importance, which seems likely, during the next few years, to result in considerable activity in the design and construction of new tenement house block developments.

The Trustees of the Phelps-Stokes Fund are not themselves in a position to undertake such construction, but they confidently expect that this competition will serve a useful purpose in attracting public attention to the pressing need for slum-clearance and the construction of new housing, as well as in clarifying the whole situation and supplying much important preliminary information. . . .

The Trustees have no fixed preferences or prejudices. They seek, with open minds, to explore the broad field of economic and better city housing for the poor, and wish to encourage

each entrant to express graphically and freely his (or her) own ideas and conclusions on a subject in which every citizen should take an intelligent interest

The awards were as follows: first prize, $500; two second prizes of $250 each; three third prizes of $100 each; honorable mention, $50.

PROGRAMME OF COMPETITION HELD BY THE NEW YORK CITY HOUSING AUTHORITY IN JUNE 1934

Programme of Competition for Qualification of Architects

The Object of this Competition is to qualify Registered Architects residing, or having their principal office, in New York City to act as Architects in respect to portions of the work executed through the use of funds loaned by the Public Works Administration to the New York City Housing Authority. This competition applies only to the initial allocation by the P. W. A., and, since the selection of the Architects is subject to the approval of the P. W. A., no commitment is hereby made as to the employment of those qualifying or to the terms of compensation.

Architectural Adviser: Pursuant to and in conformity with the procedure outlined in a communication, dated April 16th, 1934, addressed by the New York City Housing Authority to all Registered Architects of the City of Greater New York, the Authority selected five architects to act as the Executive Committee of the Board of Architects. The Authority has appointed the following three members of the said Board, James F. Bly, Arthur C. Holden, and R. H. Shreve, to act as its Professional Adviser in the conduct of this competition.

Competitors: Participation in this competition is limited to architects, registered under the laws of the State of New York, residing or having their principal office in the City of Greater New York, and whose qualifications to enter the competition were determined by the questionnaire, attached to the communication dated April 16th, 1934, above referred to and subsequently returned to the Authority. . . .

Jury: The New York City Housing Authority agrees that there will be a Jury consisting of the following: two members of the New York City Housing Authority; two members, other than those acting as Professional Adviser, of the Executive Board of Architects; and in addition the Technical Director of the Authority. . . .

The Problem: For some two decades the centrally located residential areas of our cities have been decreasing in population and falling rapidly into conditions of decay and obsolescence. It was assumed that the larger part of these areas would be required for commercial and industrial use; and they have been so zoned. Notwithstanding the rapid expansion of industry and commerce during this period the demand for commercial and industrial space failed to measure up to this assumption. The indications are that a movement toward decentralization is already under way and that these blighted areas may, therefore, never be needed for other than residential use. Whatever the future holds in store in this respect the immediate problem confronting Housing Authorities has been clearly defined

by the factual surveys covering physical, social and economic conditions of those areas and the broad trends of population growth and migration.

Broadly speaking, these areas are well located for residential use, and particularly in respect to opportunities for employment of those with low incomes. However, if these areas are so to be used, they must provide at comparable rentals an environment that will be as satisfactory as that which may be had elsewhere. This will require the introduction of open spaces, parks and playgrounds, the use of very much lower coverage, and as a consequence lower population densities. Generally speaking to accomplish these ends the existing street pattern must needs be changed as it is extremely wasteful in arrangement and the least satisfactory that could be devised for residential use. It would be advantageous from every point of view to reclaim half of the streets and turn them to other uses.

The foregoing factual statement of the problem now confronting Housing Authorities is set up as a background to the Program which follows. While this program calls for the treatment of a limited area, a submission will be considered in the light of the resulting effect were it extended, with variations, over a large area. The population density proposed in Scheme "A" is suggested as a maximum for these centrally located areas. To put this Program into effect, sites must be selected where current values admit of low rental with these population densities. It is intended that the Competitors will demonstrate what may be done toward the reclamation of slum and blighted areas of our urban centers when values will have become adjusted to the changing facts of population growth and migration.

The Requirements: For the purposes of this competition the following assumptions are made in respect to an area of 16 blocks to be cleared and rebuilt.

The Site: (Mandatory)

The Site, assumed in a large, blighted and slum area in the City of Greater New York, is level and advantageously located for low rental housing. Certain streets may be closed and added to the usable area of the Project without cost. There are no parks or playgrounds within the area or adjacent. The attached "Map of the Site" gives the dimensions of streets and block, the streets that may be closed and such other data as will be needed in designing a Project for this area.

Density of Population (Mandatory)

Competitors are offered the choice of designing a Project with Population Density of:

Scheme A	250 persons per gross acre;
Scheme B	150 persons per gross acre;
Scheme C	100 persons per gross acre.

Open Spaces (Mandatory)

A total of 260,000 sq. ft. is to be reserved for Public Parks, Recreation Fields and Sites for a School and a Community Building. This area is to be so disposed within the plan that it may be owned, maintained, and operated, by the City as distinct from the Housing Authority. No less than one-half of this area shall be disposed in one field; the remainder in not more than two. The above open spaces are not to be confused with play spaces for small children, which will be intimately related to the structure, and which will be owned, maintained, and operated, by the Housing Authority as a part of the Project.

Community Building and School:

It is assumed that there are ample school facilities in areas adjacent for all except children of the grade school age. Within the areas set aside for Public open space indicate sites for (*a*) a Grade School, and (*b*) a Community Building.

Rooms, Height, Coverage:

For the purposes of this competition no definite standards or limitations are imposed as to size of rooms, height of structure, or coverage. In respect to these three important factors Competitors are to propose what in their judgment will best serve the end — *adequate low rental housing.*

Distribution of Family Units: (Mandatory)

No definite recommendation is made as to the arrangement of apartment units nor as to the distribution of units of different size. This is left to the Competitor to select and propose what in his judgment will best serve the needs of the income group now occupying low rental areas. Upon Sheet No. 2 the Competitor is to indicate the number and percentage of each distinct type of apartment unit used in the Project.

The following tabulation showing the distribution of families by persons in an actual area is included for the information of Competitors.

Families of 1 person	6.15%	5	13 15	9	1.03
2	22.35	6 ...	7 54	10	.50
3	22.63	7	3.91	11	.24
4	20 30	8	2 03	12	.17

Stores: (Mandatory)

For the purpose of this competition it is assumed that 12 lineal feet of store frontage per 100 of population will be provided with the Project.

Garages:

For the purpose of this competition garages are not to be included within the area allotted to the Project.

Compliance with Building Laws (Mandatory)

Competitors shall comply with the provisions of the Multiple Dwelling Law and the Building Code of the City of New York.

This competition programme was drawn up by Mr. Frederick L. Ackerman. Two hundred and seventy-seven designs were submitted, and twenty-two were selected for commendation.

PART II

THE FUTURE

THE PRESENT PROBLEM

WE NOW pass to a brief consideration of the various factors which, collectively, constitute the housing problem in New York City today.

Although the cost of construction, and rents, have nearly doubled during the past thirty years, the cost of land in the tenement districts is substantially the same as it was at the beginning of the century.

Up to about 1900 the prevailing unit for development remained the 25′ x 100′ lot, generally built upon or, when already improved, bought and operated, by a tenant owner, often a retired policeman, postman, or janitor, whose ambition was to invest his savings safely and to provide his family with a comfortable home and himself with an easy job.

With the new century conditions changed, and the popular unit became the 50′ to 100′ lot, almost always improved by a speculative builder and owned and operated by an absentee landlord, usually a corporation. As building costs increased rents naturally advanced, and profits continually decreased. Before 1900 10 per cent or 12 per cent, or even more, was not an uncommon profit from tenement-house property. This profit gradually decreased until now, in normal times, 6 per cent is probably as much as is earned by the average property of this class. This decrease in profits is due not only to an increase in the cost of construction, caused primarily by an advance in wages, but also, to some extent, by more exigent building laws, and to the increased space and comforts *demanded* by tenants.

Among the more important developments in so-called low-rent housing,[1] on a group or block scale, undertaken since the War in Greater New York may be mentioned the Homewood Gardens Apartments (Pl. 15, B) — the first group of model tenements built after the War (1920) — and the Celtic Park development in Queens, begun in 1931, by the City and Suburban Homes Company; the Cathedral Ayrcourt Apartments (1922), and La Mesa Verde Apartments (1926) of the Open Stair Dwelling Co. (Pls. 16, A, and 18, A and A′); the buildings erected in 1922–1924 in Long Island City by the Metropolitan Life Insurance Company (Pl. 16, B and B′); the Dunbar Apartments, erected in 1926–1928 in 149th and 150th Streets, by Mr. John D. Rockefeller, Jr. (Pl. 18, B); the apartments erected in 1927–1932 in the Bronx, on Sedgwick Avenue between Saxon and Dickinson

1. At present generally assumed as not exceeding from $10 to $12 per room per month, but applied in this Appendix to rooms renting for less than $8.

Avenues and on Van Cortlandt Park South and Saxon and Norman Avenues, by the Amalgamated Housing Corporation (see Fig. 144, b); the Brooklyn Garden Apartments, erected in 1929 (Pl. 18, c); the block of apartments erected in 1930, and known as the "Amalgamated Dwellings," at Grand, Columbia, Broome, and Sheriff Streets, Manhattan (Pl. 19, a), also the Academy Housing Corporation's group of buildings, erected in the Bronx in 1931 (Pl. 18, d); the Boulevard Garden Apartments, at Woodside, Long Island, completed in 1935 (Pl. 24, a); and Hillside Homes, in the Bronx, opened in 1935 (Pl. 21, c).

Although hardly qualifying even as so-called low-rent housing, it is interesting to compare with these Knickerbocker Village (Pl. 24, c, and Figs. 44 and 128), the latest New York City housing development and the second to be completed with the help of funds supplied by the Government. This development, completed in 1934 on two irregularly shaped city blocks bounded by Cherry, Catherine, Monroe, and Market Streets, is the first, and so far the only, slum-clearance and rehousing experiment on a large scale to be undertaken on Manhattan Island. It is intended solely for the "white collar" class, the rents averaging $12.50 per room per month,[1] and many of the tenants being well-to-do families, who have moved from considerably higher priced apartments.

In all of these developments the size of rooms has increased materially over the standards in vogue before the War, and in most of them the area of the plot covered by buildings is considerably less than the maximum allowed under the Tenement House Law of 1901 — the Multiple Dwelling Law sets no limit on coverage. There is also a growing, and welcome, tendency to concentrate and centralize the space left vacant for light, air, and recreational use, in the form of a single large central court or park.

The many advantages of carefully considered and composed block and sub-block unit designs, if ever in doubt, were impressively established by the recent competition held by the Housing Authority, which has also shown that many architects now understand the fundamental requirements of tenement-house planning, such for instance as through ventilation, the avoidance of long corridors, greater convenience in the arrangement of apartments, rooms of more adequate size, a better outlook, more sunshine, etc. In one respect this competition proved particularly impressive, even if unconvincing; the size of the rooms shown on most of the plans is nearly 50 per cent in excess of the minimum required under the Tenement House and the Multiple Dwelling Laws, and seems quite unnecessarily generous when we consider that these tenements were designed solely for

1. In estimating the number of rooms, dressing rooms in 2½-room apartments, dining alcoves in 3½-, 4½-, and 5½ room apartments, and, in certain cases, bath-rooms in 3½ room apartments, are counted as half-rooms, so that the actual rent is considerably higher — probably as much as $15.

low-rent tenants, who cannot reasonably expect, and should not be provided with, rooms larger than are required for reasonable comfort.

The fact is not generally recognized that, within certain limits, sub-block units should be as small as is practicable — for instance having a frontage of 50′ rather than 100′ — as this results in greater flexibility — and as nearly as possible approaching the ideal of two rooms in depth. It is also preferable that they be aliquot parts of 100 or 200 feet.

The 25-foot lot and the rear tenement are two bogies which have long drawn the fire of housing reformers: to these has recently been added a third source of worry — the size, or rather the lack of size, of the average city block — about 200 ft. wide by from 400 ft. to 800 ft. long. As a matter of fact, not one of these long-established grievances is in itself necessarily an evil. Indeed it is doubtful whether, all things considered, two more convenient and economical units for general city use than the 25 ft. x 100 ft. lot and the 200 ft. wide block could have been devised, although it is doubtless a fact that in the case of the latter an additional 50 ft., under some circumstances, would facilitate the planning of modern multiple dwellings.

Until about 1850 New York was essentially a city of private homes, and the ubiquitous 25 ft. x 100 ft. lot was well suited, both in width and length, for their satisfactory development. These dimensions permitted a building 40 or 50 ft. deep, with a generous yard or garden in the rear, and were ample for the requirements of families of various sizes. Pl. 1, A, shows the earliest and simplest arrangement of the house plan. The more usual arrangement consisted of a dining-room in the front basement and a kitchen in the rear, a six-foot vestibule and stair hall on the entrance or first floor, with a parlor on the front about 16 ft. x 20 ft., and a library or living-room across the back, about 17 ft. x 23 ft. On the second floor there were generally a large front and rear bed-room, with closets between, a hall bed-room on the front, and a bath-room corresponding in location and size at the back. This arrangement necessitated a centrally located stairway (*Cf.* Pl. 1, B). The servants' rooms were usually in a low third story, but sometimes in the basement, in which case the dining-room and pantry were in the rear of the first floor.

In later years, when these houses were converted into tenements, one of the large bed-rooms on each floor was usually divided into two so as to make a four-room- and-bath apartment, or, if a privy or school sink were installed in the yard, one of five rooms. In either case the sizes of the rooms and their ventilation and lighting were generally satisfactory if the partitions were run at right angles with the front and rear walls so that each room had its own window. In most cases, however, in order to secure better shaped rooms, the partitions were run

parallel with the front and rear walls, which resulted in interior rooms without direct light or ventilation. The next step was to subdivide the interior rooms so as to obtain two four-room apartments on each floor (Pl. 1, B).

Either at the time of the remodelling or later, a rear building was often put up, usually a story lower than the front building and not over 25 ft. in depth, with three or four rooms on a floor. Unfortunately these new buildings were frequently placed within a few feet of the back of the lot (Pls. 1, C, 2, A, and Fig. 27); when, however, a space about 10 ft. wide was left between the rear building and the lot line, and the front building was not much over 40 ft. deep, a court about 25 ft. square was formed between the front and rear buildings, which, in combination with similar adjoining courts, or even when these did not exist, produced reasonably satisfactory living conditions. The rear tenement must not be confused with the back-to-back tenement. *Cf.* Pls. 13, C, and 14, B, with 1, C, and 2, A.

The Tenement House Commission of 1900, recognizing the advantage, under adequate restrictions, of an arrangement which produces the maximum possible concentration of the space left vacant for light and air, did not seek to prohibit under the new Tenement House Law the erection of rear tenements on lots over 50 ft. in width, although such a prohibition was strongly urged by many reformers.

The claim, often made, that the rear tenement is difficult to police is much exaggerated. It is no more difficult to police than the rear portion of the average type of deep tenement. Under the Multiple Dwelling Law it is practically prohibited by the greatly increased minimum dimensions of yards and courts.

Even in the planning of modern multiple dwellings it would be difficult to agree upon a more satisfactory unit than the 25 ft. x 100 ft. lot, for, in combinations of two or four, lots of this size produce the plot dimensions usually chosen as the most desirable for independent development, although the 50 ft. x 100 ft. lot has been practically outlawed by the requirements of the Multiple Dwelling Law. Even in block developments a unit the width of which divides without remainder into the prevalent block width obviously has many advantages.

It is a well established fact that, within reasonable limits, the smaller the lot unit the more flexible and adaptable it is to the development of the architectural layout of a building or block of buildings. If larger lot or block units had been adopted when the modern city was laid out there would necessarily have been more waste in solving the housing problems of today, just as there would have been greater waste in solving those of a century or half a century ago.

Although the super-block presents many attractive possibilities, and should be encouraged where it can be created without seriously affecting transit facilities through the elimination of cross streets, the ordinary city block, in combina-

tion with such types of development as are here suggested, is on the whole very satisfactory for average high- or low-cost housing, and, as has already been pointed out, its use, possibly in connection with somewhat widened avenues and streets, obviates the necessity for expensive alterations to existing public services.

Attention has been called to the growing tendency to increase the size of rooms, even in apartments designed for the lowest rents. This increase has been considerably more marked during the past ten years. Whereas, undoubtedly, the requirements of the Tenement House Law of 1901 permitted rooms which were too small for comfort, it seems equally clear that the increase in size *demanded* today, even by low-rent tenants, is out of all proportion to the rents which they are able, or willing, to pay, and results in rooms larger than they actually need or can reasonably expect the Government, state, or city, to help them to pay for.

A careful consideration of space requirements leads me to the conclusion that living-rooms in 2-, 3-, and 4-room, apartments of approximately 150, 160, and 170 sq. ft., respectively, in area, including kitchenettes, if these are provided, are sufficiently large for this class of housing, and as large as should be provided, at least in Federally subsidized developments, although we have to face the fact that a good many tenants, even in the class paying rents below $7, are demanding more. In this connection it is a very interesting and significant fact that in nearly all post-War low-cost housing in England and on the Continent there has been a marked increase not only in the size of rooms and the number of conveniences, but in the provision of land for recreational purposes. These increases apply to urban as well as suburban developments and indicate a world-wide acceptance of the rights of the poor to better living conditions than have heretofore existed.

The provision of kitchenettes should be encouraged, so that the messy work of cooking and cleaning up after meals, as well as a certain amount of laundry work, can be kept out of the living-room; their provision, however, should not involve a reduction of more than 10 per cent in the area of the living-rooms. Kitchens and dining-room bays have, or rather should have, no place in 2- and 3-room urban apartments renting at less than $8 per room per month, at least in those built with Government subsidies. On the other hand, the kitchenette strip, limited by the Multiple Dwelling Law to 3 ft. in depth, is not very satisfactory; kitchenettes, preferably open to the outer air, 4 ft. 6 in. to 5 ft. in width, and at least 6 ft. in length, are practical, and sufficiently large for low-cost housing, even in 4-room apartments.

The minimum area of bed-rooms must depend largely upon the furniture which they are to contain. Except in apartments including more than two bed-rooms, these should be of such dimensions as to permit of the proper placing and con-

venient use of two single beds, two bureaus (or their equivalent), and two chairs. This requires a minimum area of about 100 sq. ft. and either a width of at least 8 — preferably 9 — ft., or a length of at least 13 — preferably 14 — ft. In apartments containing three or more bed-rooms I think it desirable that the law should permit the size of one to be based upon the requirements of a single occupant, in which case an area of 65 sq. ft. would be sufficient. As both the Tenement House Law of 1901 and the present Multiple Dwelling Law require a cubic capacity of at least 400 ft. per adult occupant, a room having an area of 100 sq. ft. and the minimum permitted height of 8 ft. would just qualify for the occupancy of two adults, whereas a room having an area of 65 sq. ft. and a height of 8 ft. would be considerably above the minimum required for a single occupant. An average area of 100–110 sq. ft. is, I believe, as much as should be provided in double rooms in Federal or state subsidized housing. This area agrees exactly with the minimum recommended by the Federal Housing Division, but is about 20 per cent less than that shown on the recommended unit plans.

Even in connection with the lowest rents for which new housing can be built, except in two-room apartments, there should preferably be an entrance hall or vestibule from which the living-room, the bath-room, and at least one bed-room, should open, although, especially in the larger apartments, it is permissible, as an alternative, to enter the living-room directly from the public hall and to enter one or more of the bed-rooms from a passage or vestibule from which the bath-room is also accessible; indeed this is the better arrangement when the living-room is used also for sleeping purposes. As the living-room, in low-rent apartments, is often — in fact generally — used, at least on occasions, as a sleeping-room, it is manifestly desirable that access to the bath and all bed-rooms be possible without passing through it. In very low-rent apartments, however, this is hardly feasible, as it involves too great a sacrifice in hall space.

Although there is some difference of opinion as to the desirability of built-in closets, especially in bed-rooms, some authorities advocating movable metal cabinets, principally because of their greater cleanliness but also because they use up less cubage, every bed-room should be provided with one or the other type, of a minimum area of 400 sq. in., and a height of at least 6 ft., and each living-room with closet space of at least one and one-half times this area. In addition there should be provided, if possible, a coat closet, preferably opening from the entrance hall or vestibule; a "door-closet" forms a fairly good substitute for a coat closet of the usual built-in type. A linen closet, although not an actual necessity in very low-rent tenements, is always a welcome feature if it can be managed without involving the use of space more urgently needed elsewhere.

The programme for the competition held by the Tenement House Committee of the Charity Organization Society in 1899–1900 called for two-, three-, and four-room apartments, and fixed, approximately, the percentages of these as follows: — two rooms 30 per cent, three rooms 40 per cent, and four rooms 30 per cent. These relative percentages have not altered materially in the past thirty-five years, although during good times the demand for four-room apartments has probably equalled that for three rooms, and in recent years — before the depression — there was also an increasing demand for five-room apartments, the fifth room often being rented to a "roomer" or boarder.

The Multiple Dwelling Law contains some provisions which, in the opinion of many students of housing, and others, are unwise, some which are inconsistent with other provisions of the same law, and many which, as has already been pointed out, seriously increase the cost of construction without supplying adequate compensating advantages. These provisions have been dealt with elsewhere in this report; I shall therefore refer here to only a few which seem to me of special importance. They are as follows:

(1) I believe that any fair-minded person who will take the trouble to visit a dozen of the better tenements built under the Tenement House Law will be convinced that the width of courts, and, to a lesser degree, the depth of rear yards, required by the Multiple Dwelling Law, are excessive, and result in an unnecessary restriction of the clear rentable area procurable by intelligent planning, especially on plots less than 100′ in width. In these respects, and in many others, the provisions of the Tenement House Law of 1901 are, I believe, adequate and preferable, because they make possible lower rents.

(2) The theory that outer courts should increase in width as they increase in depth is not always tenable; better lighting of rooms could often be obtained by permitting a decrease in width, as is explained in a note describing Pl. 12, A.

(3) In most cases it is unnecessary to require an increase in the width of outer courts corresponding to their increase in height. This is especially true if their depth does not greatly exceed their width.

(4) It is not logical to require either outer or inner courts between wings to be twice as wide as courts on the lot lines, although some increase — perhaps 50 per cent — would be logical and proper.

(5) The coupling up, tandem-wise, of two bath or toilet compartments, or of a bath-room and a hanging closet, arranged in such a way that the inner one gets its light and ventilation over the outer, which is not permitted under the Tenement House or Multiple Dwelling Laws, although sometimes used in hotels and other

buildings, should be allowed, under certain restrictions, as, if properly arranged, the inner of these compartments is as well ventilated and lighted as if it opened upon a permissible shaft. Furthermore, this arrangement is much less likely to disseminate disease or to increase the fire hazard than when multiple-family vertical shafts are used. The space thus gained in the outer perimeter of the building often makes such an arrangement very desirable. The mechanical ventilation of toilets, as a substitute for windows, should also be permitted, as this assures better ventilation than the present requirements guarantee, especially in winter when windows are apt to be kept closed.

(6) To limit the width of kitchenettes without windows to 3 ft. is absurd.

(7) Under certain conditions, in fireproof buildings with elevators, especially where "distributing floors" are used, two stairways should not be required in buildings up to ten stories in height. In this connection, party-wall fire-escapes, as a substitute for one of the required stairways, deserve more consideration than they have received.

(8) The law might well contain a provision that building heights should be more definitely related to coverage, as for instance, ten stories to 50 per cent, nine stories to 55 per cent, eight stories to 60 per cent, seven stories to 65 per cent, six stories to 70 per cent, etc.

In addition to these and other suggested changes in the Multiple Dwelling Law, the Building Code should be drastically revised in the interest of more economical construction, and this should be done without reference to the effect which such revision might have on manufacturers' profits, trade unions' regulations, or wages. The most important and far-reaching structural change, and the one most needed, would permit the use of curtain walls, replacing bearing walls, when the floor construction is self-sustaining. It would be a great help to housing, as well as to the building industries generally, if labor could be put upon a piecework basis — at least in part; but this is a far-reaching and difficult problem.

Generally speaking, the present Multiple Dwelling Law is much too long and complicated, seeking as it does — vainly — to cover every possible contingency. A better law, based chiefly upon a few important general principles, could be written, probably in less than one-half the number of words used in the present law.

Before taking up the consideration of specific recommendations in connection with new housing, I cannot refrain from expressing my personal conviction that some of the present housing theories and plans of the Federal Government are open to serious criticism. Without attempting to reargue the old question of the pros and cons of Government subsidies and Government-built housing, in view of

the actual situation — subsidies already having been provided for — I can only deplore the apparent decision of the New York City Housing Authority to recommend no slum-clearance and re-housing developments in the real slums of the Lower and Upper East Side, where slum-clearance and re-housing are so urgently needed. This decision has brought disappointment and discouragement to many who for years have been struggling to secure the elimination of at least the worst slum areas of the city, and their replacement, at least in part, by adequate housing, adapted to the needs — in these days I suppose we must say to the *demands* — of those who can afford to pay only very low rents.

This determination is apparently based upon two fundamental conclusions, in which the Federal Government and the Authority concur:

(1) That the present cost of land in these slum districts is prohibitive — "fantastic" is the word used by the president of the Authority.

(2) That the maximum population per acre in new housing developments sponsored by the Government should not exceed 250 persons.

The first of these conclusions is assumed rather than proved. As a matter of fact, the average assessed value of land in the slum areas of the Lower East Side has actually decreased over 5 per cent in the past thirty years, whereas the average assessed value of land throughout the city has increased over 133 per cent during the same period. This statement is based upon figures given in a bulletin entitled "Tenement Conditions and Current Tax Payments," issued by the East Side Chamber of Commerce and dated June 1933, and on figures issued recently by the Department of Taxes and Assessments. The area covered by this report is that bounded by 14th Street, James Street, Third Avenue, The Bowery, Park Row, and the East River. Charts are presented showing that the total assessed value of land on the Lower East Side was approximately $153,000,000 in 1904, rose to a peak of about $190,000,000 in 1913, dropped to a low level of about $147,000,000 in 1918, rose to a secondary peak of about $170,000,000 in 1930, and dropped to about $145,000,000 in 1933, thus ending two years ago over 5 per cent below the 1904 assessment.

The same publication charts the history of a typical slum block — that bounded by Stanton, Pitt, Rivington, and Willett Streets. It gives a total *land* valuation for this block in 1904 of about $585,000, a peak value of about $732,000, and an assessed value in 1933 of about $420,000. By dividing the area of this block into the assessed value of the land we get an approximate assessed value per sq. ft. of $7.30 in 1904, $9.15 at the peak, and $5.25 in 1933.

The buildings follow an approximately similar course, having had an average assessed value per sq. ft. of $3.69 in 1904 and $3.25 in 1933, so that by combining

the values of land and buildings we get an average value of $10.99 in 1904, and of $8.50 in 1933.

The aggregate assessed value of all real estate in the City of New York — land and buildings — is given in the Report of the Department of Taxes and Assessments as $5,015,463,779 in 1904, and a recent press report states the assessed value on the tentative assessment rolls for 1934 as $16,702,961,046, so that in the past thirty years the general average value of real estate throughout the city has increased 233 + per cent. The same authority — the Report of the Department of Taxes and Assessments — states that during the same period — 1904 to 1934 — land values increased from $3,674,497,485 to $8,584,233,271, an increase of 133 + per cent. As, however, we are primarily concerned with values on Manhattan Island, it is more significant, and only fair to state, that, during this period, *Manhattan* land values increased from $2,934,738,387 to $4,664,011,697, having declined from a high in 1933 of $5,128,900,815, an increase of not quite 60 per cent if we assume the 1934 figures, or about 75 per cent if we assume those of 1933.

Furthermore, experience has shown that even in normal times land suitable for low-cost housing, in the slum areas on the Upper and Lower East Side, and doubtless in other parts of the city as well, can usually be acquired at prices only moderately in excess of its assessed value, or at an average cost, which, during the past thirty years, has probably not exceeded $9 per sq. ft. — including "improvements." Moreover, even average priced land is not required for low-cost housing, and the city assessment books show plenty of suitable land which could doubtless be bought today for from $6 to $8. In view of these facts it does not seem fair to call the present cost of land in the real slums either fantastic or prohibitive nor to intimate that it is held by profiteers for exorbitant profits.

Unquestionably, the Housing Authority is right in acting upon the assumption that a real need exists for better and cheaper housing in the suburbs — which means primarily in the Bronx and the nearby sections of Long Island — and the development of such housing should be encouraged. This, however, should not be done to the exclusion of developments in the slums, for, as has often been pointed out, a considerable fraction of those employed on Manhattan Island will, in all probability, always find it desirable to live near their work. Furthermore, if they did not what would become of the large areas of the city in which they now live? A part of these areas no doubt could profitably be converted for factory and recreational uses, but it is not conceivable that all could be so utilized.

The budget saving effected by suburban residence is, however, often overestimated, for the saving in rent is generally less than the added cost of commuting. For example, a family containing two workers, and paying under the present

Government plan (see schedule, Pl. 38) $30.24 a month for an apartment of four rooms in a modern fireproof urban building, within walking distance of their employment, could not be provided with equivalent accommodations in a four- to six-story non-fireproof building on $2 per sq. ft. land, in the five- or ten-cent transit zones, for less than $25.48 The cost of commuting, say $5 per worker per month, brings the rent equivalent up to $35.48.

In families with one commutor the rent equivalent alone would be $30.48, or 24 cents above the city rate. This does not take into account the loss of time in commuting, perhaps an hour a day, as this may properly be considered as more than offset by the advantages of living outside of the crowded city.

Plate 43 illustrates a type of housing which has recently become popular in California — principally among well-to-do families, although the idea is equally applicable to low-wage earners in suburban or country districts. This type of development, in which the gross density per acre would not exceed about 85, furnishes an interesting comparison — at the opposite end of the scale — with those suggested by Pls. 30 to 42 for urban developments involving the highest defensible gross density rate per acre — between 500 and 600.

Perhaps the most interesting fact brought out by the comparison is that this plan effects no saving over the most economical of the proposed ten-story developments, and when the cost of commutation is taken into consideration the rents would actually be higher, even assuming the property to lie within the five-cent transit zone.

This comparison is based upon land costs of $1 and $8 ($8.40 in Master Schedule, Pl. 44), respectively, per sq. ft., and a building cost, for fireproof construction, of 32½¢ and 40¢, respectively, per cu. ft.

The development, on a large scale, of one or more *Cités Ouvrières*, or "Model Towns," devoted entirely to residential purposes, on cheap land on Long Island, in the Bronx, on Staten Island, or perhaps on the reclaimed Hackensack Meadows as originally suggested by the late Colonel Waring, is a possibility deserving careful consideration. If the worst of the Manhattan slums could be demolished, and their sites converted, primarily for light manufacturing in combination with some new housing, perhaps of the better tenement class, and an adequate supply of parks and playgrounds, and if satisfactory transportation facilities and a five-cent fare could be guaranteed, the proper housing needs of the Metropolitan area would thus, perhaps, be more satisfactorily and economically met than in any other way. In the meantime, the cutting of a block-wide swath through the Lower East Side, preferably at right angles to the Chrystie-Forsyth Streets development, and treated in much the same way, would do much to make life more

tolerable in the worst slum district of the city. Anyone who has spent half an hour contemplating the happy effect produced by this wise conversion to recreational purposes of a site unsuited — and far too valuable — for use in low-rent housing, will realize what breathing, play, and recreational, spaces mean to the slums — especially to the children.

Manifestly, in slum-clearance and re-housing, in normal times, the cost of getting rid of the so-called "improvements" should be borne by the city, as, in most cases, they consist of old and dilapidated buildings, which constitute a triple menace, not only to the immediate neighborhood but to the city as a whole — a fire menace, a health menace, and a moral menace. The city could therefore well afford to assume the expense of their acquisition and demolition, especially as, in the course of a few years, the new buildings erected to replace them would bring a large increase in taxes to the city treasury. This, of course, presupposes that, perhaps after a year or two of tax exemption to enable the new development to become firmly established, the city would collect taxes. Complete and permanent tax exemption would clearly be unfair to the majority of property owners, although developments supplying rents below a fixed amount per room — under present conditions say $8 per month — might properly be granted some reduction in the regular tax rate.

Slum-clearance and re-housing are really two distinct problems, although closely related. Slum-clearance is a matter for which the municipality is primarily, if not wholly, responsible. Re-housing is a matter which, except in such periods of unemployment as exist today, and despite recent world trends, must and should, I believe, in America at least, depend in large measure upon private enterprise and private capital.

The popular belief that the cost of the land is *the* controlling factor, that present costs are highly inflated, and that it is economically impossible, even with a Government subsidy of 30 per cent,[1] tax exemption, and other assistance, to produce really low-rent housing ($7 to $8 per room per month) on high cost land (say $8 per sq. ft.) is erroneous. It *is* possible to produce $7 to $8 rents on land costing $8 per sq. ft., as is indicated by the plans and figures submitted herewith. It is *not* possible, however, with a gross density limit of 250 per acre, six-story buildings, and the room sizes fixed by the Government. It is interesting to note that, in the Government plan (see Pl. 36), if the land cost were reduced 50 per cent — to $4 per sq. ft. — the rent per room per month, in a ten-story development of the Coupled-Block type (Pl. 37), would be decreased only 67.6 cents, and in a six-

1. Recently increased to 45 per cent.

story building, only $1.128. In the plan proposed for Government, state, municipal, and private capital, participation (see Pl. 38), the decreases would be, respectively, 95 cents and $1.58 for a reduction from $8.40 to $4.00.

As has already been indicated, it is a melancholy fact that, under existing conditions, new $5.00 to $6.00 housing, at least on Manhattan Island, is impossible without much larger subsidies than have as yet been suggested, which means that those families which cannot afford to pay higher rents must continue to live in old buildings, of the poorer class, or else move into the suburbs or the country.

At this point it will be found interesting to consider, very briefly, the "Planning Standards for Low Cost Housing" published by the Federal Housing Authority (see Notes on Plans, pp. 897–898). Of the thirty-seven plans chosen for reproduction in the *American Architect*, February 1935, only four provide two-room apartments. All the rest, including the three-room apartments, have dining room-kitchens with areas averaging about 90 sq. ft., living-rooms averaging about 175 sq. ft., bed-rooms averaging about 125 sq. ft., and bath-rooms 5 ft. wide. The minimum widths prescribed by the standards for rooms seem to me particularly unfortunate, and also the prescription of kitchens, especially kitchens over 5 ft. wide. Moreover, in housing of this class it does not seem essential to prohibit passing through living-rooms to reach other rooms, although this of course is highly desirable when economically possible. The standards give very little consideration to the advantages and economies of corner lighting, which, under proper restrictions, is one of the most satisfactory as well as the most economical method of lighting, especially if there are no window recesses, or if these are limited in depth so that the four walls of the room all receive direct light and therefore become reflecting surfaces. When we consider that these apartments are supposed to be planned primarily for tenants who cannot afford to pay even the minimum rents for which unsubsidized but tax-exempt new buildings can be constructed, does it not seem clear that the proposed accommodations are overgenerous, not to say extravagant? Furthermore, are they not rather poorly balanced for low-rent housing, providing as they do full-size kitchens in addition to living-rooms [1] — in other words not a very practical solution of the problem? It is at least easily demonstrable that such apartments, if limited as proposed to six stories in height and a 50 per cent coverage, and erected today on Manhattan Island — without subsidies but with tax exemption — would have to rent for at least $12 a room per month to produce a 5 per cent return on a 50 per cent equity.

1. In comparing the areas of two apartments, where a kitchen or a dining-room bay exists in addition to a living-room it is only fair to consider its area as added to that of the living-room.

For a family of four, occupying a three-bed-room, or four-room, apartment, an $8 per room rent would, or should, mean an annual wage or income of at least $1,800, or $150 a month — if steadily employed. How many families of tenement-house dwellers, outside of the building trades, can count upon such an income, even in normal times? Surely not the family of the *average* New York wage-earner.

Strangely enough, although thousands of relief workers and others have been employed during the past year and a half in collecting and classifying housing statistics, apparently no systematic effort has been made, in New York at least, to obtain comprehensive information on incomes, although such information is perhaps the most important factor in determining housing possibilities and design. What percentage of families have a collective earning capacity of under $75 a month? What percentage from $75 to $100? What percentage from $100 to $125? What percentage between $125 and $150? And what percentage over $150? These are fundamental questions underlying the proper designing of housing.[1]

The proposed Government Standards may be suited to the *demands* of the average low-rent-paying family, but clearly they are not suited to the *earning capacity or income* of those who are to be re-housed in the rehabilitated slums of Manhattan. Although doubtless these standards will prove of considerable use to many architects, and others, throughout the country, they can furnish but little real help in the solution of the most difficult and pressing problem — the re-housing of low-income families in the real slums of Manhattan and our other great cities. Here, to achieve success, the architect experienced in this tantalizing and baffling field will have to exercise more restraint in the use of space and greater care in its distribution. He also, at times, will have to satisfy his eye with less pleasing, but often more practical, proportions, and his soul, or rather that of the tenant, with fewer luxuries.

While there can be no doubt of the Government's duty to set a high standard in Federally owned or subsidized housing, the fact must not be overlooked that, especially in housing designed for very low rents, too high a standard would almost inevitably have the effect of discouraging rather than encouraging emula-

[1] *America's Capacity to Consume*, published by the Brookings Institution in 1934, but based on information gathered in 1929, contains tables showing that in this prosperous year nearly 21½ per cent of all American families had incomes from all sources amounting to less than $1,000, that 42½ per cent had incomes under $1,500, 59½ per cent under $2,000, and over 7½ per cent under $9,500. The median family income was $1,700. Dr. Edith Elmer Wood, commenting on these figures in her admirable pamphlet on *Slums and Blighted Areas in the United States*, just published (June 1935) as Bulletin No 1 by the Housing Division of the Federal Emergency Administration of Public Works, and quoting from her earlier work, *Recent Trends in American Housing* (1931), estimates that in recent normal times one-third of American families have an income not exceeding $1,200, one-third an income between $1,200 and $2,000, and one-third an income exceeding $2,000. She further estimates that in New York City these figures would run about 25 per cent above the national average, or one-third not exceeding $1,500, one-third $1,500 to $2,500, and one-third above $2,500

tion on the part of private capital which, with such subsidies as are likely to be available under normal conditions, could not afford to provide so much space and so many conveniences for the low rents proposed — and necessary.

Furthermore, there is a very real danger that the lavish space and unusual conveniences provided in much of the Government housing already built, or projected, will arouse expectations on the part of low income groups generally which cannot be satisfied, and that the result will be a general increase in dissatisfaction on the part of tenement-house dwellers, for even those not in the low income groups benefitting from subsidized housing will be dissatisfied at having to pay prevailing, and much higher, rents for less attractive housing.

For these and for many other reasons, it would seem to be wiser not to attempt to make so great a change in so short a time, and not to discourage a natural and praiseworthy tendency on the part of the capable and thrifty to improve their physical and social surroundings, by arbitrarily granting preferential treatment to those less capable and thrifty, just because they happen to have — perhaps only temporarily — a lower earning capacity.

Generally speaking, the insistence upon anything but basic standards is dangerous, as it limits the able and experienced architect in the development of new ideas and new combinations of old ones. In this respect the programme prepared by Mr. Ackerman in connection with the recent competition held in New York by the Housing Authority was a model, although, as I have already pointed out, that section of the programme which limited the gross density per acre to 250 persons precluded the possibility of securing, through this competition, plans for low-rent housing in the Lower and Upper East Side slums of Manhattan.

In regard to the density of population limitation, it is difficult to understand how the Government and the local Authority can have reached the conclusion that so drastic a reduction as they propose — to a gross maximum density of 250 persons per acre, from a present average, in reasonably satisfactory modern buildings, of considerably more than twice that number — is either necessary or desirable. In the opinion of many experienced students of housing, such a limit — less than two-fifths that found in some of the best types of existing modern tenements, such for instance as those built at various times, and in various parts of the city, by the City and Suburban Homes Company — seems not only unnecessary but, under existing conditions, undesirable — unnecessary because more than twice as many persons per acre can be, and actually are, comfortably housed in reasonably satisfactory types of tenements, such as those just referred to, which conform to all existing laws, and undesirable because this limitation imposes a type of design and construction more suited to suburban than to present urban conditions, and

much more costly per room to construct, if land cost is included, as of course it must be.

Moreover, the adoption of so low a density limit encourages — indeed almost forces — the construction of five- and six-story "walk-ups," a type of housing which many physicians consider one of the principal contributory causes of heart and other prevalent organic troubles. Furthermore, it does not seem logical that a 50 per cent coverage limit should be fixed for *tenement* houses designed for the poor while a 70 per cent coverage is permitted in *apartment* houses designed for the rich, especially when we consider that this extra 20 per cent of land left vacant for light, air, and recreation, is a direct charge against the tenant, as it necessarily results in higher rents.

The table on p. 943,[1] taken from Information Bulletin No. 21 issued by the Regional Plan Association in November 1934 and showing the density of various New York City developments, both actual and projected, based on one person per room, is interesting by way of comparison. It would doubtless more closely approximate actual conditions if one and one-third persons per room were assumed.

The following facts, taken from the *Report of the New York City Commission on Congestion of Population* (1911), p. 84, are also significant:

> While there are thus no legal limits set to the number of people who may either work or live in the City or any particular section thereof, the structural requirements of the Building Law combined with certain requirements of the Tenement House Law limit the population which may be housed in the most congested sections, if these laws are complied with.
>
> The limits are:
>
> (1) A density of population at the minimum [*sic*] of 1,300 to the acre, including within that area half the acreage of the streets upon which the houses front in buildings six stories in height [gross density].
>
> (2) A floor area of 260 square feet and a space of 2,340 cubic feet for each living apartment; that is, two rooms 7 x 10 feet, and one room 10 x 12, with a height of 9 feet clear in all rooms from floor to ceiling.[2]

The most important desideratum in connection with low-cost housing is to secure as low rents as possible, in combination with rooms of adequate size, properly lighted, with good outlook and as much sunlight as possible, the through ventilation of apartments, few stairs to climb, and a type of development leaving as much as possible of the unbuilt-upon land concentrated in the form of one or more large courts suitable for recreational purposes, especially as playgrounds for the younger children.

1. Figures relating to the Coupled-Block Plan have been added.

2. Apparently this leaves out of consideration bath-rooms and closets.

COMPARATIVE DENSITIES OF CERTAIN EXISTING AND PROPOSED HOUSING PROJECTS AND SOME TYPICAL EXISTING DENSELY POPULATED AREAS IN NEW YORK CITY

Project	Location	Number of stories	Gross area of site*		Net area of site †		Estimated population at 3½ per apt	Population density in persons per acre	
			Acres	Per cent covered by bldgs	Acres	Per cent covered by bldgs		Gross area	Net area
Projects Existing or under Construction:									
Knickerbocker Village, Inc. (under construction, 1934)	Manhattan — Market to Catherine, Monroe to Cherry Sts.	12½	6.4	36.2	5.1	46.0	4,780‡	750	950
Amalgamated Dwellings, Inc.	Manhattan — 504 Grand St.	6–7	2.1	39.8	1.4	59.4	810	390	580
Brooklyn Garden Apts. — Fourth Ave. project	Brooklyn — Fourth Ave., 23d to 24th Sts.	5	1.6	31.1	0.92	52.5	580	360	630
Academy Housing Corp.	The Bronx — Randall, Lacombe, Commonwealth & Rosedale Aves.	6	4.8	29.0	3.2	43.9	1,660	350	520
Amalgamated Housing Corp. — Units 1–9	The Bronx — Van Cortlandt Park South	5–6	7.8	35.0	5.4	51 3	2,190	280	410
Hillside Housing Corp. (under construction, 1934)	The Bronx — Eastchester Ave., Boston Rd., 213th & Hicks Sts.	4–6	19.1	28.8	14.2	38.7	4,870	260	340
Boulevard Gardens Housing Corp. (under construction, 1934)	Woodside, Queens — 29th & 31st Aves., 51st St. & N. Y. Connecting Ry.	6	15.2	19.0	12 9	22.4	3,360	220	260
Proposed Projects:									
Rutgers Town Corp.	Manhattan — Gouverneur, Madison, Jackson, Grand, Columbia, Broome Sts., East River, Corlears Hook Park, Front St.	12	41.9	29.7	28.8	43.2	26,290	630	910
Lower East Side, by Andrew J. Thomas	Williamsburg & Manhattan Bridges, Forsyth St. & East River	3–12	281.0	28.7	140.0	57.4	140,000	500	1,000
Chrystie-Forsyth, by Sloan & Robertson	Manhattan—Canal to E. Houston Sts., Chrystie to Forsyth Sts	12	14-4	20.4	7.0	41.9	6,740	470	960
Chrystie-Forsyth, by Andrew J. Thomas	Manhattan—Canal to E. Houston Sts., Chrystie to Forsyth Sts	4–12	14-4	20.0	5.0§	57 5	5,850	410	1,170
Spence Estate Housing Corp.	Brooklyn — Third to Fourth Aves., Baltic & Butler Sts.	6	4-4	39.7	2.9	53 2	1,780	400	610
Chrystie-Forsyth, by Howe & Lescaze	Manhattan—Canal to E. Houston Sts., Chrystie to Forsyth Sts	9	14-4	21 2	7 0	41.0	5,290	370	760
Cypress Garden Housing Corp.	Brooklyn — Starr & Troutman Sts., Cypress Ave.	6	1 9	43.7	1.3	63.9	660	350	510
Neighborhood Unit Study of Regional Plan — Low Cost Plan (D)	Winfield, Queens — Queens Blvd., Garfield Ave., 69th St. & 65th Pl.	3–6	41.5	18.9	30.2	26.0	6,000	145	200
Neighborhood Unit Study of Regional Plan — High Cost Plan (E)	Winfield, Queens — Queens Blvd., Garfield Ave., 69th St. & 65th Pl.	3–12	41.5	17.2	26.8	26.6	5,000 (1930 Census)	120	190
Some Typical Densely Populated Areas:									
Two densest blocks in Manhattan:									
Lower East Side	Catherine, Madison, Market & Henry Sts.	.	4-34	..	3.11	..	2,761	635	890
West of the Bowery	East Houston, Prince, Mott & Elizabeth Sts.	..	3.13		2.22	.	1,971	630	890
Five densest census tracts in Manhattan:									
No. 26 — Lower East Side	East 3d to East 9th Sts., Aves. B to D	..	52	.	36	..	23,529	450	650
No. 184 — Upper East Side	East 112th to 119th Sts., Third to Park Aves.	..	43		26	..	18,998	440	730
No. 190 — North Side of Central Park	West 114th to 119th Sts., Fifth to Lenox Aves.	..	30		20	..	13,131	440	650
No. 164 — Upper East Side	East 99th to East 104th Sts., First to Third Aves.	.	43	..	28	..	17,518	410	630
No. 186 — North Side of Central Park	West 110th to West 114th Sts., Fifth to Lenox Aves.	..	24	..	16	..	9,703	400	610
Brooklyn's densest census tract — No. 523	Williamsburg — So. 4th, Grand, Driggs and Rodney Sts.	..	37	.	21	.	11,991	320	570
Manhattan — 9th Assembly District	West side of Central Park, W. 83d to W. 104th Sts.	..	370	..	233	..	92,819	250	400
Manhattan — 19th Assembly District	Central Harlem — Park to St. Nicholas Aves., 118th to 137th Sts.	..	345	..	205	..	76,490	220	375
Total Manhattan		..	14,038	..	7,123	.	1,867,312	133	260
"Coupled-Block" Plan, here reproduced, including ½ area of two blocks left vacant for recreational and other communal use in center of each 18-block area		10	53-7	25.2	33.8	35-3	26,496	495	784

*cluding interior streets or parks and one-half of boundary streets. † Block areas available for development. ‡ Assumed three persons per apartment due to preponderance of small apartments. § 7 (?).

Although the better present types of improved tenement houses supply some of these desiderata, to a moderate degree, they are far from ideal, and are not so well adapted to satisfactory block development as shallower buildings more nearly approaching the ideal of two rooms in depth, and capable of being grouped in such a way as to secure the greatest possible concentration and centralization of the land left vacant for light and air. The ideal block arrangement is a two-room-deep ring of buildings surrounding a single large central court or park, although in neighborhood developments this does not give so open or airy a general plan as some other arrangements. *Cf.* Pls. 37 and 39. An alternate, and diametrically different, arrangement, having high buildings in the centre of the block and low wings along the street frontages, is also logical and worthy of further consideration than it has thus far received. See Pl. 22, A and Fig. 127, and Pls. 40–42.

An interesting, suggestive, and very attractive, plan, developed along these lines by Mr. Arthur J. Frappier, will be found in Chapter XXXIII (Figs. 112, 113). If figured in accordance with the Government Ownership Plan, assuming a land cost of $8 per sq. ft., fireproof, three- to five-story "walk-ups," at 40 cents per cu. ft., and fireproof, fourteen-story elevator tower buildings at 45 cents per cu. ft., rents under this plan would work out at about $8.70 per room per month, but with certain modifications, including an increase to five stories of the connecting wings in the corner buildings, a conversion of the kitchens and dining-room bays into bed-rooms in the two-room tower apartments, a moderate reduction in the size of the tower rooms, and a corresponding increase in their number, which modifications, while increasing somewhat the density, would not seriously affect the plan, rents could probably be reduced to something less than $8.50. All things considered, this plan seems to constitute as promising a step in the solution of the real slum problem, on Manhattan Island at least, as any that has yet been proposed. The schedule on p. 945 gives the significant facts and figures regarding this plan in connection with both the Government Ownership Plan and the proposed Federal, state, municipal, and private capital, participation plan (Pl. 38). See also Pls. 40–42, a study by the author of what he has called the Duplex Wing Plan — a low-at-the-perimeter and high-in-the-center-of-the-block type, which has many obvious advantages, although, owing to a much lower density of population and to a necessarily somewhat greater extent of walls and halls, it does not compare economically with the smaller unit types here presented. It is, however, particularly interesting as bringing out the economic superiority of the smaller unit system of planning in combination with the distributing floor idea. Its many attractive features, especially in providing almost ideally light, airy, and sunlit, streets and central courts, in combination with larger rooms and more convenient

FRAPPIER PLAN	GOVERNMENT FINANCING		FEDERAL, STATE, MUNICIPAL, AND PRIVATE CAPITAL PARTICIPATION	
Cost of walk-ups (3–5 story buildings) assumed at 40¢ per cubic foot. Cost of towers (14 story buildings) assumed at 45¢ per cubic foot. 7½% added to cost of construction for preliminary expenses, contingencies, etc. Operating cost assumed at $40 per y'r per r'm. Bathrooms in 1 & 2 room ap'ts, kitchenettes with windows, dining alcoves, & dressing r'ms counted as ½ *rooms; kitchens (over 49 sq. ft.) counted as ½ rooms.* Income based on 7½% allowance for vacancies and arrears.	Gov't grant = 30% of total cost; Gov't loan = 70% of total cost. City requires no taxes. Fixed charges: interest on loan at 3%; amortization of loan (over 45 yr. period) at 1.12%. Cost of land assumed at $8.00 per sq. ft.		Gov't grant = 10% of total cost; Gov't loan = 50%, and undertaking corporation subscription = 40%. State contributes annually 20% of aggregate room rent. City contributes cost of old buildings (assumed at ⅓ total assessment plus 20%) and exempts from taxation ½ cost of land and new buildings. Fixed charges: taxes at .027 per yr. (assessment based on 85% of total cost), interest on loan at 3%, amortization of loan at 1.12%, interest on equity figured at 6%. Cost of land assumed at $8 40 per square foot	
	"A" Plan as shown on drawings	"B" Plan with 5-story connecting wings added to corner buildings	"A" Plan as shown on drawings	"B" Plan with 5-story connecting wings added to corner buildings
Cost of land (80,000 sq. ft.)	$640,000.00	$640,000.00	$448,000.00	$448,000 00
Area of building at ground floor	36,908.5 sq. ft.	36,908 5 sq. ft.	36,908.5 sq. ft.	36,908.5 sq ft
Coverage at ground floor	46.1%	46.1%	46.1%	46.1%
Clear rentable area, 2nd floor	27,688.9 sq. ft.	29, 346.9 sq. ft	27, 688.9 sq. ft.	29,346.9 sq. ft.
Cubage of building	2,062,440 cu. ft.	2,133,720 cu. ft.	2,062,440 cu ft.	2,133,720 cu ft
Cost of building	$940,625.22	$971,275 22	$940,625 22	$971,275.22
Total cost of development	$1,580,625.22	$1,611,275.22	$1,388,625.22	$1,419,275.22
Total number of rooms — exclusive of store space	588 + 195½ (fr'ct'n'l)	628 + 208⅔ (fr'ct'n'l)	588 + 195½ (fr'ct'n'l)	628 + 208⅔ (fr'ct'n'l)
Gross density of population per acre	1 person per r'm 198 | 1½ person per r'm 264	1 person per r'm 211 | 1⅓ person per r'm 282	1 person per r'm 198 | 1½ person per r'm 264	1 person per r'm 211 | 1⅓ person per r'm 282
Average size of living rooms	195 sq. ft.	193 sq. ft.	195 sq. ft.	193 sq. ft
Average size of bedrooms	132 sq. ft.	131.2 sq. ft.	132 sq. ft.	131 2 sq. ft
Total cost per room	$1,586.00	$1,514.00	$1,671.00	$1,604 00
Cost per sq. ft. of rentable area	$9.00	$8.65	$9.48	$9 16
Total annual expenses	$79,586.76	$82,097.15	$107,454 58	$110,857 83
Req'd average rent per r'm per mo. to give surplus 5% of income	$8.70	$8.31	$9.83	$9.41
Req'd rent per sq. ft. rentable area	$0.0477	$0.0465	$0 0644	$0 0628

apartments, render this type of plan well worthy of consideration for housing of a slightly higher grade than we have heretofore considered. See schedule, Pl. 44.

It is an indisputable fact that, under normal conditions, the desiderata which we have been considering cannot be obtained, where they are most needed, in the densely populated slums of the Upper and Lower East Side, in combination with rents averaging between $7 and $8 per room per month, which is the present goal, but with the present Government subsidy of 30 per cent [1] they become possible if — and only if — we admit buildings eight to ten stories (approximately 72 to 90 ft., respectively) in height, which heights are already permitted under the zoning and other laws in the districts under consideration. In no case, however, should the height exceed 1½ times the width of the street.

Eight- to ten-story buildings, of course, mean elevator service, and elevator service, in the past, has not proved feasible in connection with $7 to $8 rents, either because it involved the expensive construction and operation of a large number of elevators, or because it necessitated an unsatisfactory type of plan, in which the distribution was by means of centrally located groups of elevators and long corridors, having the apartments strung along on one side or the other, thus eliminating the possibility of through ventilation, which is a very important desideratum. With the introduction, however, of the "distributing floor" idea (Pls. 15, C, 31, 33, 34, 35, 37) this difficulty is, to a considerable extent, eliminated. For instance, a ten-story building would have distributing floors at the sixth and tenth floor or roof levels, thus making it unnecessary for anyone to walk more than two flights up or down to reach any apartment in the building. Apartments on these distributing floors are, to be sure, subject to the objections just noted, but these objections apply to less than 20 per cent of the apartments in the building instead of to most of those above the ground floor.

Although the Federal Government and most of the regional Housing Authorities have frowned upon buildings more than six stories in height, the more experienced foreign experts and leaders in slum-clearance and re-housing are beginning to turn to nine- and ten-story buildings with elevator service — at least as the most logical and satisfactory means of re-housing locally the tenants of rehabilitated slum areas, as, in this way, twice as much vacant space at the ground level can be secured as with five-story buildings. In this connection it is interesting to consider the conclusions reached by the Council for Research on Housing Construction of London, which, in its 1934 report on *Slum Clearance and Rehousing*, records the following significant conclusions:

1. This has recently been increased to 45 per cent

. . . After careful study we are convinced that often the only solution of this difficulty [overcrowding] must be to build to greater heights than have yet been used: . . . while 60 2-storey cottages on a single acre inevitably produce an intolerable congestion, 60 dwellings in 5-storey tenements on the same space can readily be planned without any congestion at all, and a corresponding development in 10-storey tenements gives a still more generous provision of public open-space. [See Fig. 102, a.]

On land costing $8 per sq. ft., including improvements, which probably is as low an average cost as should at the present time be assumed in the areas where slum clearance and new housing are most needed, rents of $7 per room per month are as low as can reasonably be expected today, even with the Government subsidy of 30 (now 45) per cent, and complete tax exemption; but Government subsidies and tax exemption, at least on any such basis, presumably, are not always going to be available, and the real solution of the problem therefore involves the evolution of a plan which will attract private capital, although the Federal Government and the municipality, and perhaps even the state as well, even in normal times, should be counted upon to contribute — the Federal Government by supplying loans on approved developments at a low interest rate, perhaps in combination with a comparatively small subsidy, and the municipality by at least assuming the expense of clearing the land, including the cost of existing buildings, which cost, roughly speaking, averages about one-third of the assessed value of the improved property. This, as has already been pointed out, the municipality, in normal times, could well afford to do, and, in addition, some reduction in taxes does not seem unreasonable. The proper basis for state participation is a more difficult problem to solve.

When Government subsidies, as such, are no longer available, at least on the present basis, and when municipal taxes are resumed, at least in part, as they certainly must be in fairness to tax-payers generally, even with the Federal and municipal help here suggested, it will not be possible, until building costs are radically reduced, to produce $7 per room rents at a profit sufficient to attract investors. Some way must therefore be found to make this possible. Perhaps the most logical and feasible plan so far suggested is that the state, following the principles now in use in connection with Unemployment Relief, should continue to contribute a share toward the solution of this difficult problem — the adequate housing of that portion of the population whose earnings are insufficient to cover its cost, — more specifically, should contribute an amount approximately equal to the taxes. The estimated results obtainable, both with and without full tax exemption — in the latter case with state help — are shown in schedules reproduced later in this section (Pls. 36 and 38). See also Pl. 44.

No satisfactory method of acquiring land for housing or other public or semi-public developments has yet been devised. Perhaps the best method so far proposed, and one which should be carefully considered, at least in connection with developments in which the Federal Government and the municipality participate, is that the Housing Authority should be empowered to condemn property, paying therefor say 20 per cent over the regular assessed value, it being assumed that owners who have, say for three successive years, without protest or appeal, paid taxes on assessments fixed by the city cannot reasonably object to the values fixed by these assessments.

The average city block supplies, on the whole, a satisfactory unit for housing development, and the fact that its width is almost invariably about 200′ makes possible a sufficient concentration of light, air, and recreational space, in combination with a sub-block unit development of the ideal type—preferably two rooms in depth. Such block units can, with advantage, be combined (Pls. 37, 40–42) by the elimination of alternate cross-town streets, and this type of development does not involve a fundamental change in the city plan, which would be extremely costly, because of the resulting disarrangement of the sewer, water, electric, gas, and other services, and, moreover, would seriously disrupt transit during construction.[1]

Furthermore, whereas it is highly desirable that a generous amount of recreational space should be provided in immediate connection with new housing, there is, generally speaking, much to be said in favor of confining the use of this space, primarily, to the adult population of the block and to the younger children, and setting aside an occasional whole block — perhaps one in each group of nine double blocks — for playgrounds for the older children, as well as for schools and other communal buildings.

Finally, due weight must be given to the fact that the *real* problem of low-cost housing will not be satisfactorily solved until new forms of economic construction are evolved. It seems absurd that in this age of material progress the same seven- or eight-thousand-year-old unit of construction—the ordinary brick—should still be used, alike in the 100-story skyscraper and the one-story bungalow. I believe, with Mr. Grosvenor Atterbury, that, especially in the country and suburbs, practically fireproof pre-fabricated houses could even now be provided, by mass production and better organization, at a cost probably considerably less than that of the present non-fireproof construction, and I venture to predict that within twenty years even ten-story urban buildings will be constructed at a saving of at least 25 per cent over the present cost.

1 These objections would not be serious in the case of moderate street widenings

In this connection, I am confident that the Bureau of Standards in Washington, if supplied with adequate appropriations, could, in the space of a few years, develop revolutionary improvements and economies in materials and methods of construction, which would accomplish more than anything else in solving the important problem of securing lower rents for adequate housing.

Contrary to popular belief, American methods of organization and construction have long lagged behind those in use abroad, where, especially in the past ten years, great progress has been made in the standardization of housing construction, resulting not only in a notable saving in cost but also in a corresponding saving in time, nine- and ten-story urban developments having recently been carried through to completion in both France and Germany in a period of less than five and a half months, while in England five-story "flat-blocks" have been built in eighty-three working days.[1]

In solving the difficult problem of producing cheaper housing, more efficient organization is as important as the improvement, simplification, and standardization, of materials and methods of construction. This fact may be illustrated by a brief description of an interesting, and amusing, demonstration which some of us remember witnessing at one of the early Building Exhibitions held, perhaps thirty years ago, in the old Madison Square Garden.

One of the features of the exhibition was the building of a small four- or five-room house, which was carried to completion during the week of the exhibition by a group of about a dozen artisans well trained in teamwork.

The exhibition opened on Saturday evening, when an attractive young newly-wed couple arrived on the scene with their architect, in search of an appropriate site for a home. This was soon found — in a roped-in area about sixty feet square in the middle of the Garden. The architect produced an easel and a large pad and proceeded to design a house, in somewhat modified accordance with the rather loudly shouted suggestions of his inexperienced but enthusiastic clients.

The designs were satisfactorily completed in about half an hour. The house was then staked out and, after a brief interval during which the architect, I presume, was supposed to be taking bids and letting contracts, the building materials began to arrive and were arranged in neat piles surrounding the house site. This concluded the opening ceremonies.

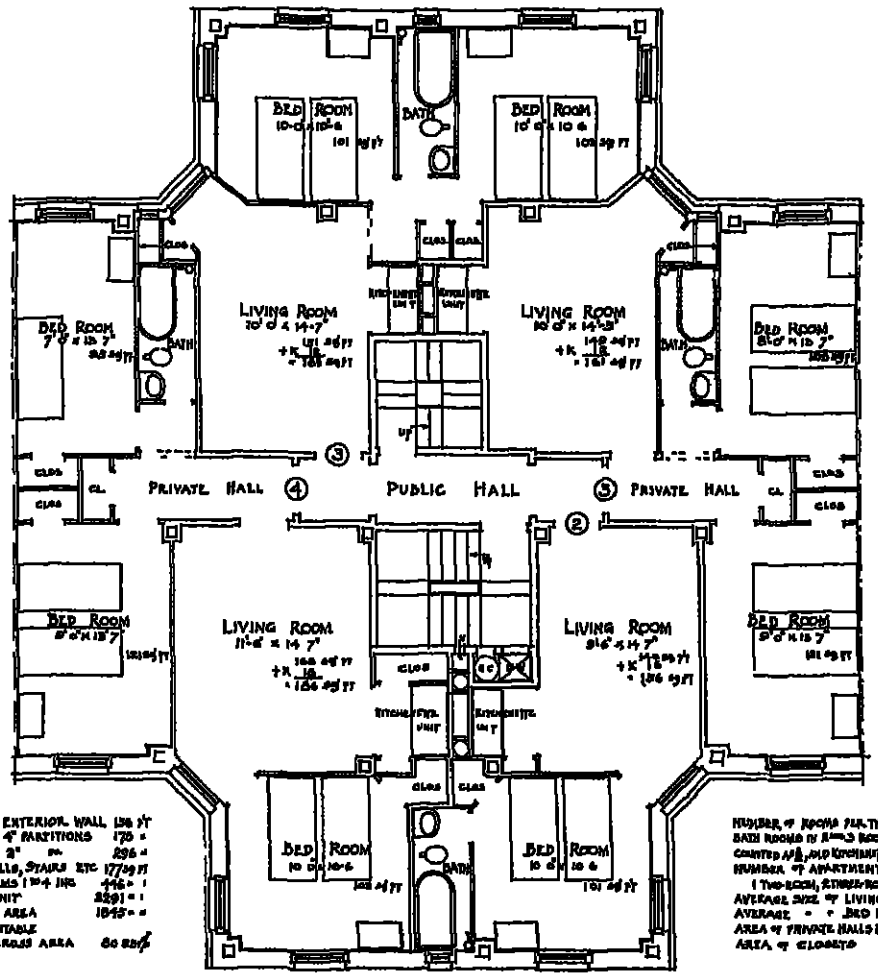
During the following week the various small groups of artisans — masons, carpenters, plumbers, electricians, plasterers, painters, etc. — worked industriously, but not hectically, under the supervision of the architect, and on Saturday evening, just a week after the site was selected and the designs approved, the proud

1 *Slum Clearance and Rehousing The First Report of the Council for Research on Housing Construction* (London, 1934).

and happy young couple held a house-warming in their completely finished and furnished little home, to which all visitors to the exhibition were politely bidden.

This was a very striking, and to me an enlightening, example of what efficient organization can be made to accomplish. Anyone who has watched the construction of a modern building must have realized that there is an inexcusable waste of energy, motion, and time, in the tedious process — in striking contrast to what happens, for instance, in a well organized automobile factory. There is no reason why, with proper organization, houses should not be built with almost as little loss of motion and consequent waste of time and money, as automobiles.

· CROSS · UNIT ·



RUNNING FEET OF EXTERIOR WALL	136 FT
" " " 4" PARTITIONS	170 "
" " " 2" "	296 "
AREA OF PUBLIC HALLS, STAIRS ETC	1770 FT
TOTAL AREA OF ITEMS 1 TO 4 INC.	4416 SQ. FT.
GROSS AREA OF UNIT	5291 SQ. FT.
CLEAR RENTABLE AREA	4845 SQ. FT.
RATIO OF CLEAR RENTABLE TO GROSS AREA	86 PER CENT

NUMBER OF ROOMS PER TYPICAL FLOOR	12
BATH ROOMS IN 2 ROOM APARTMENTS	
COUNTED AS ½ AND KITCHENETTE AS ½ EA. SPACE	2½
NUMBER OF APARTMENTS	4
1 TWO-ROOM, 2 THREE-ROOM, 1 FOUR-ROOM.	
AVERAGE SIZE OF LIVING ROOMS	196 SQ. FT.
AVERAGE " " BED ROOMS	104 " "
AREA OF PRIVATE HALLS & VESTIBULES	108 " "
AREA OF CLOSETS	76 " "

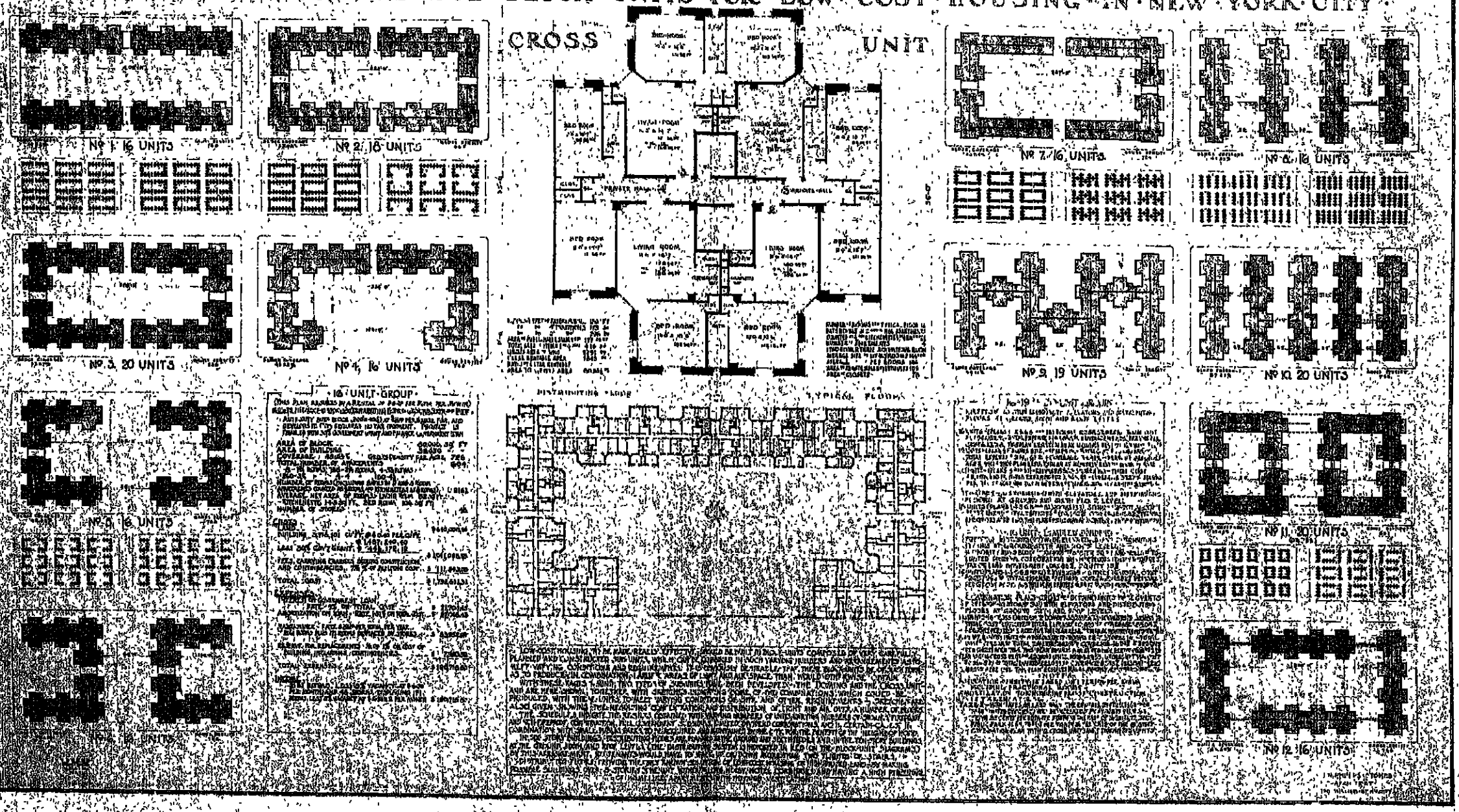
TYPICAL FLOOR PLAN

SCALE ¼ INCH = 1 FOOT

I N PHELPS STOKES
ARCHITECT

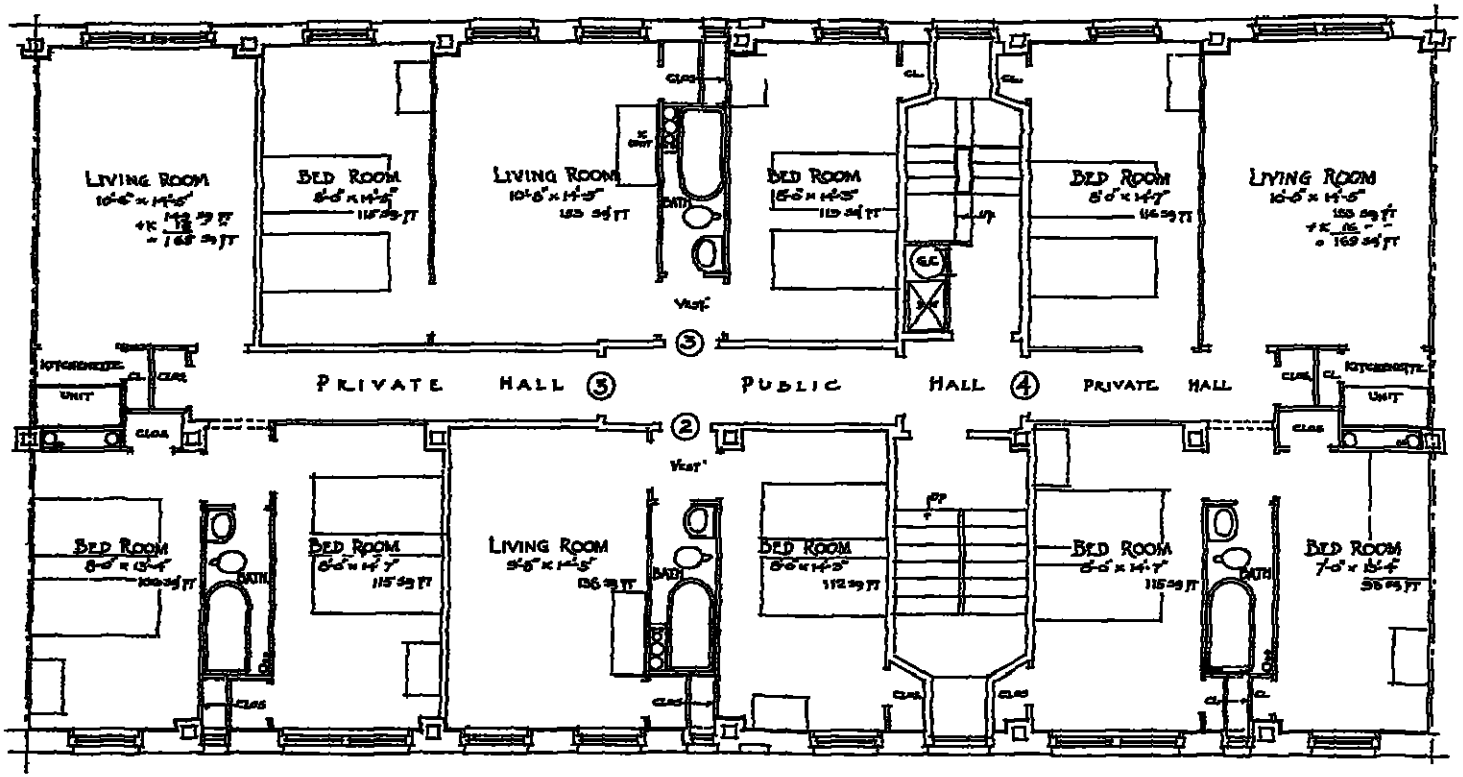
PL. 30

NO 31 STUDIES IN BLOCK AND SUB-BLOCK UNITS FOR LOW-COST HOUSING IN NEW YORK CITY



PL-31

· DOMINO · UNIT ·



1. RUNNING FEET OF EXTERIOR WALL	133'-4"
2. " " " 4" PARTITIONS	168'-0"
3. " " " 2" "	330'-0"
4. AREA OF PUBLIC HALLS, STAIRS, ETC.	212 SQ FT
5. TOTAL AREA OF ITEMS 1 TO 4, INC.	468 SQ FT
6. GROSS AREA OF UNIT.	2333 SQ FT
7. CLEAR RENTABLE AREA	1865 SQ FT
8. RATIO OF CLEAR RENTABLE TO GROSS AREA.	79.9%

· TYPICAL · FLOOR · PLAN ·

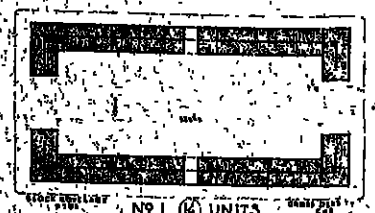
SCALE ¼ INCH = 1 FOOT

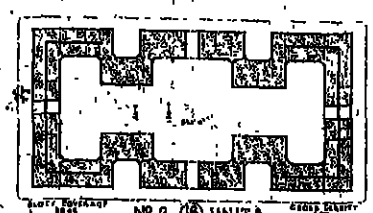
L N PHELPS STOKES
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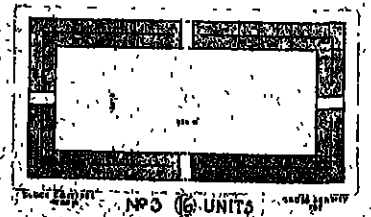
9. NUMBER OF ROOMS PER TYPICAL FLOOR	12
10. SIX½ ROOMS IN 2 AND 3 ROOM APARTMENTS, COUNTED AS ½ AND KITCHENETTES AS ½ EA. EACH	2
11. NUMBER OF APARTMENTS 1 TWO-ROOM, 2 THREE-ROOM, 1 FOUR-ROOM.	4
12. AVERAGE SIZE OF LIVING ROOMS	156 SQ FT
13. AVERAGE " " BED ROOMS	111 SQ FT
14. AREA OF PRIVATE HALLS AND VESTIBULES	152 SQ FT
15. AREA OF CLOSETS	76 SQ FT

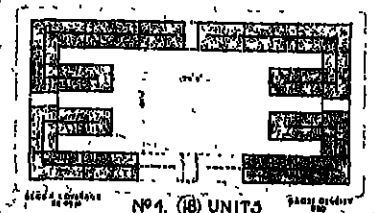
PL. 32

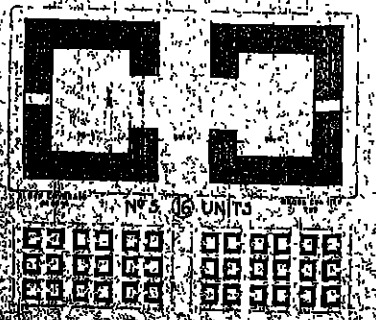
NO. 33 · STUDIES · IN · BLOCK · AND · SUB-BLOCK · UNITS · FOR · LOW · COST · HOUSING · IN · NEW · YORK · CITY ·

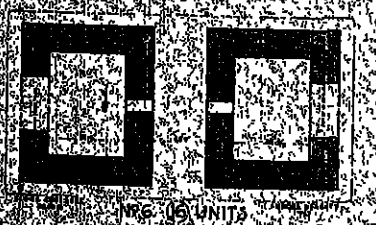


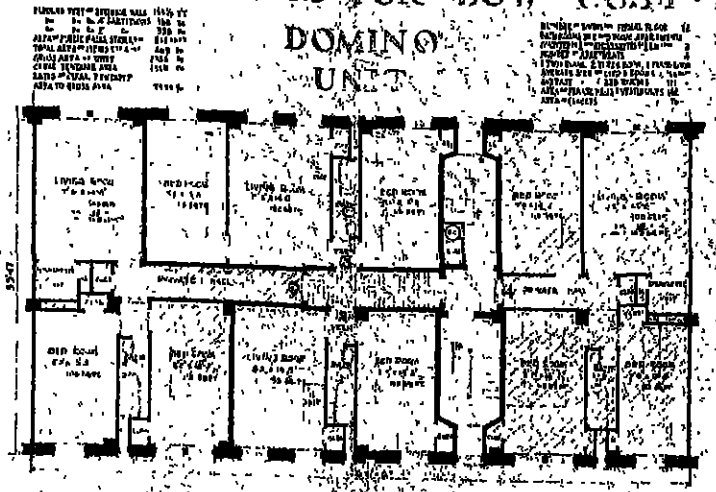


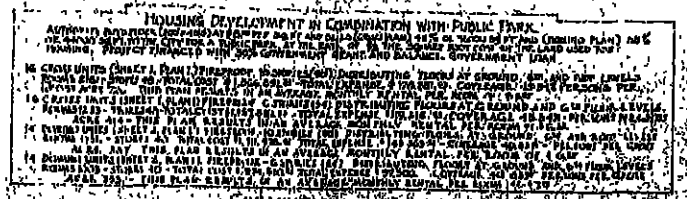


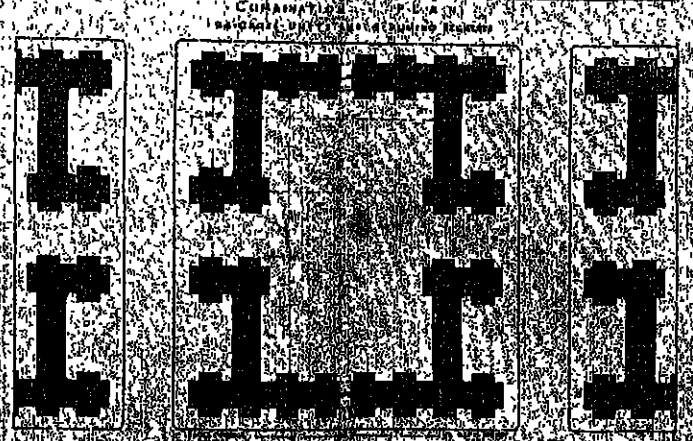




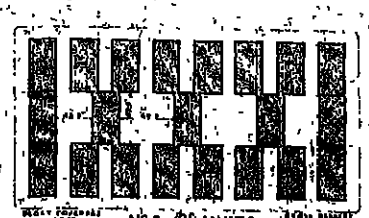


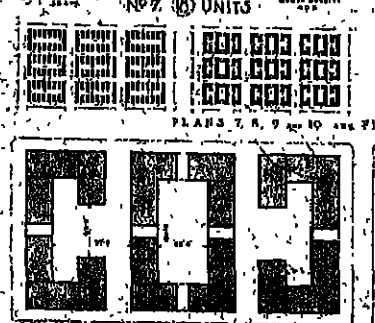


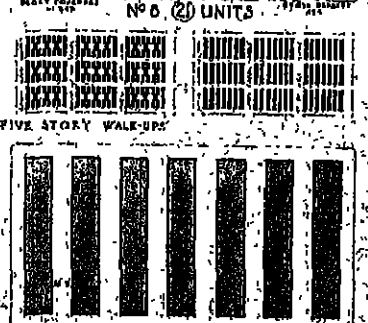


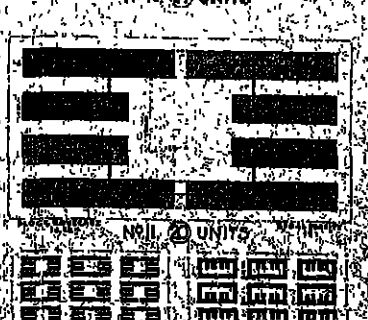






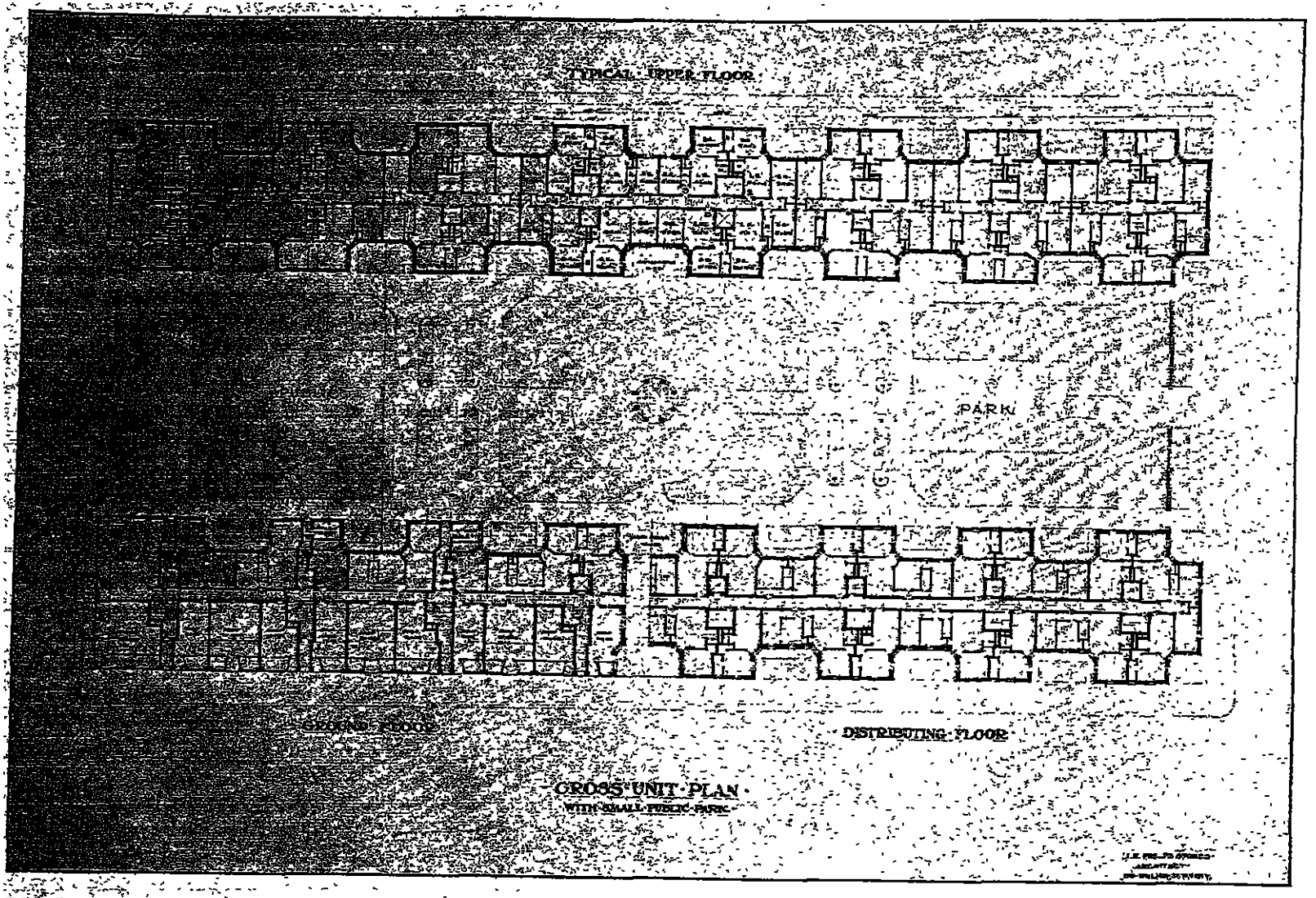








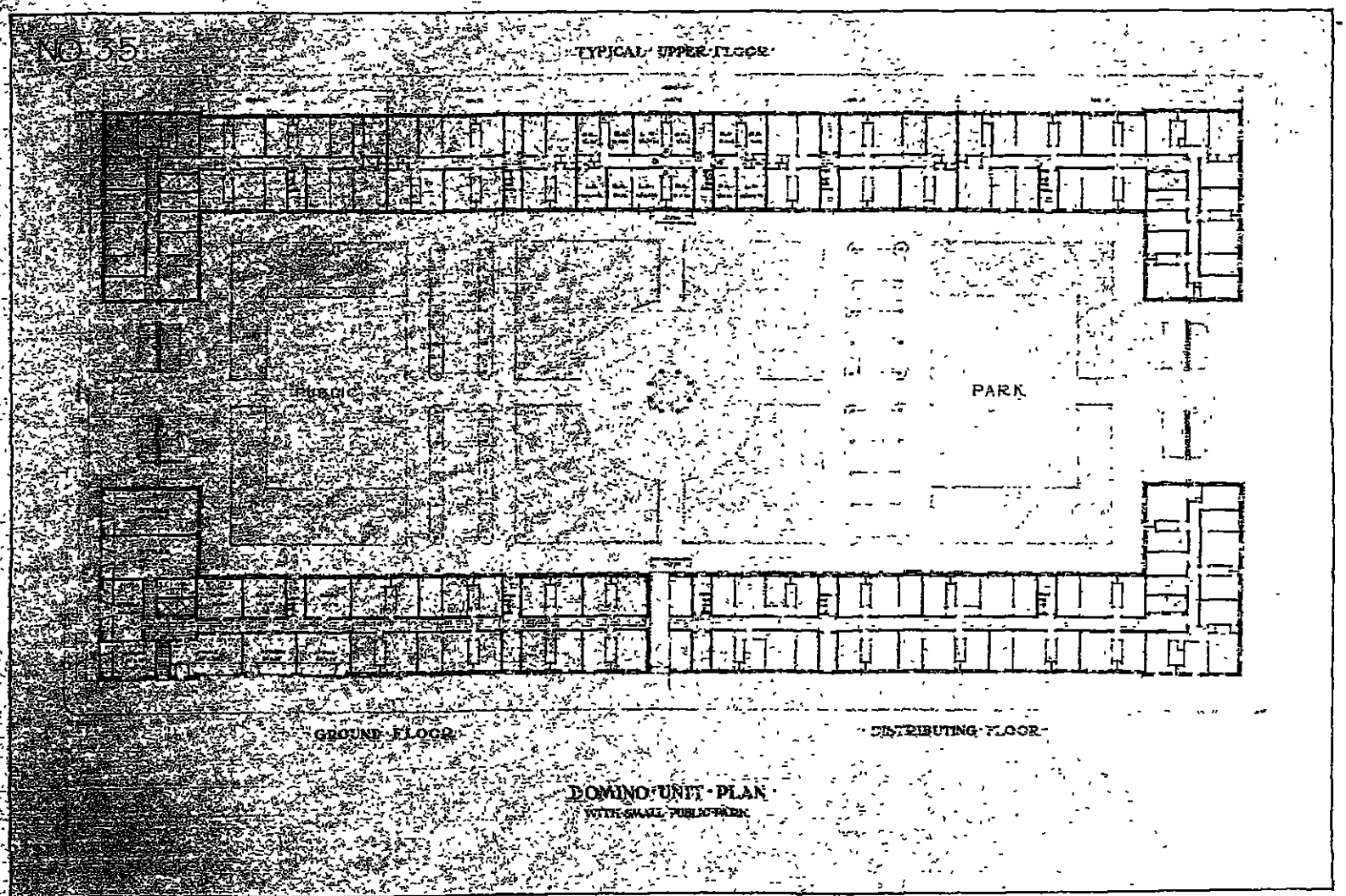
PL. 33



CROSS UNIT PLAN
WITH SMALL PUBLIC PARK

PL. 34

NO. 35



DOMINO UNIT PLAN
WITH SMALL PUBLIC PARK

PL. 35

GOVERNMENT PLAN (1934), BUT WITH INTEREST AT 3% INSTEAD OF 4%

COMPARISON OF RENTS AND DENSITIES WITH VARYING NUMBERS OF UNITS AND STORIES, VARYING COSTS OF LAND, BUILDING, MAINTENANCE, ETC.-WITH AND WITHOUT STORES-PLS 30-38.-FIREPROOF BUILDINGS WITH ELEVATORS AND DISTRIBUTING FLOORS.

DENSITY OF POPULATION FIGURED AT 1 PERSON PER ROOM
RENTS FIGURED WITH 5% ALLOWANCE FOR VACANCIES
AREA OF LAND
80,000 SQ FT. NET
130,000 SQ.FT. GROSS

AUTHORITY BUYS BLOCK (200'X400') AND DEVELOPS IT. CITY REQUIRES NO TAXES- PROJECT FINANCED BY 30% GOVERNMENT GRANT, AND 70% GOVERNMENT LOAN. COST OF LAND ASSUMED AT $800 PER SQUARE FOOT; COST OF BUILDING ASSUMED AT $.40 PER CUBIC FOOT, PLUS 7½% ALLOWANCE FOR PRELIMINARY EXPENSES, CARRYING CHARGES DURING CONSTRUCTION AND CONTINGENCIES. FIXED CHARGES: INTEREST ON LOAN AT 3%, AMORTIZATION ON LOAN OVER 45-YEAR PERIOD AT 1.12%, RESERVE FOR REPLACEMENTS AT ½% OF BUILDING COST. COST OF MAINTENANCE ASSUMED AT $40.00 PER ROOM PER YEAR.

AUTHORITY BUYS BLOCK AND SELLS PART TO CITY FOR PUBLIC PARK AT RATE OF TWO-THIRDS COST OF LAND USED FOR HOUSING.- CITY REQUIRES NO TAX. FINANCING SAME AS PLANS WITHOUT PARK

AUTHORITY BUYS TWO ADJOINING BLOCKS-CITY CONTRIBUTES CLOSED STREET AND REQUIRES NO TAX-FINANCING SAME AS IN PRECEDING PLANS

	DOMINO PLAN -10- STORIES-				CROSS PLAN			PLANS WITH PUBLIC PARK		COUPLED BLOCK PLAN
COST OF LAND $640,000	14 UNITS	16 UNITS	18 UNITS	20 UNITS	16 UNITS	18 UNITS	20 UNITS	14 DOMINO UNITS 55% OF LAND SOLD TO CITY	16 CROSS UNITS 45% OF LAND SOLD TO CITY	24 CROSS UNITS 8 DOMINO SEGMENTS
AREA OF BUILDING	32,662 SQ FT	37,328 SQ FT.	41,994 SQ FT.	46,660 SQ FT	36,656 SQ FT.	41,238 SQ FT	45,164 SQ FT	32,662 SQ FT	36,656 SQ FT	68,040 SQ FT.
COVERAGE OF PLOT	NET AREA 40.85% / GROSS AREA 25.12%	NET AREA 46.66% / GROSS AREA 28.71%	NET AREA 52.48% / GROSS AREA 32.3%	NET AREA 58.32% / GROSS AREA 35.86%	45.82% / 28.19%	51.55% / 31.72%	56.45% / 34.74%	40.85% / 25.12%	45.82% / 28.19%	36.97% / 26.17%
CLEAR RENTABLE AREA TYPICAL UPPER FLOOR	25,822 SQ FT	29,552 SQ FT	33,280 SQ FT	37,012 SQ FT.	28,264 SQ FT.	33,210	36,192	25,822 SQ FT	29,264 SQ FT	52,080 SQ FT
PERCENT CLEAR RENTABLE AREA TO BUILDING AREA	79 %	79.2 %	79.25 %	79.3 %	79.83 %	80.5 %	80.13 %	79 %	79.83 %	76.05 %
CUBAGE OF BUILDING	3,266,200 CU. FT.	3,732,800 CU FT.	4,199,400 CU FT	4,666,000 CU.FT	3,665,600 CU.FT	4,123,800 CU.FT	4,516,400 CU FT	3,266,200 SQ FT	3,665,600 CU.FT	6,804,000 CU. FT.
COST OF BUILDING LESS GOVERNMENT GRANT	$1,012,522 00	$1,157,168 00	$1,301,814 00	$1,446,460 00	$1,136,336.00	$1,278,378 00	$1,400,084.00	$1,012,522 00	$1,136,336 00	$2,108,240 00
TOTAL COST OF PROJECT	$1,652,522.00	$1797,168 00	$1,941,814.00	$2,086,460.00	$1,776,336 00	$1,918,378.00	$2,040,084 00	$1,365,202.00	$1,550,616.00	$3,389,240 00
NO R'MS TYP. UPPER FLOOR FR'CT'L R'MS NOT COUNTED *	164	188	212	236	192	216	236	164	192	344
TOTAL NUMBER OF ROOMS	1624+185 (FR'CT'L)	1864+216 (FR'CT'L)	2096+248 (FR'CT'L)	2328+277 (FR'CT'L)	1904+340 (FR'CT'L)	2160+377 (FR'CT'L)	2336+405 (FR'CT'L)	1624+185 (FR'CT'L)	1904+340 (FR'CT'L)	3424+582 (FR'CT'L)
DENSITY OF POPULATION PER GROSS ACRE	547	627	705	784	634	727	787	547	634	574
TOTAL NUMBER OF APARTMENTS	520	600	676	752	640	720	770	520	640	1,128
APARTMENT PERCENTAGES	2-ROOM 22% / 3-ROOM 43.8% / 4-ROOM 34.2%	2-ROOM 22.1% / 3-ROOM 44.6% / 4-ROOM 33%	2-ROOM 22.2% / 3-ROOM 45.5% / 4 ROOM 32.3%	2-ROOM 22 % / 3-ROOM 46.2% / 4-ROOM 31.7%	2-ROOM 26.25% / 3-ROOM 45 % / 4-ROOM 28.75%	2-ROOM 28 % / 3-ROOM 44 % / 4-ROOM 28 %	2-ROOM 26.7% / 3 ROOM 45.4% / 4-ROOM 28 9%	2-ROOM 22 % / 3 ROOM 43.8% / 4-ROOM 34.2%	2-ROOM 26 25% / 3 ROOM 45 % / 4 ROOM 28.75%	2-ROOM 27 % / 3-ROOM 42.3% / 4-ROOM 30.5%
AVERAGE SIZE OF LIVING ROOMS INCLUDING KITCHENETTES	156 SQ.FT	156 SQ. FT	156 SQ FT	156 SQ FT	166 SQ.FT	166 SQ FT	166 SQ FT	156 SQ.FT	166 SQ FT	164 SQ FT
AVERAGE SIZE OF BED ROOMS	111 SQ.FT.	111 SQ. FT	111 SQ FT	111 SQ FT.	106 SQ FT.	106 SQ FT	106 SQ FT	111 SQ FT	106 SQ FT	107 SQ FT
COST OF LAND PER ROOM	$ 394.08	$ 348.34	$ 305.34	$ 274.91	$ 336.13	$ 296 80	$ 273 97	$ 217 16	$ 217 58	$ 373 83
COST OF BLDG PER ROOM	$ 623 48	$ 620.80	$ 621 10	$ 621.34	$ 596.82	$ 591.84	$ 599 35	$ 623 48	$ 596.82	$ 616 02
TOTAL COST PER ROOM	$ 1,017.56	$ 964.14	$ 926 44	$ 896.25	$ 932.95	$ 888.14	$ 873.32	$ 840.64	$ 81440	$ 989.85
COST PER SQ FT RENTABLE AREA	$ 6.54	$ 6.24	$ 5 98	$ 5.77	$ 6 24	$ 5.91	$ 5 83	$ 5 41	$ 544	$ 6 59
FIXED CHARGES	$ 75,106.24	$ 82,068.84	$ 89,031.45	$ 95,994.05	$ 81,066.08	$ 87,903 24	$ 93,761 72	$ 63,268 65	$ 71,766.42	$ 154,265.29
MAINTENANCE	$ 64,960.00	$ 74,560.00	$ 83,840 00	$ 93,120.00	$ 76,160.00	$ 86,400 00	$ 93,440 00	$ 64,960 00	$ 76,160 00	$ 136,636 00
REQ'D RENT PER R'M PER MO TO MEET EXPENSES *	$ 7.56	$ 7.37	$ 7 24	$ 7.13	$ 7 25	$ 7.08	$ 7 03	$ 6 93	$ 6 82	$ 7 46
REQD RENT WITH STORES REPLACING ½ GRD FL AREA AT 1% R'M RENTAL	$ 7 39	$ 7 20	$ 7 08	$ 6.98	$ 7 08	$ 6.91	$ 6 87	$ 6 77	$ 6.66	$ 7 28
REQ'D RENT PER MONTH PER SQ. FT. CLEAR RENTABLE AREA	4.6 CENTS	4 54 CENTS	4.46 CENTS	4 38 CENTS	4.60 CENTS	4.48 CENTS	4 46 CENTS	4.23 CENTS	4 33 CENTS	4 72 CENTS

EFFECT ON RENTS OF VARIATIONS IN COST OF LAND, NUMBER OF STORIES, COST OF CONSTRUCTION, COST OF MAINTENANCE

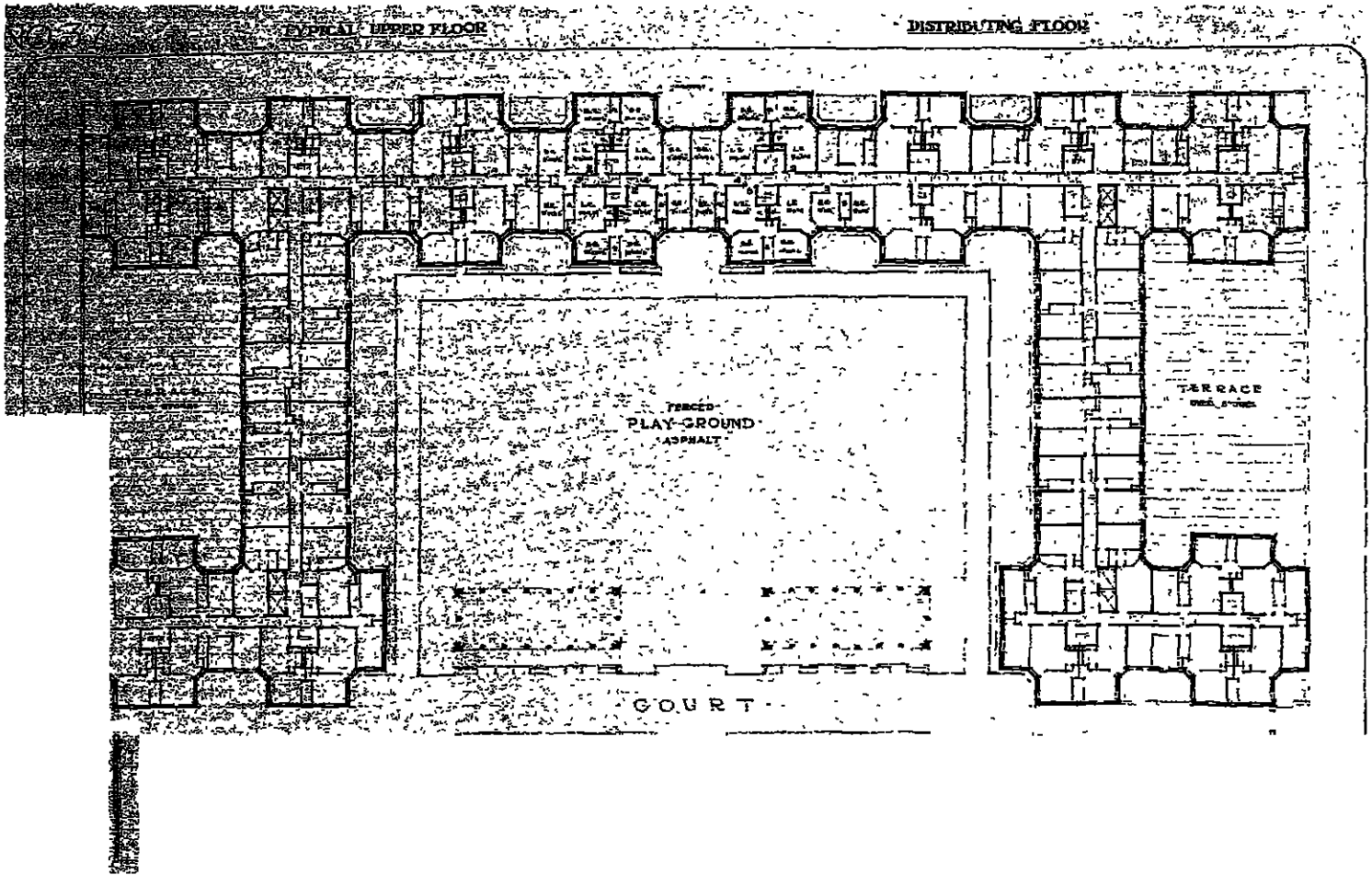
6-STORIES	TOTAL NO OF ROOMS	968		1112		1248		1384		1136		1296		1392		968		1136		2048				
	DENSITY OF POPULATION PER GROSS ACRE	326		374		420		466		382		437		469		326		382		343				
	REQD RENT PER R'M PER MO	WITHOUT STORES $8.73	WITH STORES $8.38	WITHOUT STORES $8.40	WITH STORES $8.08	WITHOUT STORES $8.18	WITH STORES $7.87	WITHOUT STORES $8.00	WITH STORES $7.69	WITHOUT STORES $8 25	WITH STORES $7.93	WITHOUT STORES $7.96	WITH STORES $7.64	WITHOUT STORES $7.69	WITH STORES $7 58	WITHOUT STORES $7 65	WITH STORES $7.36	WITHOUT STORES $7.53	WITH STORES $7 24	WITHOUT STORES $ 8 55	WITH STORES $ 8 22			
8-STORIES	TOTAL NO OF ROOMS	1296		1488		1672		1856		1520		1728		1864		1296		1520		2736				
	DENSITY OF POPULATION PER GROSS ACRE	436		501		562		625		512		582		628		436		512		459				
	REQ'D RENT PER R'M PER MO	$8.00	$7.77	$7.76	$7 59	$7.89	$7.37	$7.48	$7.26	$7.62	$7.40	$7.41	$7.19	$7.35	$7.14	$7 20	$6.99	$7.08	$6.88	$ 7 87	$ 7.64			
12-STORIES	TOTAL NO OF ROOMS	1952		2240		2520		2800		2288		2592		2808		1952		2288		4112				
	DENSITY OF POPULATION PER GROSS ACRE	657		754		848		943		770		873		946		657		770		690				
	REQD RENT PER R'M PER MO	$7.28	$7 14	$7.12	$6.98	$7.00	$6.86	$6.91	$6.77	$7.00	$6.86	$6.86	$6.72	$6.82	$6.68	$6.75	$6.62	$6.64	$6.51	$ 7.19	$ 7.05			
EFFECT ON RENT OF EACH $1.00 INCR. OR REDUC. IN LAND COST PER SQ. FT.	6-STS 29.9¢	8-STS 22.3¢	10-STS 17.8¢	12-STS 14.9¢	6-STS 26.0¢	8-STS 19.4¢	10-STS 15.5¢	12-STS 12.9¢	6-STS 25.2¢	8-STS 17.3¢	10-STS 13.8¢	12-STS 11.5¢	6-STS 20.9¢	8-STS 15.6¢	10-STS 12.4¢	12-STS 10.4¢	6-STS 22.8¢	8-STS 16.7¢	10-STS 13.4¢	12-STS 11.2¢	6-STS 20.6¢	8-STS 15.5¢	10-STS 12.4¢	12-STS 10.3¢	6-STS 16.5¢	8-STS 12.3¢	10-STS 9.8¢	12-STS 8.2¢	6-STS 28.2¢	8-STS 21 1¢	10-STS 16.9¢	12-STS 14.1¢
EFFECT ON RENT OF EACH .01 INCR. OR REDUC. IN CONSTR. COST PER CU. FT.	7.06¢	6.76¢	6.58¢	6.46¢	7.03¢	6.75¢	6.58¢	6.46¢	7.05¢	6.74¢	6.56¢	6.46¢	7.06¢	6.78¢	6.47¢	6.41¢	6.76¢	6.47¢	6.30¢	6.19¢	6.67¢	6.4¢	6.25¢	6.15¢	6.79¢	6.5¢	6.38¢	6.21¢	7.06¢	6.76¢	6.58¢	6.46¢	6.76¢	6.47¢	6.30¢	6.18¢	6.96¢	6.67¢	6.50¢	6.38¢

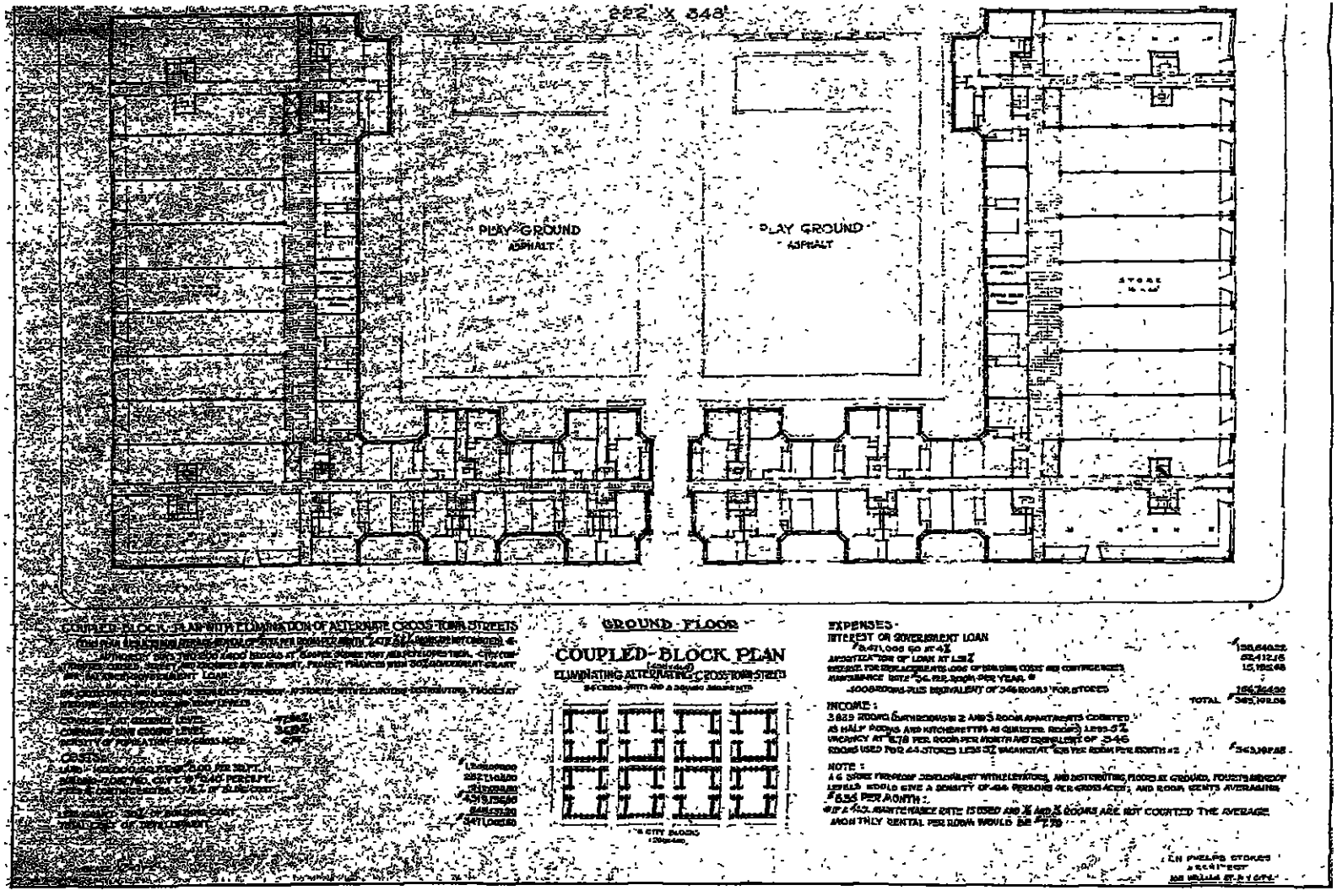
EFFECT ON RENT OF EACH $100 INCR. OR REDUC. IN COST OF MAINTENANCE PER ROOM PER YEAR 16.577 CENTS FOR ALL BUILDINGS WITHOUT STORES, 8.56 CENTS FOR ALL BUILDINGS WITH STORES REPLACING 3½% GROUND FLOOR AREA

*IF BATH ROOMS IN TWO ROOM APARTMENTS ARE COUNTED AS ½ ROOMS, BATHROOMS IN 3 ROOM APARTMENTS AS ½ ROOMS, AND KITCHENETTES THROUGHOUT AS ½ ROOMS, RENTS WOULD BE REDUCED AS HERE SHOWN

REQD RENT PER R'M PER MO.	WITHOUT STORES $6.79	WITH STORES $6.64	WITHOUT STORES $6.61	WITH STORES $6.45	WITHOUT STORES $6.47	WITH STORES $6.32	WITHOUT STORES $6.37	WITH STORES $6.22	WITHOUT STORES $6.15	WITH STORES $6.00	WITHOUT STORES $6.03	WITH STORES $5.89	WITHOUT STORES $6.00	WITH STORES $5.87	WITHOUT STORES $6.22	WITH STORES $6.07	WITHOUT STORES $5.78	WITH STORES $5.65	WITHOUT STORES $6.38	WITH STORES $6.25				

Note Density of Popu G thou d G y of Pop


TYPICAL UPPER FLOOR
DISTRIBUTING FLOOR
FENCED
PLAY-GROUND
ASPHALT
TERRACE
COURT



NOTE Density of Population p G ho G D y Population p

SUGGESTED PLAN FOR GOVERNMENT, STATE, MUNICIPAL, AND PRIVATE CAPITAL PARTICIPATION-

-COUPLED BLOCK PLAN-

AUTHORITY BUYS (BY TENDER OR CONDEMNATION) TWO BLOCKS (200'X400') AT 20% ABOVE ASSESSED VALUATION AND TURNS THEM OVER TO PRIVATE CORPORATION FOR DEVELOPMENT WITH 10-STORY F P BUILDINGS. CITY CONTRIBUTES CLOSED STREET AND COST OF OLD BUILDINGS (ASSUMED AS ½ TOTAL ASSESSMENT PLUS 20%) AND EXEMPTS FROM TAXATION ½ COST OF LAND AND NEW BUILDINGS, INCLUDING 7½% ALLOWANCE FOR PRELIMINARY EXPENSES, CARRYING CHARGES DURING CONSTRUCTION, AND CONTINGENCIES. COST OF LAND ASSUMED AT $8.40 PER SQUARE FOOT. COST OF BUILDING ASSUMED AT $.40 PER CUBIC FOOT

PROJECT FINANCED BY GOVERNMENT GRANT = 10% OF TOTAL COST; GOVERNMENT LOAN = 50% OF TOTAL COST, AND UNDERTAKING CORPORATION SUBSCRIPTION = 40% OF TOTAL COST. - STATE CONTRIBUTES ANNUALLY 20% OF AGGREGATE ROOM RENT.

FIXED CHARGES: TAXES AT .027 PER YEAR (ASSESSMENT BASED ON 85% OF TOTAL COST); INTEREST ON LOAN AT 3%; AMORTIZATION OF LOAN OVER 45-YEAR PERIOD AT 1.12 %

COST OF MAINTENANCE (OPERATING COST) ASSUMED AT $40 00 PER ROOM PER YEAR.

BATHROOMS IN 2-ROOM APARTMENTS COUNTED AS ½ ROOMS; BATHROOMS IN 3-ROOM APARTMENTS AND KITCHENETTES WITH WINDOWS COUNTED AS ½ ROOMS; OTHER KITCHENETTES COUNTED AS ¼ ROOMS. RENTAL INCOMES BASED ON 7½% ALLOWANCE FOR VACANCIES AND ARREARS RENTAL OF STORE SPACE ASSUMED AS 1¾ TIMES THAT OF EQUIVALENT ROOM SPACE

POPULATION DENSITY FIGURED AT ONE PERSON PER ROOM, EXCLUSIVE OF FRACTIONAL ROOMS.

*. IN 18-BLOCK DEVELOPMENT, WITH TWO CENTRAL BLOCKS VACANT EXCEPT FOR COMMUNITY BUILDINGS OCCUPYING 25% OF AREA, COVERAGE IS 35.3%; DENSITY IS 310 IN 10-STORY, 305 IN 8-STORY, 407 IN 8-STORY, 612 IN 12-STORY BLDGS

AREA OF LAND = 184,000 SQ FT (NET) INCL. ½ ADJ STR'S = 260,000 SQ FT (GROSS	24 CROSS UNITS & 8 DOMINO SEGMENTS			
COST OF LAND INCL OLD BLDGS $1,344,000 NET COST OF LAND $896,000	10-STORIES HEIGHT INCL BASEMENT=100'	6-STORIES HEIGHT INCL BASEMENT=64'	8-STORIES HEIGHT INCL BASEMENT=82'	12-STORIES HEIGHT INCL BASEMENT=118'
AREA OF BUILDING	68,040 SQ FT	68,040 SQ FT.	68,040 SQ FT	68,040 SQ FT
COVERAGE OF PLOT	36.9%	36.9%	36.9%	36.9%
CLEAR RENTABLE AREA TYPICAL UPPER FLOOR	52,060 SQ FT	52,060 SQ FT	52,060 SQ FT	52,060 SQ FT
PERCENT CLEAR RENTABLE AREA TO BUILDING AREA	76.5%	76.5%	76.5%	76.5%
CUBAGE OF BUILDING	6,846,320 CU FT	4,396,880 CU FT.	5,621,600 CU FT	8,071,040 CU FT
COST OF BUILDING	$2,943,918.60	$1,890,658.40	$2,417,288.00	$3,470,518.20
TOTAL COST	$3,839,918.60	$2,786,658.40	$3,313,288.00	$4,366,518.20
GOVERNMENT GRANT	$ 383,991.86	$ 278,665.94	$ 331,328.80	$ 436,651.82
GOVERNMENT LOAN	$1,919,959.30	$1,393,329.70	$1,656,644.50	$2,183,274.10
EQUITY OR STOCK	$1,535,967.44	$1,114,663.76	$1,325,315.60	$1,746,619.28
NUMBER OF ROOMS TYPICAL UPPER FLOOR	344+57⅓ (FRACT'NL)	341 + 57⅓	344 + 57⅓	344 + 57⅓
TOTAL NUMBER OF ROOMS	3912+372 (FRACT'NL)	1936 + 342	2824 + 456	4000 + 687
*DENSITY OF POPULATION PER GROSS ACRE (SINGLE BLOCK)	1 PERS PER RM 556 | 3 PERS PER RM 741	1 PERS PER RM 325 | 3 PERS PER RM 433	1 PERS PER RM 440 | 3 PERS PER RM 587	1 PERS PER RM 671 | 3 PERS PER RM 895
TOTAL NO OF APARTMENTS	1088	640	864	1312
APARTMENT PERCENTAGES	2-ROOM 27% | 3-ROOM 42.5% | 4-ROOM 30.5%	2-ROOM 28.2% | 3-ROOM 42.4% | 4-ROOM 29.4%	2-ROOM 27.4% | 3-ROOM 42.5% | 4-ROOM 30.1%	2-ROOM 28.6% | 3-ROOM 42.6% | 4-ROOM 30.8%
AVERAGE SIZE OF LIVING RMS INCLUDING KITCHENETTES	164 SQ FT.	164 SQ. FT.	164 SQ FT	164 SQ FT.
AVERAGE SIZE OF BED ROOMS	107 SQ. FT.	107 SQ. FT	107 SQ. FT.	107 SQ. FT.
COST OF LAND PER ROOM	$ 223.67	$ 373.33	$ 279.82	$ 186.31
COST OF BLD'G PER ROOM	$ 730.33	$ 780.19	$ 748.24	$ 717.90
TOTAL COST PER ROOM	$ 951.00	$ 1,153.52	$ 1,029 06	$ 904.21
COST PER SQUARE FOOT OF CLEAR RENTABLE AREA	$ 7.42	$ 8.02	$ 8.02	$ 7.03
FIXED CHARGES TAXES (INCL. IN ABOVE)	$ 134,710.58 | $ 56,606.28	$ 98,022.87 | $ 40,617.71	$ 116,866.78 | $ 48,116.00	$ 153,054.44 | $ 69,108.57
MAINTENANCE (OPERATING COST)	$ 137,600.00	$ 82,560.00	$ 110,080.00	$ 165,120.00
INTEREST ON EQUITY AT 6%	$ 92,158.04	$ 66,879.82	$ 79,518.92	$ 104,797.15
TOTAL ANNUAL EXPENSES	$ 364,468.62	$ 247,462 69	$ 305,965.65	$ 422,971.59
INCOME FROM ROOMS AT $7.00 RENTAL PER ROOM PER MONTH	$ 301,786.80	$ 176,988.00	$ 239,316.00	$ 364,182.00
INCOME FROM STORES REPLACING 33⅓% OF GROUND FLOOR AREA	$ 18,764.55	$ 18,764.55	$ 18,764.55	$ 18,764.55
STATE PARTICIPATION AT 20% OF RENT OR $6.50 PER RM PER YR	$ 65,251.20	$ 38,270.40	$ 51,744.00	$ 78,744.60
SURPLUS	$ 21,333.93	DEF $ 13,439.74	$ 3,858.90	$ 38,716.56
REQ'D RENT TO GIVE SURPLUS OF $20,000	WITH STORES $6.97 | IF NO STORES $7.10	WITH STORES $8.20 | IF NO STORES $8.46	WITH STORES $7.44 | IF NO STORES $7.62	WITH STORES $6.86 | IF NO STORES $6.75
EFFECT ON EXPENSES OF EACH $100 CHANGE IN COST OF LAND	TOTAL $ 584 PER RM PER MO 21.8¢	TOTAL $ 584 PER RM PER MO 35.9¢	TOTAL $ 584 PER RM PER MO 27¢	TOTAL $ 584 PER RM PER MO 17.9¢
EFFECT ON EXPENSES OF EACH 1¢ CHANGE IN CUFT. CONSTR. COST	TOTAL $ 4,309.19 PER RM PER MO $ 8.04	TOTAL $ 2,751 PER RM PER MO 10.94¢	TOTAL $ 3,828.62 PER RM PER MO 9.94¢	TOTAL $ 5,027.78 PER RM PER MO 6.51¢
EFFECT ON EXPENSES OF EACH $100 CHANGE IN MAINTENANCE RATE	TOTAL $ 342 PER RM PER MO 7.7¢	TOTAL $ 2,048 PER RM PER MO 7.7¢	TOTAL $ 2,736 PER RM PER MO 7.7¢	TOTAL $ 4,112 PER RM PER MO 7.7¢
INCREASE IN EXPENSES IF AMORTIZATION PERIOD IS REDUCED TO 27 YEARS; AT 2.9%	TOTAL $ 12,815.57 PER RM PER MO 37.8¢	TOTAL $ 12,161.23 PER RM PER MO 48.7¢	TOTAL $ 14,498.40 PER RM PER MO 40.8¢	TOTAL $ 19,132.74 PER RM PER MO 35.8¢
REQ'D RENT PER RM PER MO WITH NO SUBSIDIES OR TAX EXEMPTION	WITH STORES $ 10.99 | IF NO STORES $ 11.27	WITH STORES $ 12.97 | IF NO STORES $ 13.53	WITH STORES $ 11.75 | IF NO STORES $ 12.12	WITH STORES $ 10.48 | IF NO STORES $ 10.71

Note: "Density of Population per Gross Acre" should read "Gross Density of Population per Acre."

STUDIES IN BLOCK, SUB-BLOCK, AND SUPER-BLOCK, UNIT DESIGN AND OPERATION

Two types of block and sub-block unit plans, based on the principles above enumerated, have been worked out in detail. These are reproduced here as indicated below, and are accompanied by a fairly comprehensive tabulation (Pl. 36) showing the effect on rents of various changes in the cost of land, in the cost of construction, in the number of units, in the number of stories, in maintenance cost, in interest and amortization rates, etc. A similar tabulation showing the results obtainable with the so-called "Coupled-Block," a super-block plan, in combination with the suggested outline of a plan for Federal, state, municipal, and private capital, participation, will be found reproduced as Pl. 38. *Cf.* also Pls. 40–43.

(1) The so-called "Cross Unit" (Pl. 30).

(2) Block showing various combinations of Cross Units (Pl. 31).

(3) The so-called "Domino Unit" (Pl. 32).

(4) Block showing various combinations of Domino Units (Pl. 33).

(5) The Cross Unit in combination with a small public park (Pl. 34).

(6) The Domino Unit in combination with a small public park (Pl. 35).

(7) The so-called "Coupled-Block" Plan, a combination of the Cross and Domino Units covering two adjacent blocks, the intervening street being closed, at least to vehicular traffic (Pl. 37).

The Cross and Domino Units were selected as representative of two of many possible types, and have been developed to show some of the various possible combinations of the same unit to meet varying conditions and requirements. Unquestionably, even better units could be devised by further study. A 200′ x 400′ block was chosen for development, as this represents about the minimum size of blocks in the slum areas. The block and sub-block unit principle is, of course, applicable to blocks of any length. The proposed combination of a small public park with a housing development (Pl. 11, A; *cf.* also Pl. 15, C) was first suggested in the New York State Tenement House Commission's Report of 1901. Such small parks, running through from avenue to avenue, would be just as useful to the neighborhood as to the occupants of the blocks themselves, and would afford in cold weather a welcome protection from wind and in warm weather a choice of shade or sunshine.

The Coupled-Block combination is here illustrated at a scale large enough to

show clearly the various details of this particular combination of the two units, which more nearly approaches the requirements of the Federal Government and the New York City Housing Authority than does either of the units by itself. I believe that this plan provides as generous an allowance of unbuilt-upon space, and rooms about as large as should be attempted in connection with rents averaging $7–$8 per month.

In connection with these plans the figures adopted by the Government and the Housing Authority for land and construction costs, mortgage interest,[1] amortization,[1] etc., have been used, and the requirements of the Multiple Dwelling Law, as well as those of the Tenement House and Zoning Laws, have been substantially followed, although, as already noted, in the opinion of many experts, the Multiple Dwelling Law imposes unnecessary requirements and restrictions upon both design and construction, thereby materially increasing costs, and consequently rents.

While the studies submitted herewith represent a generous concession to the *demands* of the average modern tenant, as well as to those of most modern housing critics, for larger rooms, more conveniences, and greater light, air, and recreational spaces, and in these respects constitute an advance over any really low-cost housing yet built in the slum districts on Manhattan Island — the Amalgamated Dwellings, Inc., on Grand Street, and Knickerbocker Village, with rents averaging considerably in excess of $12, not qualifying as really low-cost housing — nevertheless, most of them are far below the minimum standards established by the Federal Government and the local Housing Authority. These demand a gross density limit per acre of 250 persons, as compared with a gross density of 635 in the most densely populated block on Manhattan Island in 1930 — that bounded by Henry, Madison, Catherine, and Market Streets — a gross density of about 743 in the most densely populated block in 1900 — that bounded by 61st and 62d Streets, Tenth and Eleventh Avenues, — and an average gross density of about 663 in the urban housing constructed by the City and Suburban Homes Company. The room areas also, in most cases, are considerably below the new plan standards. As compared with the Government's prescribed minimums, there is less divergence in the case of bed-rooms, but more in the case of living-rooms, if we consider the latter in combination with kitchens and dining-bays, which is only fair.

It is now conceded by many experienced students of housing and city planning that, *in a given area, of moderate size,* 400 to 500 persons per acre can be satisfac-

1. Since the preparation of these tabulations the rate of interest charged by the Government has been reduced from 4 per cent to 3 per cent, and the amortization rate from 1 12 per cent for forty-five years to 6/3 per cent for sixty years. The 3 per cent interest rate, however, had been anticipated and was used in the tabulations.

torily housed, leaving adequate space for light, air, sunshine, and recreational facilities. The main reason why other housing authorities oppose so high a limit is because of its supposed effect in causing the overcrowding of the city as a whole, or of adjacent sections of the city. My belief is that with scientific and wisely directed, or at least properly controlled, planning, not only of the residential sections but of the adjacent manufacturing and wholesale business zones as well, this number could be safely increased to a moderate degree. No one can deny that Knickerbocker Village, with a gross density of 750 per acre, and its large, concentrated and centralized, light, air, and recreational, spaces, supplies satisfactory living conditions, but almost everyone will agree that a height of 12½ stories, or about 120′, if permitted throughout the slum areas, without increasing the width of the streets, would result in far less satisfactory living conditions than could be obtained with buildings eight or even ten stories in height. The rational extreme height limit at the building line would seem to be ten stories, or about 90 ft., which, generally speaking, would conform to the present zoning regulations.

Information Bulletin No. 21 issued by the Regional Plan Association in November 1934 presents the whole problem of density in a very interesting and enlightening form, but reaches conclusions which, it seems to me, are too much predicated upon the assumption that if density limits in excess of present actual densities were permitted serious overcrowding would result As a matter of fact, statistics show that during the past twenty years densities in slum districts, as a whole, have decreased about 50 per cent, whereas during the same period, although the population of Manhattan generally has also markedly *de*creased, the overcrowding of the streets and sidewalks has even more markedly *in*creased. In other words, the overcrowding of the slums, while it existed, does not seem to have proved an important factor in the overcrowding of the city as a whole, not at least of its streets and sidewalks, although it doubtless bears a closer relation to the overcrowding of the transit facilities, and is, of course, closely related to the overcrowding of public schools, etc.

The fact seems to have been generally disregarded that no well considered plan for slum-clearance on a large scale would be likely to propose that any considerable slum area should be rebuilt entirely for residential purposes. The rational plan would seem to be to provide for alternate zones of moderate size, and presumably of approximately the same area, devoted respectively to dwellings, shops, communal buildings, parks, etc., and to light manufacturing, garages, storage, etc. (see Pl. 39), in which latter zones the workers would be employed within easy strolling distance of their homes. It is probably safe to assume that a little more than one-third of the population of the rebuilt residential districts would con-

stitute about two-thirds of the day population of the neighboring factory districts, so that a density in the former of 600 persons per gross acre would probably result in a daytime density over the whole area of less than 500, and a considerably lower density during the night. Furthermore, the factories would probably not average over six stories in height — if necessary they could be restricted to six stories — so that a height of ten stories in the residential districts would mean an average height of only eight stories, or less than 75 ft. One of the principal advantages of such an arrangement would be that, as most of the workers would live within a few minutes walk of their places of employment, of their stores, of their recreational and educational centers, and of their churches and theaters, the effect upon transit facilities would be almost negligible. Moreover, time and expense would be saved, and a more wholesome and natural life would result for all concerned.

It seems to be a fact, although not generally recognized, that the overcrowding of the city, so noticeable and so menacing a feature of life in Manhattan today, even with a decreasing population, is more an overcrowding of the streets than of the buildings, although, of course, the two are, to a considerable extent, interdependent. This overcrowding is due, primarily, to the excessive, and often unnecessary, use of automobiles, and to the lack of parks and playgrounds.[1] This latter is by way of being materially reduced through generous Government appropriations in connection with Unemployment Relief. No adequate steps, however, have yet been taken to remedy the former, and nothing really adequate can be accomplished until the use of gasoline driven cars is prohibited on Manhattan Island, except under stringent regulations providing for the issuance — probably by the police — of single-trip passes for cars whose drivers have sufficient reasons for entering or leaving the city; all other transit and transportation on Manhattan Island, at least during the daytime in the most congested districts, should be by electric power; the length of electric taxis and private cars could easily be limited to ten feet; proper parking spaces should be provided, and parking, at least in important throughfares, prohibited.

In view of the foregoing, and of other facts, it does not seem necessary, logical, or wise, to attempt to establish a density limit in the slums so much below the number of persons who can be comfortably and satisfactorily housed in a type of development which will produce lower rents in combination with lower coverage and buildings more in keeping and in better scale with modern ideas of urban life and architecture, on the whole more convenient, and certainly more healthful, than the five- and six-story "walk-ups" which are preferred by the Government

[1] Park Commissioner Moses, during the past eighteen months, has opened 100 new — mostly small — parks and playgrounds in the Greater City, of which 37 are on Manhattan Island

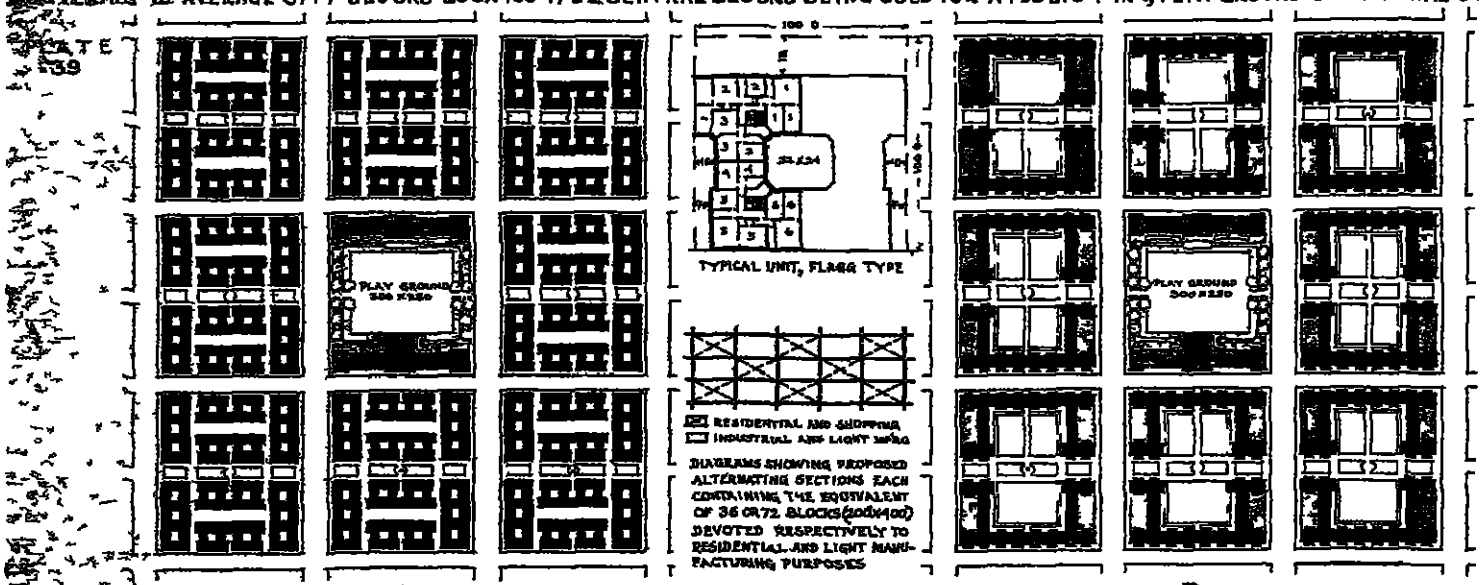
and the local Authority for re-housing, even in central slum areas. *Some* density limit should, however, unquestionably, be fixed, and also some provision made for occasional large vacant spaces, such as parks occupying the whole or a large part of one or more city blocks — generally in combination with communal buildings, such as schools, recreation rooms, etc.

Pl. 39, B, suggests such a type of neighborhood development which, in an area of eighteen city blocks, would leave two blocks in the center open for a public park and playground, with comparatively low communal buildings at the street ends, and would have a coverage of 37 per cent and a gross density — assuming ten-story buildings — of 510 per acre.

COMPARISON OF OLD AND PROPOSED NEW TYPES OF UNITS IN A NEIGHBORHOOD DEVELOPMENT

COVERING 18 AVERAGE CITY BLOCKS 200X400-THE 2 CENTRAL BLOCKS BEING USED FOR A PUBLIC PARK, PLAY-GROUND & COMMUNAL BUILDINGS

PLATE 39



A

DEVELOPMENT COMPOSED OF 6-STORY 100' UNITS OF THE FLAGG TYPE PREVALENT SINCE 1897 BUT WITH 58% INSTEAD OF 70% COVERAGE AND WITH 36-40 ROOMS PER UNIT FLOOR

STORY OF 42-46

DOUBLE BLOCK COVERAGE 58

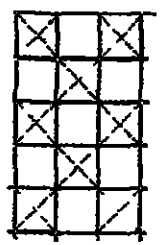
DENSITY/GROSS ACRE ONE PERSON PER ROOM 543

TOTAL COST (TWO LOCKS)	$3,9[illegible] 105 00
GOVERNMENT GRANT (10%)	$ 38[illegible] 210 50
GOVERNMENT LOAN (30%)	$ 1 93[illegible],052 50
PRIVATE SUBSCRIPTION (40%)	$ 1 544 842 00

INCOME

[illegible] ROOMS AT AVERAGE RENT OF $700 PER RM PER MO	[illegible]
LESS 7½% FOR VACANCIES AND ARREARS	
STORES REPLACING 212 RMS AT 1½ TIMES ROOM RENTAL	[illegible]826
LESS 7½% FOR VACANCIES AND ARREARS	
STATE PARTICIPATION-20% OF AGGREGATE RM RENTAL	$ 69,033
TOTAL INCOME	$ [illegible] 894
TOTAL EXPENSES	$ [illegible] 72 8
SURPLUS	$ [illegible] 05

[illegible] AVERAGE RENT OF RM PER MO SURPLUS IS $ 5[illegible]



* NOTE

IF FINANCED BY PRIVATE CORPORATION-REQUIRED RENT PER ROOM PER MO WILL BE $10.50

B

DEVELOPMENT COMPOSED OF 10 STORY 50' AND 66⅔' CROSS AND DOM[illegible] O UNITS OF THE PROPOSED COUPLED BLOCK TYPE

DOUBLE BLOCK COVERAGE 37%

DENSITY/GROSS ACRE ONE PERSON PER ROOM 50

TOTAL COST (COUPLED BLOCK UNIT)	3 821 720 00
GOVERNMENT GRANT (10%)	382 172 00
GOVERNMENT LOAN (30%)	910 360 00
PRIVATE SUBSCRIPTION (40%)	528 688 00

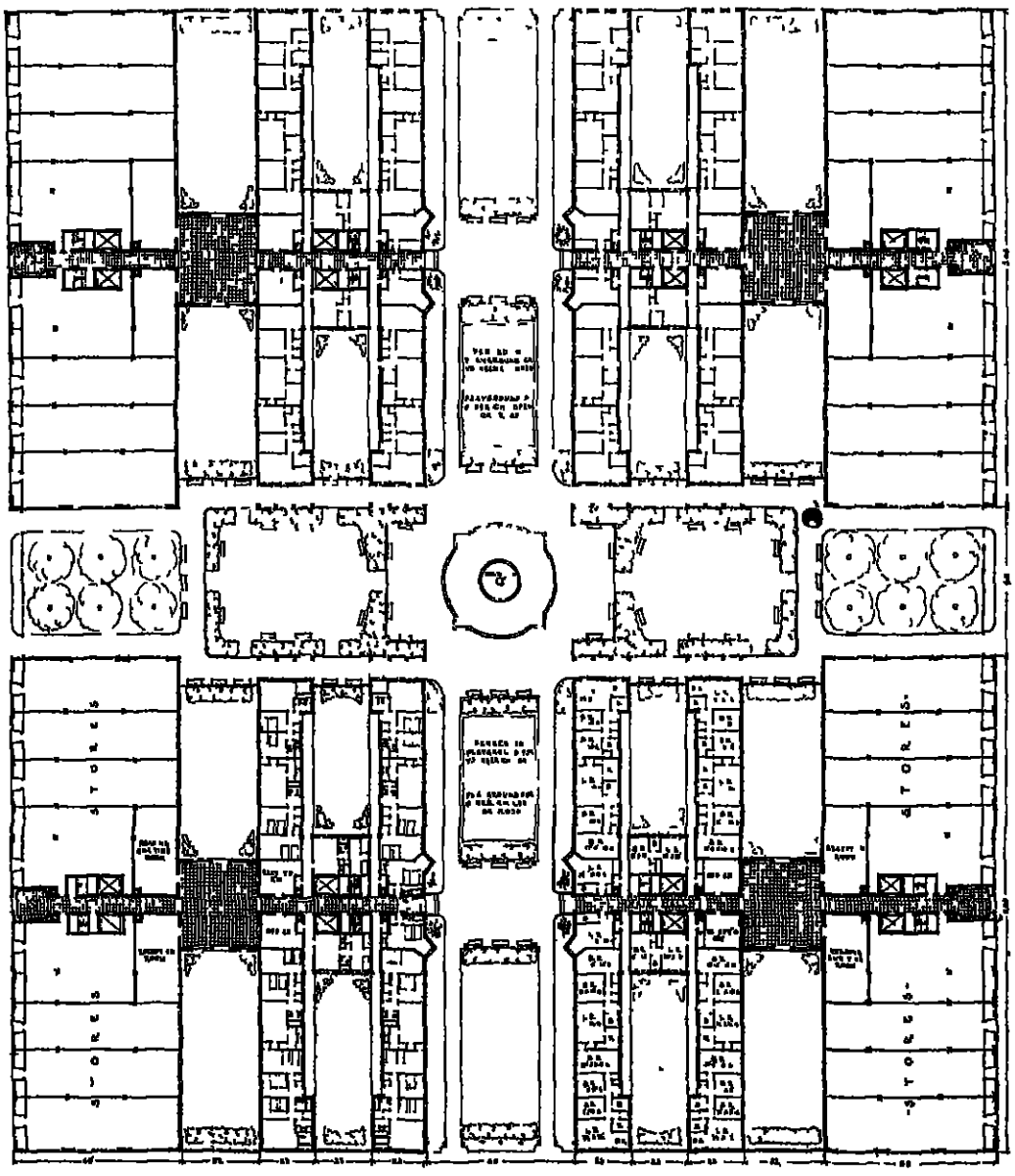
INCOME

3684 ROOMS AT AVERAGE RENT OF $700 PER RM PER MO	$30 786 80
LESS 7½% FOR VACANCIES AND ARREARS	
STORES REPLACING 138 RMS AT 1½ TIMES ROOM RENTAL	$ 8 764 55
LESS 7½% FOR VACANCIES AND ARREARS	
STATE PARTICIPATION 20% OF AGGREGATE RM RENTAL	251 20
TOTAL INCOME	81 55
TOTAL EXPENSES	41 62
SURPLUS	

NOTE D[illegible] G[illegible] Acre [illegible]ad Gross D[illegible]y / Acr[illegible]

PL. 39

DUPLEX WING PLA GROUND FLOOR



AUTHORITY BUYS (BY TENDER OR CONDEMNATION) TWO BLOCKS (800×400) AT 20% ABOVE ASSESSED VALUATION AND TURNS THEM OVER TO PRIVATE CORPORATION FOR DEVELOPMENT WITH FIVE-ELEVEN STORY (48 ROOM) BUILDINGS CITY CONTRIBUTES CLOSED STREET AND COST OF OLD BUILDINGS (ASSUMED AS ½ TOTAL ASSESSMENT PLUS 20%) AND EXEMPTS FROM TAXATION ½ COST OF LAND AND NEW BUILDINGS INCLUDING 7½% ALLOWANCE FOR PRELIMINARY EXPENSES ETC COST OF LAND ASSUMED AT $16·40 PER SQUARE FOOT.
PROJECT FINANCED BY GOVERNMENT GRANT=10% OF TOTAL COST, GOVERNMENT LOAN=50% OF TOTAL COST; UNDERTAKING CORPORATION SUBSCRIPTION=40% OF TOTAL COST
STATE CONTRIBUTES ANNUALLY 20% OF AGGREGATE ROOM RENT

FIXED CHARGES: TAXES AT 6% PER YEAR (ASSESSMENT BASED ON 80% OF TOTAL COST); INTEREST ON LOAN AT 3%, AMORTIZATION OF LOAN OVER A 45-YEAR PERIOD AT 1·15%
COST OF MAINTENANCE (OPERATING COST) ASSUMED AT $·40 PER ROOM PER YEAR. BATHROOMS IN 2 ROOM APARTMENTS, KITCHENETTES WITH WINDOWS, DINING ALCOVES AND BALCONIES COUNTED AS ½ ROOMS, KITCHENS (OVER 48 SQ FT IN AREA) AND PRIVATE TERRACES COUNTED AS ½ ROOMS POPULATION DENSITY FIGURED AT ONE PERSON PER ROOM EXCLUSIVE OF FRACTIONAL ROOMS

BUILDING AREA AT GROUND LEVEL	82 887·48 FT
*COVERAGE AT GROUND LEVEL	20·3%
CLEAR RENTABLE AREA FOR FULL DEVELOPMENT (20·3% COVERAGE)	66 042·36 FT
PERCENT CLEAR RENTABLE AREA TO BLDG AREA	73·8%
*DENSITY OF POPULATION PER GROSS ACRE	444
AVERAGE SIZE OF LIVING ROOMS	198·5 SQ FT
AVERAGE SIZE OF BED ROOMS	104·1 SQ FT
COST OF LAND	$ 286 000·00
COST OF BLDG AT $9·10 PER CU FT (VOL 7·78 MILLION CU FT)	$ 8 537 824·24
TOTAL COST OF OPERATION	$ 9 423 824·24
COST PER SQ FT OF CLEAR RENTABLE AREA	$ 7·82

OPERATING COST	$ 118 200
INTEREST ON EQUITY @ 6%	$ 106 382
TOTAL EXPENSES	$ 374 582
SURPLUS	$ 20 132
	$ 392 814

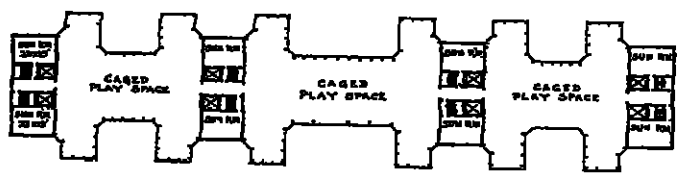
INCOME

2646 ROOMS (FRACTIONAL) ROOMS AT AVE RENT OF $ 6·38 PER RM PER MO	
LESS 7½% FOR VACANCIES AND ARREARS	$ 20 430·00
STORES BUILDING 216 ROOMS AT 12 TIMES ON RENTAL	
LESS 7½% FOR VACANCIES AND ARREARS	$ 65 034·00
STATE PARTICIPATION 20% OF AGGREGATE ON RENTAL	$ 64 080·00
TOTAL INCOME	$ 392 814·00

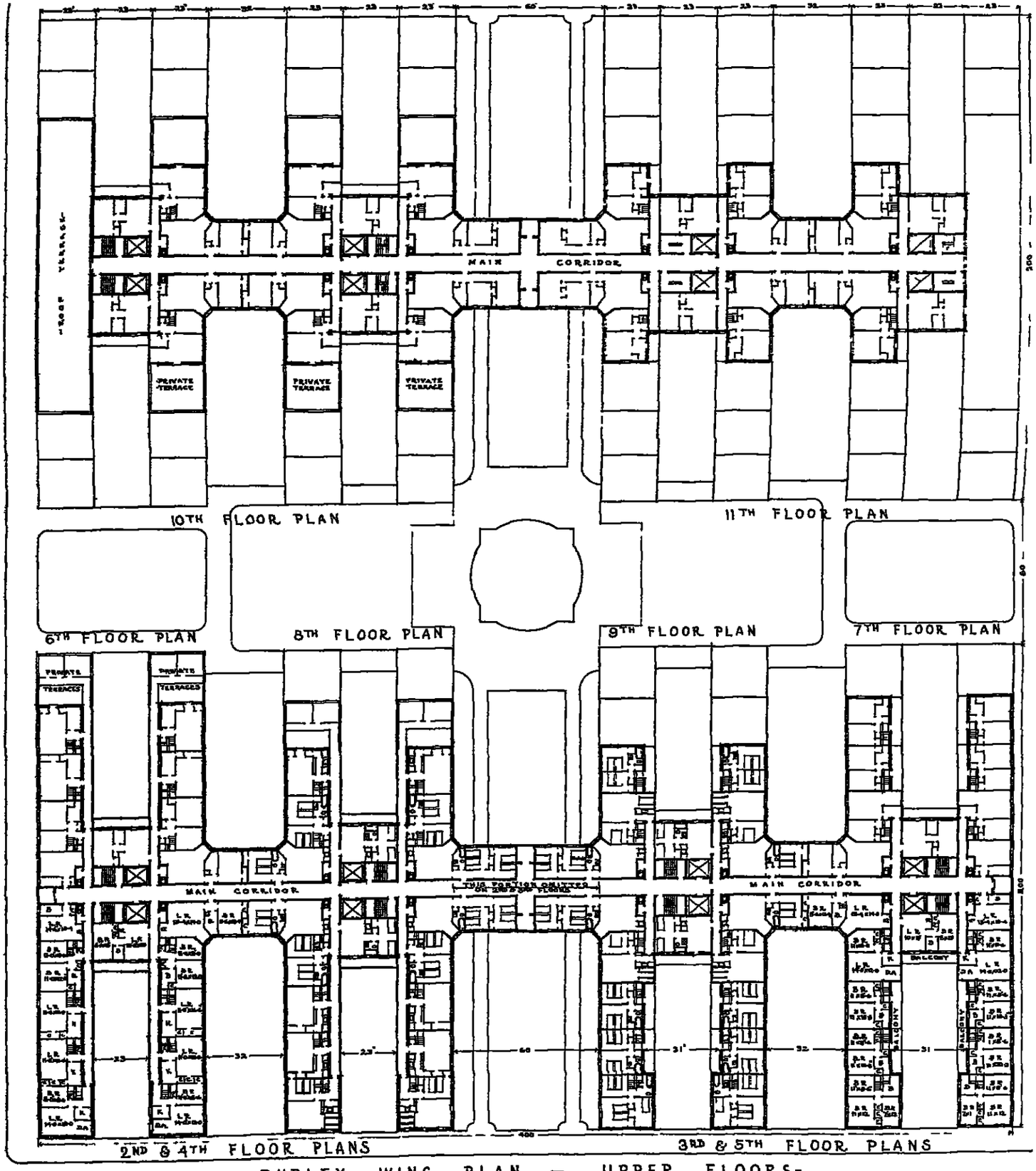
NOTE IF PROJECT WERE FINANCED BY GOVERNMENT BONDS FOR TOTAL COST AT 4% INTEREST, AMORTIZATION ON COST OF BLDG ONLY AT 1·12% RENT PER RM PER MO TO GIVE SAME SURPLUS, WOULD BE $ 6·75
IF AMORTIZATION RATE WERE REDUCED TO 0·5% (50 YR PERIOD) RENT PER RM PER MO WOULD BE $ 6·55

*NOTE IN AN 18 BLOCK DEVELOPMENT WITH TWO CENTRAL BLOCKS USED FOR A PUBLIC PARK, PLAYGROUND AND COMMUNAL BUILDINGS OCCUPYING NOT MORE THAN 25% OF THE AREA, COVERAGE WOULD BE 14·7%. DENSITY OF POPULATION WOULD BE 594 PER GROSS ACRE

NOTE: "Density of Population per Gross Acre" should read "Gross Density of Population per Acre."

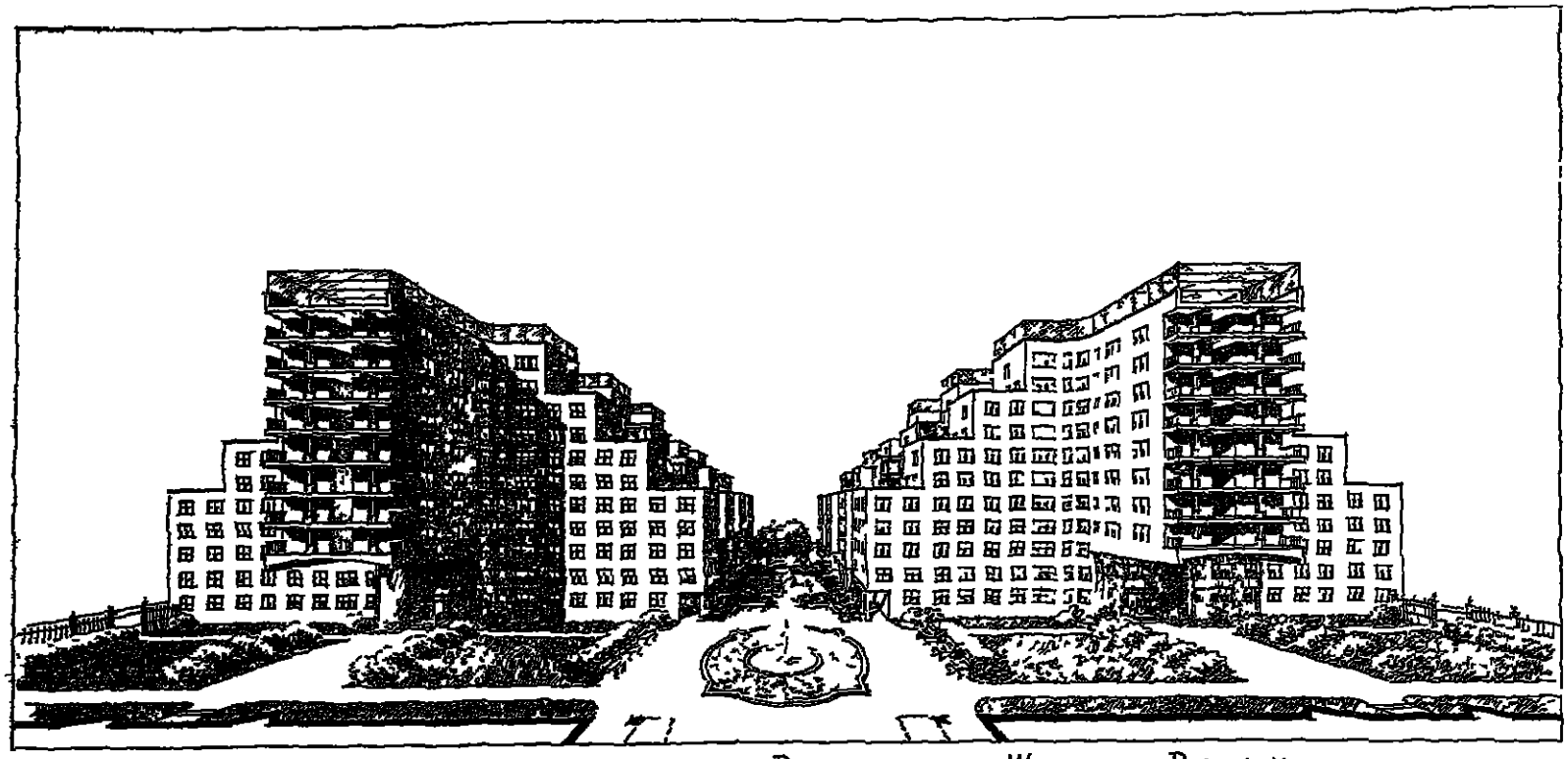


ROOF PLAN-
-ONE HALF SCALE-



-DUPLEX WING PLAN — UPPER FLOORS-

PL. 41



-PERSPECTIVE OF DUPLEX WING PLAN-
TAKEN ON AXIS OF CENTER COURT

PL. 42

-CALIFORNIA BUNGALOW COURT PLAN-

AUTHORITY BUYS LAND (200'x400') AT $1.00 PER SQ FT AND TURNS IT OVER TO PRIVATE CORPORATION FOR DEVELOPMENT WITH TWO-STORY BUILDINGS. CITY EXEMPTS FROM TAXATION ⅓ COST OF LAND AND NEW BUILDINGS, INCLUDING 7½% ALLOWANCE FOR PRELIMINARY EXPENSES, CARRYING CHARGES DURING CONSTRUCTION, AND CONTINGENCIES

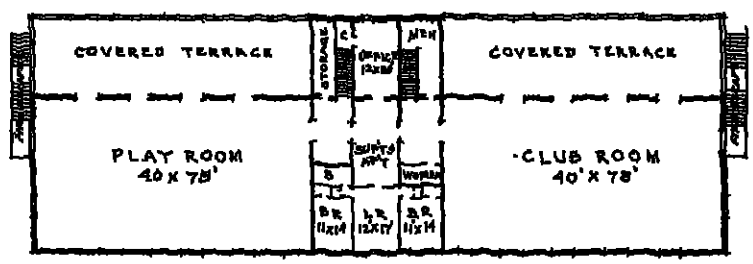
COST OF APARTMENT BUILDINGS ASSUMED AT 32½¢ PER CU FT, COST OF GARAGE & RECREATION BUILDING ASSUMED AT 25¢ PER CU FT COST OF BOUNDING WALL AND LANDSCAPING ASSUMED AT $ 5,000.

PROJECT FINANCED BY GOVERNMENT GRANT = 10% OF TOTAL COST, GOVERNMENT LOAN = 50% OF TOTAL COST, UNDERTAKING CORPORATION SUBSCRIPTION = 40% OF TOTAL COST STATE CONTRIBUTES ANNUALLY 20% OF AGGREGATE ROOM RENT.

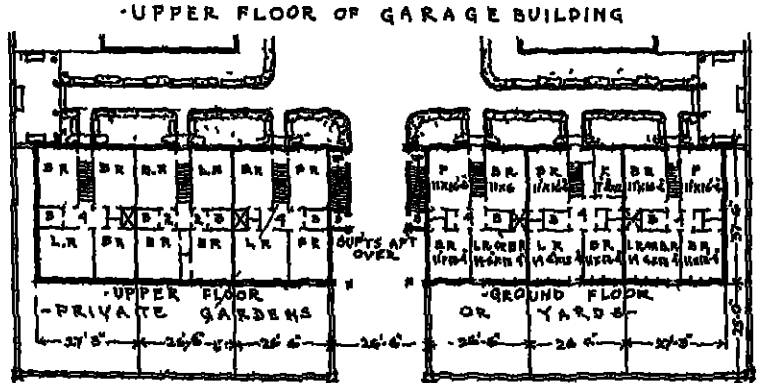
FIXED CHARGES TAKES AT .027 PER YEAR (ASSESSMENT BASED ON 85% OF TOTAL COST), INTEREST ON LOAN AT 3%; AMORTIZATION OF LOAN OVER A 45-YEAR PERIOD AT 1.12% COST OF MAINTENANCE (OPERATING COST) ASSUMED AT $30.00 PER ROOM PER YEAR. BATHROOMS IN 2-ROOM APARTMENTS COUNTED AS ½ ROOMS.

GARAGE RENT ASSUMED AT 1½ TIMES ROOM RENT 75 CLUB MEMBERSHIPS ASSUMED AT $1.50 PER MO, 75 PLAYROOM MEMBERSHIPS ASSUMED AT $1.00 PER MO

	WITH GARAGE BLD'G	WITHOUT GARAGE BLD'G
COST OF LAND	$ 80,000.00	$ 80,000.00
COST OF BLD'GS	$ 244,170.66	$ 218,120.00
TOTAL COST	$ 324,170.66	$ 303,120.00
-ANNUAL EXPENSES-		
FIXED CHARGES	$ 11,490.00	$ 10,572.67
OPERATING COST	$ 7,020.00	$ 7,560.00
INTEREST ON STOCK	$ 7,900.00	$ 7,275.00
TOTAL	$ 26,410.00	$ 25,407.67
INCOME.		
210 RMS AT AVE RENT OF $7.85 PER RM PER MO LESS 7½% ALLOWANCE FOR VACANCIES AND ARREARS-	$ 18,298.35	250 RMS AT AVE RENT OF $7.70 PER RM PER MO LESS 7½% $ 22,083.60
GARAGE RENT & CLUB DUES	$ 5,782.50	
STATE PARTICIPATION	$ 3,937.56	$ 4,786.32
TOTAL	$ 28,018.41	$ 26,869.92
SURPLUS	$ 1,608.41	$ 1,462.25

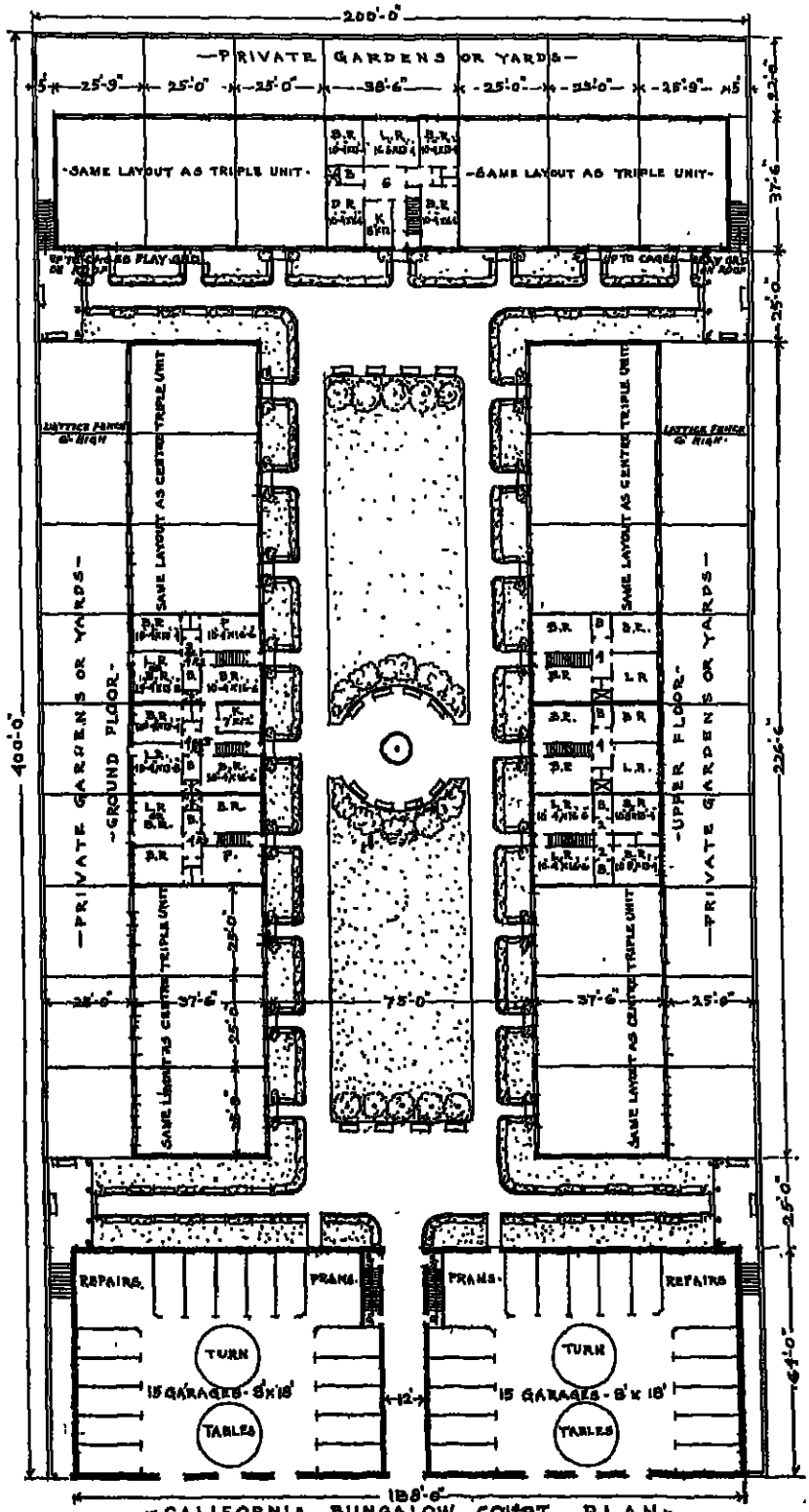


-UPPER FLOOR OF GARAGE BUILDING



-ALTERNATE PLAN-
-WITH APARTMENTS REPLACING GARAGE BUILDING-

PL. 43



—CALIFORNIA BUNGALOW COURT PLAN—
WITH GARAGES

COMPARISON OF OLD- AND NEW-TYPE UNITS IN NEIGHBORHOOD DEVELOPMENT

Whereas, undoubtedly, garden apartments offer the most ideal solution of the urban as well as the suburban housing problem, and should certainly be given a fair trial, if adequate Federal, municipal, and perhaps state, participation can be secured, nevertheless, they cannot be expected to solve the whole problem, for we must not close our eyes to the fact that, after the present depression, it is quite possible that Federal aid will no longer be obtainable, or adequate for large scale developments. Under these conditions slum-clearance will have to rely upon municipal appropriations, and new housing primarily upon private enterprise, supplemented, let us hope, by adequate municipal, and some form of state and Federal, cooperation.

Although, even under such conditions, we must pray that block and neighborhood developments will not cease — with an aroused public consciousness of their fundamental advantages, it is hardly conceivable that this should happen — nevertheless, the rehabilitation of the slums would naturally proceed in a less grandiose and more leisurely fashion than we have recently been led to hope, so that the economic side of the problem is likely to assume again dominating importance. Under these conditions, we may not be able to build the most ideal tenements which we can devise, but may have to content ourselves with the construction of the most practical.

The vision of large government subsidies has encouraged us to set up new ideals, far beyond anything actually required by existing laws or customs. For instance, a 50 per cent coverage is now questioned as too high by some housing experts, whereas, for more than eighty years a coverage varying between 90 and 65 per cent has been legal and customary.

Although it is devoutly to be hoped that the present depression has opened the eyes of people generally to the responsibility not only of the municipal but of the Federal Government and of the state to see to it that the poor of our cities are decently housed, even if they cannot afford to pay the full cost of such housing, and whereas, therefore, we have a right to expect that in future some outside help will continue to be available, it is quite possible that such help will be limited to some form of Federal participation through low interest bearing loans, on approved projects — presumably on a basis of about 50 per cent of their valuation.

For the rest, as has been pointed out, we shall probably have to rely upon the municipality and upon private capital.

Under these circumstances, is it not unwise for us to fix our hopes solely upon the development of an earthly paradise, or a series of Letchworth Villages or Welwyns, *in the slums*, while accepting cheerfully the probable continuance of 65 per cent to 70 per cent coverages in the high-class residential sections, where these coverages seem to produce results entirely satisfactory even to the occupants of the most luxurious modern apartments?

At all events, it will be, I think, worth while, and interesting, before dismissing this subject, to compare briefly the results obtainable with one of the most promising of the plans suggested in this study — the Coupled-Block Plan (Pls. 37 and 39, B) — which may be considered fairly representative of the best, or at least of the most economical, which have been suggested in connection with the recently introduced Federal subsidies, with one of the best examples of the old type of tenement house, brought up to date by a somewhat lower coverage, fireproof construction — which seems to be universally demanded — a minimum of elevator service, and some increase in the size of rooms (Pl. 39, A), in other words, a type of building to which tenement dwellers are accustomed, and which closely approximates the usual type of apartment house occupied by the more affluent classes. Although lacking many of the obvious and striking advantages enjoyed by block and super-block developments built about private gardens or parks, this type of building possesses certain advantages peculiar to itself. It is, to a considerable extent, independent of its surroundings, is self-contained, and many tenants feel possesses more privacy than a unit in a garden development; it is, moreover, the only type of "improved" low-rent urban housing in sight — on high cost land — which holds out any promise of marked improvement in housing conditions without substantial Government or state aid.

There is certainly more to be said in favor of this old Flagg type, 100-foot, unit than most modern students of housing realize, or are willing to acknowledge, especially for use in blocks where the existence of buildings too good or too useful to be demolished makes a uniform block development of lower coverage prohibitively expensive. Moreover, its encouragement, or at least its toleration, under certain conditions and with proper restrictions, at least when constructed without Federal or state subsidies, would facilitate the reclamation of the worst slums, where high land values, or at least prices, are a seriously complicating factor in assembling large plots. It must, however, be borne in mind that, on a strictly commercial basis, even with $4 land, such buildings cannot, with present-day costs, be made to yield rents of less than $9–$10 per room per month.

Even for block and neighborhood development, the old 100-foot, six-story unit, brought up to date by the provision of minimum elevator service, perhaps of the "walk-down" type, presents some obvious practical advantages over both the proposed four- and five-story "walk-ups," and such higher sub-block and block-unit-types as have been suggested up to the present time. No one who is familiar with the block of tenements erected during the first quarter of the century by the City and Suburban Homes Company on York and Marie Curie Avenues, 78th and 79th Streets (Figs. 39, a, and 120), can doubt that this form of development supplies reasonably satisfactory living conditions for those in the lower brackets. In combination with better recreational facilities than are usually available in the immediate neighborhood, and with the modifications above suggested, there would be almost as much to favor as to criticize in this form of block development, although in the opinion of many a lower coverage in combination with higher buildings produces a more satisfactory type of housing.

These two distinct types of development (Pl. 30, A and B) illustrating the old and the new, the concentrated and the diffuse, the moderately low and the moderately high epitomize, fairly comprehensively, alternate extremes in a problem which is crying for solution today, for four- and five-story "walk-ups" can hardly be considered a possible solution. Whereas these two plans were drawn up primarily to serve as an unbiased comparison of the two extremes, a mere glance must bring instant conviction of the great superiority of the more diffuse type, if only its present prohibitive cost could be brought within possible limits through some such combination of economies and outside help as has here been suggested. Nevertheless, with the modifications and limitations above proposed, the older type would be a great improvement over prevailing commercial types, and perhaps should be encouraged, for limited use and for certain locations, especially if, after the present depression, outside subsidies do not materialize as an abiding principle, and the present difficulties of land acquisition are not satisfactorily overcome. In housing, as in most of the problems which confront us in life, we must temper our ideals with practical common sense; in other words, while holding our ideals high, we should be *practical* idealists, accepting such limitations as may thereby be involved, and not striving for the impossible. It is better to feast upon a half loaf than to starve on no bread at all.

In comparing the two types for use in neighborhood development it is obviously even more important in the case of the concentrated type than in that of the diffuse that a reservation be made of occasional vacant blocks for recreational purposes, perhaps one in each neighborhood development of 9, 12, 15, or 18 blocks. The closing of alternate cross-town streets is also even more necessary in

connection with the old type than with the new, as is also a provision for roof playgrounds, the possibilities of which have been curiously overlooked up to the present time.

Midway between these two divergent types, and as an example of the low-at-the-street and high-in-the-center-of-the-block type already referred to (p. 944) as worthy of serious consideration, Pls. 40–42 reproduce a type of plan which has many points to recommend it, and only one serious disadvantage — the diffusion of much of the space left vacant for light, air, and recreational purposes.

The plan is simple and straightforward, well-aired, and with good light and sun angles, has a direct and economical approach, by elevators, to all of the apartments, most of which, being but one room deep, have the best possible through ventilation as well as a cheerful outlook in at least two directions. It has commodious terraces, light and well-ventilated halls, and more than usually adequate fire exits. Because, however, of a rather high cubage in relation to the clear rentable area in rooms, this plan would cost somewhat more per room than the other plans here reproduced, and would therefore necessarily result in higher rents — about $8.35 per room per month in a building five stories high on the street, with wings breaking back to seven, nine, and eleven, stories 22, 42, and 62 ft., respectively, from the street — an increase of 68 cents, or 9 per cent, per room per month over the Coupled-Block plan. It has seemed, however, desirable to reproduce the plan here, primarily for purposes of comparison, and as an incentive to further study along these lines. Furthermore, the rooms are larger and the plan has certain other obvious advantages in connection with housing adapted to a slightly higher scale of rents than those for which most of the plans here suggested have been designed.

Until further experiments have been made, on a comprehensive scale, in the *real* slums, and until we know more than we do at present of future policies in connection with Federal, state, and municipal, participation, it must remain an open question what form of compromise between the two extremes here discussed offers, on the whole, the greatest hope of *practical* results.

The financial aspect of the problem also requires further consideration, from practical experts, as does the determination of the best means of acquiring the necessary sites.

MASTER SCHEDULE

FEDERAL, STATE, MUNICIPAL, AND PRIVATE CAPITAL PARTICIPATION

COMPARISON OF PLANS (CITY SLUM AREA, 17 TO 18 ACRES) FIGURED ON THE BASIS OF TWO CITY BLOCKS (200 X 400) ASSUMED AS PART OF A NEIGHBORHOOD DEVELOPMENT OF EIGHTEEN SIMILAR BLOCKS OR THEIR EQUIVALENT. PROJECT FINANCED BY GOVERNMENT GRANT EQUAL TO 1/3 OF TOTAL COST, GOVERNMENT LOAN EQUALS 50% OF TOTAL COST, AND UNDERTAKING CORPORATION SUBSCRIPTION EQUAL TO 1/6 OF TOTAL COST. STATE CONTRIBUTES ANNUALLY 20% OF AGGREGATE ROOM RENT.

AUTHORITY BUYS (BY TENDER OR CONDEMNATION) TWO BLOCKS (200 X 400) AT 20% ABOVE ASSESSED VALUATION AND RESELLS THEM OVER TO PRIVATE CORPORATION FOR DEVELOPMENT. CITY CONTRIBUTES CLOSED STREETS AND COST OF OLD BUILDINGS (ASSUMED AT ½ TOTAL ASSESSMENT, PLUS 20%) AND EXEMPTS FROM TAXES (AT LEAST DURING AMORTIZATION PERIOD) ½ COST OF LAND AND NEW BUILDINGS, INCLUDING 15% ALLOWANCE FOR PRELIMINARY EXPENSES, CARRYING CHARGES DURING CONSTRUCTION, AND CONTINGENCIES.

COST OF LAND ASSUMED AT $8.10 PER SQUARE FOOT AND COST OF FP CONSTRUCTION AT 40¢ PER CU FT (EXCEPT AS NOTED).

FIXED CHARGES (TAXES AT 0.7 PER YEAR (ASSESSMENT BASED ON 85% OF TOTAL COST), INTEREST ON LOAN AT 3%, AMORTIZATION OF LOAN OVER A 50-YEAR PERIOD AT 1½%.

COST OF MAINTENANCE (OPERATING COST) ASSUMED AT $10.00 PER ROOM PER YEAR (EXCEPT AS NOTED).

BATHROOM IN TWO ROOM APARTMENTS, KITCHENETTES WITH WINDOWS THROUGHOUT DINING BAYS, AND BALCONIES, COUNTED AS ½ ROOMS. KITCHENS (OVER 70 SQ FT BUT UNDER 80 SQ FT IN AREA) AND PRIVATE TERRACES COUNTED AS ¾ ROOMS.

INCOME BASED ON 7% ALLOWANCE FOR VACANCIES AND ARREARS. RENTAL OF STORE SPACE (ASSUMED AS ⅓ OF GROUND FLOOR AREA) FIGURED AT 5½ TIMES THAT OF EQUIVALENT ROOM SPACE. GARAGE RENTS FIGURED AT 1½ TIMES ROOM RENT.

POPULATION DENSITY FIGURED AT ONE PERSON PER ROOM EXCLUSIVE OF FRACTIONAL ROOMS.

* IN NEIGHBORHOOD DEVELOPMENT COVERING 18 BLOCKS WITH 2 CENTRAL BLOCKS VACANT EXCEPT FOR COMMUNITY BUILDINGS OCCUPYING 7½% OF AREA, COVERAGE AND DENSITY FIGURES WOULD BE REDUCED AS INDICATED UNDER EACH PLAN.

AREA OF LAND 160,000 SQ FT	GROSS PLAN 16 UNITS	DOMINO PLAN 14 UNITS	DOMINO PLAN WITH PUBLIC PARK	COUPLED BLOCK PLAN	DUPLEX WING PLAN	CALIFORNIA BUNGALOW COURT PLAN (ONE BLOCK)
AREA OF LAND INCLUDING CLOSED STREET 181,000 SQ FT	10 STORIES HT INCL BASEMENT 100	10 STORIES HT INCL BASEMENT 100	10 STORIES HT INCL BASEMENT 100	10 STORIES HT INCL BASEMENT 100	5-11 STORIES HT INCL BASEMENT 85 109	2 STORIES HT (NO BASEMENT) 20
COST OF LAND	$ 896,000	$ 896,000	$ 199,111 (50% of land value)	$ 896,000	$ 896,000	AT $1.50 PER SQ FT $ 80,000
AREA OF BUILDING	1,541,000 SQ FT	1,541,000 SQ FT	1,394,000 SQ FT	1,040,000 SQ FT	1,521,000 SQ FT	ALL APARTMENTS 1 TO 300 SQ FT / 1 TO 3 APTS 1 TO 2 SQ FT
COVERAGE OF FLOOR *	10%	15.5%	13.8%	10.9%	10.9%	1/8% / 45.7%
CLEAR RENTABLE AREA TYPICAL UPPER FLOOR	981,840 SQ FT	981,840 SQ FT	981,840 SQ FT	962,060 SQ FT	969,085 SQ FT	24,748 SQ FT / 94,407 SQ FT
PERCENT CLEAR RENTABLE AREA TO BUILDING AREA	70.8%	70%	70%	76.5%	73.7%	81.6% / 87.8%
CUBAGE OF BUILDING	6,416,200 CU FT	6,532,400 CU FT	6,532,400 CU FT	5,846,420 CU FT	8,295,618 CU FT	121,310 CU FT / 464,080 CU FT
COST OF BUILDING	$ 2,564,416.00	$ 2,608,944.00	$ 2,608,912.00	$ 2,337,768.00	$ 3,317,021.11	$ 48,524.00 / $ 185,632.00
TOTAL COST OF OPERATION	$ 4,038,116.00	$ 4,083,940.00	$ 4,308,047.00	$ 3,839,048.00	$ 4,483,021.34	$ 305,120.00 / $ 328,106.00
GOVERNMENT GRANT	$ 1,018,416.00	$ 1,020,985.00	$ 1,102,682.00	$ 959,762.00	$ 1,121,005.33	$ 30,412.00 / $ 32,970.00
GOVERNMENT LOAN	$ 2,021,208.00	$ 2,042,466.00	$ 2,051,323.50	$ 1,919,524.00	$ 2,240,512.67	$ 151,560.00 / $ 164,583.33
EQUITY OR STOCK	$ 1,018,166.40	$ 1,020,985.00	$ 1,102,682.00	$ 959,762.00	$ 1,121,503.34	$ 121,140.00 / $ 131,553.67
TOTAL NUMBER OF ROOMS EXCLUSIVE OF STORE SPACE	3,080 / 1,120 (FRACTNL)	3,144 / 72 (FRACTNL)	3,144 / 72 (FRACTNL)	3,312 / 186 (FRACTNL)	2,646 / 52 (FRACTNL)	252 / 6% (FRACTL) / 264 / 6% (FRACTL)
DENSITY OF POPULATION PER GROSS ACRE *	448	544	544	556	441	88	88
TOTAL NO OF APARTMENTS	1,110	1,005	1,005	1,088	952	72	88
AVERAGE SIZE OF LIVING ROOMS INCL KITCHENETTES & DINING BAYS	160 SQ FT	156 SQ FT	156 SQ FT	164 SQ FT	188 & SQ FT	180 SQ FT	180 SQ FT
AVERAGE SIZE OF BEDROOMS	105 SQ FT	111 SQ FT	111 SQ FT	107 SQ FT	101 4 SQ FT	165 SQ FT	165 SQ FT
COST OF LAND PER ROOM	$ 22.94	$ 26.958	$ 14.853	$ 24.586	$ 26.244	$ 308.88	$ 297.38
COST OF BLDG PER ROOM	$ 801.03	$ 845.05	$ 845.05	$ 808.10	$ 1,036.03	$ 842.16	$ 907.69
TOTAL COST PER ROOM	$ 1,019.87	$ 1,114.60	$ 993.58	$ 1,061.05	$ 1,298.48	$ 1170.34	$ 1223.68
COST PER SQUARE FOOT OF CLEAR RENTABLE AREA	$ 7.11	$ 7.94	$ 6.84	$ 7.42	$ 7.87	$ 6.19	$ 7.48
FIXED CHARGES	$ 141,973.11	$ 130,008.70	$ 115,566.66	$ 134,710.58	$ 155,570.00	$ 10,572.67	$ 11,400.08
TAXES (INCLUDED IN ABOVE)	$ 58,575.74	$ 59,687.09	$ 47,532.19	$ 55,608.28	$ 64,049.70	$ 4,328.40	$ 4,699.17
MAINTENANCE (OPERATING COST)	$ 132,920	$ 129,920.00	$ 129,920.00	$ 137,800.00	$ 113,200.00	AT $50 PER APT PER FISCAL YEAR $ 7,860.00	$ 7,020.00
TOTAL ANNUAL EXPENSES INCL INTEREST ON EQUITY 6%	$ 991,455.09	$ 348,647.06	$ 324,750.70	$ 684,468.62	$ 374,962.58	$ 25,440.55	$ 26,410.17
REQD RENT PER RM PER MO TO GIVE SURPLUS 5% OF INCOME	$ 7.68 / $ 323,623.99	$ 8.10 / $ 260,150.56	$ 7.52 / $ 268,144.95	$ 7.88 / $ 298,049.86	$ 8.35 / 296,381.60	$ 7.10 / $ 22,083.66	$ 7.85 / $ 19,298.35
INCOME FROM STORES AT 5½ TIMES ROOM RENTAL	REPLACING 120 RMS $ 18,718.23	REPLACING 108 RMS $ 17,182.79	REPLACING 108 RMS $ 19,776.20	REPLACING 186 RMS $ 20,160	REPLACING 216 RMS $ 35,034.93		GARAGES (COVERED) AREA AND CHILDREN'S $ 5,703.30
STATE PARTICIPATION	$ 60,851.12	$ 62,518.00	$ 58,016.64	$ 64,452.44	$ 64,087.92	$ 4,780.00	$ 3,937.36
REQD RENT PER RM PER MO PER SQ FT OF CLEAR RENTABLE AREA	6.03¢	6.06¢	5.68¢	6.18¢	5.83¢	4.50¢	5.03¢
* COVERAGE & POPULATION DENSITY IN 18 BLOCK DEVELOPMT	37.8% 549	39.9% 468	33.9% 468	33.3% 495	41.7% 391		
REQD RENT PER RM PER MO IF PROJECT IS FINANCED BY GOVT BONDS FOR TOTAL COST AT 1% INTEREST, AMORTIZATION ON COST OF BUILDING ONLY AT 1.12% (48-YEAR PERIOD)	$ 8.00	$ 8.40	$ 7.88	$ 8.00	$ 8.18	$ 8.00	$ 8.17
REQD RENT PER RM PER MO IF FINANCED BY PRIVATE CORPORATION WITH NO SUBSIDIES NO TAX EXEMPTION, INTEREST ON LOAN (60% OF TOTAL COST) AT 3% AMORTIZATION ON LAND AT 6% INTEREST ON INVESTMENT AT 8%	$ 12.75	$ 13.88	$ 12.23	$ 12.88	$ 14.20	$ 12.50	$ 12.75
REQD RENT PER RM PER MO IF BLDG IS 6 STORIES OR HIGH	$ 7.80	$ 8.25	$ 7.61	$ 7.83	$ 8.48		

NOTE: EVEN ASSUMING RADICAL REDUCTIONS IN BUILDING COST THROUGH BETTER ORGANIZATION, PRE FABRICATION, AND MASS PRODUCTION, $8.00 RENTS IN NEW BUILDINGS SEEM IMPOSSIBLE OF ATTAINMENT WITHOUT A CONSIDERABLE INCREASE IN THE SUBSIDIES HERE SUGGESTED.

Note: "Density of Population per Gross Acre" should read "Gross Density of Population per Acre."

SOME TENTATIVE SUGGESTIONS TOWARD A COMPREHENSIVE PLAN FOR FEDERAL, STATE, MUNICIPAL AND PRIVATE CAPITAL, PARTICIPATION IN SLUM CLEARANCE AND LOW-COST HOUSING, AND FOR LAND ACQUISITION

No really comprehensive and well considered plan, or method of procedure, has yet been devised, or even suggested, for slum-clearance and re-housing in New York City, nor even for a sizable section of the city, certainly nothing comparable to those plans which for some years have been in successful operation, or at least in promising development, in a considerable number of English and Continental cities. The formulation of such a plan for New York City requires not only further and better systematized field investigations, and a competent analysis of the facts thereby collected, but also a further study of the many legal questions involved, especially in connection with the acquisition of land at fair prices and without undue delay. It requires, also, a careful consideration of the proper relations of the Federal Government and the state, as well as that of the municipality, to the housing problem. It involves, moreover, a solution of the difficult problem of interesting private capital in housing developments of this class, for, in the long run, the elimination of the slums and the proper re-housing of the poorer classes can only be accomplished with the cooperation of private capital. That the execution of such a plan would be greatly facilitated by the development of cheaper, better, and more expeditious, methods of construction, more closely coordinated organization, and more economical financing, is so clear as to require no argument.

As a tentative step toward the development of a comprehensive plan for slum-clearance and re-housing in New York City, and elsewhere, the following outline is suggested. It will probably be considered by most students as utopian, visionary, and impracticable, but I believe it embodies most of the essentials, and nothing *impossible* [1] of accomplishment, and that, when completed, it would prove both practicable and effective.

Briefly stated, the underlying features of the proposed plan are as follows:

(1) The appointment by the Mayor of a New York City Housing Authority,[2] whose jurisdiction shall include all new tenements erected with Federal or state

1. The proposed method of land acquisition is unusual, and doubtless would involve legal difficulties, but nothing insuperable, I believe

2 The establishment of local Housing Authorities generally, and the systematic collection, analysis, and preservation, of statistics and other information, should be undertaken

aid. The said Authority shall consist of three ex-officio and nine appointed members, the latter selected from a list of not less than three nominees in each required class, submitted by the most representative and responsible organization in such class having the largest number of active members. The membership shall include the Tenement House Commissioner (ex-officio), Chairman, an architect, a builder, a real estate man, a recognized authority on housing matters, a settlement worker, a representative of the New York City Chamber of Commerce, three others—one of whom shall be a lawyer, one a banker, and one a woman — a representative of the Federal Government (ex-officio), and a member of the State Board of Housing (ex-officio).

(2) The Authority shall determine and fix the types of development and the maximum average monthly rents per room which shall be permissible in connection with approved applications for Federal and state participation (probably between $7 and $8 under present conditions), and shall have the power, within prescribed limits, to modify these conditions from time to time, after not less than one year's previous notice.

(3) The Authority shall have the power, within prescribed limits, to initiate housing developments in cooperation with the Federal and state governments, the municipality, and private capital, and to invite and pass upon all private applications for Government and state participation in housing developments. It shall inspect such developments during construction and, after the completion of each development, shall annually examine the same, and shall certify that it is being operated in substantial accordance with the conditions under which the Federal and state participations were granted.

(4) The Authority shall lay out a ten-year programme, calling for an annual expenditure by the City of say $10,000,000, which, with the suggested Federal, state, and private capital, participations, would cover the cost of housing about 70,000 persons.

(5) When a site has been selected for a development the Authority shall invite from the constituent owners the submission, within three months, of tenders, in the form of options to purchase before a given date the individual plots with improvements thereon, at prices 20 per cent above their highest assessed values during the previous three years (plottage value increases being figured in accordance with an established scale).[1] Before the expiration of the three-month period, or

wherever a pressing housing problem exists. It probably would be necessary to provide that each local Authority should procure a state charter, under the terms of which the state's appropriation—above a stipulated minimum—should be fixed annually or for a term of years in agreement with the Federal and local governments.

1. On the principle that if the owner has not appealed from nor protested this valuation and has paid, or owes, the taxes based thereon, it is justifiable to assume that the assessment represents the fair value of the property to him.

thereafter, if and when options have been secured on at least two-thirds of the required property, the Authority shall have the power to condemn the balance, or any part thereof for which it has been unable to obtain options, paying for each parcel thus condemned 15 per cent above its highest assessed value during the preceding three years.

(6) The method of procedure and the participations of the municipality, the Federal and state governments, and of private capital, shall be as follows:

a. When a certain area has been approved for development by the Authority, and a corporation of satisfactory responsibility is ready to agree to subscribe 40 per cent of the estimated net cost of the land and development, the municipality shall agree to assume the difference in cost between the assessed value of the property involved, plus 20 per cent, and the assessed value of the land alone, plus 20 per cent. The property when improved shall be tax-exempt for one year after completion, and thereafter, during the remainder of the amortization period, shall be taxed on 66⅔ per cent of its assessed value.

b. The Federal Government shall provide as a bonus 10 per cent of the entire cost of the development and lend 50 per cent of the entire cost for 45 years, at 3 per cent, this amount to be amortized at 1.12 per cent per annum.

c. The state shall agree to pay, during the amortization period, an annual subsidy equal to 20 per cent[1] of the aggregate room rent, or $16.80 per room on the present assumed rental basis of $7 per month.

While the plan here outlined provides that the City Housing Authority shall determine and fix the types of development, maximum rents, etc., in connection with all developments receiving Federal or state assistance, it is, of course, to be understood that its authority shall not cover developments receiving no such assistance, and also that its jurisdiction, as well as the participation of the Federal and state governments, shall be limited to developments intended and designed solely for tenants who cannot afford to pay the prevailing minimum rents for suitable housing. The amount per room of such average minimum rents shall be fixed from time to time by the Authority; at the present time, as already stated, it probably would not exceed $7, certainly not $8, at which former rate it would apply to approximately 55,000 out of the 453,905 "non-farm," rent-paying, families living on Manhattan Island (1930 census), which, statistics show, are now paying under $20 per month for apartments probably averaging approximately three rooms, or less than $7 per room per month. It would not apply to the approximately 86,000 families who pay rents between $20 and $30 per month. The fact should not be overlooked that a considerable fraction of those families which pay less than $20

1 Possibly this might be reduced to 10 per cent, the city assuming the balance.

a month rent are at present housed in old buildings of the poorer types, mostly unheated and all inadequately supplied with plumbing and other conveniences, and that these tenants will be obliged either to remain in their present quarters or to take over the better quarters abandoned by those enabled by the proposed, or some similar, plan to move into new buildings.

An alternative method of financing, without private capital participation, worthy of consideration, would be

1. The issue and sale by the Government of long-term — say 45-year — housing bonds, bearing interest at 3½ per cent or 4 per cent, and an allotment for each approved development recommended by the local Housing Authority, from the funds thus created, of an amount sufficient to cover the entire development, except the cost of the land.

2. The issue and sale by the city of similar bonds, and an allotment under similar conditions of an amount sufficient to cover the cost of the land.

Under this plan the property would be owned and operated by the local Housing Authority, which would periodically pay over to the Federal Government and to the city, from the net operating profits, the interest on the bonds and the amortization charges. At the end of the amortization period, if all obligations had been met, the development would be free and clear of indebtedness and would continue to be owned and operated by the Authority, or possibly turned over to the city. In either case rents thereafter could be materially reduced. The risk of loss would be shared by the Government and the municipality, in proportion to their individual investments.

In this plan, as in the proposed plan for Government, state, municipal, and private capital, participation, the maximum rents would be fixed from time to time by the Authority and, under conditions as they exist today, probably would not exceed $8 per room per month.

A variation of this plan might include state participation, either in the form of a direct subsidy as proposed under the suggested plan for Government, state, municipal, and private capital, participation, or by the state assuming, perhaps through the sale of State Housing Bonds, a definite proportion — say one-third — of the cost of the land. This last form of procedure, although easing the city's burden, would not further reduce rents. Although there can hardly be a doubt of a ready market for such bonds as are here suggested, it might be good policy to stipulate that a certain fraction at least — say one-third — should be subscribed for locally.

At the end of the amortization period, as in the preceding case, this plan would leave the ownership and management of the development in the hands of the local

Authority, with probably at least a dozen years of productive usefulness ahead, after which the value of the land, at least, would remain as the nucleus for a new development.

The principle of rent subsidies has, I believe, never been tried here. If granted for a stated period of at least a year at a time, after careful investigation by a representative local Authority such as is here suggested, and apportioned, perhaps equally, among the Federal, state, and municipal, governments, it could, I believe, be made the basis of an effective, simple, and economical, method of distributing equitably the difference between rents which families in the lower income brackets could afford to pay and rents sufficient to provide a fair return on capital invested in suitable housing by limited dividend or other corporations.

The main features of these proposed plans, and also of the 30 per cent (recently raised to 45 per cent) Government ownership plan, and the results obtainable under these plans by developments carried out in accordance with the proposed Cross, Domino, Coupled-Block, Duplex Wing, and Bungalow Court, plans, are briefly summarized, in schedule form, on Pl. 44.

Whether or not we accept any of the methods of procedure which have been suggested here or elsewhere, we must, I think, accept the principle which, in recent years, seems to have been firmly established in most European countries, that the Government shall bear a continuing share in the reclamation of the slums, or at least in providing, somewhere, adequate housing for those who cannot afford to pay its full cost themselves.

SOME CONCLUSIONS AND RECOMMENDATIONS

Summarizing briefly the more important suggestions, conclusions, and recommendations discussed in the Appendix, I should say that perhaps the most important of all is, —

The development of a logical, fair, and workable, plan of cooperation between the Federal Government, the state, the municipality, and private capital, and — so far as New York City is concerned — the adoption of a programme which will result, within a period of say twenty years, in the elimination of at least the worst slums and the decent re-housing of their population:

(*a*) On Manhattan Island.

(*b*) Within the 5¢ and 10¢ transit zones.

This programme, in order to be successful, must provide adequate assurance of a return to investors in equities of at least 5 per cent under conditions as they exist today, and must also include such modifications of the present laws as will make available a better method than at present exists for the prompt and economical acquisition of necessary building sites.

As has already been stated, until further experiments have been made, on a comprehensive scale, in the *real* slums, and until we know more than we do at present of the future policies in connection with Federal, state, and municipal, participation, it must remain an open question just what forms of housing and just what methods of financing offer, on the whole, the greatest hope of practical results. The granting of rent-subsidies to families in the lower income groups, perhaps contributed in equal parts by the Federal, state, and municipal, governments, is an interesting possibility which should receive further consideration.

Other recommendations of almost equal importance are the following:

(1) The encouragement of experienced architects to study and develop new and better ideas in the designing — principally the planning — of housing — both urban and suburban.

(2) The development of better and cheaper materials and methods of construction, as well as of better and more economical administration (see p. 949).

(3) Such careful revision of existing building, multiple dwelling, and possibly zoning, laws as will make possible materially cheaper housing than at present exists, while preserving the essentials of adequate space, light, and ventilation

(both within and without the apartments), adequate fire protection and sanitation, convenience, and privacy (see pp. 933–934).

(4) The development of more playgrounds and parks in the city itself and in the suburbs, including the more general utilization as playgrounds of the roofs of fireproof urban tenements.

(5) The stringent limitation of street traffic and parking within crowded residential and business areas.

Anything more than the briefest discussion of architectural styles would be out of place in this study of practical planning, but a quarter century of active practice, followed by ten years of observation and reflection, must serve as my excuse for recording at least the conclusion that ultra-modernistic design — in architecture as in other forms of art expression — gives very little promise of supplanting, permanently, the older forms which have ripened through at least twenty-four centuries of thought and experience. This is certainly true in relation to monumental architecture; I believe that it is almost equally true in the field of housing — whether of the rich or the poor. There is something cold and forbidding in the advanced form of modernistic architecture, which, up to the present at least, has not succeeded in producing attractive homes.

For the past forty years it has been interesting to watch the successive efforts to develop new principles and new styles, in painting, sculpture, and architecture, and impressive to see each new theory and system in turn demolished by its successor. It is true that new materials and new inventions have necessitated new interpretations and new forms of expression, and that the efforts of the past ten years have given some hope of improvement, or at least of simplification and economy, in the design of commercial buildings. It is even possible that, through the simplification, cheapening, and improvement, of materials and of methods of construction, new and better styles, or types of design, for housing, possessing at least the rudiments of beauty, may finally emerge, and therefore it probably is desirable to encourage a certain amount of experiment, with this result in view. Up to the present time, however, a glance at recent housing developments abroad, a few of which are pictured in Chapter XXVII, must prove discouraging to any but the most enthusiastic modernists, and, in this country, although better average taste, in architecture at least, has long prevailed, little or nothing has been produced along ultra-modernistic lines in the housing field which competent and unbiased judges could consider even moderately satisfactory aesthetically.

A few exceptions outside of the housing field, such for example as the Empire State Building, show that modernistic architecture, at least in its application to

the design of the skyscraper, is not incapable of assuming real beauty, when developed with restraint by minds and hands trained to the understanding and production of beauty.

Moreover, in our cities, especially in those which like New York are built upon the gridiron plan, one characteristic manifestation of the modernistic style or system—it could equally well be used with any other—in which the buildings are placed obliquely to the streets in order to secure the maximum of sunlight in the greatest number of rooms throughout the year, as in the case of the approved plans for the Williamsburg development (see Frontispiece, Vol. II), seems scarcely wise or worth while, especially as experts differ as to the advantages, in this climate, of such an arrangement. In the open country, or where the street system is irregular, and in some climates, such a plan might perhaps be used to advantage. I cannot believe that it can be justified for use on Manhattan Island, certainly not for developments covering only a comparatively small area, as it is as impossible successfully to harmonize such a layout with the prevailing street system as it is to harmonize modernistic architecture, at least in its advanced forms, with existing buildings of the older types.

If, from a practical point of view, the advantages were sufficient some aesthetic sacrifice might be worth while, but up to the present any advantages which may exist in the new styles over the old seem more than offset by manifest disadvantages. It is true that some features of modernistic architecture are capable of being used to advantage in the solution of certain housing problems; for instance, the highly accentuated horizontal lines characteristic of some of the prevalent modernistic types readily lend themselves to the development of continuous balconies, and there would therefore be some reason for the use of these styles in climates where such balconies are necessary or desirable, although it must be admitted that this type of design is almost necessarily heavy and clumsy in appearance, and is generally lacking in attractiveness, and especially in homelike qualities.

For these, and for many other, reasons I cannot but believe that "advanced" modernism in architecture, like cubism and other 'isms in painting, will prove to be a temporary fad, and that the older styles, with reasonable modifications to satisfy new conditions, will continue to proclaim, and justify, their superiority in domestic as well as in monumental architecture, at least in the judgment of those persons who do not insist upon novelty as an essential part of quality.

The housing projects already under construction, or projected for the near future, will doubtless provide important information and experience, which even-

tually will be useful in reaching a more comprehensive solution of the whole housing problem. At best, it will probably require a generation or more to bring some semblance of order out of the present confusion. In the meantime New York City should not hesitate to take advantage of the present unusual opportunity by applying a substantial part of any further procurable Federal Housing appropriations to a practical experiment in slum-clearance and re-housing, on a moderately large scale, in the section of the city where it is most needed — the worst slums of the Lower East Side.

Until such a development is given a fair trial there will always be a considerable number of intelligent people who feel that the city has shirked its duty and thrown away a golden opportunity.

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