An Introduction

TO

City Planning

Democracy's Challenge to the American City

BY

Benjamin Clarke Marsh

PRICE

ONE DOLLAR, POSTPAID

PRINTED MAY, 1909.

AN INTRODUCTION

TO

CITY PLANNING

DEMOCRACY'S CHALLENGE TO THE AMERICAN CITY

BY

BENJAMIN CLARKE MARSH

EXECUTIVE SECRETARY OF THE COMMITTEE ON CONGESTION OF POPULATION IN NEW YORK

ROOM 1320, 165 BROADWAY, NEW YORK

WITH A CHAPTER ON

THE TECHNICAL PHASES OF CITY PLANNING

BY

GEORGE B. FORD, Architect

May be secured from Benjamin Clarke Marsh
Room 1320, 165 Broadway, New York

Furnished by the Federation of Churches and Christian Organizations of New York

The population included within a circle of 19 miles radius from City Hall, Manhattan, was in 1890, 3,326,998; in 1900, 4,612,153; in 1905: 5,404,638. At this rate of growth the Federation of Churches estimates the population in 1920 at maximum 8,231,823; at minimum 7,782,093 and submits as a probable average 8,028,608.

DEDICATION

TO THE INCREASING GROUP OF CITIZENS IN EVERY AMERICAN CITY—WHO RECOGNIZE THAT GOVERNMENT IS THE MOST IMPORTANT FACTOR IN SECURING GOOD LIVING CONDITIONS AND PRESERVING THE LIFE, HEALTH AND WELL-BEING OF ALL CITIZENS, AND WHO DESIRE THEIR CITY'S BEST DEVELOPMENT

SOME REFLECTIONS.

To open the door of opportunity for health, we must close the door for exploitation of land.

Charity in congested districts is exploitation's most powerful ally.

A Uniform Tenement House Law for a great city is Health's most dangerous modern Procrustean Bed.

Man labored, Government protected but the Landlord gets the increase.

Government must Prevent what Charity can only Mitigate.

The New York Tenement House Act was the greatest miracle of the present decade, but it is time for another to prevent Congestion.

Taxation is Democracy's most effective method of achieving social justice,—including city Planning.

No city can account itself civilized where any of its normal workmen must pay one-third of their income for reasonable housing.

It is blasphemy to preach the gospel of love to a man who is paying rent on exploited land.

A Dollar for a Park in Time may save Ninety.

It is not a city's chief end to be "stung" by its enterprising land holding citizens.

What's good for all citizens is good for city.

The German city planning may be bad for the written but is very good for the human constitution.

An ounce of City Planning is worth a pound of City Replanning.

As water seeks its level, land seeks its highest possible return, regardless of human welfare.

To deny the possibility of the foreign system of City Planning in America is to acknowledge the failure of Democracy to protect its citizens.

City Planning is the most effective method of projecting municipal efficiency.

A city without a Plan is like a ship without a rudder.

Congestion would lose its charm for the land owner if the city taxed away all his profits instead of rewarding him by relieving him of the cost.

TABLE OF CONTENTS.

INTRODUCTION.

A CITY WITHOUT A PLAN IS LIKE A SHIP WITHOUT A RUDDER.

"The problem of the last generation was to
provide gas and water;
The problem of the next is to provide
light and air."

—*Professor Muirhead.*

The present book does not make any pretences to be an exhaustive study of the problem of City Planning, but as its name indicates, to serve merely as an introduction to the problem, as it were, to state the problem and to outline the achievements of foreign cities, give a brief review of city planning in a few American cities and note some of the conditions in American cities. The building codes and full data about the most important foreign cities and countries is being collected and have already been translated, and if there is sufficient demand will before long be available for the public.

The possible development of a city and not the details of administration is dealt with. Comparatively little is said with reference to sewage disposal, water supply, etc., subjects with which most books upon cities have dealt fully.

The chapter on the technique of buildings in a city Plan, written by Mr. George B. Ford from varied experience as an architect, presents many detailed suggestions.

The purpose of the book is to stimulate American cities to action and to the adoption of city plans in order to prevent the direful conditions of congestion, maladjustment and preeminently land speculation which have reached their horrible limit in Manhattan. As noted, congestion is a relative term but the tendency in American cities, of private interests to override public needs, and to thwart normal development are resistlessly hastening American cities to the point where any effort to arrange a city must involve the tremendous cost of replanning instead of a normal method of planning.

THE JUSTIFICATION.

CITY PLANNING IS A NATIONAL PROBLEM.

No city can develop normally without a plan and the fact that 36 states besides the District of Columbia have cities with a population at present of more than 50,000 and that 30½% of the population of the country live in cities of 25,000 or over, shows the need for immediate action. The drift to the city is inevitable.

It is not necessary, however, that such an overwhelming proportion of the population should be jammed into a few great cities. The location of factories in cities of 10,000 to 40,000 population is a feasible development and the Garden City movement, which has reached a much higher degree of development abroad than in this country is an indication of the value and economy of better grounds and locations for factories. The question has not yet definitely been settled as to how large a self-sustaining manufacturing city must be. Undoubtedly, however, there must be a sufficient number of seasonal trades and varied industries so that the livelihood of the community shall not be entirely dependent upon any single industry. The removal of large factories from great cities and from the center of these cities to the outlying sections is beginning in this country.

Among the reasons why City Planning is imperative today are the following:—

1st.—*The Present Density of Population.*—In 1905 Manhattan as a whole had an average density of 150 to the acre. There were in the Borough 122 blocks with a density of 750 per acre or over, and 38 blocks with 1,000 or over, while several wards in Brooklyn had a density of from 150 to nearly 250.

Chicago in 1900 had several districts totaling 221.3 acres with a density of 206.2 and a subsequent investigation shows a density of 400 or over in several blocks.

St. Louis had in 1900, 48 blocks aggregating 124.28 acres with a density of about 180 per acre. In 23 blocks the density was from 200 to 300, in 5 over 300,—one block a density of 367.

Boston had in 1907 one ward, the 8th, comprising 166 acres, with a density of 192.2 per acre, and individual blocks have as great a density as 300-400.

Cleveland has found as high a density as 400 to the acre in a few blocks.

2nd.—*Such Conditions are Being Perpetuated and Even Intensified Under Present Laws.*—New York, New Jersey, Chicago, Baltimore and Cleveland limit the heights of tenements to one and one-half times the width of the widest street on which the building stands.

San Francisco places no limit on fire-proof structures, but limits all others to one and one-half times the width of the street.

Boston places the limit at two and one-half times the width of the street, but permits no building to exceed one hundred and twenty-five feet.

St. Louis limits all tenements to one hundred and fifty feet, and those on streets sixty feet wide or less to two and one-half times the width of the street.

Washington limits all tenements to the width of the street between building lines, but never to exceed ninety feet.

Providence limits all to ninety feet unless fireproof.

Rochester permits no tenement to exceed in height four times its horizontal dimension.

St. Paul and Toledo apparently place no limit on the height, but let the height determine the construction. On the other hand in Manchester, England, where the street is not over 30 feet in width the buildings are not allowed to exceed two stories in height, while on streets 30 to 36 feet in width dwelling houses may be three stories high. In Liverpool, Glasgow and Berlin tenements are limited in height to the width of the street, while in Edinburgh they are limited to one and one-quarter times the width of the street.

Most states and important cities have building laws and tenement laws but in several there is absolutely no restriction upon the heights and virtually upon the cubage, that is, the volume of the building. Most of these tenement house laws permit a density of from 500 to 1,300 per acre. New York permits tenements to occupy 90% of the corner lot and 70% of an interior lot, though this does not apply in the case of a lot running through from street to street, provided the lot does not exceed 100 feet in depth.

New Jersey has the same provision, but without the exception for street to street lots.

3rd.—*Physical Deterioration Is Sure to Ensue as a Result of Congestion of Population Per Room and Per Acre.*—The following statistics show the death rates in certain congested blocks in New York, indicating some of the results of congestion.

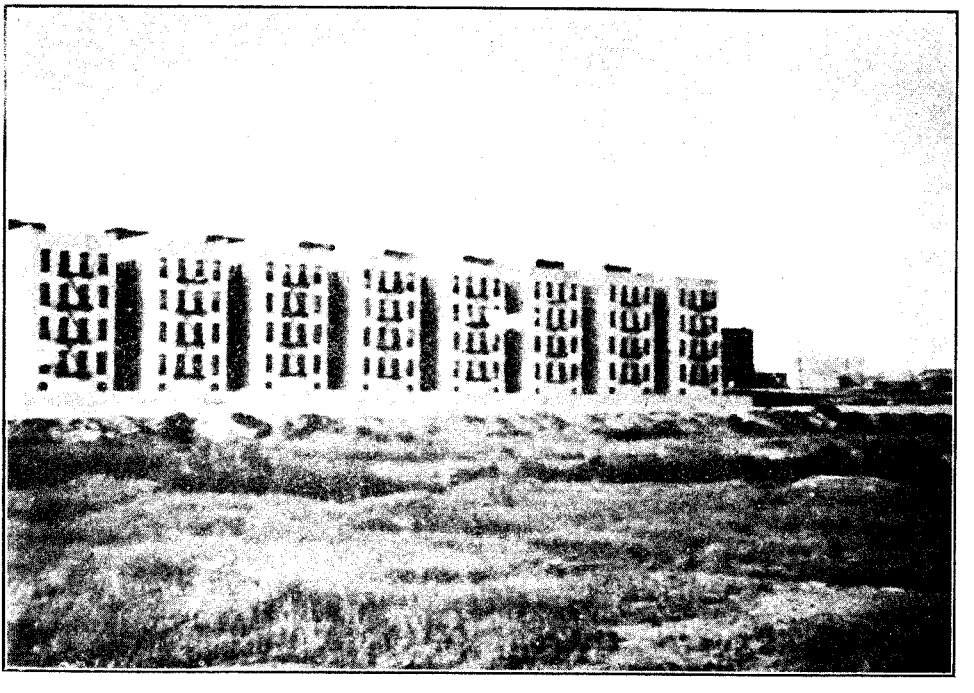
DEATH RATES IN SELECTED BLOCKS COMPILED BY THE NEW YORK BOARD OF HEALTH AT THE REQUEST OF THE ITALIAN GOVERNMENT.

Block Boundaries.	*Under 5 Years of Age.* Population.	Density Per Acre. 1905.	Deaths.	Rate per 1,000.	*From 5-19 Years.* Deaths.	Rate per 1,000.	*From 20-44 Years.* Deaths.	Rate per 1,000.	*From 45-64 Years.* Deaths.	Rate per 1,000.	*65 Yecrs and Over.* Deaths.	Rate per 1,000.	*All Ages.* Deaths.	Rate per 1,000.
1. 112-113th Sts., 1st Ave. to 2nd Ave.	4,325	958	164	87.03	6	2.24	41	9.54	14	25.9	6	272.7	231	24.5
2. Mott, Prince, Elizabeth and E. Houston Sts. ..	3,468	1,107	106	92.2	8	4.09	14	5.70	18	37	5	357	151	24.9
3. Madison, Henry, Catherine and Market Sts.	4,137	945	46	50.1	9	3.71	24	8.16	18	21.71	9	225	106	15.16
4. 2-36 Jones St., 1-37 Cornelia, 164-174 W. 4th, 157-277 Bleecker Sts.	1,739	975	20	59.5	4	4.23	24	17.4	17	38.1	5	108.7	70	23.2
5. 301-399 E. 106th, 301-398 E. 107th, 2064 - 2078 2d Ave., 2051-2058 1st Ave.	3,928	809	130	83.12	3	1.54	27	7.10	11	20.5	4	181.8	175	22.3

Foreign countries have adopted city planning as a means of preventing race deterioration. Germany was alarmed at the lowered physical conditions of her citizens and introduced city planning, in large measure, as a result of this apprehension. England was appaled by the results of examinations of men for the Boer War, which indicated a marked deterioration since comparatively few of the men applying for enlistment from many of the cities were physically fit and the country has been stirred to the need for city planning and its advocates find its greatest endorsement and sanction from this fact.

Race deterioration, is, to be sure, a relative term. That the physique of a people or race is not as bad as it might be, that the physique of immigrants may be slightly better here than abroad, is not a fair test of progress. The true test should be whether the physique is as nearly normal as it may be.

CITY PLANNING IS THE MOST EFFECTIVE METHOD OF PROJECTING MUNICIPAL EFFICIENCY.



AT THE QUEENS TERMINUS OF THE NEW QUEENSBOROUGH BRIDGE.—RELIEVING MANHATTAN'S CONGESTION.

Congestion of Population in New York is a National problem. No one knows exactly what proportion of the immigrants who land at Ellis Island remain in New York for a given length of time. It is, however, known that many of them remain here for a series of years and they are given here an introduction to standards of living which are, most unfortunate and demoralizing. While the transition period may not permanently effect the physique of these people, it nevertheless, has a most important influence upon them and no degree of subsequent care can compensate for the evil results of their adoption of the standards of housing and living of New York's congested districts or exeronate the country for exposing them to such dangers.

CHAPTER I.

The Cost and Causes of Congestion.

CONGESTION WOULD LOSE ITS CHARM FOR THE LAND OWNER IF THE CITY TAXED AWAY ALL HIS PROFITS INSTEAD OF REWARDING HIM BY MAKING THE TAXPAYER PAY THE COST.

CONGESTION PROFITS

The Undertaker.
The Saloonkeeper.
The Land Speculator.
The Tenement Sweater.
The Politician.
Some Trust Companies.

Were it possible to charge up to Congestion of Population, the cost direct and indirect for which it is responsible, there would be little difficulty in securing legislation to prevent further congestion. We take congestion of population as meaning overcrowding per room or overcrowding per acre. Although it is unfortunate that we have no definite statistics tracing all the causes and costs of congestion, the statements of a few organizations and individuals who have been dealing directly with the problem indicates their conception of this cost.

The New York Association for Improvement of the Conditions of the Poor in a recent report states, "It is well known among social workers that the birth of a child is a serious menace to the prosperity of the ordinary day laborer's family, and that in the case of the unskilled poor in our great cities the birth of a second or third child, even in prosperous times, often brings disaster to the home. Until the first children are old enough to work, the mother must either do profit-earning work at home, hire out, or go into the factory."

A committee of the State Conference of Charities and Corrections in New York State after a careful investigation of a number of workingmen's budgets in New York makes the following statement: "It requires no citation of elaborate statistics to bring convincing proof that (in Manhattan) $600 to $700 is wholly inadequate to maintain a proper standard of living and no self-respecting family should be asked or expected to live on such an income." Scores of thousands

of families are in this class. The committee believes that with an income between $700-$800 a family can barely support itself, provided that it is subject to no extraordinary expenditures by reason of sickness, death or other untoward circumstances. Such a family can live without charitable assistance through exceptional management and in the absence of emergencies. The Committee is of the opinion that it is fairly conservative in its estimate that $825 is sufficient for the average family of five individuals, comprising the father, mother and three children under 14 years of age to maintain a fairly proper standard of living in the Borough of Manhattan.

Both of these organizations recognize that congestion of population is a most important factor in causing the cruelly high rents which take so large a proportion of the earnings of the workingman's family as well as the dependent's family.

Dr. George Newman, Medical Officer of Health of the Metropolitan Borough of Finsbury, says: "Phthisis varies in proportion to density of population. Even in the large towns phthisis follows density to the acre. In the centre of London or Manchester, or Birmingham, phthisis mortality is higher than on the circumference of these

SHALL WE BUILD HOSPITALS TO MEND PEOPLE, OR MEND OUR TENEMENT LAWS TO BUILD UP PEOPLE?

towns. There are, of course, many causes for this, but, undoubtedly, one is density of population, that is overcrowding." Dr. Robertson, the medical officer for Birmingham, has shown that in the overcrowded Floodgate area in the centre of the city during the five years 1899 to 1903 the phthisis death rate was 3.7 per 1,000 of the population, whereas in Edgbaston, a normal district, it was only 0.93—that is to say, one-fourth as great.

Alderman W. Thompson states in his Housing Handbook, that in spite of strict supervision of sanitary arrangements and a picked population the death rate in model dwellings in London is often as much as 30% higher than the average of all classes of dwellings in the adjoining County of Surrey, while death from phthisis, scarlet fever, and diphtheria has often been higher in these model blocks than the average of London, slums, overcrowded rooms and old houses all included. In the Central Districts of London, as a whole, people die at the rate of 26 to 30 per thousand, while in the slum districts the death rate is as high as 40 and 50 per thousand as compared with the death rate of 13.5 in the adjoining counties of Surrey and Middlesex.

An investigation, recently made in regard to pauper lunacy in London, showed that whereas the increase in part of London was 1.9% the overcrowded districts were responsible to the extent of 10.1%. Mr. Wm. H. Lever, the head of the firm of Lever Bros. Ltd., who have a village arranged on model lines at Port Sunlight, has demonstrated that where the homes of the people were spread over the land in proportion not exceeding 10 to 12 houses per acre, the death rate becomes lower and the birth rate higher. Where people are packed in from 50 to 80 houses to the acre, in the slum areas, the death rate is more than double the death rate of those districts where the houses average only 10 or 12 to the acre. The death rate in England varies from 9 to the thousand in suburban areas to 35 per thousand in congested and slum centers, while the average death rate is about 16 per thousand in the majority of districts. Similar statistics can be produced for the United States.

In its death rate, New York city ranks about midway among the fifteen largest cities of the United States.

City.	Average death rate per 1,000 inhabitants for 1901-1905.
New Orleans	22.6
San Francisco	20.9
Pittsburg	20.7
Washington	20.6
Baltimore	19.7
Cincinnati	19.3
New York	19.0
Boston	18.8
Philadelphia	18.2
St. Louis	17.8
Buffalo	15.5
Cleveland	15.5
Detroit	15.2
Chicago	14.3
Milwaukee	13.2

New York has a higher death rate than London, Paris, or Berlin.

New York	19.4
Berlin	18.3
Paris	18.2
London	16.9

The difference between the death rate from all causes in New York City and that in the rest of the State about equals the excess in the death rate of that city from tuberculosis and respiratory diseases.

The value of abundant provision of fresh air and sunlight surrounding each house not only to lower the death rate but to improve the general health and physique of the people, and particularly of the children, is clearly evidenced by the following figures:

	Death rate per 1,000	Infantile Mortality per 1,000 births.
Letchworth (Garden City)	4.8	38.4
Bournville "	7.5	80.2
Port Sunlight "	9.0	65.4
Bethnal Green	19.1	155
Shoreditch	20.6	163
Wolverhampton	14.8	140
Middlesbrough	20.3	169
Average for 26 large towns	15.9	145

An investigation conducted in New York last year by the Neighborhood Workers Association showed nearly 50% of the families with whom they were dealing, to be living four or more in a room. More than two in a room is universally regarded as overcrowding and only 19% of the 250 families visited in this investigation were living in the assumed normal condition of two to a room.

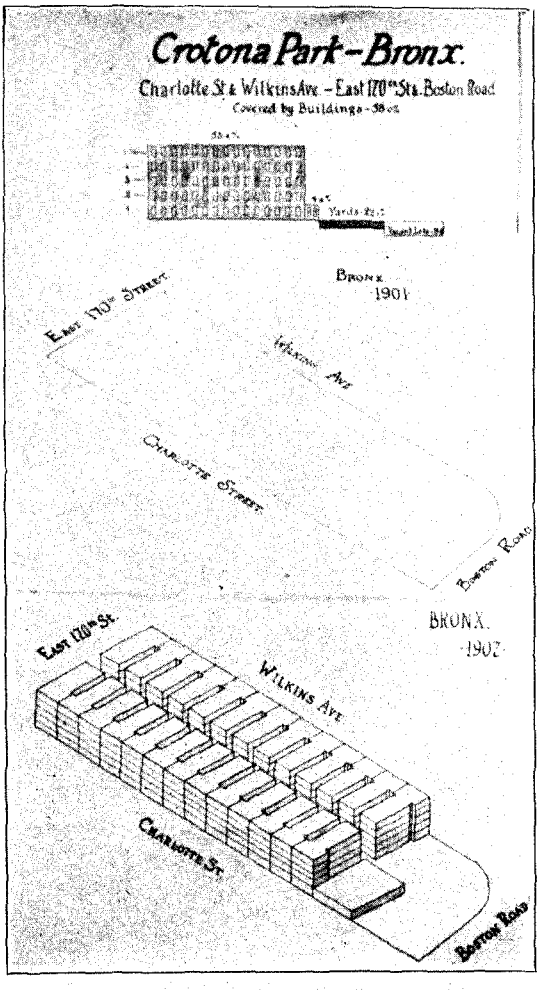
The congestion of population is, however, fluctuating. What would be regarded as inexcusable brutal overcrowding in any City outside of New York is accepted as the inevitable consequnce of the physical configuration of this city. New York had, in 1905, 122 blocks with a density of 750 persons per acre and 39 blocks with a density of 1,000 or over to the acre. It is particularly when we come to study the massing of population as illustrated in New York, that we appreciate a further cause of congestion not so clearly illustrated by room congestion.

Most students of land values recognize that these land values vary in proportion to the density of the population, the exact ratio not having been determined but the general proposition has been sufficiently established, and congestion creates a fictitious value for land for uses unhealthy, but extremely profitable to the owners. This cost must be paid for land for all public purposes and may be designated as the cost paid as tribute by the community for congestion of population. Parks are essential for breathing spaces. School sites must be secured for the children in congested areas and at a price which is often well nigh prohibitive, so that we are apt to find incomplete accommodation in such districts and the congestion of school rooms as disgraceful as the congestion of population. Every municipal function is costlier because of the massing of population and it is little use to advocate

the increase in assessed land values, hence a greater income from taxes, as an argument for permitting such massing of human beings as has reached it worst limit in New York and which is gradually developing in every American city.

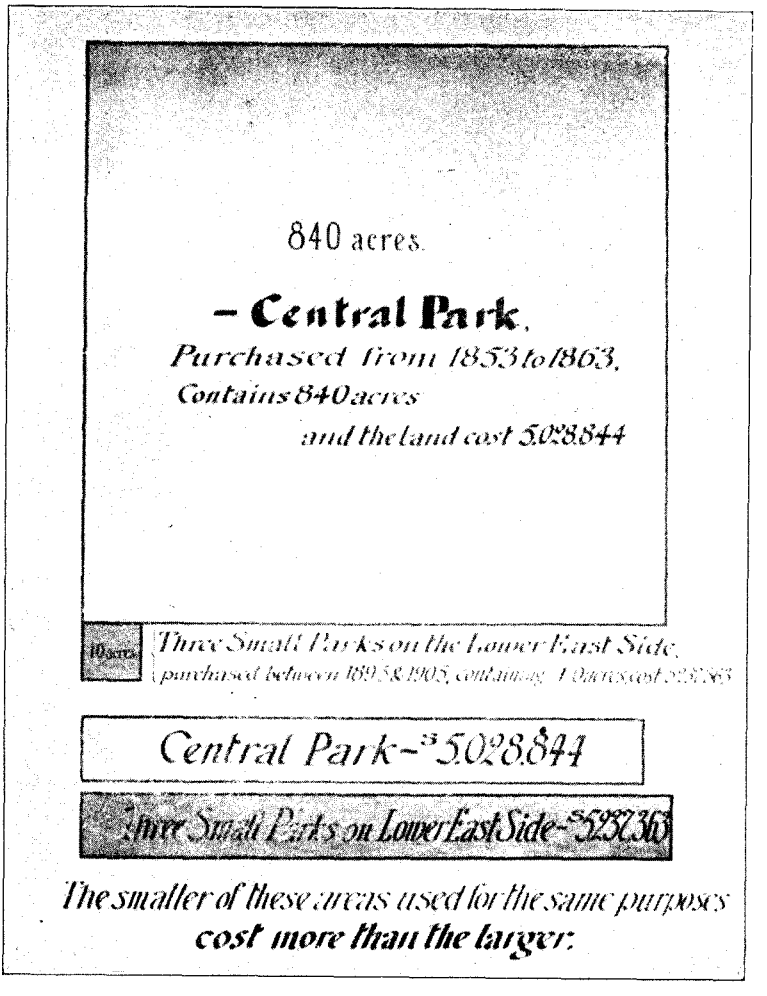
A careful distinction must, however, be made between congestion

THE UPPER BRONX.



A UNIFORM TENEMENT HOUSE LAW PERMITS THE WORST NECESSARY IN ANY SECTION OF A CITY THROUGHOUT THE CITY.

of population and concentration of population. Concentration is due in the main to six economic causes and is an entirely different phenomenon from congestion of population. Concentration of population is a normal social condition, congestion of population is a pathological condition. We enumerate the following causes of concentration of population:

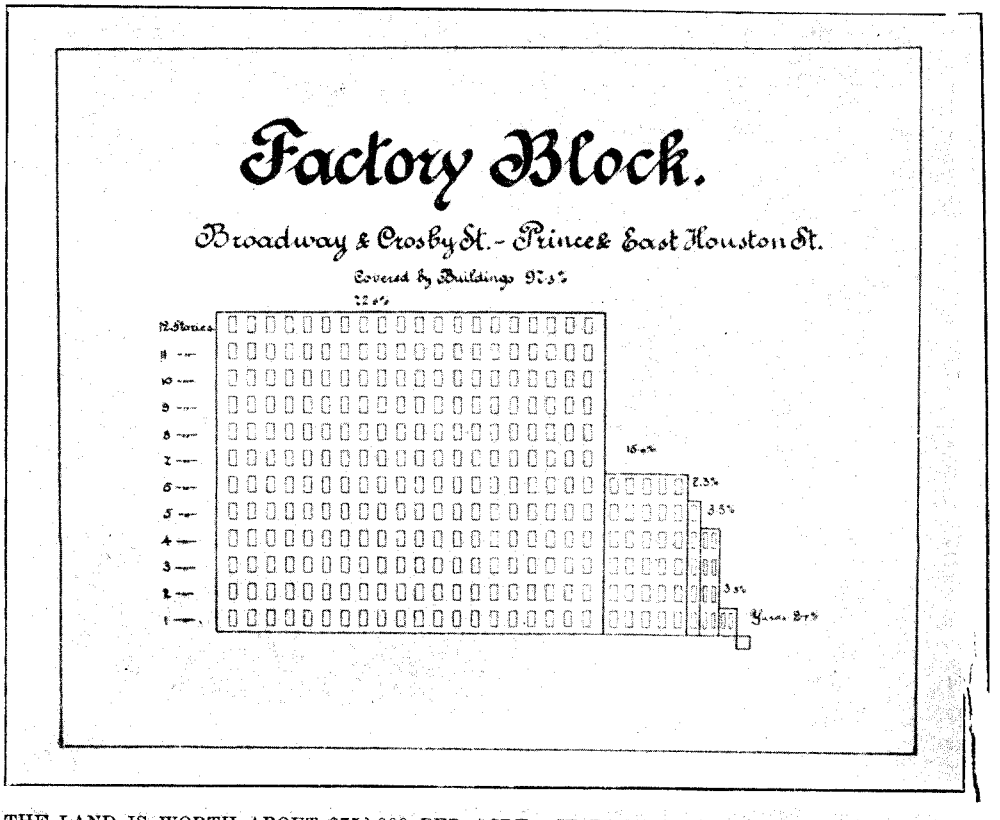


A DOLLAR IN TIME SAVES NINETY.

1. TRANSPORTATION.—It is significant that the enormous growth of cities has occurred since the development of rapid transit. Geographical

position has, of course, much to do with the development of the community and the concentration of population; but even an unfortunate situation may be largely overcome by the energy and determined efforts of the citizens in developing transportation, commerce, and industry.

2. THE GROWTH OF COMMERCE.—In 1896, the total tonnage of vessels engaged in foreign trade entering London was 9,993,285; in 1906 this had increased to 11,222,542, a gain of 2,229,257, or about 25%. In New York the total tonnage of vessels engaged in foreign trade was in 1897, 7,267,480 and in 1907 11,383,345, a gain of 4,115,865, or over 50%. A similar increase is found in the tonnage of clearing of vessels engaged in foreign trade. In 1907, although New York with only 5% of the nation's population produced 11% of the manufactured products of the United States $1,600,000,000 worth of goods,



THE LAND IS WORTH ABOUT $750,000 PER ACRE. IT PAYS THE LAND-OWNER TO HAVE GOODS MANUFACTURED HERE—BUT THE CONSUMER PAYS THE BILL.

imports and exports, passed through the port of New York, out of a total for the entire United States of $3,600,000,000. In this same year, the foreign commerce of the Port of New York was 45% of the total for the United States.

3. Economy in Manufacturing and Business.—The advantages of locating factories in large cities has been summarized as follows:

1. Advantages of a transportation center.

2. Labor advantages.

3. The advantage in convenience in delivery where products are largely for local consumption as against the disadvantages of out-of-town products.

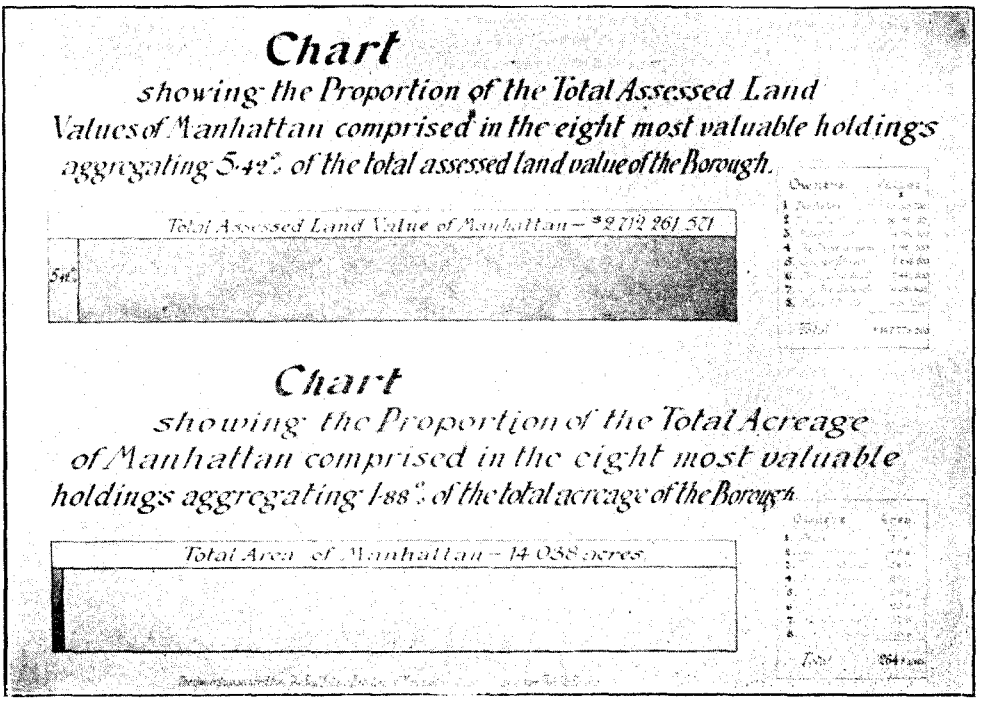
4. The advantages of manufacturing industries closely connected with other industries, of propinquity to the latter. Many of these advantages for certain lines of manufacture may be cited as advantages for business particularly the advantages of propinquity to all the members of professions and the possibility of being available for the wealthy members of society usually found in cities who are more than able to pay liberally for the personal services of experts.

4. Immigration.—Prof. Willcox of Cornell in an article in the Journal of Economics has discussed carefully the results of immigration and the distribution of immigrants in the United States, proving unquestionably that immigrants are scattered through the country but no less thoroughly that they are causing crowding of our great cities, even though *individuals* remain there but a short time. He has shown that in 1900 of all the foreign born population in the United States 66.3% were in cities, and 38.8 in cities having over 100,000 population; while 20% additional were in cities having from 8,000 to 25,000 population. It is well known too, that a large proportion of the inhabitants of many of our great cities are *today* foreign born or of foreign born parentage.

5. Gregariousness.—This has been a most important factor, particularly in a country which has received so many millions of foreigners within the past few decades. This quality, however, is not peculiar to the immigrant and although it may be regarded as a serious lapse of the pristine vigor of our people, who used to prefer the hazards of frontier life to the pleasures and excitements of concentrated populations, nevertheless it must be reckoned with as a serious and perpetual factor in social organization.

6. Social Advantages.—The usual social worker regards the concentration of population as a most advantageous means of reaching the maximum number of people with the minimum expenditure of time and energy.

It is a well known fact that school advantages are far superior in most cities than in rural districts. The development of Trade Teaching, Recreation Centers, Settlements, various cultural agencies is earliest and most complete in cities throughout the country and even more noticeably in the congested districts of the cities. The attractive power of these social advantages have been greatly underestimated by many social workers who attribute part of the influx of population to the call of the Bowery and the Great White Way, or their equivalent in various American cities and do not realize that they are but types of the varied group of social attractions and advantages which are well known to all in the country and have even been bruited abroad.

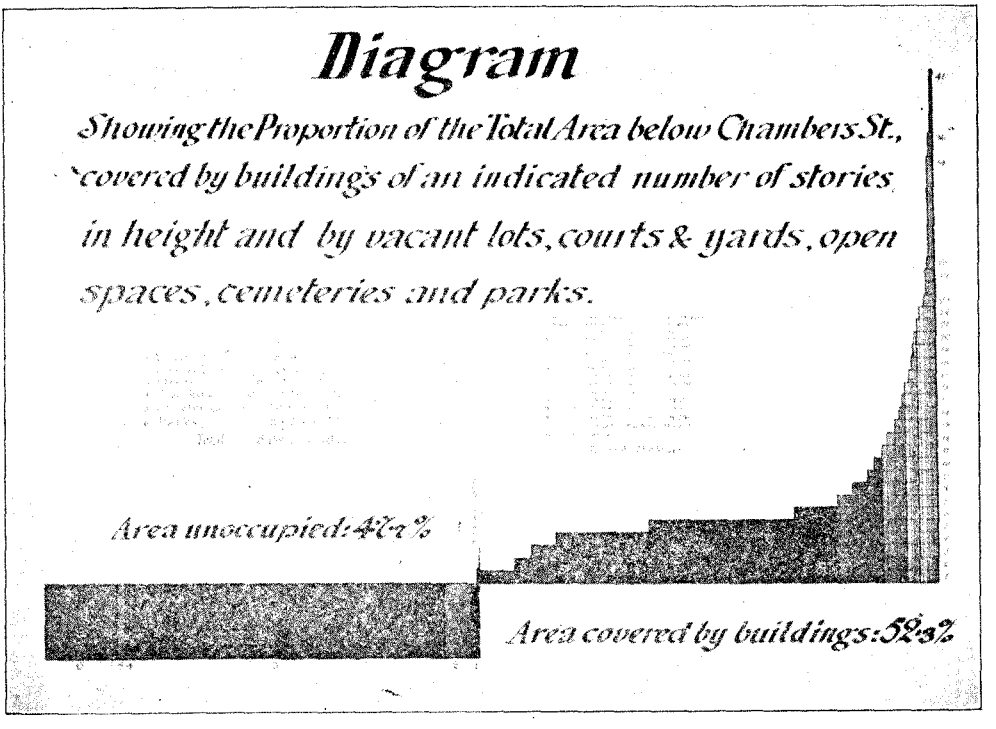


CITIZENS WORKED, GOVERNMENT PROTECTED, BUT LANDLORDS SECURED THE INCREASE.

Causes for Congestion of Population.

The distinction between concentration of population and congestion of population has been emphasized and the causes must be treated similarly. An inclusive cause which needs to be carefully analyzed to be appreciated, is the lack of a City Plan, that is the failure of the city to determine upon its standards and the adoption of the minimum conditions for conserving health which it will enforce in the different sections of the city. The most important causes of congestion of population may be enumerated as follows:

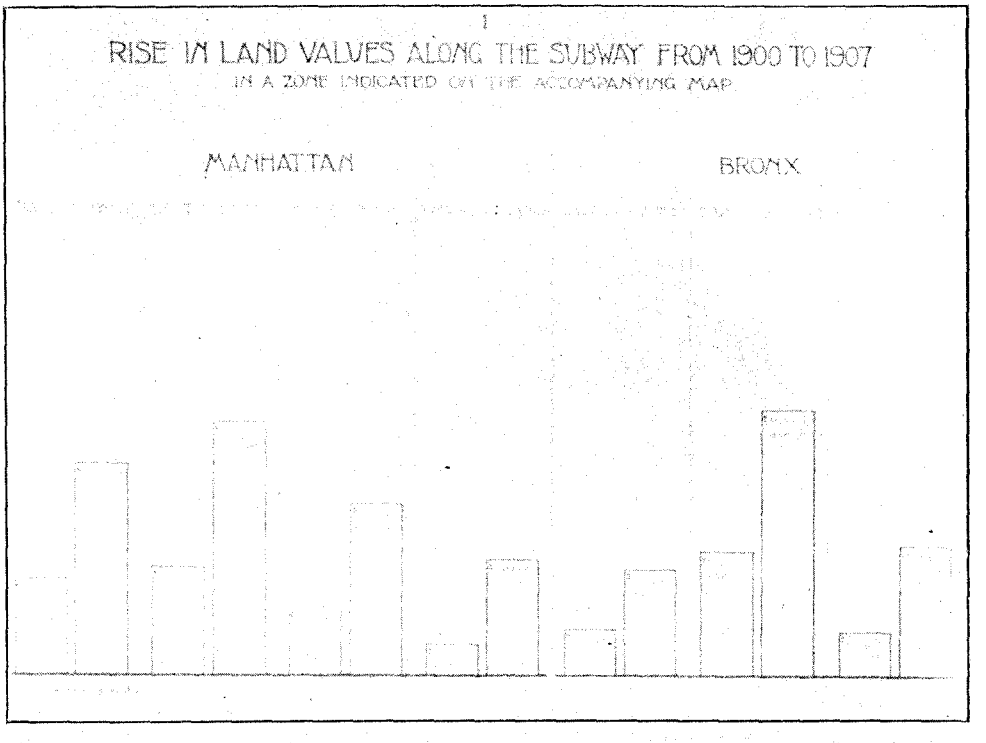
1. Speculation in Land and Intensive Uses of Land.—It goes without saying that when a price has been paid for land which will demand a certain intensive use in order to secure such an income as is gained by other business enterprises, any effort to restrict the uses of such land to the basis of a lower value or to reduce the earning



LOWER MANHATTAN'S "PLASTER OF PARIS CAST".—PLENTY OF SUNSHINE FOR THE DEAD BUT LITTLE FOR THE LIVING.

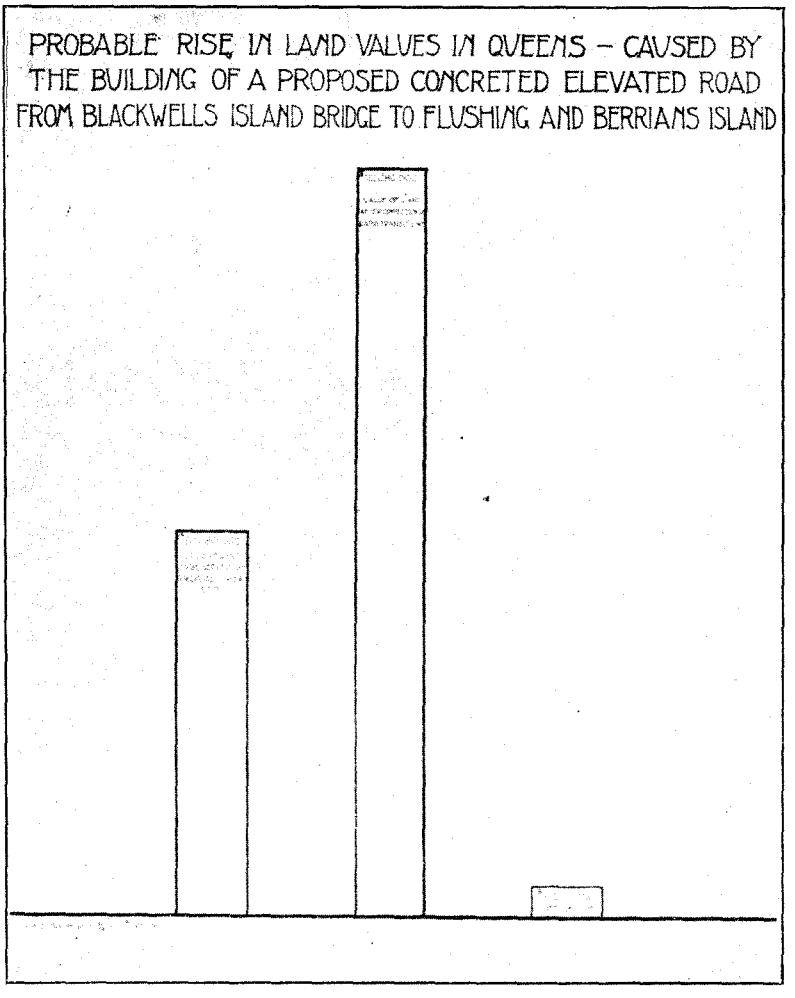
capacity of the land would be regarded by the Courts as confiscation of property.

In 1908 the statistics from New York and Pittsburgh indicated a tendency to develop such intensive use of land. In Manhattan below Cortlandt Street and Maiden Lane, in the tip of the island 64.3% of the blocks are solid or have less than 5% of the site not covered. Between this district and Chambers Street, New Chambers Street and James Slip 76.9% of the blocks are solid or have less than 5% of the site not built upon, whereas even in the great tenement district comprised between the last named boundaries and Canal, Division and Grand Streets, 38.8% of the blocks are solid or have less than 5% of the site not built upon, and only 23½% of the blocks have over 20% of the site not built upon. It should reasonably be expected that in the district north of 125th Street in Manhattan there should be normal conditions as far as space is concerned. It is, therefore, a matter of surprise that over 1-3 of the blocks have less than 20%



HIGH LAND VALUES.—HIGH BUILDINGS.
Furnished by the City Club of New York.

of the site not built upon, while even in the lower part of the Bronx only about one-half of the blocks have over 30% of the site not built upon. In Brooklyn, many of the River wards have from 2 to 12% of the blocks either solid or with less than 5% of the site not built upon and comparatively few of the wards in the Eastern part of the Borough have over 50% of blocks with more than 30% of the site not built upon. In the tip of the island in which Pittsburgh's offices and



DOES ASSESSMENT OF COST OF TRANSIT UPON THE LAND BENEFITTED GIVE THE CITY A FAIR SHARE OF INCREASED VALUES?

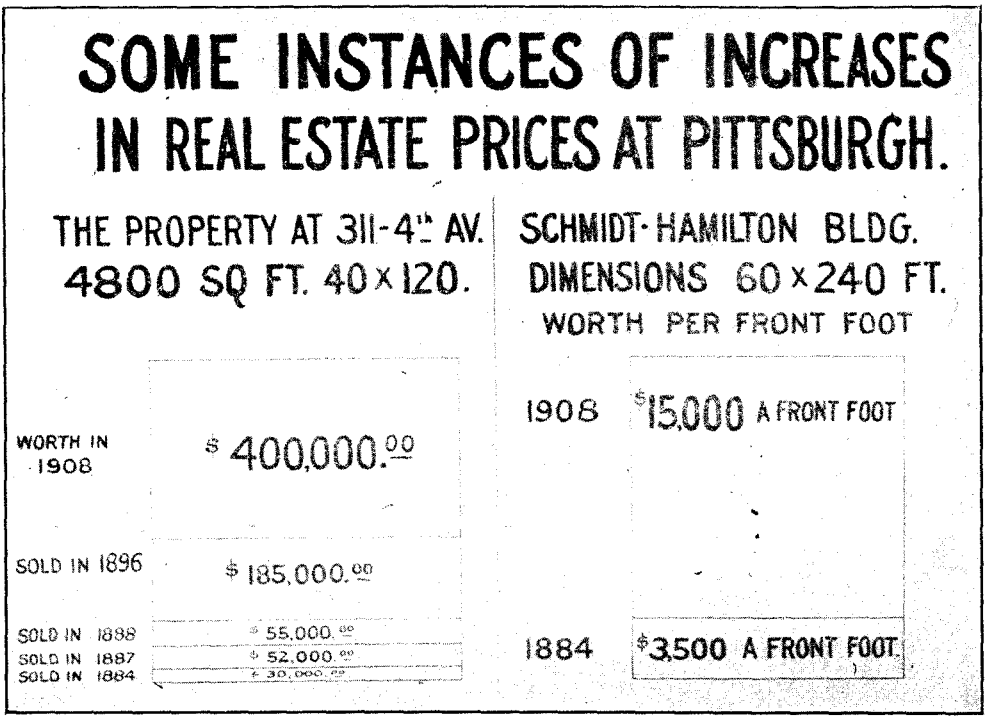
Furnished by The City Club of New York.

business districts and many of its factories have been massed similar conditions obtain in various sections in which investigations have been made, showing that 23 to 63% of blocks are solid or have less than 5% not built upon.

It is extremely significant that in this district is being developed also, as in lower Manhattan, the sky scraper district and there are 69 buildings or nearly 15% from 8 to 13 stories in height while 4.5% are 14 to 24 stories in height. 80.5% of the buildings are 5 to 7 stories high.

In Manhattan in 1907 below Chambers Street, New Chambers Street and James Slip 88.65% of the buildings were 6 stories in height. There were in the same year below Chambers Street only about 6% of the buildings 10 stories in height and a little over 3% of the buildings between Chambers, New Chambers and James Slip and 14th Street were 10 stories in height or over, while there were only 36 buildings in Manhattan 19 stories in height or over.

The significant point however, in relation to congestion is the fact



SEE THE ISSUES OF THE "SURVEY" ON THE PITTSBURGH SURVEY.

that the erection of a single high building determines the value not only of the site of that building, but under usual systems of taxation, the value of the sites of adjoining property, which it is often assumed can earn as much as the large building already erected even if it be in the midst of small buildings.

The knowledge that the land may be used in such a way is moreover a most important factor in encouraging land speculation since every user of land is willing to run the risk of securing the income possible, with the maximum intensive use of land permitted by law. A few cases of land speculation in New York and Pittsburgh indicate the successive dealings by which land acquires an enormous value because an intensive use is permitted as well as because of the advantages of ts geographical situation.

On 170th St. 29 Lots, four transactions.	A Corner in the Bronx.
1903.	Oct., 1904.
$68,000	$90,000
Nov., 1904	Dec., 1904
$82,000	$130,000
Feb., 1905	
$100,000	
Feb., 1905	
$117,000	

The Property at 311 4th Avenue, Pittsburg, was worth

In 1884	$30,000.00
In 1887	52,000.00
In 1888	55,000.00
In 1896	185,000.00
In 1908	400,000.00

Dimensions 40 x 120 feet.

2. The Lack of Adequate and Appropriate Means of Transportation.—By many the lack of adequate and appropriate means of transportation is regarded as the most important reasons for congestion of population. As a matter of fact, however, certain kinds of transportation require congestion of population in order to secure a fair dividend upon the money actually invested in the plant and in the

construction and equipment. A subway may cause congestion of population since its cost per running mile may be from 4 to 5 times as great as that of a suspended railroad or a surface railroad. A city must know something with reference to its development before it can properly determine what sort of transportation must be provided and merely putting in a subway where transportation is needed, often aggravates the situation and tends to increase congestion.

3. The Failure of the City to Adopt and Enforce Proper Standards of Space, Sunlight and Privacy.—It is notably true that a great contest is being waged to secure proper standards of living and that space, sunlight and the opportunity for privacy are being recognized as essential for the normal development and life of the working people and that this moral recognition is now being enacted into law. The development of small houses and the reduction in the cost of construction is a most important factor in securing such recognition.

4. Industrial Maladjustment and Exploitation.—Among the causes usually assigned for the concentration of factories, none is more fundamental than the desire of manufacturers to have available a large supply of laborers when they can use them and to be able to turn them adrift as soon as the economic conditions have changed so that their employment is no longer convenient or profitable for them. The Sweat Shop System thrives in congested districts since the manufacturer in great cities knows that he can get large hordes of unskilled laborers, often foreigners, available at the minimum price of sustenance with the adequate provision of charitable societies in unwitting cooperation in his industrial exploitation. The unskilled, untrained workers in this and other countries trust to luck to get work where there is a great variety of work, and the expense of carfare is often a serious item to them, so they naturally wish to live where they can readily be accessible to many different kinds of work.

The fruits of congestion are

High rents.
A high death rate.
A high morbidity rate.
A high insanity rate.
A loss of physical vigor.
A loss of privacy.
A low morality rate.

CHAPTER II.

The Logical Essentials of City Planning. Foreign City Planning May Be Bad for the Written, But is Very Good for the Human Constitution.

City Planning is the adaptation of a city to its proper function. This conception can be indefinitely expanded but its significance will be appreciated if we admit that no city is more healthy than the highest death rate in any ward or block and that no city is more beautiful than its most unsightly tenement. The back yard of a city and not its front lawn is the real criterion for its standards and its efficiency.

This involves a radical change in the attitude of citizens toward government and the functions of government, but one to which the exigencies and the complexity of city life in nearly all great American cities is resistlessly impelling us. It compels a departure from the doctrine that government should not assume any functions aside from its primitive and restrictive activities and boldly demands the interest and effort of the government to preserve the health, morals and efficiency of the citizens equal to the effort and the zeal which is now expended in the futile task of trying to make amends for the exploitations by private citizens and the wanton disregard of the rights of the many.

A contest which has been raging for many years in foreign countries is now commencing with great significance in American cities. It has been conceded that the death rate should be higher in great cities than in small towns, that standards of health, and the safeguarding of morality which are regarded as essential and normal in a town of 5,000 to 10,000, may be disregarded in large cities. American cities need to realize that bulling the real estate market is tantamount to murder of many of its poorer citizens and that municipalities have a solemn duty to ensure, in most sections, of the city, such standards of living as are considered essential in small towns. The following statement of housing as enunciated for England could be enforced in large sections of most American cities,—"The minimum for the average working man's family is a cheap, but well-built house with four or five suitable rooms, together with a quarter-acre garden, or at least with a fair-sized courtyard. The site should be a healthy

one and the house perfectly sanitary, well-lighted and well-ventilated, and well-drained. And this accommodation must be supplied at a low rental, or it will be found beyond the means of the working classes."

Germany has been wedded to the block or barrack system of housing for a long time, but is gradually appreciating that such a system precludes the health and space to which even the workers are entitled at rents within their reach and the net results of such intensive building is gradually developing a sentiment in favor of the one and two family house, or at least, of tenements with a minimum number of families. It is not too much to claim that it is the city's duty to make such conditions possible for its citizens, and that the family should be taken as the unit in the City Plan, around which the development of the city should center.

The following statement from one of the oldest relief societies in the city of New York, indicates the need of more far-reaching methods of dealing with conditions causing poverty than we have hitherto seen fit to adopt. "We are in urgent need of funds to aid 3,480 families in our care today, January 30th, 1909. In 80% the distress is not 'their own fault.' $5.00 can feed a hungry mother and four children one week."

It is fortunate that we can quote from the record of this society given to the writer, that many families which they have helped in the past are paying simply an astounding and wicked proportion of their income for rent to maintain a decent standard.

The German system of City Planning contends that every cent paid by this society and by the other relief societies of the city for rent above the amount for which families should be able to secure normal living conditions, is a wanton tribute levied by real estate greed, sanctioned and abbetted by the failure of the municipality to recognize its protective and preventive functions. The tax, which the failure to prevent land speculation, is levying upon communities through public and private charity, with all their ramifications, is a most serious matter and well worthy of investigation.

1. The Zone System.—The most important part of City Planning, as far as the future health of the city is concerned, is the districting of the city into zones or districts in which buildings may be a certain number of stories or feet in height and cover a specified proportion of the site, that is, the determining of the cubage or volume of the buildings. Reference has been made earlier to the intensive uses of land, which are permitted in various American cities and comment

been made upon the unhealthy conditions bound to result from such intensive uses of land. The standardizing of living and working conditions in every section of the city contemplated by the Zone System is the chief characteristic of the German and foreign system of City Planning. We are accustomed, in American cities, to determine the height of buildings upon the basis of the width of the streets upon which they front; but the German system carries this safeguard and provision for light and air much further by regulating the interior arrangement of the lot as well as specifying where buildings may be erected in rows and where they must be detached.

Ordinarily it may not be possible for a community to enforce a normal standard of living and working in all sections of the city. The German regard for law is well known and the safeguards for property rights are just and ample. No effort is made to confiscate property rights already established in most congested sections which are usually the oldest and longest established sections of the city. It is extremely significant to note, however, that even in the interior part of Cologne, for instance, where property values are highest, that at least 25% of the lot—20% of a corner lot—must be left unoccupied and this minimum regulation applies only to a very small district, increasing to 35% —30% of a corner lot—for all buildings outside of the small innermost part of the city, and to 50% or over in the newer sections.

A comparison of most of our great American cities where offices and factory buildings and tenements may occupy the entire area on the corners and 90% of the interior of the lot and where tenements cover 90% of the corner lots and 70% of the interior lot, is well worthy of attention; and the American law reflects most discreditably our subservience to real estate rights and property rights as against the need for preserving human health. The determining of the cubage or volume of building is, of course, secured by determining the two factors, the proportion of the site on which buildings may be erected, and the height of the buildings. It must be admitted that it is impossible for the community to determine for 500 years ahead what sections shall be devoted to certain uses as the uses may have to be changed after 50 or 75 years, with the increasing development of the community. On the other hand, by providing the open courts or gardens in front of buildings and so ensuring wide streets in connection with its other restrictions and provisions the city is in the position to develop normally and to make possible the transition after a period of three-quarters of a century, from a residential to a business or trade section. In the meantime, however, the city has set the stamp of

governmental sanction, only upon conditions which are admittedly healthy for the population without working any injustice to real estate values, while leaving open the opportunity for a gradual transition of the districts also without any injustice to the community as a whole.

THE SECOND ESSENTIAL OF CITY PLANNING IS THE DETERMINING OF STREET CONSTRUCTION, AND SURFACE AND SUBSURFACE MAINTENANCE.—A long look ahead is essential in order to permit of the normal arrangement of streets and also to permit of transition from a residential section where narrow streets are essential to a business section where wide streets are necessary for traffic. No city in the civilized world has adequately provided for its means of traffic a sufficient length of time in advance. The most picturesque illustration of unbounded and inexcusable folly in street planning is evidenced by lower Manhattan where a district attempting to secure the money market of the world and compete with the well arranged streets of foreign cities is nevertheless suffering from narrow, ill-lighted streets and the height of buildings is in inverse ratio almost to the width of the streets. New York has adopted the unique theory that to better conditions they should be made worse and worse, as far as the arrangement of the streets in the lower section of the Island is concerned. A few street extensions and widenings suggested would involve an expenditure in Manhattan alone of at least $57,000,000 to $60,000,000, but this does not include the widening of streets of lower Manhattan in the financial districts, where property values are so enormous that the cost of securing reasonable conditions for traffic staggers even the mind of City Planners of our greatest American cities.

Some of the most important and relentless City Planning achieved abroad has been the widening of streets in Vienna, Paris, and London at an enormous expense. The nature of the street will, of course, be determined by the uses of the districts, whether the streets should be asphalted, macadamized, or made of brick, stone or other material. The evils of a uniform width of streets has been clearly criticized by Mr. John Nettlefold, who has pointed out the difficulty of requiring land holders to pay a large amount for maintaining wide streets when narrow streets are amply sufficient, and also the inharmoniousness of equal widths. Cornelius Gurlitt suggests that the principal traffic streets be laid out at certain widths, besides the lines of traffic to and fro for the ordinary uses of the locality, there has to be allowed at least a width sufficient for vehicles proceeding in either direction to overtake each other, and also to allow them to stand in the street, with-

out thereby causing a congestion of traffic; moreover, sufficient street room for movement on foot must remain. The greatest task of the city planner is, therefore, to separate, from the start, the traffic-streets from the habitation-streets. There are two fundamental ideas in relation to a far-sighted and careful planning with regard to the width of streets: To remember that streets that have been designd too narrow will later on not be adequate for traffic when the city gains in population; and to remember that the city treasury should not be burdened unnecessarily by the acquirement of unrentable ground, thus increasing the cost of street-construction and maintenance. The means for solving this problem on the part of modern city-planning, lies in the most distinct separation possible of streets according to the manner of their use. And the solution is accomplished by means of the clear, and, in case of need, remorseless, laying-out of various main lines through the district to be developed and the dividing-up of the great blocks thus formed by means of streets whose situation is so chosen that a large traffic cannot come to them.

Every city is confronted, in its congested sections, with the need for substructures, for pipes, conduits, etc., and provision must be made for adequate sewers and means of drainage. In some foreign cities, this matter is determined upon by the General City Planning Commission but usually it is arranged by the departments in charge of sewers, but in every case the provision of sewers is determined upon the basis of the uses to which the city is to be put and enormous expense is saved later, in tearing up the streets to relay sewers.

3. The Provision of Cheap, Safe, Rapid and Comfortable Means of Transportation for Passengers.—There is, unfortunately, a conviction prevalent that providing transit will ensure the distribution of population and the importance of transit in securing a good City Plan is sometimes over-emphasized, because, since transit alone, if intensive building is permitted ordinarily merely spreads congestion instead of scattering it. Just as water seeks its level, land seeks its greatest return, regardless of human welfare. Tracts of land nearest lines of transit are developed and land even slightly removed is not apt to be improved so rapidly. Mr. John Burns said appropriately that putting transit lines over the Thames did more to solve the housing problem in London than all the talk of the philanthropists of London for sixty years. It is true that transit furnished means of adequate distribution of population, but it prevented congestion of population, first,—because of England's aptitude and predilection for small

houses, and, second,—because the London law for dwellings requires that they shall have light at an angle of 63½ degrees which effectively prevents the massing of people upon limited areas and in tenements as is practiced in American cities. It is significant that the population per acre of London is only 148, in the central area and in the rest of the county, excluding North Woolwich 16.6 and the rest of extra London 2.5. The report of the Royal Traffic Commission states that "overcrowding generally speaking increases or diminishes with the density of population per acre. It is pre-eminently essential that transit should be adapted to the district which it is to serve and that in districts where there will only be a little density per acre that expensive lines of transit should not be permitted." In other words, as has already been intimated, the uses of land and the intensiveness of its development is the first factor to be determined logically before any radical plan for transit can be developed.

(*a*). TRANSIT MUST BE CHEAP.—Carfare is practically a part of rent and the workingman cannot afford to pay more than a certain amount of rent, so that the carfare plus his rent to districts where he must ride to his work, should not exceed the maximum amount which he could pay as rent from a locality from which he could walk to his work. The custom of granting reduced fares to workingmen in vogue abroad has much to commend it and apparently it is justified and most effective in securing distribution of population in the various cities, notably English cities. The Interstate Commerce Commission has held in some instances that workingmen's fares are not legal in America but members have evidenced their desire to have the law amended, so that this help to distribution of population may be legalized.

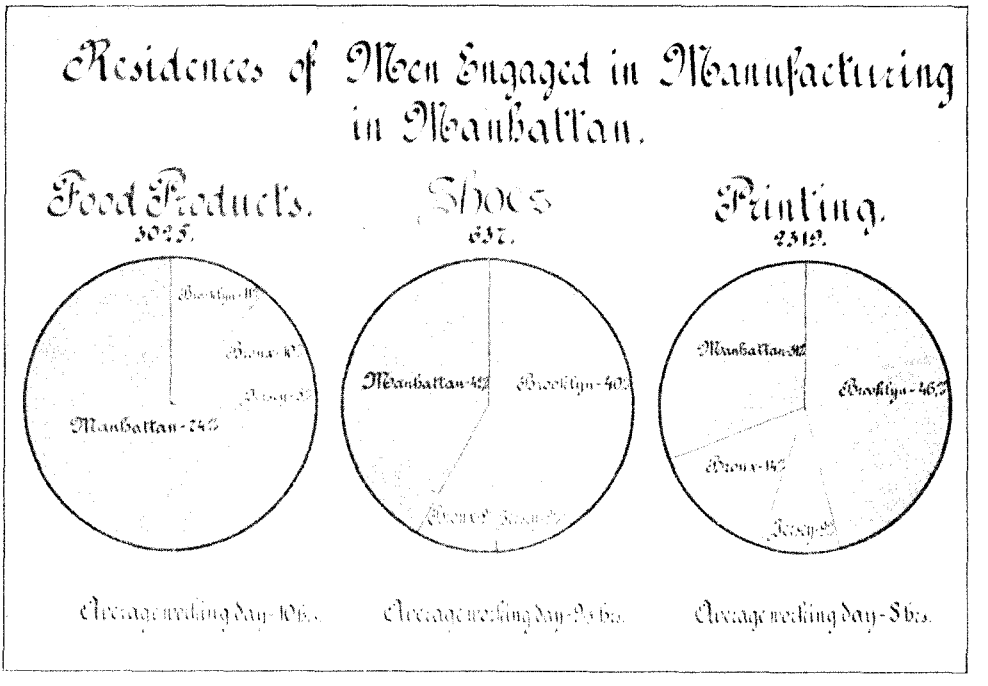
(*b*). TRANSIT MUST ALSO BE SAFE.—Although this point does not need to be emphasized particularly, it is an essential which needs to be regarded by any city in planning out its lines of transit.

(*c*). TRANSIT OF PASSENGERS MUST BE RAPID.—The relation between places of residence and hours of work are very intimate. An investigation of the residences of workingmen engaged in a number of factories in New York where the hours of work were ten a day showed that about ¾ of the workers lived in Manhattan, when the hours were reduced to 9.3 the percentage was about 40.0 and for an 8 hour day was reduced to about 32%, the majority of the workers living in the other Boroughs or in New Jersey. It may be stated as a conservative

basis for action that workingmen will not spend more than 30 to a maximum of 45 minutes from the time they leave their homes until they reach their places of work with a nine hour day and that any reduction on this time is an enormous saving to the physique and welfare of the workingman.

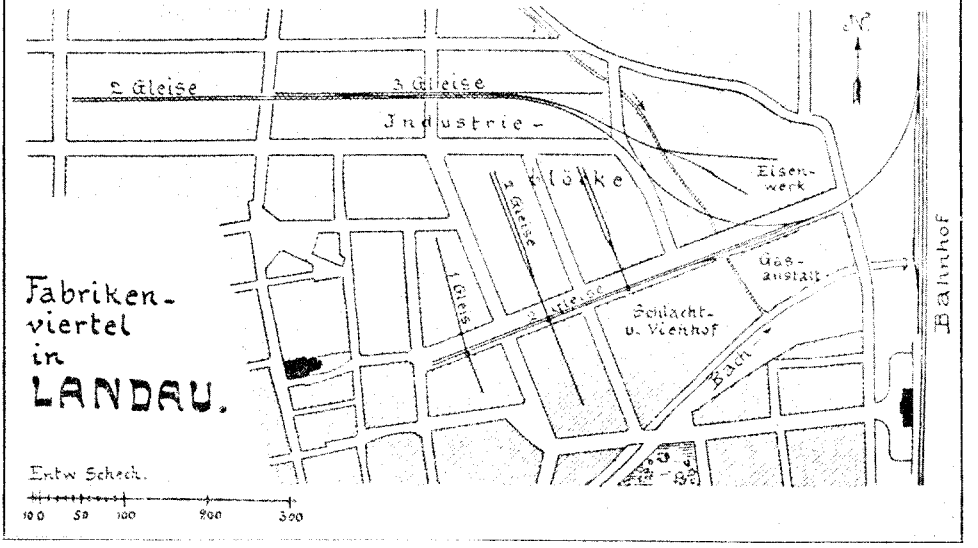
(*d*). TRANSIT MUST BE COMFORTABLE.—It is equally true that the workingman who can have a seat to go to and from his work is much more apt to submit to a longer time in transit than the one who is obliged to be jammed in like cattle, as is the case in the lines of transit at present provided in New York. In Berlin and most German cities, seats are provided for every passenger and the company does not rely upon making its dividends from the strap-hanger.

4. THE RESTRICTION OF THE LOCATION OF FACTORIES AND THE MEANS OF CARRYING AND HANDLING FREIGHT AND THE PROVISION OF DOCKS, WHARVES AND HARBORS FOR COAST TOWNS.—There is perhaps



THE SHORT DAY, THE SHORT RIDE.—RESTRICTIONS ON BUILDING ARE THREE ESSENTIALS IN SECURING GOOD HOUSING OF THE WORKING POPULATION.

Fig. 616.



A FACTORY SECTION IN LANDAU.

no point of the entire scheme of planning of cities which will arouse more resentment on the part of the ordinary manufacturer than the suggestion that he may not plant his factory wherever it pleases him and may not erect it to any height. However, continental cities, have made this a most important factor of the building laws. Vienna restricts the location of factories chiefly to the southern part of the city and to the northeast of the river, even stipulating definitely that factories of certain types must be at a distance of 10 or 20 meters apart. Frankfort has mixed districts in which factories are permitted alongside of residences, districts where they are entirely prohibited, as well as districts reserved exclusively for factories. Cologne has a similar regulation and most of the large German cities are developing districts exclusively for factory purposes. The whole question is treated more fully in the description of Frankfort's methods of city planning. No one, however, will deny that the German methods are gaining recognition throughout the world or be inclined to belittle the threatened competition which German cities, notwithstanding their restrictions, will soon maintain over other cities. All American cities, on the contrary are wooing factories. They urge their location in any spot and even exempt them from taxes, all largely due to the

desire to increase population and taxable property in certain communities. The natural location for districts for factories of course is along rivers, harbors, canals and railroad lines. Very often by the local regulations in Germany the factory owner is obliged to meet the initial expenses of extending a switch or siding, but not ordinarily to guarantee any definite amount of traffic. No foreign city has developed subways for freight. Ordinarily the factories are arranged so that the prevailing winds will carry the odors and smoke away from the residence sections; sometimes, however, in building up cities the strips of factory sites alternate with residence strips. This arrangement has its earnest advocates. One of the most significant suggestions along this line in America is that of Mr. George E. Kessler of Kansas City, in which he outlines a system of factory districts practically surrounding the city of Cincinnati.

HARBORS.—No description of City Planning would be complete without reference to harbor development in some of the great cities. Liverpool has perhaps had the most striking development during the

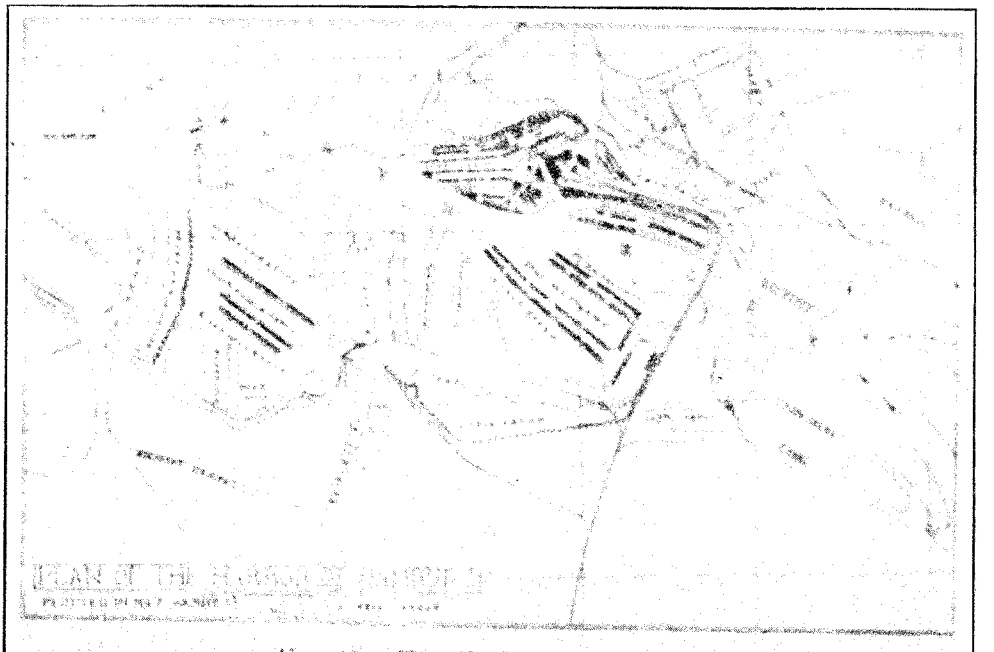


Fig. 18. The Harbor of Hamburg.

HAMBURG'S REMARKABLE DOCK DEVELOPMENT.

last few years since the Mersey Dock and Harbor Board have expended about $150,000,000 from 1859 to the middle of 1907, although this has been entirely by private individuals and companies, without a dollar from the city. Antwerp and Hamburg and other continental cities have also developed remarkable dock and harbor facilities, Antwerp has at present 3½ miles of river side and quays and 11 miles of docks, while it is planning new docks to cost $55,000,000, making a total provision of 38 miles of quays. Hamburg has constructed an enormous area for seagoing vessels and has lineal quayage of 19 miles, with 21 miles of river side and canal accommodations for river craft. The city has also developed large warehouses 6 to 12 stories in height and sheds mostly one story high which have a total area of about 91 acres.

5. The Reservation of Sites for Parks, Playgrounds, Open Spaces, Public Buildings, Etc.—This is pre-eminently the feature of city planning which is obtaining widest acceptance in America and it is significant that we have been driven to this because of the enormous expense involved in making a few changes and widening a few streets for parks or playgrounds. In developing European cities the need for a proper setting for public improvements has been recognized, the lack of which is sadly appreciated in most American cities. It is a significant and one of the most notable instance of foresight of the German cities that places for art galleries, libraries, hospitals, barracks, schools, baths, museums and all the multitudinous necessities of a complex community are anticipated and provided for in every plan, the location being adapted to the neighborhood. In America reservation of sites has been practiced to a degree but usually only in congested districts so that we have practically adopted the plan of providing lungs by city planning outside the body instead of inside. Areas needed for parks, playgrounds, etc., are greater in congested districts than in the undeveloped districts or those built up with cottages or tenements with open gardens where the area for children to play in is within the building line not at a distance from the home.

6. The Acquisition of Land by the City.—The charge of municipal socialism will be made as soon as the suggestion of purchase of land by the city is made, but that charge has ceased to awaken the horror which used to attach to the term, since it is recognized that it is in large measure merely a business undertaking on the part of the city. American cities have recognized the necessity of purchasing land

for public improvements, but have neglected to buy land when it was cheap in order to profit by the low prices, and waited until it has become so valuable that purchase is almost prohibited. It is clearly recognized, for instance, that it is impossible to furnish sufficient land for parks for the masses of the lower East Side in New York City, similarly many cities are today paying the price of continued and inexcusable speculation in land which have enriched a few of their citizens. Foreign cities, on the other hand, buy land not merely for specific public purposes, but in sufficient quantities to prevent speculation in land by practically determining the uses to which the land shall be put. The objection, of course, will be put that the city may lose land in such an undertaking and it is perfectly true that there may be unwise speculation also that the securing of land under condemnation proceedings where the citizen is doing his best to fleece the government and the government officials are conniving at robbery of the city treasury, is possible.

The following figures shows the proportion of land owned by several foreign cities:

MUNICIPAL LAND OWNERSHIP IN FOREIGN CITIES.
PROPORTION OF AREA OWNED.

	Total area of City.	Total amt. of land owned by City.	Proportion of total city area.	
	Acres.	Acres.	Within City Boundary.	Without Boundary.
Berlin	15,689.54	39,151.28	9.2	240.8
Munich	21,290.24	13,597.02	23.7	37.8
Leipzig	14,095.25	8,406.84	32.3	27.4
Strassburg	19,345.45	11,866.98	33.2	28.1
Hanover	9,677.25	5,674.90	37.7	20.4
Schoneberg	2,338.60	1,633.33	4.2	65.1
Spandau	10,470.37	4,480.79	3.05	42.9
Zurich	10.894.64	5,621.52	26.0	25.9
Vienna	67,477.57	32,062.48	13.4	54.8

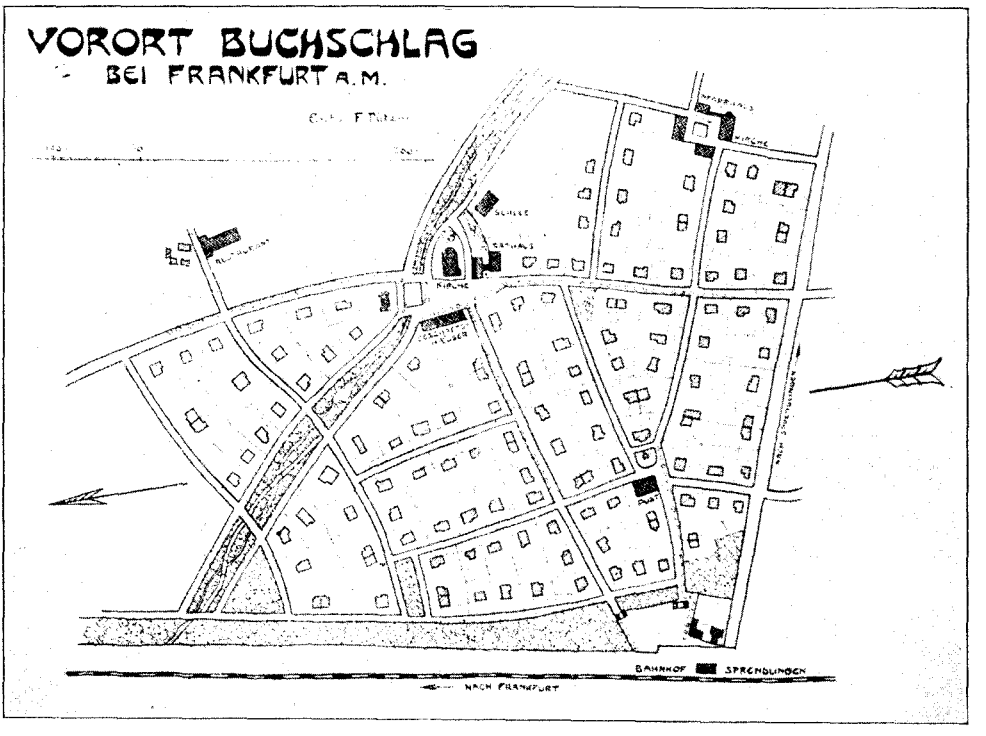
PROPORTION OF AREA OF CITIES OWNED WITHOUT THE CITY LIMITS.

	City Area Acres.	Proportion owned by City within the Boundary.
Frankfort	23,202.69	48.9
Mannheim	16,325.89	35.4
Aachen	9,675.69	34.6

7. INCORPORATION OF ADJACENT AREAS.—It is self evident that if the narrow limits of a city are already well built up and the city desires

to have ample space for its citizens, that it will be absolutely necessary for it to increase the available land by incorporation.

This principle has been largely carried out by the German cities. When a city in Germany becomes full instead of climbing to get light and air, it expands horizontally. Dusseldorf in 1907 added an area of nearly 9 square miles. Cologne contemplates an addition of an area which will increase its area beyond the present area of Berlin. Frankfort-on-the-Main is planning to add nearly 50% to its present



A SUBURB OF FRANKFORT-ON-THE-MAIN SHOWING THE SYSTEM OF DETACHED BUILDING.

area. Vienna has gradually increased its area since 1848. Official town plans are generally prepared in Germany for such large areas that the needs of the near future are provided for. This means that adequate provision is made for the anticipated growth of population. Although not essential in the execution of city planning, the right of "excess condemnation" is extremely valuable to this end, although equally necessary to enable a city to make the improvements which its present condition demands.

The right of "zone expropriation" as it is called, does not exist in Germany, although requests for the granting of this right have been repeatedly addressed to the Legislature. Land sites for streets and squares can be taken from their owners against their will, compensation being paid for them to the value of the land. Unquestionably within a short time this right of "excess condemnation" will be granted in Germany as it has been in several American States.

Foreign city planning is comprehensive. Every aspect of city development is carefully considered and arranged. It indicates, in a word the effort to standardize living conditions for every citizen and this, from the point of view of health, of the citizens. American city planning in the main has been a method of rewarding speculation in land at the expense of the taxpayer. It has been a striking illustration of metonomy, has concerned itself chiefly with these outer and more interesting aspects of the city's development, such as parks, playgrounds, civic centers or grouping of public buildings. It is true that some American cities have destroyed slums but in the main they have been destroyed to give place to parks and boulevards. In any city, the right of the citizens may be emphasized to escape from the ugly demoralizing and devitalizing conditions of his own home life, for a time in the parks or plagrounds; but we have not as yet dared to insist upon the right of the citizen to have these conditions removed. In this respect, as in many others, American cities have capitulated to real estate and other financial interests.

CHAPTER III.

Various Kinds of City Sections.—Translation from der Stadtebau by Dr. J. Stübben.

A city of the first class consists, as a rule, of the following parts:

1. The inner part of the city, or the Old City, whose center is usually designated as the nucleus.

2. The newer sections, named the New City.

3. The sections adjoining these and being built upon, called the Exterior or City Extension.

4. The Suburbs, in part villages and in part, also, industrial and habitation settlements; the latter consisting especially of country sections and laborers' settlements.

Among the cities of the middle and smaller classes several of these properties are wanting, or are represented only in part; they form or complete each other as the cities grow in population.

Within the four main sections or parts of the city is often to be found the grouping of the population according to well-being or business. With respect to the latter we differentiate between

(*a*) Wholesale trade or business

(*b*) Laboring population

(*c*) Stores

(*d*) Mechanics

(*e*) That part of the population which is not engaged, in their dwellings, in any particular kind of industry, *i. e.*, those living on their income, businessmen, merchants and officials.

Difficult as it may be to foresee the development of a city and the grouping of its future population, still it is necessary in constructing or promulgating a plan of extension for the various parts of the city,

to keep in mind, more or less, the kind of future use that is to be made of these sections, with respect to business and habitation. Without any such consideration of the city plan we run the risk of having an artificial need of streets and also, possibly, regulations without sufficient reason for them.

The rule laid down by the Society of German Architects and Engineers in this respect says, "The grouping of various parts of the city should be made according to choice of situation and other important conditions, and compulsion should be exercised only when the sanitary welfare, with respect to trades, requires it." Instead of the words "choice of situation" it would be better to say "consideration of the location," for in truth it is customary, when a plan is promulgated, to consider less how the population of the future will be distributed than the question for what kind of structures can a certain piece of ground best be used, according to its location and other qualities?

The qualities of land which make it adaptable for factories and business houses are the location of railroads and water-fronts, the low value of the land (because of distance and unattractiveness of the surroundings), and finally the existence of large, extensive undivided ground. Wholesale manufacturers and wholesale merchants are not, as are the retail traders, forced to connect their places of business with their dwellings.

The dwellings of the laboring population should be located near the factories and wholesale businesses, and they should be on cheap ground. Moreover, even though, according to location, the formation of small centers of the laboring population seems natural, *i. e.*, the concentration of the families of laborers in one place, their separation from the richer class of inhabitants is not by any means desirable. For social reasons, as well as for sanitary and economic reasons, the mixing of the wealthy and the poor should be promoted. The freer mode of building and the larger habitations of the rich reflect beneficially, at least to some extent, upon the poor. The nourishment of the laboring population is facilitated by the fact that members of their families can find, in the neighborhood, different ways of earning their living.

For stores we find the main streets best adapted, also the streets leading from the gates of the city into the interior. Continuous activity is a necessary condition for stores. Near the gates of the city such stores must be located as deal with the population of the country; in the interior of the city should be found those that deal with the

wealthier classes. The center of the city is, as a rule, occupied by all kinds of stores and becomes exclusively a business section.

In the middle ages mechanics occupied entire streets or sections of the city, and mechanics of the same kind occupied, as a rule, the same street or section. Old names of streets as (Loehergraben) Tanners' Pit, (Kupfergasse) Copper Street, (Unter Hutmacher) Under the Hatter, etc., remind us of the separation of trades and classes which are no longer in use. Now we find the trades spread all over the city and among the whole of the population. The active streets leading to the gate and to the business centers are best adapted for trades. They follow, however, the class of population for which they work, from which they maintain themselves, into more distant sections of the city, as well to the sections of the laboring population as to those of the richer inhabitants. Although promenades and the wide streets are hardly possible for settlements of mechanics, on account of the high price of land and the high rents, still it is not unusual to find mechanics living on the ground floor and in cellars of houses which are otherwise occupied by the richer classes. No less often do we find in cities of small houses the main inhabited streets intersected by narrow parallel streets which serve for habitations of mechanics.

For the last group of the population which finds such sections for their habitations in which no business is carried on, such as artists, men of learning, etc., the streets not yet thickly built upon and parts of the land between the business streets, as well as such sections as lie beyond the city and offer attractive surroundings and comforts, as freedom from the turmoil of business, proximity to sanitary institutions and promenades, are certainly best adapted if they connect easily with the city itself.

The grouping, as already mentioned, should never, however, be strictly exclusive. There will always be found a mingling of the various groups as well as of population and sections of the city.

The active streets leading from the gates of the city, will for example always be the business streets and will also attract saloons. The main circles will as a rule constitute the best and most fashionable streets for homes. The suburban districts will serve for factories as well as for settlements of country houses, according as the peculiarities of location may demand.

The plan of the city not only may, but must consider the peculiarities of the aforementioned grouping. The factory districts require that the laying out of small blocks be avoided. They demand a net of streets without costly ornamentations and without excessive width.

The laborers' district requires small blocks, modest streets, exposure, with respect to sanitary comforts, namely: open playgrounds and the planting of trees. For the business section, comparatively large blocks as well as numerous and direct thoroughfares, and especially diagonal streets will be appropriate. The quiet districts for homes should receive promenades, front gardens, botanical culture of various kinds, and in the case where one-family houses and houses of the middle classes are put up, large building lots with spacious interior garden patches should be provided.

It is thus necessary that the architect who lays out a plan for the building up of a city should inform himself as far as possible from the given circumstances what kind of buildings and apartments may be required for the streets already planned; it is not as bad if unavoidable mistakes are made in individual cases, which are not always irreparable as when the lack of foresight makes itself felt at the time when the city is developing and numerous buildings are being put up, and thus avenges itself upon the population of the city.

A very interesting plan for the grouping of various parts of the population according to classes has been projected by Ludwig Hercher, in his work (Gross-pladt Weiterungen) city extension (Guttingen, 1904) and studied in detail. According to Hercher our cities are unable in their present condition either to satisfy the legitimate desire for the maintenance in their old form nor can they develop themselves as we would have modern cities developed; business habitation and thoroughfares cannot be promoted in them as we would like and the excessive rise in the value of the land in the exterior of the city puts a limit to their progress. The more recent city sections and those of the suburbs that have developed in the past few decades do not fill the requirements which must be made for healthy homes for all classes of population and for the development of social and business welfare. Finally, the suburbs fill but a one-sided requirement for homes because they are at too great a distance from the city, thus making the earning of a livelihood and the enjoyment of pleasure a difficulty as well as rendering life uncomfortable, because they are often crossed by very noisy thoroughfares. Hercher suggests, therefore, an ideal city extension plan which contains the following characteristic qualities. First: The letting out of numerous concentrated groups which are to contain many public buildings. Those are called "City centres." Second: The joining of those centres with one another by means of a few straight continuous streets, conspicuous broad main streets, as he calls them. Third: The retention of large district between those main

streets, and subdivisions cut by numerous shorter non-artificial and narrow By-streets.

These three divisions of city government should correspond if possible to the interior city which contains the public buildings, to the newer suburban section of the city devoted to quiet homes and cut by broad streets, and to the section devoted to business. They constitute, however, a contrast to the modern art cities, in as far as their location and building up is concerned. The plan here portrayed shows how the fields between the main thoroughfares can be utilized for homes of the middle classes for country cottages and for habitations of laborers as well as for the laying out of parks and factory districts. He shows how, even an old village may remain in such territory and what advantages may be derived from spacious, healthy and quiet homes, in the immediate neighborhood of the factory and other business districts, thus uniting all the city advantages with country homes.

The realization of Hercher's plans is hindered by difficulties of a practical nature; they are, however, so thoroughly considered and so interesting, and the underlying idea is so sane that thinking men will not only agree with him on principle, but agree that they also deserve an application where circumstances may make it possible.

The various divisions of a city extension are prepared by the building plans and building regulations. The building plan and appropriate building regulations naturally require compulsion to some extent which may be beneficial or injurious as the case may be. It may be injurious when the foresight of the promulgators of a building plan, and the authorities have found themselves to have erred. It follows therefore, that on the one hand plans must be carefully considered and building regulations enacted, and on the other hand, compulsion, which never is without its ills, should be replaced by some amount of freedom.

Concerning the building plans we have already mentioned that it is advisable to plan out various parts, but to postpone the actual execution for some time, until it is absolutely made necessary by the desire to build, and then the plan should again be carefully considered. But the owner of the land and the builder himself may exercise some freedom, although the committee is legally responsible for the building line. This freedom should be exercised less in respect to main streets than to inferior streets. If the Committee gives a Land Corporation, or a Building Company, or anybody owning land, or any other individual, the right and freedom to project building plans, or to make

suggestions as to building, then the whole may gain only in peculiarity and complexity with respect to its artistic and technical nature.

It is evident that these general points of view may be had only by the committee or its representative authorities. A very important question of this nature is whether a certain piece of ground should be built upon or kept fallow for public welfare, whether it be for drainage of surface waters or for the laying out of parks, fields or woods. The retention of land for the draining of surface waters is as a rule regulated by law; the retention of other kinds of lands require as a rule purchase by the city or State by condemnation proceedings. The more the city develops the more important is it to have vacant grounds both in the city and beyond it. We can commend those cities that have interested themselves in the purchase of woods for recreation purposes for their population and thus kept them from being built upon. The plan carried out by the city of Vienna may be recommended for imitation by other large cities, namely: The purchase of a large tract of wood and prairie lands, constituting 97,646.8 acres, costing the sum of $10,000,000 (50,000,000 crowns) is a very salutary one as it makes it possible for the city to keep certain parts in its original condition, as wood, prairie or park, and to embody woods in the development of the city itself, but connecting them with the former by means of broad garden streets. In the centre of this acquired territory it is planned to lay out a high street from which very picturesque views of the city, and the Donau Valley may be obtained.

CHAPTER IV.

City Planning in Frankfort-on-the-Main.

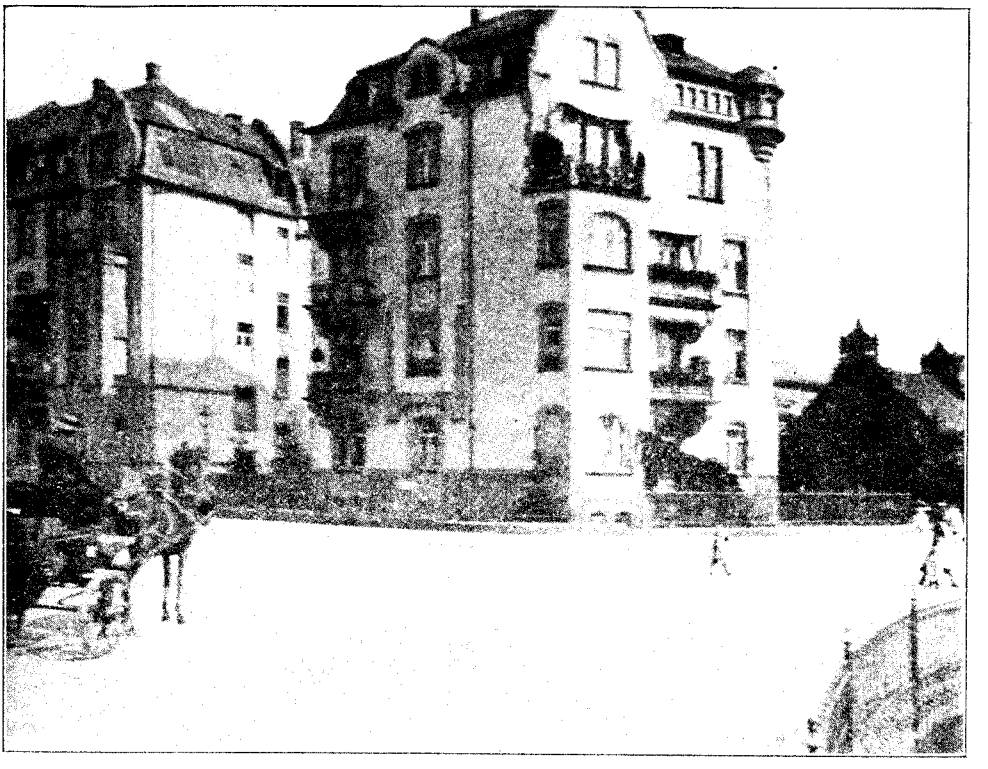
Frankfort-on-the-Main is one of the older of the German cities. Prior to 1,100 it had only about 57 acres. During the middle of the twelfth century 42 acres were added; in the fourteenth, 217; at the beginning of the nineteenth century 16,956, and there have been gradual accretions since, until the total aggregate at present is about 23,202 acres, the largest addition, 2,639 acres, being made in 1900. The city plans, however, to add, within the next two years at least, and possibly within a year, a large number of cities in the immediate vicinity and an area aggregating nearly 15,000 acres, with a population of, approximately 30,000. This will necessitate a decree of the King of Prussia and an Act of the Prussian Diet, after the voluntary agreement to this incorporation of the dozen or more cities included in this area, with a population varying from a few hundreds to three or four thousand.

The one stipulation which the cities most insist upon is that rapid transit facilities shall be provided within two years of their incorporation with the Municipality of Frankfort.

At present Frankfort, with its population of 346,000 is eighth in population in the Empire and takes second place among the cities in area, being surpassed by Cologne, which comprises about 4,000 more acres.

The number of buildings has also increased very rapidly. In 1890 there were only 10,751 buildings for the population of 180,000; in 1900 there were 15,449, and today there are, approximately, 18,000 buildings. This is partly explained by the fact that the municipality has consistently and continuously advocated the construction of houses for single families or, at the most, for three and four families. The most important reason assigned for the addition of the enormous area of land now under consideration is, in the words of Dr. Adickes, Mayor of Frankfort, to make possible for the population of the city houses and gardens for flowers and vegetables, at a price at which they can afford to rent them, if not to own them immediately.

Frankfort-on-the-Main used to be a commercial town, but since the War of 1870 it has become, in very large part, a manufacturing town. From 1892 to 1899 the population, as a whole, increased by



IN THE FOUR-STORY AND MANSARD SECTION OF FRANKFORT-THE-ON-MAIN. DETACHED BUILDING.

13% and the number of its artisan inhabitants by more than 76%.

The Royal (Prussian) Factory Inspection returns give the total number of workers in factories in 1907, in Frankfort, as 44,381 out of a population of about 240,000, so that it will be seen that there is a larger proportion of the population engaged in industry than the number so engaged in New York City in 1906. There were 13,799 workers in machine and similar factories; 2,884 in factories making metal products of various kinds; 4,300 in the building trade; 7,029 in the manufacture of clothing and working in laundries.

Frankfort has over 60 tree planted streets, with a length of over 22 miles. The development of a system of tramways commenced in the year 1872 by the opening up of the line Hauptwache, Bockenheim and Schonhof, the fourth oldest in Germany, 2¼ miles long, for which horses were used. It was first in the hands of a private company, but, after growing to over 19 miles in length, it was taken over by the

city on the first of January, 1898, and the system at once electrified. In December, 1906, the length of lines amounted to 32½ miles, and during the last few years the city had an average net profit of about 2,000,000 marks a year. They have adopted an extremely interesting system for insurance for their employees.

It is in the system of Town Planning, Taxation and Land Policy, however, that Frankfort stands unique among German cities. The initiative for these distinctive enterprises of Frankfort may, in a large measure, be ascribed to Dr. Adickes, Mayor of the city, but they are heartily seconded by the effort of all his associates and co-administrators.

The building regulations of Frankfort are interesting, but uniquely so in that they are based upon the system of zones determined, not by the Building Department alone, but by a city commission which makes an intensive and careful study of the entire city and its probable development.

The Hochbauamt or Building Department, is concerned with the erection of single buildings and have final authority merely in regard to these single buildings.

The three bodies concerned with the adoption of a system of Town Planning are (1) The Tiefbauamt, (2) The Consulting Commission, (3) The Council and Aldermen, who must finally vote upon and adopt all propositions for Town Planning made and approved by the two other bodies. The plans originate with the Tiefbauamt (The Board of Works), which has six members; the two presidents are aldermen, one an Engineer and one a Lawyer. The other four members are: one an Architect, one an Engineer, one a Businessman and one a Livery man. The Aldermen are paid, the other four are volunteers. The location of parks, etc., is determined by the Tiefbauamt.

The Consulting Commission consists of the Mayor, the Presidents of the Tiefbauamt and some Aldermen.

The city is divided by the building regulations as follows:

1. The inner city, which really is the old city of Frankfort.

2. The outer city, which in turn is divided into the inner zone, comprising resident section, mixed sections and factory sections, and the outer zone with the three similar divisions.

Several of the city officials were asked whether the manufacturers approve the limiting of the areas within which they might build and the restrictions regarding factories and the reply was that the restrictions were not always welcomed by the manufacturers, although the general sense of the community favored these restrictions which had not

worked any injustice to the manufacturers themselves. The health of the workmen and the interests of the city as a whole were recognized as paramount to the individual caprice or self interest of the manufacturers.

The density of population has been found to be as follows: (1906) in old quarters in the city, the inner city, 200 to 240 per acre; in the outer part of the inner town 100 to 160; in the outer town 40 to 120; for future extensions, under the new building regulations, a density of between 80 and 130 only will be permitted.

ROADS.

The roads are divided into three kinds according to their importance and the purpose for which they are intended:

1. Heavy traffic
2. Purpose of promenades
3. Ordinary roads lined with dwellings.

The roads intended for heavy traffic, radiating principally from the center of the town to the old highways, are constructed with well paved surfaces, sufficiently wide to take tramway lines, and are usually lined with trees planted on the side walks.

The more important streets serving the purpose of promenades have, as a rule, a middle promenade at least 23 feet broad decorated with rows of trees and flower beds, which is bounded on either side by asphalt or macadamized carriage ways.

The roads in the residential parts of the city are generally constructed with gardens in front of the houses and are 16′ 5″ in width. The carriage ways are usually constructed wide enough to admit of several carriages being driven abreast.

Tramways are generally laid in the middle of the road, so that vehicles can draw up at the houses on either side. In places where rails are all on one side of the road, for instance in roads having a middle promenade, the minimum distance of the nearest rail from the curb stone has been fixed at 21½″. In recent times the pavements have been used for subways for underground wires and pipes, and their width has been increased to a greater extent than the traffic demands. The sewers and the strong current wires always retain the same position. The sewers are always placed in the center of the roadway and the strong current wires at a distance of about 23½″ from the nearest building line or street boundaries.

The means for repaving and maintaining older roads are furnished yearly from the current budget. The cost of building new roads is, on the other hand, defrayed by special funds: the municipal funds for road construction and the special funds for municipal landed property, or by building syndicates or private persons. The construction of more considerable and inter-connected roads is generally undertaken by special agreements, in which the indemnity to be paid to the city for construction and up-keep is fixed. By the local bye-law of the 13th August, 1880, persons building in unfinished streets are required to pay the costs of laying clear and constructing the road as well as its up-keep for five years. The costs are charged according to the frontage of the property, reaching as far as the center of the road.

The maintenance of stone paving as well as all repaving work with the exception of asphalt and wood paving is undertaken by the city itself, and carried out by a considerable number of permanently employed pavers. Small repairs are paid for by the hour while more extensive work is paid for by piece-work.

In order not to be dependent upon the reports—generally belated—of the various officials in general, as to what paving repairs are necessary, and to guard against the possibility of complaints about the unsatisfactory condition of the streets and roads, foremen are employed in each of the six districts presided over by architects, who regularly inspect all streets within their districts and report upon all flaws and defects observed by them. The maintenance of streets paved with asphalt or wood is imposed by contract upon the firms who constructed them.

System of Taxation on Increase in Land Values in Frankfort.

Mayor Adickes is not a single taxer, but he thoroughly believes that land should be made to pay a fair part of the expenses of the municipality and that the value which accrues to the owners of property, chiefly through the presence and the productive enterprises of all citizens, should be secured to them in some measure.

Frankfort has, therefore, the unique system of taxation on the increase in land values as follows:

1. The increased value tax was newly introduced by the finance reform enacted. This tax will be collected in the form of one assessment at the time of the transfer of property, for it is at such transfer that the increase in value of property is realized. Together with such increased value tax there will be collected an increased transfer-tax,

in the form of an additional levy or assessment called in Frankfort "Wahrschaftsgeld."

Such transfer-tax or "Wahrschaftsgeld" amounts to 2% of the selling price as against 1½% before the finance-reform.

For the levying of the increased value tax the following system has been adopted.

(*a*) With the transfer-tax ("Wahrschaftsgeld") an additional tax will be collected if more than 20 years have elapsed since the last transfer of the property. These additional taxes consist of percentages of the selling price and amount to:

1. In case of land built upon:

After 20-30 years	1%
" 30-40 "	1½%
" more than 40 years	2%

2. In case of vacant lands:

After more than 20-30 years	2%
" " " 30-40 "	3%
" " " 40-50 "	4%
" " " 50-60 "	5%
" " " 60 "	6%

These additional taxes will not be collected if it be proved that the present selling price is not higher than that of the last sale or that it does not exceed the price paid at the last transfer by more than such additional tax at the highest.

(*b*) If less than 20 years have elapsed since the date of the last transfer of property, and if the value of such property be found to have increased 15% since the last transfer, then the following increased value tax must be levied in addition to the ordinary tax rates.

Such increased value taxes amount to

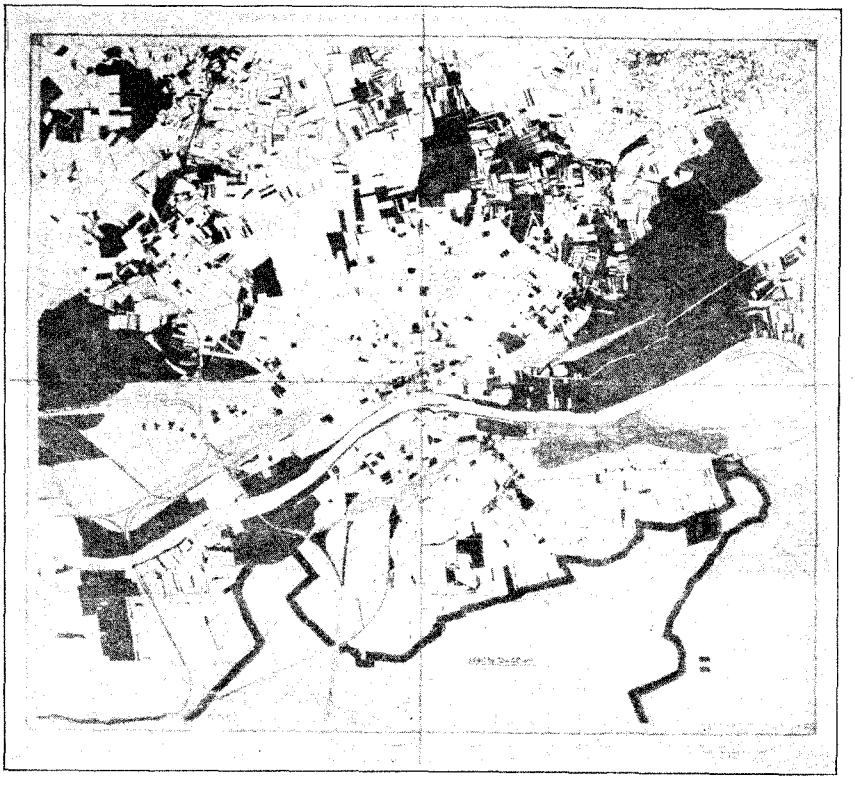
2% of the increased values if they amount to	15-20%
3% " " " " " " "	20-25%
4% " " " " " " "	25-30%
5% " " " " " " "	30-35%
6% " " " " " " "	35-40%
7% " " " " " " "	40-45%
8% " " " " " " "	45-50%
9% " " " " " " "	50-55%
10% " " " " " " "	55-60%

and so an additional tax of 1% for every additional 5% increase in value up to a maximum amount of 25%.

Land Policy in Frankfort-on-the-Main.

Frankfort, in common with most German cities, has pursued a consistent policy of land purchase and owned in 1907 about 48.9 of the land within the city limits, and a large percent outside the city limits, while it is planning to purchase land as rapidly as funds are available. At present the city owns 3,400 hectars, about 8,500 acres, of woods outside the city.

The most unique feature of the Town Plan in Frankfort, however, has been, not the system of taxation, nor the division of the city into zones, but the recognition that no proper standard of light and air could be enforced except upon the basis of blocks.



MAP SHOWING THE PROPORTION OF THE LAND IN FRANKFORT-ON-THE-MAIN OWNED OR CONTROLLED BY THE CITY AND STATE.

The argument of the Board of Works is given in the following statement:

"Numerous measures of the civic authorities, such as: the regulation of building and the division of the city area into building zones; a scheme of building; the sanitation of unhealthy residential districts; the promotion of public and private building activity; the building and letting of dwellings by the town are directed to the solution of the dwelling question without, however, being able to prevent its rising especially in times of rapid growth and development of the city. Superadded to the natural falling short of the supply of dwellings, of the demand, there is often a lack of ground suitable for building, due either to the presence, on the borders of the built town, of large landowners who will not sell, or, and in fact most frequently, to the great subdivision of estates which makes it difficult, if not impossible to render the isolated parcels available. The authorities have indeed a right of expropriation which enables them, in respect of roads, to oust the original owners; in the case of subdivided estates, however, this process yields awkward residuary plots, contiguous, it is true, to the new roads, but rendered by area, shape, or irregular situation with respect to the road, unsuitable for building upon.

"Even if a few landowners succeed, in the course of time, in increasing their estates by the purchase of neighboring plots, and build upon them, there nevertheless arise, if a general regulation of the boundaries of plots be not made, permanent economic, hygienic, and aesthetic evils. The building upon of angular or misshapen plots contiguous to the street involves, owing to the irregularity of the ground plan, an enhancement of the cost of building, while, on the other hand, the conformation and arrangement of rooms and courts is disfigured, the access of light and air hindered, and the requirements, made in the public interest, as to the good appearance of the streets are infringed upon. It is therefore necessary, in the interests of the public welfare to transform agricultural lands available for town-extension into regulated town building plots, reshaping and dividing them according to a system of redistribution, which would be if required compulsory.

The efforts undertaken here in this direction have found expression in the legislation of individual states of the German Empire (Hessen, Hamburg, Baden), and of Switzerland. In Prussia the situation in Frankfort, where an exceptionally great subdivision of landownership obtains, pressed most urgently for legislative measures. The Prussian law of 6th of July, 1902, as to the redistribution of plots of land in Frankfort-on-the-Main and the law supplementary to the Badenese law

of the 6th of July, 1896, as to local roads, may be pointed out as the most thorough measures which have been directed to the regulation of this matter.

Subjoined is an abstract of the most important principles of the Frankfort redistribution law:

The redistribution is to be undertaken for the advantage of the public.

Market gardens, nurseries, and parks may be excepted.

The redistribution may take place on the motion of the local authorities, or of more than half of the landowners, provided that such landowners are at the same time owners of more than half of the area to be distributed.

The ground for streets and open places shall be separated from the total beforehand, and the remainder, in the form of regulated building plots of land brought in.

The apportionment shall as far as possible take place in the same locality as that in which the plots to be replaced are situated.

For ground necessary for streets and open spaces, so far as it exceeds 30% of the area of land brought in by the owner, compensation in money is to be granted.

The value of the building land apportioned must at least equal that of the old plot, otherwise the difference in value is to be made good, to the owners, in money. In the same manner compensation in money shall be granted, in suitable cases, for buildings, market gardens, nurseries, and the like, which have been taken.

The redistribution proceedings shall be carried out by a commission consisting of two commissioners of the President of the Provincial Council, and at least one each of the following: a building expert, a lawyer, a certified surveyor, and a further expert.

The Commission decides within what time the streets and open places are to be made ready for public traffic and building. If the redistribution takes place on the motion of the local authorities a period of four years may not, in general, be exceeded

These principles agree in almost all points with those of the Badenese local roads law, a remarkable exception is formed, however, in the case of the separation of the ground necessary for streets and open spaces. This ground, according to the Frankfort redistribution law is separated from the total beforehand, and is, up to 30%, assigned gratuitously to the community. According to the Badenese law, on the other hand, this ground is purchased for cash by the community before the redistribution, and this expenditure is made good to the community by

Lichtumdruck von Carl Ruppert Frankfurt a/M.

Plots of land before redistribution — New houses built or in course of erection., Dec. 1903

MAP SHOWING THE OPERATION OF THE LEX ADICKES IN FRANKFORT.—FOR EXPLANATION SEE PP. 50-58.

the parties concerned only when the building operations have commenced.

Although, owing to the shortness of the time during which it has been in force (since June 1, 1903), no report can be made as to the application of the Frankfort Redistribution Law, a wide experience in this field has nevertheless been acquired.

The efforts of the civic authorities to render land available by means of voluntary redistribution reach back about a decade and although lengthy negotiations have often been required, they have been so far successful that up to the present time, 250 acres of land have been rendered available in this manner. A rapid turning to account of the building plots followed all the redistributions, and brought the owners concerned considerable profits.

The so-called Kieshaide, a much subdivided tract of land comprising 34 acres in area, was the first to form the object of a large voluntary redistribution, and it has been chosen as a typical example for purposes of illustration. The negotiations with the 54 parties began in 1897, but had not at first any tangible result, for some of the owners, provoked, by lack of experience in this direction, to excessive caution, declined the redistribution. After persistent continuation of the negotiations the possibility presented itself, in 1899, of redistributing, if not the whole area, at any rate the two southern blocks between Bismarck Allee and Moltke Allee. Gradually the attitude of reserve with regard to the proceedings gave way, and in the following year the redistribution of two further blocks between Moltke Allee and Kettenhofweg was effected. The negotiations with the owners of the last five blocks were, in spite of the almost universal willingness, long drawn out, for here the resistance of two owners of already built upon estates had to be overcome, and it was therefore not until February, 1902, that the redistribution contract was completed. The principles applied in this voluntary redistribution correspond in their effect to those established by law, but the whole proceeding allows of simplification and abridgement. The gratuitous surrender of all the ground required for streets was also attained in this case, while, according to the Frankfort redistribution law, the community must give compensation for all ground claimed for streets and open spaces to give compensation for all ground claimed for streets and open spaces to the extent of more than 30%. Moreover strong opposition to surrendering a greater proportion than 30% was not made, the surrenders for roads in the Kieshaide area varying between 27.1% and 40% of the total. The ascertainment was effected by forming blocks up to the middle lines and the streets,

and then calculating the share of each particular block. In the later voluntary redistributions this mode of operation has been abandoned, and in agreement with the redistribution law, the proportion of building and street land in the whole area has been calculated, all the building land being equally divided among the owners in proportion to the plots of land brought in.

Contemporaneously with the redistribution of the Kieshaide area the preliminary conditions for building on the new land were settled, in the redistribution contract the town undertook to make the streets either provisionally or finally, and to provide them with drains and water supply immediately after the making over of the street lands, the resulting charges being called in in the course of the building operations, with interest at the rate of 3½%, reckoned from the date of completion.

The redistribution area is more than half built over, moreover a large number of new erections are already in view, handsome public places, worthy of a great city, have been made, and the district presents a picture of modern city building.

In conclusion it appears not superfluous to bring the advantages of the redistribution of plots of land comprehensively into prominence.

The erection of buildings from an uneconomic and unhygienic standpoint is prevented and the future inhabitants are protected from unfit dwellings.

The property of every party interested is improved.

Misshapen streets are avoided, the streets being made from the first in continuous lines; long enduring traffic difficulties are cleared away, and consistency in the extension of the city is rendered feasible.

The market for the building plots is enlarged, and harmful speculation is thwarted.

Thus the redistribution of town land, with its tendency to a healthy reform of land-ownership, deserves to be placed beside the many expedients for the, at the root, fundamental, dwelling question.

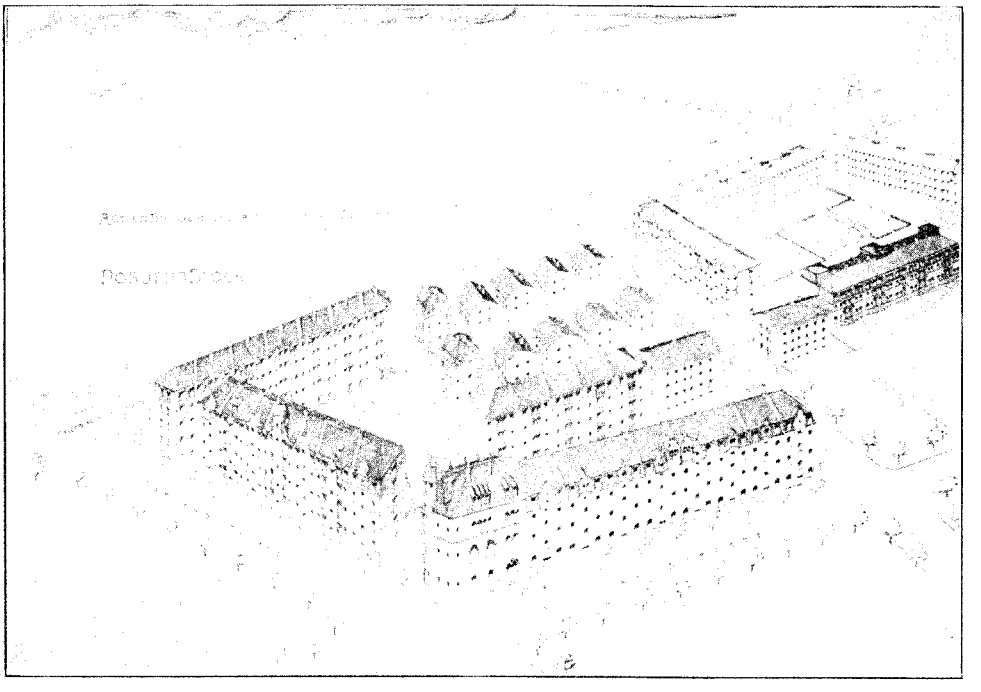
But small attention need be given to the efforts made by private charity to provide houses for the working classes.

The Municipal Railways are planning many additional lines as soon as the new areas, above referred to, are added to Frankfort.

A most interesting enterprise is being undertaken by the city now in the construction of a harbor which will cost ultimately 30,000,000 marks. This new harbor will provide for ideal conditions, lighterage, trade-shipping and the storage of merchandise, and the land along the docks is to be rented by the government to various factories, with

the understanding that it may not be used for any other purpose and that the factory must be erected within a stipulated length of time. Under certain conditions and restrictions this land is sold to the owners of the factories.

A literal translation of part of the building law of Frankfort follows and an acquaintance with the personnel of men who are administering the government of Frankfort and visits to all sections of the city com-



ONE OF FRANKFORT'S TENEMENTS.—THE ONLY REASONABLE WAY.

pel the utmost respect and admiration for the far-sighted method in which the government has put into practical operation its conception of governmental functions, in seeking to prevent the evils which most cities elect to develop, to lament,—but to perpetuate.

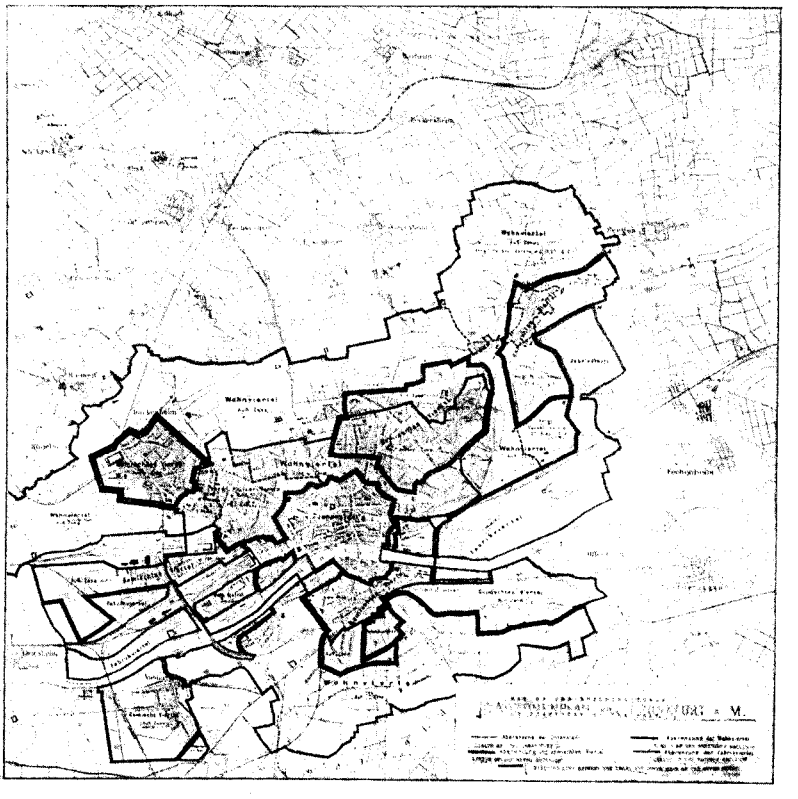
The death rate of Frankfort is very low, the rate being much higher, however, in the older sections of the city than in the new parts where density of population has been prevented by the foresight of the government.

BUILDING REGULATIONS OF THE CITY OF FRANKFORT-ON-THE-MAIN.

A large number of exceptions and special rules exist, but the following are the main regulations:

In the Inner City.

Buildings may cover from 2/4 to 5/6 of the lot and have a maximum height of 20 m. (65 ft. 6 in.). Usually they may not exceed the width of the street upon which they front by more than 2 m. (6 ft. 6.6 in.).



MAP OF THE ZONE SYSTEM OF FRANKFORT-ON-THE-MAIN.—(NOTE THE DISTRIBUTION OF THE FACTORY DISTRICTS).

In the Outer City.

(a) In the Inner Zone.

1. The Residence Section.

Buildings must have a minimum intervening space of 6 m. (19 ft. 7.8 in.); maximum height 18 m. (58 ft. 11.4 ft.); maximum number of stories 3, above the ground story; may be 9 m. high on streets up to 9 m. (29 ft. 6.7 in.) wide, otherwise may not exceed the width of the street. Building in groups is permitted under certain regulations; buildings to be used for factories, etc., that are noisy or produce smoke or soot, must be erected at least 20 m. (65 ft. 6 in.) from the lot boundaries and from the street.

2. The Mixed Sections.

The above regulations as to buildings are in force on streets suited for residences, but factories for any ordinary purposes may be erected at a distance of only 10 m. (32 ft. 9 in.) from the lot boundaries and from the street.

3. The Factory Section.

Buildings that contain more than one dwelling may not have more than two stories above the ground story.

(b) In the Outer Zone.

1. The Residence Section.

Buildings must have a minimum intervening space of 8 m. (26 ft. 2.4 in.); maximum height 21 m. (68 ft. 9.3 in.); maximum number of stories 2 above the ground story; may be 9 m. high on streets up to 9 m. (29 ft. 6.7 in.) wide, otherwise may not exceed the width of the street; on certain streets only one or two stories above the ground is permitted; building in groups is permitted with restrictions; buildings to be used for factories, etc., which are noisy or produce smoke or soot, must be erected at least 40 m. (131 ft.) from the lot boundaries and from the street; rear buildings may not have more than one story above the ground floor.

2. The Mixed Section.

The number of stories of rear buildings is not restricted if they are not used for dwelling purposes, but they may not exceed 15 m. (49 ft. 1.5 in.) in height.

3. The Factory Section.

Buildings that contain more than one dwelling may not exceed more than two stories above the ground floor.

CHAPTER V.

The Development of the City Planning Idea.

A—Legislation in Foreign Countries and the United States.

AUSTRIA.

The planning out of land to be developed for building purposes by private individuals is carried out by the municipalities through their various local officials, who have charge of sanitary conditions, housing hygiene and administration of housing laws. Building regulations are made by Diets of the Provinces. There is no model code. No land has been bought, or is owned, by towns to provide for the future growth of the town, and the towns have no power to compel landowners to sell land for housing purposes, without a special law or order from Parliament, so that special laws are necessary in order to secure land for these purposes.

BELGIUM.

The local authorities (Communal Administrations) have charge of the regulation of the planning out of land which is to be developed for building purposes by private individuals. Building regulations are made by local authorities. Communes become landowners only in case of dispossession for public purposes, and always try to sell the land again as quickly as possible. They do not provide for future needs, but only make plans tracing out future streets.

The communes have no power to compel landowners to sell land for housing purposes. But they have, in accordance with the constitution of Belgium and the legislation the right to dispossess for public purposes. In that case a law or royal decree must be taken. The construction of houses for the working classes does not seem to be a motive for public purposes.

Note—Information regarding town planning laws of foreign countries and the United States has been secured from various sources, in some cases from the original of the laws themselves, in others from translations. For this we are especially indebted to Mr. T. C. Horsfall of Manchester England, Mr. John S. Nettlefold of Birmingham, England, and Alderman W. Thompson of Richmond, London.

In case of dispossession if the price of land is not fixed by agreement it is fixed by the tribunals following its real value.

DENMARK.

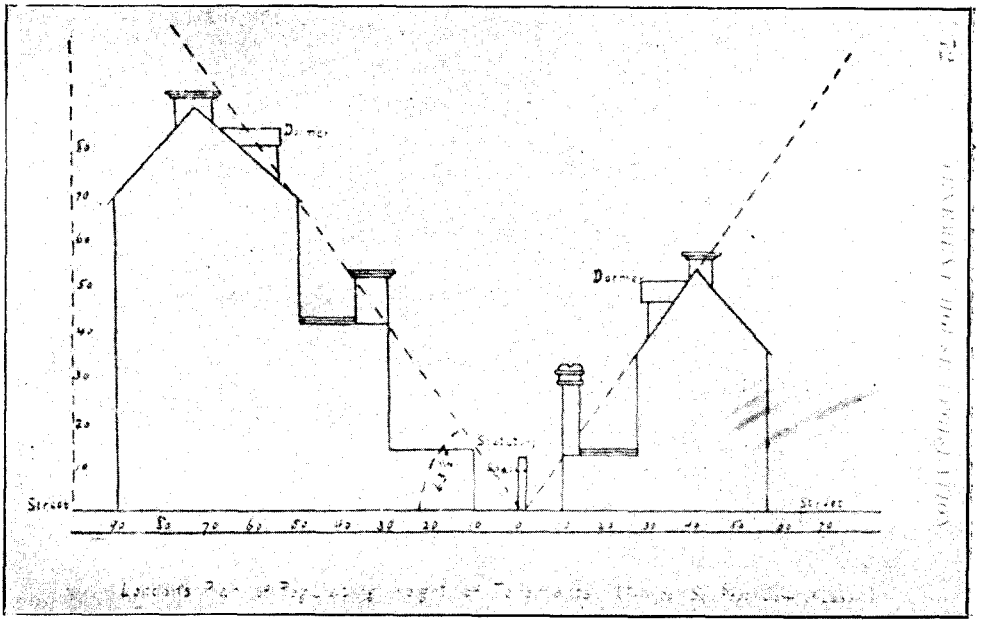
By the building reuglations for Copenhagen the new streets are fixed at sixty feet wide.

If wide streets or open spaces are required, the land must be taken by the Acts of Parliament of 1889 and 1897 (the compensation settlement by an Act of 1852) or they must get the land by agreement with the owners.

ENGLAND.

England has no regulations for the planning out of land which is to be developed for building purposes by private individuals, but merely certain prescribed regulations as to width of roads, construction of drains and sewers, and open spaces to each house.

The building regulations are made by town and district councils, based on an urban code in urban districts and a rural code in rural districts. The land is not bought or owned by towns to provide for



LONDON'S METHOD OF SECURING ADEQUATE SUNLIGHT.
ONE FACTOR IN PREVENTING CONGESTION OF POPULATION.

the future growth of the town, except for cemeteries, and the consent of the Home Government Board is necessary in the purchase of land by agreement for housing purposes.

Compulsory purchase of land can only be effected by means of a provisional order by Parliament. Housing is one of the purposes for which compulsory powers of land purchase may be so granted. Various English cities have done a great deal, however, in buying land and in erecting houses for the working classes.

France.

Housing laws in France are administered by the Mayor and the Committees of Hygiene. The Mayor and the Municipal Council prepare regulations for the planning out of land which is to be developed for building purposes by private individuals. There is no model code of by-laws for building regulations, although the Government, after the passing of the Public Health Act of 1902, has made specimen sanitary regulations. It has prescribed certain requirements as to the construction of buildings and these specimen regulations have been pretty generally adopted.

None of the communes have acquired land to provide for the future growth of the town, and the towns are not authorized by law to build houses themselves. They can acquire land compulsorily in connection with unhealthy areas, but their decision must be approved by Government decree and in some cases by a special act of Parliament.

Germany.

In Germany the police, generally deputies and inspectors especially, are entrusted with housing hygiene and the administration of housing laws. The local authorities determine the regulations for the planning out of land which is to be developed for building purposes by private individuals, although in certain cases they must be referred to the Minister of Public Works for approval.

For Saxony the general building law of 1900 gave certain minimum rules, with power to the local authorities for raising the requirements if they think fit.

For Prussia the building statue for Berlin is accepted and copied by a large number of towns.

The main building regulation for Germany, however, is the Master Act of 1875 which follows:

The Prussian law of 1875, in case the building of whole localities is in question, resulting from a complete destruction by fire or other accident, makes it the duty of the municipality to decide as quickly as possible how, and to what extent, a new building plan can be issued for the locality in question, and, in case of emergency, to effect an immediate establishment of a new building plan. Traffic, fireproof conditions and the public health are to be taken into consideration in establishing the base line and no disfigurement of the street is permitted.

Following the approval of the local police authorities, which have charge of these matters, the Municipal Council must make the plans available to the public, if several lots are involved in successful changes. By a local statute it may be decided that dwelling houses may not be erected that have an exit on streets or parts of streets that have not yet been prepared for public traffic and building, according to the specifications of the local building police authorities. An indemnity cannot in any case be demanded for the limitation of freedom to build according to this act, and can only be granted in the following cases; where property that is affected by the establishment of new base line is taken away or limited:

1. If lots intended for streets and squares are surrendered for purposes of public traffic at the demand of the municipality.

2. If the streets or building base lines touch existing buildings, and the lot up to the new base line is kept free from building.

3. If the street base line of a street that is to be newly laid out touches an empty lot that is qualified to be built upon.

A local statute can demand that a suitable advance or compensation for the expense of all the following measures be rendered when a new street line is laid out or an existing street is lengthened in case that it is intended for building purposes, as well as upon the building of already planned unmade streets, and parts of streets by the man who is to take over the new location or by the owners of neighboring properties.

The Saxon building law provides, among its most important items as follows: Sec. 15. If a district, which practically is unbuilt upon, is to be laid open for building, as a rule a building plan must be prepared for it by the local authority. A building plan can also be prepared for a district already built on.

Sec. 16. By building plans the following especially are regulated: (a) the building-lines, within which the sites may be built on, and by which the areas intended for traffic or for front gardens, as well as those which form part of the high-flood district, are to be divided; (b) the mode of building, the distance of buildings from the street-

lines and from the boundaries of adjoining sites, the height of buildings, the permissibleness of trade buildings, as well as the extent to which buildings may be erected behind the main buildings; (c) the rectification of water courses, the draining of the district, as well as the nature of street crossings (above or below grade).

Sec. 18. In the preparation of building plans, attention must be paid to the claims of security from fire, of the public traffic which is to be expected, and of health; to a suitable supply of water and to drainage, to the position and development of the place, and to the need for dwellings corresponding to the local conditions; and also to ensuring that streets and squares shall not be disfigured. In this relation special attention must be paid to the following points: (a) The position of the blocks of buildings, as well as of the lines of streets and the building lines, must be adapted to the configuration of the land and must be such that an adequate supply of sunshine in the rooms occupied is secured; (b) the dimensions of the various blocks of building must be such as to allow of the proper utilization of the ground for building; (c) the width of streets and footpaths is decided by the requirements of local traffic, and must be suitably graduated in accordance with the nature of the streets as main streets, by-streets, or streets only used for dwellings; (e) in determining the directions of streets care must be taken to provide short and convenient connections between streets and the chief centers of traffic; (f) open spaces and public shrubberies must be so arranged in respect to size, position and number, as to be useful in relation both to convenience of traffic and to general welfare. Sites for churches and school buildings must be provided in sufficient number; (g) in deciding what shall be the kind of building allowed, and as to whether factories and workshops shall be allowed, the existing character of the district, or part of a district, and its needs must be taken into account. In any case, care must be taken that continuous lines of building, so far as they are not exluded by the local building regulations, shall be interrupted in sufficient measure by streets of open building, and that in the outer districts a suitable restriction of the density of building and population occurs; (h) front gardens, when they are provided only in view of a future widening of the street, must have a depth of at least five yards; (i) the number of stories to be allowed must be decided according to the character of the place and the width of the street. For country places and districts of detached houses there must not be more than three stories and elsewhere not

more than four, and only in the central districts of large towns, in unusually wide streets or squares, or along the banks of streams, which have been rectified at great cost by the riparian owners, may five stories be allowed by way of exception. The ground story, any intermediate stories, and the roof story, if it is used for dwelling purposes, are included in the number of stories allowed; (k) the necessary courts and gardens of a block of buildings must be secured by regulations respecting their area and position, and, if necessary, by fixing back-building lines; (l) so far as any building at all is permissible on land behind buildings, it must be made to depend on the size of the court or garden, and, as a rule, be allowed for dwelling purposes only if a supply of light at an angle of at least 45 degrees is secured by all the windows of the back-building, and the space between the front and back buildings is, in suitable cases, planted as a garden. Exceptions are allowed under special conditions in the central districts of large towns. In no case may the back-buildings of a street form a continuous row; (m) in the case of large blocks of buildings, which are suitable for the purpose, power can be reserved for the Building-Police Authority, on the application of the parties interested, to allow supplementary streets or dwellings to be formed, but in such cases detached or semi-detached houses, of not more than three stories, can be built.

A deliberate town-extension policy is adhered to by several towns, as Frankfort, Mannheim, Ulm, where the municipality owns a large portion of town-extension lands. Other towns like Gorlitz own large forests (30,777 hectares). In Mannheim the total quantity of lands owned by the municipality and its application is (year 1905): streets and roads, 244 hectares; municipal works, 41 ha.; municipal buildings, 22 ha.; parks and shrubberies, 173 ha.; wharfs and building land, 289 ha.; forests, 753 ha.; applied to agriculture, 900 ha.; making 2,432 ha. in all.

On the reverse, large towns like Berlin up to date, Charlottenburg, etc., refrain from town-extension policy and leave it mainly to the land speculators.

The consent of higher authorities is not necessary in the purchase of land by agreement for housing purposes, but for raising the money by loans, and the buying of land is encouraged by the government especially in Prussia.

Generally no landowner can be compelled to sell his land for housing purposes. Expropriation is granted by State authority only in case of public benefit, *i. e.*, if the land is wanted for public purposes, planning of streets, construction of railways, etc.

A special law for the City of Frankfort-on-Main gives power to the city, if the majority of the owners of a certain plot demand it, to combine, clear and redivide for the former owners plots of land which could advantageously be used for housing purposes in their actual condition (law for combining and clearing scattered plots of building land).

Sec. 29. The building plan or building-line plan, when it has been once decided on, is authoritative in relation to all buildings in the district to which it applies. But the owner of land, which the plan shows to be intended for use for public traffic, may use it until he has to surrender it to the community, for purposes other than building, and may enclose it with a suitable fence. In particular, so long as the town has not declared its readiness to take over possession and the Ministry of the Interior has not given its consent to expropriation, he is at liberty to make changes in the mode of cultivating the land which increase its value. If later the land is expropriated or the owner has to give it to the town, without receiving payment, compensation for the increase of value must be paid him.

Sec. 36. While the prohibition is in force, and when the building plan has been adopted, plots of land in the district may not be divided except by permission of the Building-Police Authority. Permission can be refused, if the division affects a building, if the necessary fire-proof walls have not been built along the new boundary, or if, by the division, any of the regulations respecting the size of courts and gardens would be infringed, or the carrying out of a building plan or of a redistribution plan would be made impossible or difficult, or, lastly, if unusable pieces of land would remain.

Sec. 54. If the proper use, for building purposes, of land which is within the scope of a building plan is prevented, or made very difficult, by the position, form or size of the plots of land or parts of the plots of land, then for the purpose of obtaining convenient sites for buildings, a repartition of the area can be made, even against the will of the owners by an alteration of the boundaries of the plots, or by redistribution, in case the new arrangement is in the public interest, and a request to that effect is made to the Building-Police Authority either (a) by the Town Council, or, (b) by more than half of the interested owners of land who together own more than half of the land in question.

Sec. 58. The plots of ground belonging to all the owners concerned are to be thrown together, and the public roads which the new build-

ing plan makes unnecessary are to be included. From this mass the land shown by the building plan to be intended for the future, public roads must first be separated, and the building land which remains must then be distributed in such a way that each owner of a plot or plots of land shall have a share of the total value corresponding to the share which he had in the whole amount of land before redistribution. The community must have land for public roads assigned to it to replace the roads which were absorbed. In fixing the values on which the redistribution plan is based, and which are to be fixed with the help of experts, all material and legal conditions must be duly taken into account. For each of the plots of land suitable for building purposes one or more plots of land, as far as possible in the same place, must be given. Plots of land with buildings on them, as a rule, subject to rectification of their boundaries, are to be restored to the persons who have hitherto owned them. The land which, according to the building plan, is to be used for the future roads, so far as it is not used at once, must be distributed, when provision has been made for the necessary means of access to the newly divided plots, among the various owners of plots, in the same proportion as the building land, and, as far as possible, in such a way that, for each owner, his future building plot and his share of the future road may lie together. Unavoidable difference of value between the earlier plots and those received to replace them can be settled in money.

Sec. 59. Plots of land which are too small to serve as sites for buildings, if the parties interested do not make a voluntary arrangement for disposing of them, must be sold to the community, which will distribute them among the owners of the other plots, from whom it will recover the money which it has paid.

Holland.

The chief laws relating to housing of the working classes in Holland are the Public Land Act of 1901 and the Housing Act of the same year, which came into force in August, 1902. This Public Housing act provides for a general sanitary service under the Minister of the Interior and forces the local authorities to frame by-laws with regard to building and rebuilding of housing and the maintenance and proper uses of dwellings. It empowers the local authorities to take land, compulsorily if necessary for the aims of the Housing Act, but the

resolution of the Council has to be confirmed by the Crown. It empowers local authorities to prohibit building or rebuilding on sites that have to be reserved for canals, streets or squares. The local authorities can secure the money they require for their aims, or for what they want to build themselves, or for slum clearing from the exchequer at market rates. As a rule the Municipal Councils are the bodies entrusted with the planning out of land which is to be developed for building purposes by private individuals. No one can build without the consent of the Municipal Council which has to approve the widths, levels, pavements, etc., also drainage sewers and gas pipes. Building regulations are made by the local authorities or by the Provincial Committee. Municipal building by-laws have to be confirmed by the Provincial Committee which has to take advice of the building inspector. After this confirmation the by-laws must be sent to the State Council of Hygiene for control. The Housing Act empowers local authorities and philanthropic building societies or trusts to acquire compulsorily sites and obstructive buildings, without any previous law. A resolution of the Municipal Council (local authority) will do, but said resolution has to be confirmed by the Crown, who cannot decide before taking the advice of the Provincial Committee, and the latter, again, have to take the advice of the Housing Inspector. Corporations with more than 10,000 inhabitants and those where the population increases very rapidly have, unless exempted by the Provincial Committee, to make a plan for regular extension, submitted to the approval of the Provincial Committee, which has to take the advice of the Housing Inspector.

Italy.

All Italian cities can obtain the approval for regulation plans in which may be reserved plots of land destined for public gardens. Within a definite time, which may be 25 years, the city must buy the land which has been reserved. There is no Central State Housing Department and the Municipalities make their own laws, although there are no uniform building codes. The greatest assistance rendered in Italy in providing houses for the working classes has been the fiscal favors such as exemption from taxes. A law of 1904 empowers the Municipalities to levy a tax on vacant building sites up to 1% of their value. The recent law for Rome has increased to 3%, the maximum limit of this tax and it is proposed to raise the limit to 5% where the annual value is taken as a basis, instead of the capital value.

Norway.

"The Building Regulations Acts empower the municipal authorities in towns to regulate the erection and site of buildings in the surrounding rural districts, within some distance from a town's boundaries."

Sweden.

The following extracts are taken from an Act passed on May 8th, 1874:

Town Plans.

(1) For every town there shall be prepared a plan for the regulation of its general arrangements, and of the building within it. The plan shall regulate, not only the buildings, but the streets, the markets and other public places.

(2) Those plans regulating the building in a town which are now in force, either because they have received the approval of the King, or, lacking the King's approval, by virtue of their age, shall continue in force in relation to all matters respecting which no change is made by this law.

(3) No building must take place in a town which contravenes the regulations of the existing plan, nor shall a town be extended into a district for which no building plan has been prepared.

(4) Should the extension of a town into a district, which is not included in its building-plan become necessary, or, for some other reason be desirable, a plan must forthwith be prepared for the said district, in order that no difficulty may be created by the erection of buildings before a plan is prepared.

(5) Questions respecting the town-plan are dealt with by the Town Commissioners, or, where no such Commissioners exist, by the Town Council. The plan decided on must finally be submitted to the King for examination, unless the matter in question is of small importance, such as the determination of the boundaries of an individual building site, in which case the plan decided on, if it has the approval of the Government, may be carried into effect without being submitted to the King.

(6) The town-plan shall be carefully drawn on the scale of one-two-thousandth part of the actual dimensions. On the plan, or on a supplementary plan, the contours must be clearly shown. The plan shall be accompanied by the necessary explanations.

(7) The town-plan must be prepared so as to ensure as far as possible, that the requirements of traffic, in respect to ample space and convenience, shall be supplied; that the light and air needed for health shall be provided; that the danger from fire shall be guarded against; and that there shall be open spaces, the variety of construction, and the beauty necessary for æsthetic reasons. For this purpose, care must be taken amongst other things:

That streets shall be wide, and shall run in the direction most suitable for traffic.

That large and suitable sites shall be provided for markets, harbors, and other places where there will be much traffic.

That wide promenades or boulevards, with shrubberies in the middle, and roadways on each side, or with other suitable arrangements shall traverse the town, if possible in various places, and in various directions, and that as many open spaces as possible, planted with trees and shrubs, shall be provided in the town.

That on the one hand, the residential districts shall not be so large or so crowded with houses, as to prevent the free passage of air, or to interfere with the work of extinguishing fires, and, on the other hand, that in the said districts the building sites shall be of sufficient size to allow of the erection of commodious dwellings, and the provision of open and well-ventilated yards.

That where possible, lines of back gardens shall be so arranged in the residential districts of the town, that there shall be on each side of the gardens a line of building sites; and also that where desirable and possible, there shall be front gardens between the houses and the streets.

(8) In no circumstances must the said back gardens and front gardens be built over, or used for any other purpose than that of gardens or other form of planted space; and it shall be the duty of the building surveyor to see that this regulation is enforced. It shall be the duty of the owners to keep the gardens always in good order.

(9) Within a period of two years at the latest from the coming into force of this law, there shall be prepared for every town in the

kingdom a statement showing what parts of the district for which a plan has been prepared, it is intended in accordance with this law to incorporate as a district of the town. The said statement shall, within the period stated, be submitted to the King for approval, together with a plan of the town, which must show clearly, both the boundaries of the districts, and the extent to which the various districts are covered with buildings.

(10) The improvement of existing towns is also provided for.

(11) When a new plan is prepared, or an existing plan is altered, for the regulation of one or more districts of a town, regard must at the same time be had to the future regulation of other town districts which may possibly come into existence, so that a harmonious arrangement of the whole town may be obtained.

(12) All the provisions respecting towns, contained in this law, so far as they are relevant, are applicable also to market boroughs, ports, fishing villages, and other places in which there is a large concentrated population, should their application be called for by circumstances, and the King's Government, after due consideration, so resolve by a decree submitted to the King for examination.

Switzerland.

The Town Planning Laws in Switzerland are entirely cantonal and vary greatly but the typical ones are given under the building codes of Zurich and Lausanne.

The United States.

There is no uniformity in the various States regarding City Planning as the matter is left largely to the initiative of the cities, which, in most cases have to secure legislation applying to cities of a given class. The development of the cities is carried out by the City Councils. Some suggestion of the diversity of methods is given in the subsequent analysis of the present status of City Planning in several American cities.

Summary of the Town Planning Bill Introduced Into Parliament by the Local Government Board of England.

A town planning scheme may be made (in accordance with the provisions of the Act), as respects any land which appears likely to be

used for building purposes, with the general object of securing proper sanitary conditions, amenity and convenience in connection with the laying out and use of the land. This town planning scheme must have the approval of the Local Government Board.

The use of land for building purposes shall include the use of the land for the purpose of providing open spaces, parks, pleasure or recreation grounds, or for the purpose of executing any work upon the land, whether in the nature of a building work or not, and the decision of the Local Government Board, whether any purpose is a building purpose or not, shall be final.

Special provisions must be inserted in every town planning scheme, defining the area to which the scheme is to apply and the authority to be responsible for the execution of the scheme. Where land included in a town planning scheme is in the area of more than one local authority the Local Government Board may direct which local authority shall have jurisdiction, or whether a joint body constituted especially for the purpose of the scheme shall have authority.

The authority responsible for the execution of a town planning scheme may, after giving such notice as may be provided by the scheme and in accordance with the provisions of the scheme:

(a) remove, pull down, or alter any building or other work which is such as to contravene the scheme, or in the erection or carrying out of which any provision of the scheme has not been complied with; or

(b) execute any work which it is the duty of any person to execute under the scheme in any case where it appears to the authority that delay in the execution of the work would prejudice the efficient operation of the scheme.

Any expenses incurred by the local authority under this section may be recovered from the persons in default, in such manner and subject to such conditions as may be provided by the scheme.

The Local Government Board is the final authority as to whether any such building or work contravenes a town planning scheme.

Provision is made that any person whose property is injuriously affected by the operation of the town planning scheme may obtain compensation, in respect thereof, from the authority responsible for the execution of the scheme, and where such a scheme injuriously affects any property but at the same time increases the value of certain other property, a compensation is paid under this section in this way: but the authority responsible for the execution of the scheme may

recover from the persons whose property is so increased in value the whole, or any part of, any sum which the authority is liable to pay as compensation, not exceeding in any case the amount by which the property is increased in value.

It is the purpose, it may be noted, of this Town Planning Bill to provide for the restriction of the number of houses and number of rooms per acre;—and the ideal of English cities is not to have more than 12 to 20 cottages per acre at the maximum, and to restrict also the location of factories, but a large measure of "Home Rule" is afforded to each city.

B—Some Historical Instances.

Only a very brief statement is given of the development of a few conspicuous cities, indicating the gradual growth of the idea of deveyopment along logical lines.

Rome.

The modern development of Rome dates from 1870, when the city was made the Royal Capital. The city prior to that time had been very much deranged and the development and rearranging was only gradual. In 1883 the piano regolatore, the complete scheme, for the straightening and enlarging of the chief thoroughfare systems was begun. The work has involved the cutting through of many streets and the demolishing of great buildings. An archeological reservation in the Passeggiata Archeologica was established, and within a delimited area the erection of private buildings was prohibited. The vast scheme of parks and boulevards was developed. A building code was also adopted and provision was made to transfer the population from the densely settled sections of the city to the outer parts of the city. In earlier times Rome was laid out on a noble scheme of avenues and general lines of traffic, but from the Emperor's personal wishes, instead of from the modern social point of view.

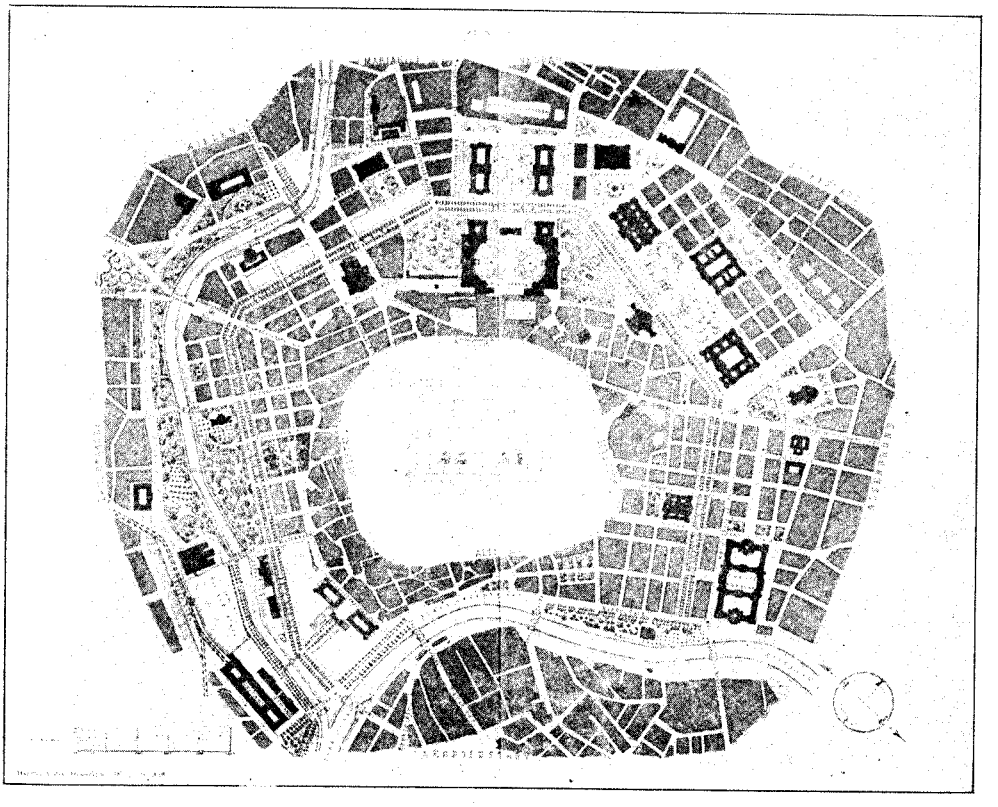
Paris.

Paris has stood hitherto as the model of city planning. From 1852 to 1871 the most comprehensive development was conceived and carried out under Louis Napoleon and under the supervision of Baron Haussman, all quarters of Paris have been bound together by a system of grand avenues and boulevards. The net expense was about $2,400,000, and private individuals were obliged to conform strictly to the plans and regulations of the municipality in building up the new frontage secured by the demolishing of vast areas. The boulevards, avenues and open spaces of the city are its wonder, and the delight of thousands of American travellers. Large areas have since been added

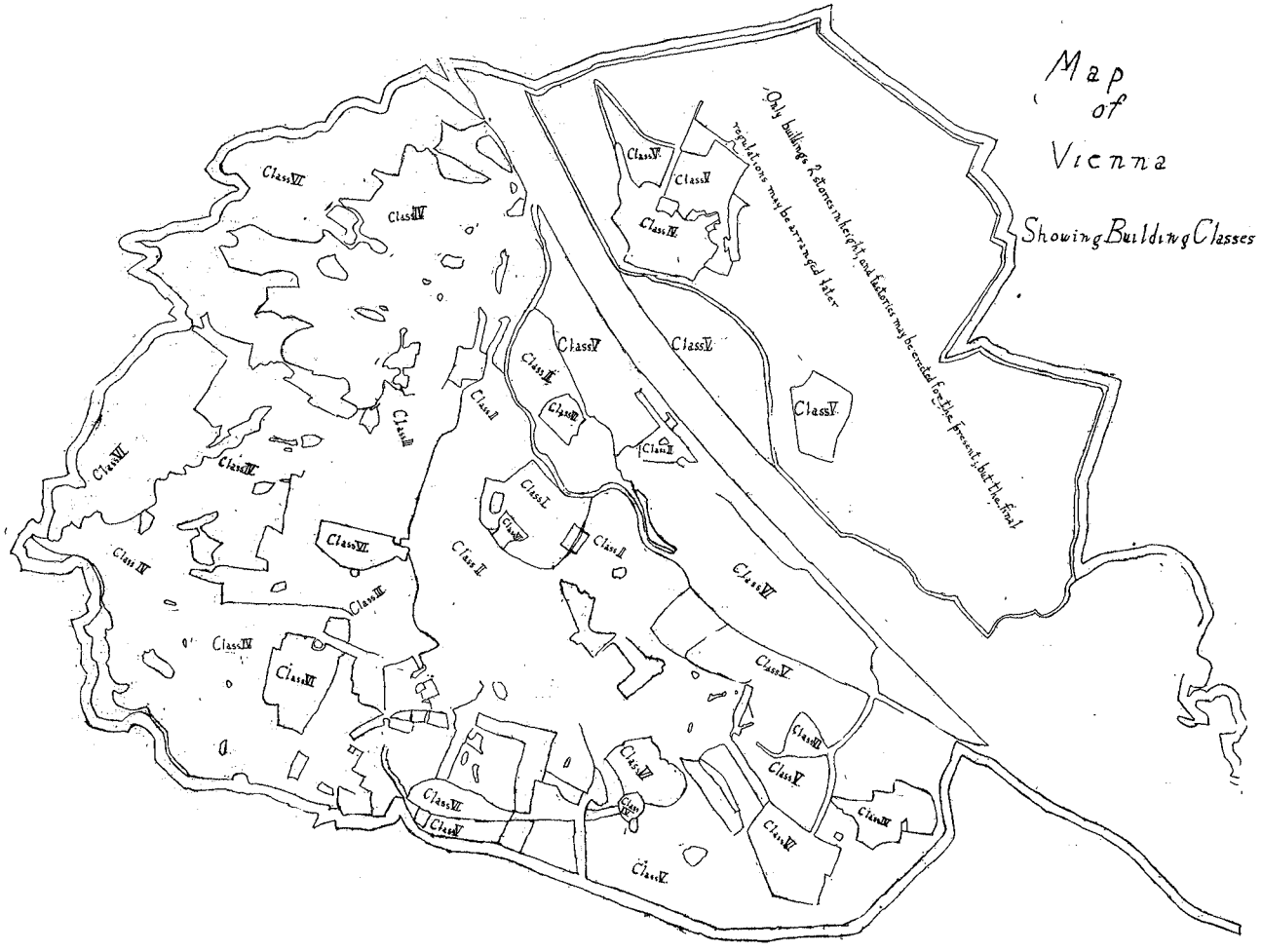
to the earlier City of Paris. It is significant, therefore, that the health authorities of Paris at present appreciate the incompleteness of the early plans, and that one of the most important municipal problems of the city is the bettering of housing conditions. A project is now before the Municipal Government to appropriate $2,000,000 for the demolishing of unsanitary areas where tuberculosis is rife and the appalling death rate from tuberculosis within brief distance of the improvements and boulevards indicates the need for a wider scope of city planning than that undertaken by Baron Haussman.

VIENNA.

Vienna has had a most remarkable growth. The first plan was incorporated by Emperor Francis Joseph I., who insisted upon the demolishing of old fortifications and the laying out of the city upon a normal



THE RINGSTRASSE IN VIENNA.



MAP SHOWING THE BUILDING REGULATIONS OF VIENNA.

basis. Before 1890 Vienna consisted of ten districts. In that year a suburban belt was annexed and a rearrangement of divisions made. Since then the outer street system has been revised, the thirty or forty communities annexed have been consolidated and arranged as nine environing wards. The street railways which are at present owned by the municipality are centered upon the Ring Strasse, and there are special concessions to school children, and workingmen's cars morning and evening with reduced fares. The location of railroad terminals and factory sections are determined by the municipality, and at one time a transit system was planned to accommodate half a million people in the newer suburbs.

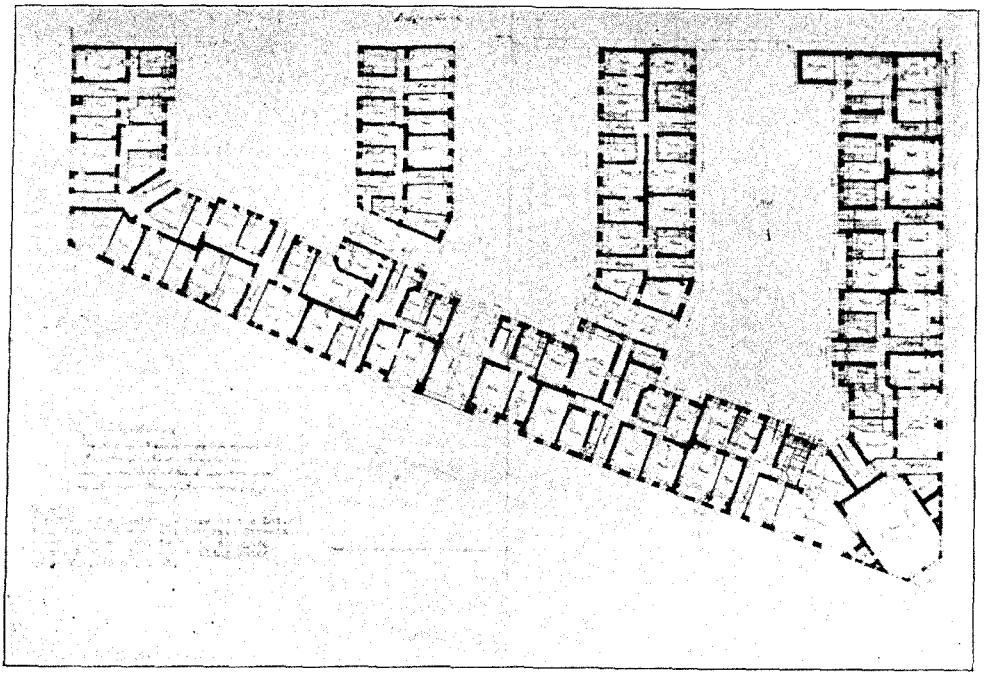
Budapest.

The beginning of Modern City Planning in Budapest dates from 1873, when ministerial and municipal authorities co-operated in a mixed commission to provide a plan for building operators. The chief feature has been the reform of streets and the development of quays and promenades with magnificent public buildings on the river front. Vast areas of buildings were demolished and unsanitary districts cleared, but the horrible congestion of the inner sections of the city is indicative of the need, thoroughly appreciated at present by the municipality, for the immediate inauguration of a new method of City Planning which shall provide homes at reasonable rents for the working population. The most remarkable system of municipal statistics in the world is being conducted in Budapest, showing the evil results of overcrowding.

Berlin.

The development of Berlin from an economic point of view, after it had been made the capital of the country, has not at all been assisted by political reasons, as has been the case in Paris and Vienna. Up to the middle of the seventies the streets and bridges in Berlin belonged to the State. That the city has not been developed in other directions, as with respect to its bridges, is due to the fact that in the seventies a building plan was drawn up by Hobrecht, which was considered sufficient for the growing needs of the metropolis and which some still consider practicable.

The structure and laying out of the town have followed practical lines, and have been deliberately devised for practical ends. The streets are long and run in straight lines, and their symmetry is perfect To that extent convenience is served in a high degree, though the total effect is somewhat monotonous to anyone accustomed to the unsystem-



BERLIN'S WORKERS APPRECIATE SUNLIGHT.—WOULDN'T WORKMEN IN AMERICAN CITIES?

atic formation of the ordinary English town; for one street succeeds another, as one house succeeds another, alike in plan and structure, until any sort of curve or corner would be a relief to the eye.

There is a Berlin and a Greater Berlin. The nuclei of Berlin proper were the two townships of Berlin and Kolln, Wendish colonies, one on the right and the other on the left bank of the Spree, which early in the fourteenth century joined together and for a time ruled themselves as a republic. In the seventeenth century the small towns of Friedrichswerder and Dorotheenstadt were added, though the united population at the beginning of the eighteenth century is estimated to have been only 57,000. The four original components of Berlin still give their names to districts of the city, but to them have come in course of time twenty-four others. Greater Berlin is an area of indefinite limits, though it is generally held to comprise a group of twenty-nine suburbs.

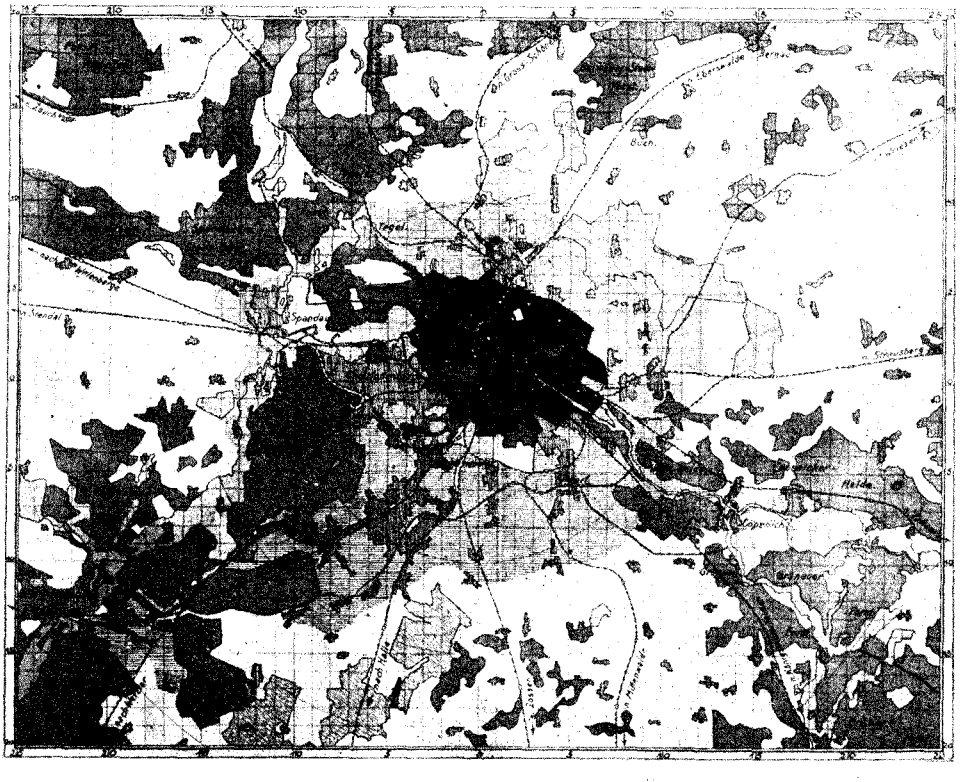
The following statement indicates, however, the significance of the present City Planning movement in Germany and the development

which is regarded as necessary for the logical growth of Germany's capital:

PLANS FOR THE ENLARGEMENT OF BERLIN.

The larger cities that are to be included in the building plan for Berlin are:

1.	Berlin, with a population of.....	2,099,000	inhabitants
2.	Charlottenburg, with a population of.....	254,000	"
3.	Rixdorf, with a population of.....	179,000	"
4.	Schoneburg, with a population of.....	155,000	"
5.	Wilmersdorf, with a population of.....	78,000	"
6.	Lichtenberg, with a population of.....	70,000	"
7.	Spandau, with a poulation of.....	73,000	"
8.	Potsdam, with a population of.....	62,000	"
	Total.....	2,970,000	"



MAP SHOWING THE AREA TO BE INCLUDED IN THE ENLARGEMENT OF BERLIN, 488,000 ACRES.—THE AREA COLORED DARK IS THE PRESENT BERLIN.

To these are added, moreover, the 116 smaller cities and suburbs of the surrounding country, with a population of 670,000 inhabitants.

Consequently the total poulation of the places under consideration is at present 3,640,000 inhabitants in round numbers.

The territory included in the building plan is to cover an area with a diameter of 25 K.M., using Potsdamer Platz as the central point. It covers an area of 488,000 acres in round numbers (2,000 sqr. K.M.).

Of this Area		
Berlin occupies	8,990.8	acres
Charlottenburg"	7,410.	"
Rixdorf "	2,717.	"
Schoenburg "	2,346.5	"
Wilmersdorf "	2,099.5	"
Lichtenberg "	2,544.1	"
Total	26,107.9	"

The suburbs cover the remaining area, *i. e.*, 461,223.1 acres. The preliminary work for this building plan is being conducted by

(*a*) A Sub (inner) Committee of 3 members:
1 representative of the cities;
1 " " suburbs;
1 " " Architects' League

(*b*) A Committee of Labor.

In this latter Committee sit representatives of the larger participating cities, suburbs, and the League of Architects.

In the preliminary programme provisions are made for:

The development of special districts for

Tenements of various heights and covering varied proportions of the sites.

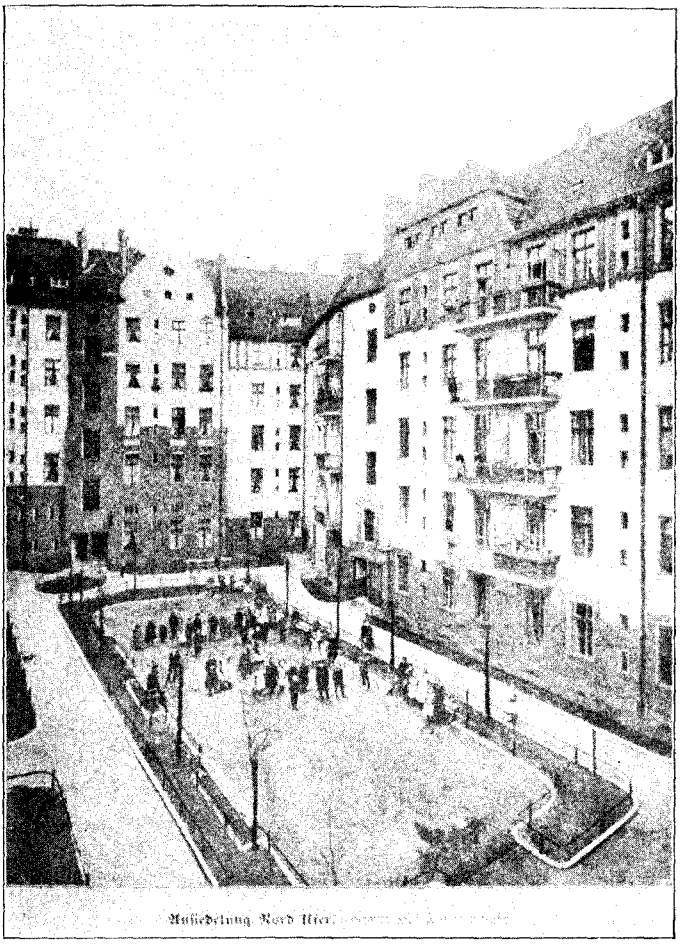
Villas (country seats).

Business.

Factories.

Industries.

Up to the present there are no definite specifications as to the time within which these building plans are to be carried out, and this is at present hardly possible.



IN SOME BERLIN TENEMENTS, WHERE CHILDREN ARE WORTH AS MUCH AS LAND.—THE FUTURE BERLIN WILL SAFEGUARD THE HEALTH OF ITS CITIZENS SIMILARLY.

The competition is still in preparation, but October 1, 1909, has been set for the final date on which rough drafts (or preliminary plans) may be handed in.

Outlines of the Programme for the Contest for the Attainment of a Ground Plan for Greater Berlin.

A uniform building plan for Greater Berlin is to be drawn up, which is to include an area with a radius of about 25 kilometers and the Potsdamer Square as the centre.

As a basis for the plan are to be presented:

a. Birdseye view 1 to 50,000, with colored representations of the main thoroughfares of railroads and canals, as well as of the larger tracts of ground owned by the State, the Crown, towns or cities and corporations;

b. Plan in 3 pages, 1 to 25,000, in which shall be entered the building plans already decided upon by various towns or cities and by corporations;

c. Parts of plans, as will be specified more in detail, with a standard of measure 1 to 10,000.

There are required:

I. A GENERAL PLAN WITH A STANDARD OF MEASURE OF 1 TO 25,000.

This plan should contain in broad outlines suggestions that would help to fill the needs of traffic and should point out how the settlements on the whole are to be distributed and how larger areas are to be kept from being built upon.

A. THERE MUST BE CONSIDERED FOR THIS PURPOSE:

a. Main thoroughfares (radial and circular streets) in certain cases in the form of parks—streets and the needs of bicycle, horse and automobile roads to be held in view.

b. Railroads for travel and freight, with connection at the suburban, local and continental railroad stations; elevators and subways, as well as side lines for rapid transit; street cars; the establishment of principal junction centres of traffic; connection with the business quarters, market places, stockyards and slaughterhouses.

c. Waterways—Canals and harbors, docks (railroad connection for freight traffic); piers for loading and unloading and passenger traffic on water.

B. FOR THE SECTIONS OF THE CITY TO BE BUILT UP.

Distribution of industrial manufacturing, commercial and residential quarters (tenement and cottage districts).

C. To be kept vacant.

Larger areas for the construction or maintenance of parks, fields, and areas for other purposes.

There are to be provided, besides the public parks and gardens, lakes and ponds (maintaining, however, the ebb and flow):

a. Places for public entertainments and exhibitions;

b. Racetracks and grounds for the ascension of areoplanes;

c. Places for military drills and shooting practice;

d. Cemeteries.

The park, wood, field and water areas are to be evenly distributed, if possible, so that they may be easily reached by the inhabitants of the districts built upon. These areas should be joined by shaded streets, that is by streets parallel and adjoining to which run strips cultivated with trees. The newly settled districts must be cut by these cultivated strips in such manner that they may not be at a greater distance than about half a mile from the farthest inhabitant.

II. A separate outline of a plan carefully worked out for the various parts, with a standard of measure of 1 to 100,000.

Whereas in the general plan there are to appear only the main lines and junctions of traffic, the vacant areas, and the areas to be built upon, and only in broad outline, still, in the extracts of the ground plan hereafter to be more specifically designated the individual building blocks will have to be sufficiently specified, so that the character of the streets (*i. e.,* thoroughfares, residential streets, etc.), and the plan of building. Sec. I.—B.—may be easily recognized. Here suggestions for change of districts already built upon should also appear.

There must be provided:

1. Places for monuments and public buildings (as churches, town halls, schools and colleges, libraries, observatories, museums, theatres, hospitals, gymnasiums and baths, market halls, barracks, etc.

2. *a.* Places for games, gymnasiums and other sports.

b. Baths and boating wharves.

c. Ornamental gardens and garden patch settlements.

d. Schools in woods and homes for the aged.

All propositions must bear in mind the existing building plans. Propositions to alter the building plans or districts already built upon must be especially supported by reason for such change.

London.

The London plan by Sir Christopher Wren was rejected by the authorities, and they have regretted this, at a heavy annual cost.

His plan of "reconstruction" to remedy the "deformity and inconveniences of the old town" anticipated many of the ideas of present-day town planners. There were to be streets of three widths; the Exchange was to stand free in the middle of a piazza, and to be the centre of the town, from which the sixty-feet streets were to radiate to all the principal parts, the buildings to be contrived after the style of the old Roman Forum, with double porticos, "all churchyards, gardens, and unnecessary vacuities, and all trades that use great fires or yield noisome smells to be placed out of the town."

Until 1855 there was no well-defined London, except the square mile city, and in the area now known as London there was no unity whatever. But by the Metropolis Management Act of 1855 a comhensive system of local administration was provided. The County Council has authority to regulate the laying out of streets, and this has been done very gradually at an enormous expense. A width of from 40 to 60 feet may be required by the Council in certain districts. The most phenomenal work perhaps of the London County Council has been the demolishing of unsanitary areas and the erection of buildings for the working classes. In all approximately 100 acres of unsanitary area have been cleared. The County Council has also taken up the question of furnishing adequate means of transit for the city.

WASHINGTON.

The City of Washington, during the century since its foundation, has been developed in the main according to the plan made in 1791 by Major Peter Charles L'Enfant and approved by President Washington.

The "Congress House" and the "President's Palace," as he termed them, were the cardinal features of L'Enfant's plan; and these edifices he connected "by a grand avenue four hundred feet in breadth, and about a mile in length, bordered by gardens, ending in a slope from

the houses on each side." At the point of intersection of two lines, one drawn through the center of the Capitol, the other drawn through the center of the White House, L'Enfant fixed the site of an equestrian statue of General Washington, one of the numerous statues voted by the Continental Congress, but never erected.

In 1901 the Senate Committee in the District of Columbia was directed to consider suggestions and report to the Senate plans for the development and improvement of the entire park system of the District of Columbia. They have made an exhaustive investigation of the suggestions included within the law creating them, a plan for the development of the city within the terms of the law creating them and reported a scheme for the development of the city, the central feature of which is the Mall system comprising the following sections:

Capitol Division.
The Mall.
Monument Section.
Lincoln Division.
White House Division.
Washington Common.
Park Spaces.
Section south of Pennsylvania Avenue Memorial Bridge.

In addition an enormous sunken garden, a monument garden and other public improvements are provided for.

It is unfortunate, however, that the plan of L'Enfant, although superb in its conception, is not sufficiently inclusive so that Washington finds itself confronted with a most serious housing problem, since unsanitary areas have been developed, intensive building and problems of housing created, with which the President's Homes Commission is successfully dealing. The need is apparent for the incorporation of large additional areas in order to make possible the proper housing of the working population, in addition to the comprehensive plan for public improvements and public buildings.

CHAPTER VI.

Examples of City Planning.

A—Building Codes in Some Foreign Cities Relating to Heights of Buildings and Proportion of Site to Be Built Upon.

Building Regulations of the City of Dusseldorf, Germany:

The Mansard Is Not Counted as a Story.
(There Are Many Exceptions for Each Class.)

Class I.—Closed building is permitted. The front building may have 3 or 4 stories, with a maximum height of 20 m., and occupy 2/3 of the site; the rear building 3 stories, not to exceed the width of the courtyard by over 5 m. If not more than 2 stories above the ground story are erected, not exceeding 10 m. in height, 1/4 of the lot area only need be left vacant.

I.—50% of the site may be built upon.

Class II.—Closed building is permitted. The front building may have 3 or four stories above the ground story, with a maximum height of 16 m., and occupy 1/2 or 4/10 of the lot area; rear buildings may have 2 stories above the ground floor, and occupy 2/3 of the lot area.

Class III.—Closed building is permitted. Front buildings may have 2 or 3 stories above the ground floor, with a maximum height of 16 m., and cover 6/10 of the lot area. Rear buildings may have ground story and 2 stories, and cover 6/10 of the lot area.

III. (2).—Same regulations as III (1), but only 5/10 of the lot may be built upon.

Class IV.—Under certain conditions closed building is permitted, but no factories may be erected on residential streets if they will inconvenience the neighborhood.

IV (a).—Buildings may be only 2 stories above the ground story, and occupy 5/10 of the lot area. Closed building is permitted.

IV (b).—Buildings may have 3 stories above the ground story, but occupy 6/10 of the lot.

IV (b).—Same as IV (b) above, but only 5/10 of the lot area may be occupied.

IV (c).—The limitations on heights of stories of IV (a) is removed, but each story is limited to two families.

Class V.—Residential districts with open building. Buildings close together may not be more than 2 stories above the ground story, and

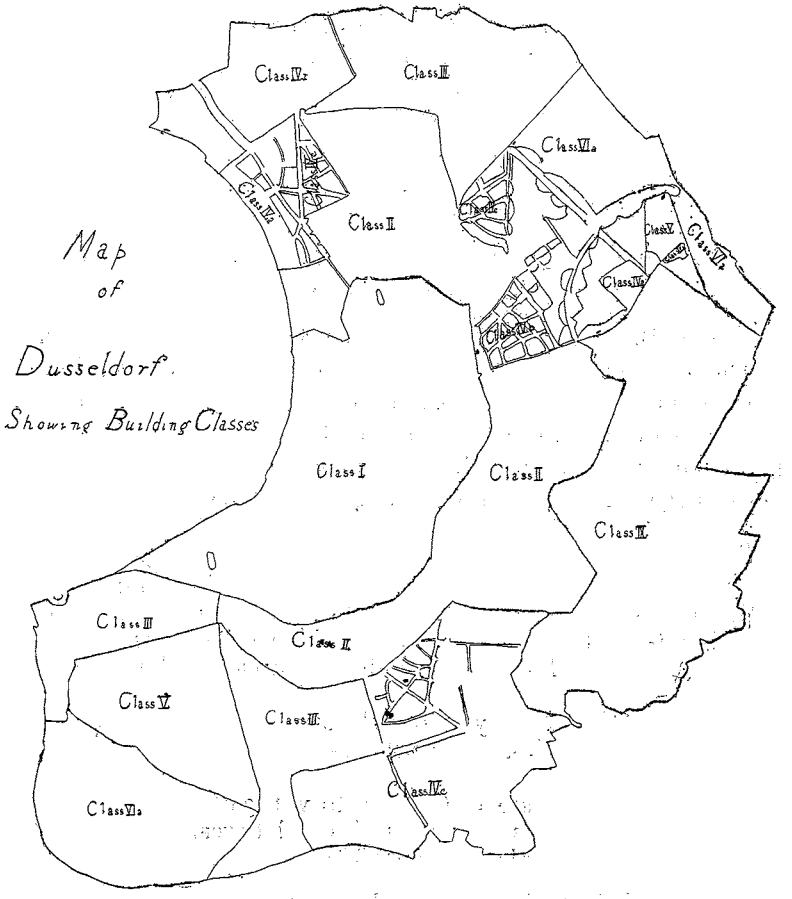
the maximum height is 13 m., and may not cover more than 4/10 of the lot area. They must have an open space of 4 m. between them.

V (a).—Same as V, but 50% of the lot area may be covered.

CLASS VI. (a).—Residential streets with open buildings far apart. Buildings may be 2 stories above the ground story, 3 stories on corner lots, with a maximum height of 16 m., and 4/10 of the lot area may be built upon.

VI (b).—Same as VI (a), but buildings may be 3 stories above the ground story in all cases, and three-family houses may be erected.

CLASS VIII.—*Business Streets.* A larger per cent. of the lot may be built upon by special permission of the building authorities for business and industrial purposes.



MAP OF THE BUILDING ZONES OF DUSSELDORF.

CLASS IX.—*Factory Streets.* On factory streets the regulations of Class I (above) apply; on all others those of Class III (above).

"Closed buildings" are connected rows of houses.
"Open buildings" are separated dwellings.

THE GRADED BUILDING CODE OF THE CITY OF MUNICH, GERMANY, OF APRIL 20, 1904.

Part B, Chapter 2, Synopsis of the Graded Building Code.

The present ordinance as to the Construction of Buildings in Munich (the Graded Building Code of the City of Munich), which has been sanctioned by the Royal Government through the Chancellery of the Interior and thereby enacted, corresponds with the requirements of the previous chapter by instituting nine grades of buildings.

THE GRADED BUILDING CODE OF THE CITY OF MUNICH, GERMANY, OF APRIL 20, 1904.

Part B, Chapter 2, Synopsis of the Graded Building Code.

The present ordinance as to the construction of Buildings in Munich (The Graded Building Code of the City of Munich) which has been sanctioned by the Royal Government through the Chancellery of the Interior and thereby enacted, corresponds with the requirements of the previous chapter by instituting nine grades of buildings.

Grade	Spacing of buildings	Front Building	Back building	Yard area	Maximum length of groups of buildings	Minimum distance between detached buildings
1	Closed	Ground story & 4 stories.	Ground story & 3 stories			
2	"	Ground story & 3 stories up to 18 M. in height.	Ground story & 3 stories up to 18 M. in height.	1/3 of lot area.		

3	Closed	Ground story & 3 stories up to 18 M. in height.	Ground story & 1 story up to 12 M. in height.	1/3 of ot area.		
4	"	Ground story & 2 stories up to 15 M. in height.	Ground story & 1 story up to 12 M. in height.	1/3 of ot area.		
5	"	Ground story & 1 story up to 12 M. in height.	Ground story up to 9 M. high without independent living aparts.	1/3 of ot area.		
6	Open	Ground story & 3 stories up to 20 M. in height.	Ground story & 3 stories up to 20 M. in height.	1/3 of ot area; no light courts allowed.	45 M.	7 M.
7	"	Ground story & 3 stories up to 18 M. in height.	Ground story & 1 story up to 12 M. in height.	1/3 of lot area: no light courts allowed.	45 M.	9 M.
8	"	Ground story & 2 stories up to 15 M. in height.	Ground story & 1 story up to 12 M. in height.	1/3 of lot area.	36 M.	10 M.
9	"	Ground story & 1 story up to 12 M. in height.	Ground story up to 9 M. high without independent dwelling apartments.	1/2 of lot area.	36 M.	10 M.

COLOGNE, GERMANY.

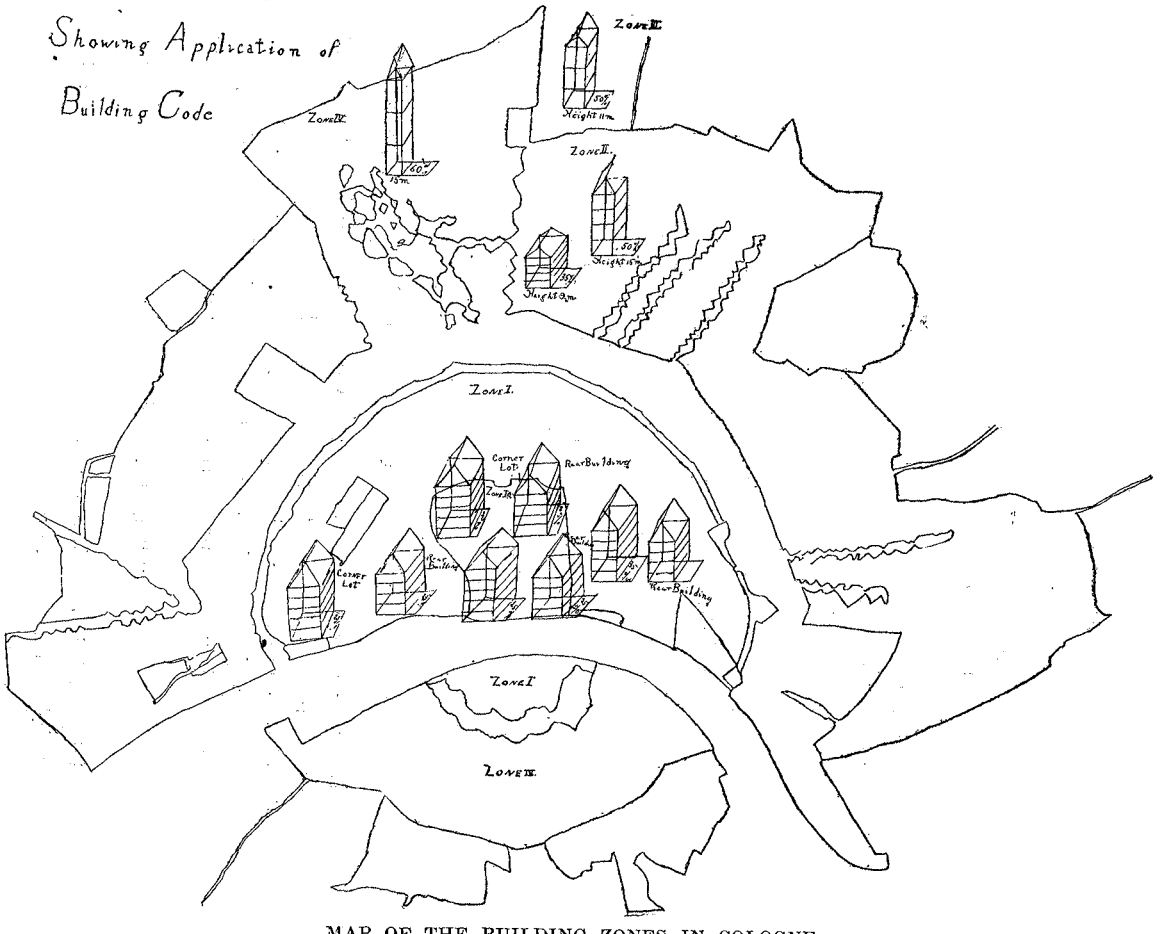
General Building Regulations.
(The Mansard Is Not Included as a Story.)

Class	Front building	Back building	Yard area	Maximum height
I A	Ground floor and four stories	35 M. back of building line	25% of lot area 20% of corner area	20 M.
I		Ground floor & three stories	25% of corner area 35% of lot area	
II		Ground floor and 3 stories	35% of lot area for buildings	9 M. high
			50% of lot area for buildings more than	15 M. high
III		Ground floor and 2 stories	At least 50% of lot area	11 M.
IV	Open or detached building	"	60% of lot area 50% of corner area	15 M. 15 M.

V Open building according to private arrangement

Special regulations are made for factories relating to fire hazards, etc.

Factories are not permitted in Classes II and IV.



MAP OF THE BUILDING ZONES IN COLOGNE.

BUILDING CODE OF MANNHEIM, GERMANY. CELLAR AND ATTIC ARE RECKONED AS STORIES IN DWELLINGS.

	Heights of buildings	Proportion of site may be built upon
Zone 1		
Open building	5 stories	60%
Closed building	4 stories	75%
Zone 2		
Open building	4 stories	50%
Closed building	3 stories	65%
Zone 3		
Open building	3 stories	40%
Closed building	2 stories	55%
Zone 4	The final rules for the 4th zone, recently determined, have not been received. Buildings used for industrial purposes are not limited to a certain number of stories.	

SUMMARY OF THE BUILDING CODE OF ZURICH, SWITZERLAND.

A Building Line is determined for various parts of the City, and is usually some distance back of the Street Line.

There must be regularly in the detached or open building sections a distance of 3½ meters between a building and a lot boundary, this distance to be increased proportionately if the building is over 12 m. high.

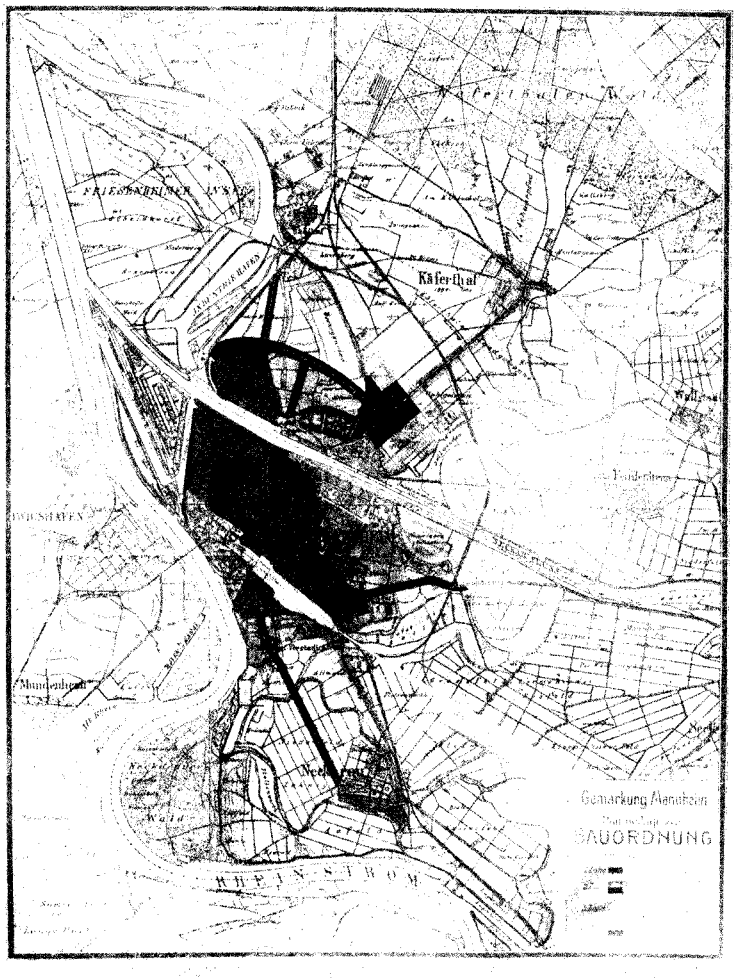
Closed or Group Building is permitted in certain sections of the city.

Special permission has to be secured to build upon the rear of a lot.

The height of buildings may not exceed:

20 m. in public squares and streets with a minimum distance of 18 m. between building lines;

16 m. in streets with a minimum distance of 15 m. between building lines;



MAP OF MANNHEIM'S BUILDING ZONE.

13 m. in streets with a minimum distance of 12 m. between building lines;

10 m. in streets with a minimum distance of 10 m. between building lines;

9 m. in streets with a distance of less than 10 m. between building lines.

In the sections colored with dark red lines only detached building is permitted.

GENERAL BUILDING REGULATIONS OF LAUSANNE, SWITZERLAND.

Lausanne is gradually remaking the old city and systematically developing the new part of the city.

No building "open" construction, or standing by itself, may exceed 16 m. in height, nor have more than three stories above the ground story, and one story in the mansard.

The height of building is as follows:

Width of Street.	Height Permitted.
Under 12 m.	12.6 m.
12-18 m.	16.0 m.
Over 18 m.	18.0 m.

The city has the right to prepare a plan for the development of any section, and submits this to public hearing, if there is any objection thereto. The city may also prohibit the erection of any incongruous buildings for a period of 20 years; but if it has not expropriated the land in question within this time, the proprietors have the right to build according to their original wishes. The city has the authority to determine districts for "closed" and "open" buildings.

In open buildings the distance between, however, must be:

3 m. if the houses are not over 14 m. long.

4 m. if the houses are not over 14.20 m. long.

5 m. if the houses are not over 20 to 28 m. long.

28 m. is the maximum length for a single or double house of the "open" building class.

BUILDING REGULATIONS, VIENNA.

Maximum Height,	5 Stories.	
" "	4 "	—25 M.
" "	3 "	—25 "
" "	2 "	—Residence territory.

Factories are restricted to certain sections.

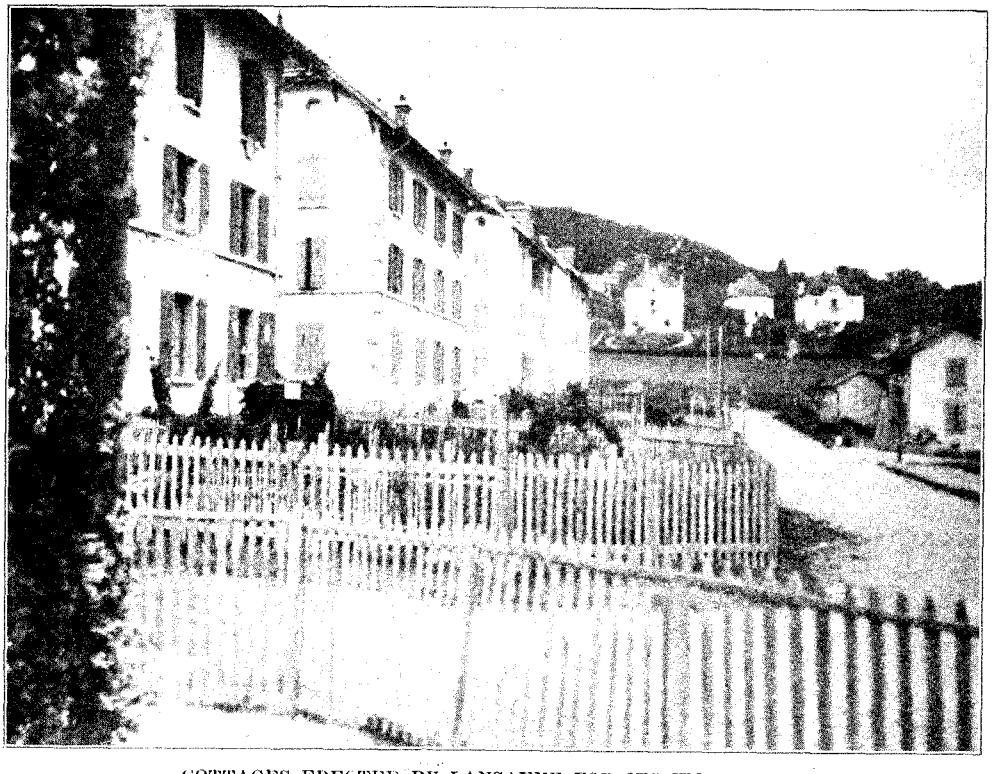
Certain areas must remain free from all building.

In the northwestern section of the city only buildings two stories in height and factories may be erected for the present—but these regulations may be changed later.

Facts and Building Regulations in European Cities.

In most European cities the laws regulating the height of buildings are based on street width, and the maximum height permitted is in almost every case under 100 feet.

London (population 7,010,172): Maximum, except by special consent of London county council, 80 feet; in streets less than 50 feet wide no building to be higher than the width of the street.



COTTAGES ERECTED BY LANSAUNE FOR ITS EMPLOYEES.

Paris (population 2,714,068): Maximum 91 feet; further restrictions in streets less than 65 feet wide.

Berlin (population 2,033,900): Maximum generally 50 feet; in streets to be built on but one side, 60 feet; except in special cases the height may not exceed street width.

Vienna (population 1,674,957): Maximum 82 feet; dwellings, maximum 82 feet, and not more than 5½ stories, floor of top story not to be more than 65.6 feet above the street level; additional towers,

studios, etc., allowed on streets over 60 feet wide, if they do not affect sunlight.

St. Petersburg (population 1,534,000); Maximum six stories, a proportionate restriction in narrower streets.

Hamburg (population 872,028): Maximum 99 feet; ratio, street width plus 20 feet.

Glasgow (population 809,986): Maximum, except with special consent of corporation, 100 feet; ratio 1½ times street width.

Manchester (population 631,185): Maximum 90 feet; in ordinary streets, 65 feet; in narrow streets, 2½ times street width.

Brussels (population 598,599): Maximum 69.3 feet; on streets less than 49.5 feet wide the permitted height is less.

Madrid (population 538,835): Maximum, except on one wide boulevard, six stories.

Marseilles (population 491,161): Maximum 81.3 feet; ratio varies, but is never more than twice the street width.

Rome (population 462,783): Maximum 80 feet; ratio 1½ times the street width.

Lyons (population 459,099): Maximum 60 feet and four stories; further restrictions in narrower streets.

Edinburgh (population 316,479): Maximum 60 feet; ratio 1¼ or less.

Dublin (population 290,638): Ratio except by special consent of corporation, the street width.

Florence (population 134,992): Maximum 98.42 feet; on narrower streets 86.61 feet.

B—America.

No large American city has as yet adopted a comprehensive scheme for its development along economic, æsthetic and hygienic lines. Several cities have worked out more or less definite schemes, but the public has not been trained to demand such farseeing outlook and plan for the city as a whole as is required in sections of the city. Public improvements, in the main, have been put in on the piecemeal and unrelated scheme, and after the city has paid the price of continued and needless speculation in land.

New York City has had several plans at different periods for the whole city of Manhattan and it suffers still from the system of triangulation of streets which has given the borough what has been called a "orthopedic corset" arrangement. Each Borough President is required by law to make a map of his borough locating and laying out all parks, streets, bridges and tunnels, approaches to bridges and tunnels, and to indicate the width and grade of such streets, and to continue and complete the system of triangulation. Up to the present day, however, only the Borough of Manhattan has a complete block tax map as required by the Charter. Half of The Bronx has a street system completed. Brooklyn, with nearly 50,000 acres, has a street system complete in nearly seven eights of the borough. Tens of thousands of acres in Queens have not been laid out with streets; similarly vast tracts in Richmond. The most comprehensive recent report was that of the New York City Improvement Commission created by ordinance of the Board of Aldermen on December 9th, 1903, which gave its report in January, 1907, in part as follows:

"A comprehensive plan for the city's growth must necessarily anticipate the future growth of the city for many years to come and be so framed as to meet all possible future requirements, so far at least as they can be reasonably forseen, and be so designed that all its parts shall be consistent, the one with the other, and form a homogeneous whole, in order that any improvements hereafter made may be entered upon with reference to the accomplishment of a definite purpose and along definite lines, and not, as has been too often the case, without reference to any general plan or regard to the bearing of the particular improvement proposed, or its connection with other improvements already made or which hereafter may be deemed advisable. Such a plan necessarily involves not only the laying out of parks, streets and highways, the location of city buildings, improvements of water fronts, etc., but also questions of more or less detail relating to pavements, sidewalks, appropriate house numbers, gas and electric fixtures, manner of indicating the streets, location of statues and monuments commemorating historical events, tree planting, and a countless number of other matters, all important and essential if New York is to take its place as one of the great metropolitan cities of the world. No plan that fails to take into consideration all the above subject matters can be deemed a comprehensive one."

There is some reference to the location of improvements of piers along the water front, but the most important items of report are those relating to the widths of streets and the opening of new ones, which would cost a total of nearly $85,000,000. A most significant recommendation from a social point of view is the endorsement of the scheme of "Excess Condemnation."

The proposed charter makes provision for a board to be known as the Advisory Board on a City Plan, to be appointed by the Mayor, to consist of such landscape architects, civil engineers and other persons as he may select, the members thereof to serve without salary and to act in conjunction with the Board of Estimate and Apportionment in devising, formulating and advocating a plan or plans for the comprehensive development and improvements of the streets, parks and public places. It also provides for the establishment of the Bureau of Public Improvement and Engineering, the head of which shall be an engineer, resident in the city, of at least ten years' professional experience, who shall be known as "City Engineer."

The Board of Estimate and Apportionment are also given the right to devise and formulate a plan for the comprehensive development and improvement of all parks and streets under the control of the Park Board, so that as far as possible each borough shall contain a connected and continuous park system.

The Department of Docks and Ferries, however, is given the right to regulate all water front property within the city not owned or possessed by the city and to make proper disposal of the river and harbor frontage. There is, unfortunately, no central co-ordinating City Planning body provided for by the proposed charter.

CHICAGO.

Chicago has not as yet devolved a definite plan, but a study is being made under the auspices of a Committee of the Commercial Club of Chicago for the development of the lake front and sections of the city, taking in certain features of development, within a radius of about thirty miles. In the main, the proposal will necessitate enormous expenditure for improvements and public buildings which will probably cost the taxpayers about a quarter of a billion dollars, and with the exception of the widening of streets, the economic features of a city plan have been largely ignored and the æsthetic predominate. On the other hand, the District Sanitary Commission and the Chicago Harbor Com-

mission have been making extensive investigations relative to the development of a proper system of drainage for the city and of the harbor facilities, though the work of these and similar commissions needs to be co-ordinated.

PHILADELPHIA.

The first city plan of Philadelphia was prepared by or under the direction of its founder, William Penn, and the original city, covering about two square miles, was laid out in accordance therewith in 1682 by Thomas Holme, Surveyor General of the Province of Pennsylvania. This plan provided a rectangular system of streets and was probably the origin of similar systems in other cities now known as the "checker-board" or "gridiron" system. A description of this plan, ascribed to Thomas Holme, says "The City consists of a large Front street on each river and a High street near the middle, from river to river, of one hundred feet broad; and a Broad street in the middle, from side to side, of like breadth. In the centre of the city is a square of ten acres, at each angle to build houses for public affairs. There is also in each quarter of the city a square of eight acres, to be for like purposes, as Moorfield's, in London; and eight streets, besides the High street, that run from river to river, or from Front to Front; and twenty streets, besides the Broad street and two Front streets, that run across the city from side to side; all these streets are fifty feet broad. Some of the streets laid out by Penn's Surveyors has since been widened, but most of them remain of the width and location originally planned.

The districts and boroughs which grew up around the city during the latter part of the eighteenth and the early part of the nineteenth centuries also had city plans made under the direction of the Commissioners. A plan of the city made by the direction of Ordinances of Councils between 1804 and 1809 shows in detail the public squares or parks and the location, width, grades, drainage and other features of the public streets.

The Act of Assembly of February 2, 1854, consolidating the city and adjacent communities and making the city and county, covering 129 square miles, co-extensive, and certain acts supplementary thereto, created a Board of Surveyors for the City and provides that "It shall be the duty of councils, under the supervision of the President of said Board, to cause to be completed by the District Surveyors from time to time, a survey and plans of the city plot not already sur-

veyed, one copy of which plans shall be filed in the office of said Board, and the other in the office of the proper District Surveyor, and in like manner existing plans may be revised and altered."

The Philadelphia Park Association has also developed a plan for the parks of the city. There has not been, however, any extension beyond the usual method of planning, and the development of the docks has been hampered by the fact that they are owned by the railroads which are very slow in taking any initiative toward their improvement.

A recent investigation of housing conditions show some of the worst sanitary conditions, but the organization of a city department to inspect tenements is most promising.

ST. LOUIS.

St. Louis has developed an extremely interesting scheme for its development under the auspices of the Civic League of St. Louis. The problems to be studied as noted by the League indicate their comprehension of a feasible city plan and are as follows:

(A) A group plan for municipal buildings.

(B) An inner and outer park system.

(C) Civic centers—the grouping of small parks and playgrounds, public baths, branch libraries, schools, model tenements, police stations, fire engine houses, and other public and quasi-public institutions.

(D) Street improvements—main thoroughfares, river-front improvements, removal of wires and poles, street paving, tree planting, public conveniences, drinking fountains, monuments and other street embellishments.

(E) A Municipal Art Commission, which should have general supervision over the designs for public buildings and all works of art to be erected in St. Louis.

(F) Legislation necessary to carry into effect the plans as outlined.

It is expected that the plans contemplated which will be carried out

within the next few years will involve the expenditure of $25,000,000 of public revenue. St. Louis illustrates, as few other American cities of its size, the need for a comprehensive City Plan. Within a radius of 500 miles, lives a population of nearly 30,000,000, a little over one-third of the population of the entire country, and it is competing vigorously with Chicago and other Western cities to secure the location of factories, while the completion of the drainage canal will make it practically a seaport.

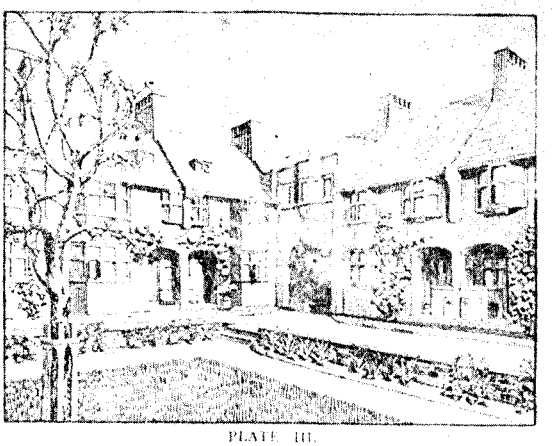


PLATE III.

View in Quadrangle No. 2, Plate I. N.B.—The fronts of some cottages and the backs of others are shown.

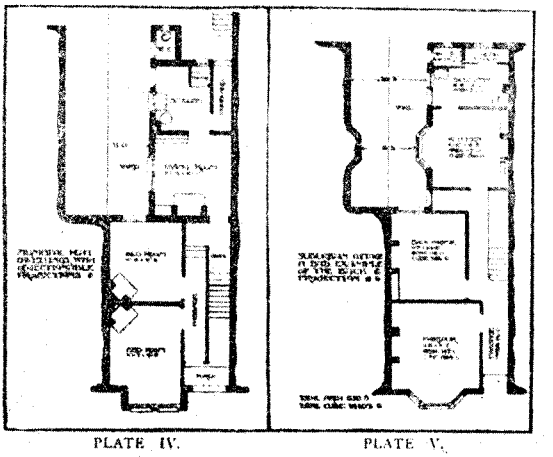
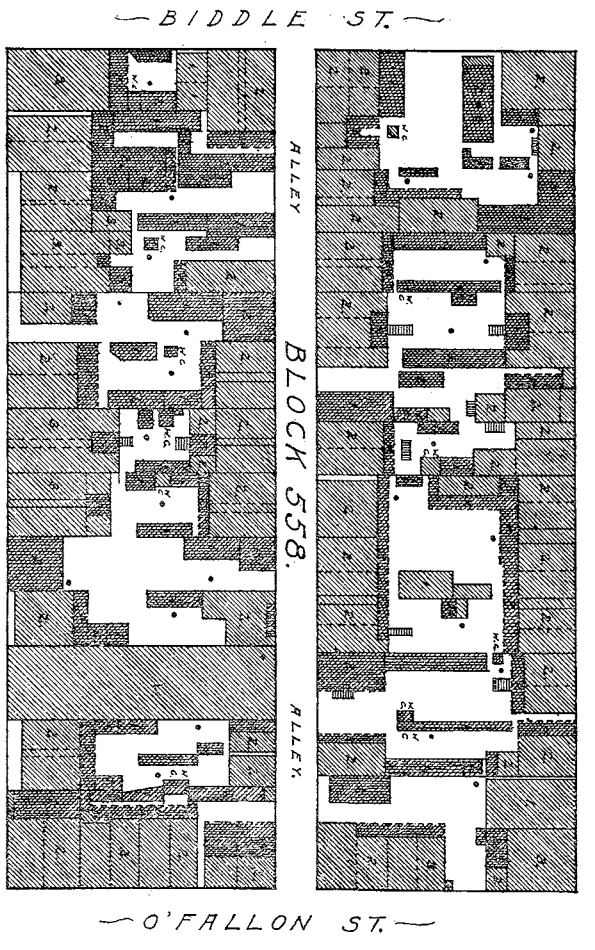


PLATE IV. PLATE V.

SUGGESTED COTTAGES FOR WORKINGMEN IN ENGLAND.—WOULD YOU PREFER TO LIVE IN A COTTAGE LIKE THIS OR IN A TENEMENT?

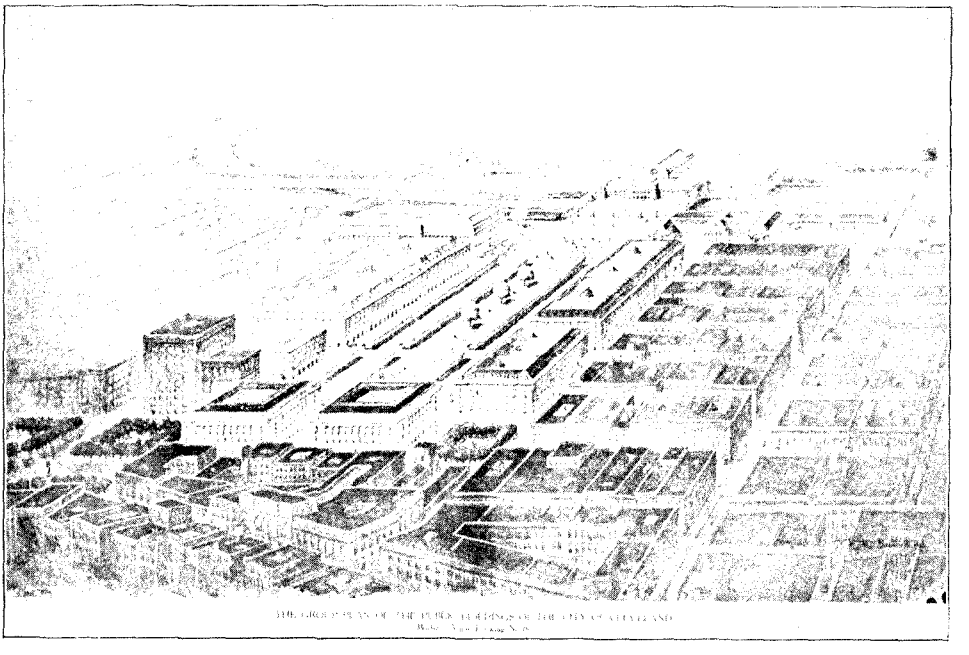


Plan of One Entire Block, Showing Kind of Building, Number of Stories, and Location of Water Supply.

A recent report on housing conditions indicates the need for a thoroughgoing remodelling of the housing laws with relation to the normal development not only of the city, but of the citizens. The report covered the district of several acres and a number of blocks, and is a tremedous indictment of municipal neglect and indicative of the need for a comprehensive City Plan. About 50 per cent of the houses in the negro district, it states, should be declared unfit for habitation due to extreme dilapidation. There are few large tements, but the following report chronicles progress toward congestion: "In this district there are 18 lots covered 100 per cent by one or more buildings. One solid four-story structure crowded with Italians covers by itself 100 per cent of the lot on which it stands, and one-third of all the dwellings in this district, under the most liberal regulation, should not be permitted to exist."

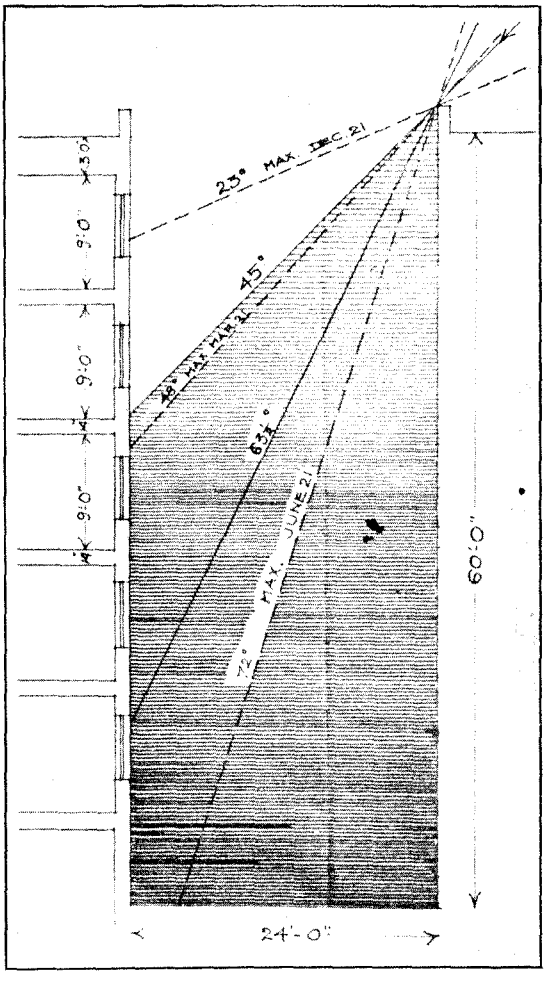
CLEVELAND.

Cleveland has also adopted the group plan for the public buildings of the city in pursuance of a report made to the Mayor and Board



PUZZLE: HOW ARE THE DIRECT RAYS OF SUNSHINE TO GET TO THE LOWEST STORIES IN THE COURTS.

of Public Service by a Committee composed of Messrs. Daniel H. Burnham, John M. Carrere and Arnold W. Brunner, who have been given absolute power over the location of all public buildings. Their plan includes the laying out of a mall headed by a United States Post Office, a Custom House and a Court House, a new County Building



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 23° 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.

and a new City Hall. The estimated expense of the whole project probably will be in the vicinity of $20,000,000 to $30,000,000, of which the County will pay $12,000,000 to $15,000,000.

The Chamber of Commerce took the leading part in securing the legislation by which the joint commission of three expert architects was treated. It is significant that the Chamber of Commerce has also inaugurated a study of housing conditions, and their investigations show the prevalence of most unsanitary tenements which are aping the evils of New York City, and, in the words of the report of the Commission "are so numerous as to indicate the ultimate goal to which we are fast moving." Nearly 40 per cent. of the rooms in many blocks were found to be gloomy or dark and the overcrowding of blocks and individual lots was found atrocious as indicated in the plan given later on. It is evident that Cleveland appreciates the need for a comprehensive city plan not yet adopted, although its need is thoroughly appreciated.

BOSTON.

Boston has had several Commissions dealing with various aspects of City Planning, but has not until recently perfected a plan for its development. The statute under which the Commission was approved June 15th, 1907, is as follows: "RESOLVED, That the governor, by and with the advice and consent of the council shall appoint three persons, and the mayor of the city of Boston shall appoint two persons, who shall together constitute a commission of five for the purposes hereinafter named. The said appointees shall serve without compensation, and shall be persons of recognized qualifications and large experience in respect to one or more of the following subjects or professions, namely, finance, commerce, industry, transportation, real estate, architecture, engineering, civic administration and law. Said commission shall investigate and report as to the advisability of any public needs in the said district which in its opinion will tend to the convenience of the people, the development of local business, the beautifying of the district, or the improvement of the same as a place of residence. It shall consider the establishment of a systematic method of internal communication by highways, the control or direction of traffic and transportation, and the location of such docks and terminals as the interests of the district may demand. It shall recommend the method of executing and paying for such improvements as it may suggest, and shall make such maps, plans and estimates of cost as may be

needed for its investigation, or for the proper presentation of its conclusions and may employ such assistants therefor as it deems necessary. The Commission may expend such sums of money, not exceeding twenty-five thousand dollars, for clerical, expert and other assistance, and for other incidental expenses, as it deems necessary. The Commission shall make its final report to the Governor and to the Mayor of Boston on or before the first day of December, nineteen hundred and eight, and its powers and duties shall then terminate. The Governor shall transmit the report to the general court of the year nineteen hundred and nine. The expenses incurred under the provisions of this act shall be assessed upon the metropolitan parks district."

The Commission was secured as a result of a movement which began several years ago, since it was felt to be desirable to have an organization which would look after municipal improvements, embellishments, etc., which till that time had gone largely by default. The Commission has recently made a report, which to some extent, is final. Its chief recommendations are with reference to the following subjects: Harbor development, terminal problems, belt lines, dock systems, passenger terminals and financial considerations. The Commission, however, does not reach any very definite conclusions, and suggests that it will be necessary, in order to reach a satisfactory conclusion, to have further study and recommends that "the work of formulating such a plan for ultimate presentation to the Legislature be placed in charge of a commission to be appointed by the governor and council. with no other duty than the working out of the great transportation problem, and that no reasonable expense be spared to have the studies of that commission so final and complete as to deserve and secure the fullest public approval."

The commission discussed also the development of transit facilities by the construction of artificial water ways, the importance of the fullest utilization of areas and the possibility of a carefully organized central authority.

In his report Mr. Desmond Fitzgerald outlined the comprehensive system for the port of Boston, one of the features being an immense free port.

Baltimore.

In 1902 the Municipal Art Society of Baltimore awakened the interest of the community to the need for the development of the city

and had a report prepared by landscape architects. They divided their report in four parts, as follows:

The need of additional parks and the general considerations controlling their extent and distribution deduced from the experience of other cities.

The specific purposes for which parks are needed and the special requirements of each.

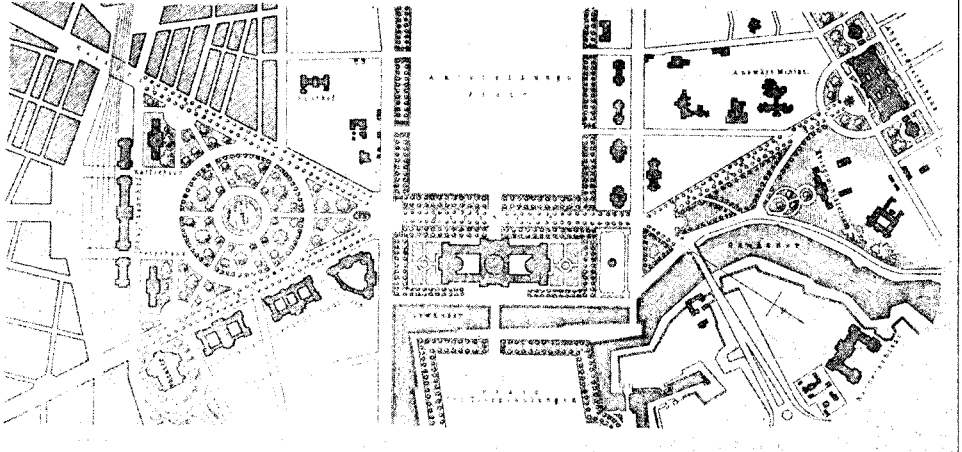
The local conditions controlling the selection of park areas for various purposes in Baltimore.

New park areas recommended.

The contract for the plan was for "a careful general examination of the suburban portion of the City of Baltimore and such adjacent parts of the county as may seem to have a close organic connection with it, and for a report stating their advice as to the treatment of that area in respect to the reservation of parks, spaces and main lines of communication and the general treatment of the same, accompanied by local plans upon a small scale but sufficiently definite to serve as a basis for approximate estimates of area and cost of land."

It is interesting to note that the Municipal Art Society states that because of the slow growth of land values in Baltimore, they are not prepared to express an opinion on the question of the advisability of

Fig. 585.



Stadtteil aus Tokio.

TOKIO'S CITY PLANNING.

acquiring more land than is needed for parking purposes, in order that the city may get the maximum of unearned income.

The study of the selection of park areas and the reservation of public grounds is interesting because the lines of city transportation, the establishment of building lines, and the principles of city subdivisions are strongly emphasized as an integral part of the development of the City.

COLUMBUS.

The agitation for a "Better and Greater Columbus" was begun several years ago by the Columbus Board of Trade and a council in 1904 appointed a commission of eighteen in pursuance of the resolution which declared that: Whereas, Columbus is greatly in need of larger parks and park systems; and Whereas, In view of the rapid growth of this city it seems wise and proper to prepare plans for a general park system, benefiting all sections of this city, and to which plan the city shall work as finances may permit, and Whereas: Believing that enlarged park facilities will greatly benefit the people of Columbus, be it therefore Resolved, That this City Council requests the Mayor to appoint a Commission to thoroughly canvass the project.

The chief emphasis of the Commission has been placed upon the establishment of a civic center, approaches to the Capital and uniting the railroads and railways, although emphasis has been laid as well upon the need for a subway for wires and pipes and the rational location of schools. The recommendations of the Commission as to the location of the public schools are so important that they are given in full.

(1) That the School Board in its selection of new sites should be on the watch for opportunities to improve the city plan.

(2) That in outlying districts it is often unwise to build large primary schools, since population is liable to shift and leave for maintenance a larger building than is actually required; and that, as children attending primary schools should not be compelled to use the cars, many small schools are better for them than are a few large ones.

(3) That the area of the school site should be proportioned to the number of pupils to be accommodated, with a care similar to that which determines the size of a classroom. Every pupil is entitled to a

certain number of feet of play space. As the ultimate number of pupils cannot be accurately foreseen in outlying districts, the allotment there should be made generous while the land is still cheap, thus providing for an enlargement, if necessary, of the school building, as well as an increase in the number of pupils, without encroaching on the minimum area which each should have.

(4) That no schoolhouse should be nearer than fifty feet to any boundary of its plat, and as one passes outward from the center of the city this limit might as well be increased, zone by zone.

(5) That school sites should be developed in connection with open spaces, parks and parkways, which they should adjoin when possible.

(6) That the law which in some cities prohibits the opening of a saloon or a barroom within several hundred feet of a public school is an excellent one.

(7) That desirable sites for outlying schools would be found in those centers for the distribution of traffic on the suburban belt. Here, as on any noisy street in front of a school, the School Board might properly ask the Board of Public Service to lay down a noiseless pavement.

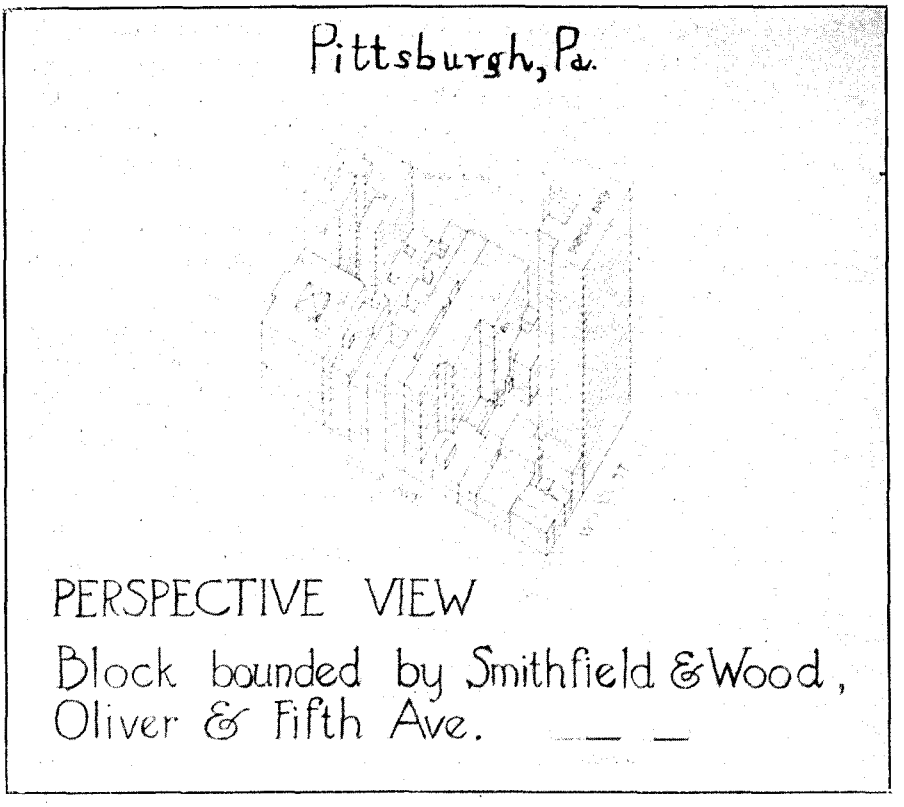
Buffalo.

Plans have been devised by several architects for the development of the City but no definite proposition has as yet been made for the adoption of any of the plans. Buffalo is in a unique position, due to the fact that various railroads own such enormous proportions of the area of the land in the city, practically usurping the waterfront.

A City Planning Commission, however, is being advocated in Buffalo in a bill which will be introduced probably into the next session of the Legislature.

Pittsburgh.

The Pittsburgh Chapter of the American Institute of Architects has prepared a plan for the grouping of the city public buildings but they have not yet been formally adopted.



HOW PITTSBURGH IS APING MANHATTAN'S SKYSCRAPERS.

CINCINNATI.

By an ordinance of the City Council of June, 1906, five citizens were appointed to serve without compensation on the new Park Commission, for the purpose of devising plans and systems for a contemplated extension of the Park systems. Their report includes several important suggestions.

"Cincinnati has still the opportunity to transform itself into an attractive city unrivaled among American communities, yet it cannot defer this great work longer without losing much that is still good, and every year's delay means added cost and largely reduced areas of available lands." The scope of their work is noted in the following statement:

"In preparing the plan for a comprehensive system of parks and parkways for this city, the following ideas have received primary consideration.

To provide adequate recreation grounds, accessible to all the principal areas of population, now existing and most probable in the immediate expansion of the city.

To relieve unsightly conditions resulting from the neglected and untenable property which exists throughout the limits of the built-up sections, by reasons of the natural rugged formation of the land, and which will result in some of the most attractive park properties that have been planned.

To preserve as far as possible the unrivaled natural scenery and delightful views found in every portion of the outlying districts.

To connect into a comprehensive system all of the park properties thus selected together with those now existing, for both easy access into each property and for pleasing communication from one to another.

The result is a plan forming a system of parks and parkways connecting the existing park properties, and providing for a number of new park lands and their connections."

A most important suggestion is that showing the probable lines of industrial development of the city in relation to the existing parks and retail business property.

GARDEN CITIES.

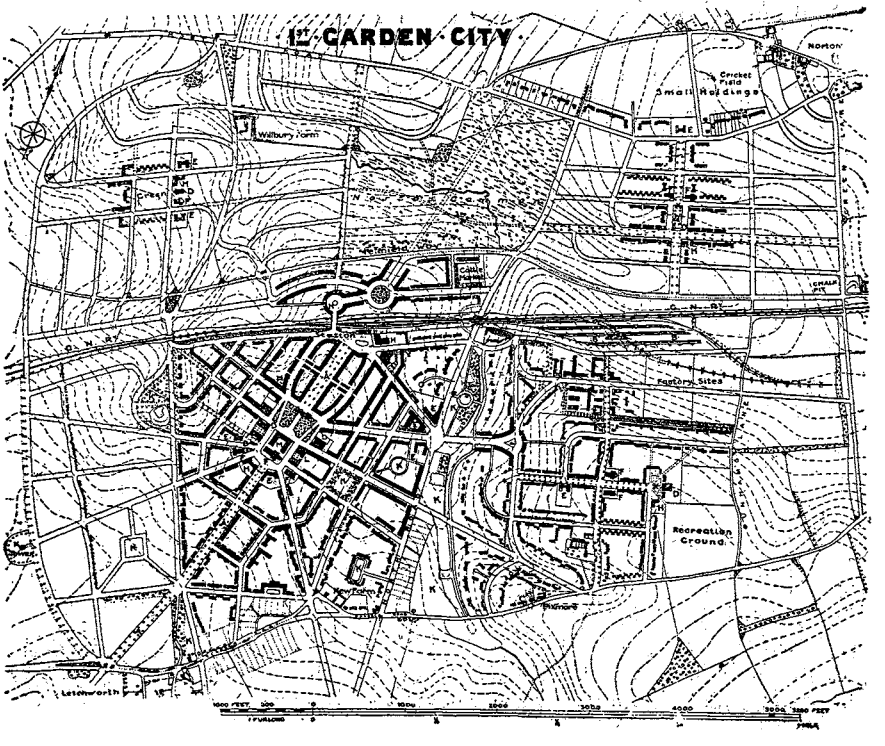
LETCHWORTH.

Letchworth, in the County of Herts, about 35 miles from London, is the shape of an egg, and measures about three miles from north to south, and about two and a half miles from east to west. It is 3,800 acres in extent, or about six times the size of the old walled-in City of London. The land was purchased by the First Garden City, Ltd., in 1903 from a variety of owners, and welded into one compact estate with a very definite object—the building of a new industrial, residential and agricultural town in which some of the glaring evils of the city life and of rural life might be avoided—a city in which the public well-being could be more effectually secured, while at the same time private interests and private initiative should be not only not interfered with, but given larger scope and a freer field, *i. e.*, to combine in one enterprise the advantages of town and of country. The outlying agricultural area will be gradually made more attractive and profitable to the rural inhabitants by the coming to the central area of a considerable population (30,000 is to be about the ultimate number),

for it will give them a market close to their doors, with many new social opportunities and means of enjoyment. Several large industries have been established in the town, which will give direct employment to fully 15,000 persons, and indirect employment to many more. The chief factories are: The Heatly-Gresham Engineering Co., Ltd.; Garden City Press, Ltd., printers and publishers; W. H. Smith & Son, bookbinding works; J. M. Dent & Co., publishers, etc.; Idris & Co., mineral water manufacturers; Arden Press, Ltd., printers and publishers.

One of the chief objects of the Garden City is to show by a living example how measures may be taken in the new towns of which Garden City is the first, to prevent, or, at least, to greatly diminish, the possibility of overcrowding. The most effective of these is the limitation of the number of dwelling-houses to be erected upon the land. In Garden City in no case have more than twelve cottages been erected upon an acre of land; and when it is remembered that in large towns

PLAN OF ESTATE.

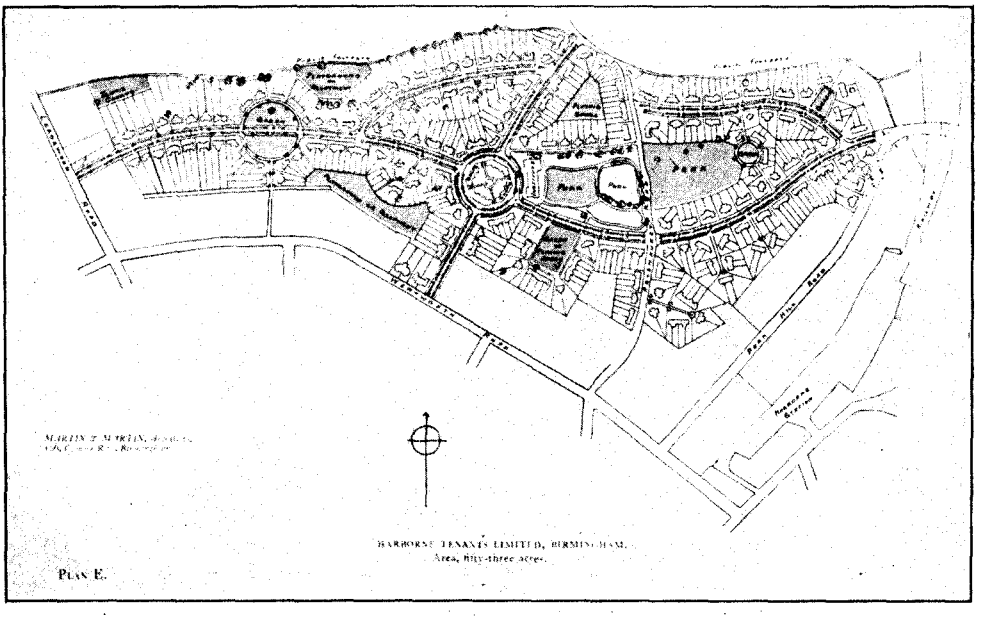


the number frequently exceeds sixty, it will be seen what an enormous step forward is thus taken.

There is a belt of land reserved around the town, and it will be forever impossible for houses to be too thickly crowded upon the land, while all roads are of ample width—Main Avenue, the principal one, is to be 120 feet wide—and are, as constructed, planted with trees and shrubs; while various open spaces are reserved, as, for instance, sixty acres near the station, "Norton Common," while sites are reserved for a golf course and park at Letchworth, and other suitable sites are set apart and are being prepared for cricket and football fields, tennis courts, etc.

Harborne Tenants, Ltd.

Fifty-three acres of land were purchased at an average price of rather less than 300 pounds an acre. The land was carefully and economically planned out. The average number of houses on the whole estate works out at ten to an acre. The garden of each house is quite small, because many tenants object to being bothered with a large plot of ground. For those who want more garden land, allotments are



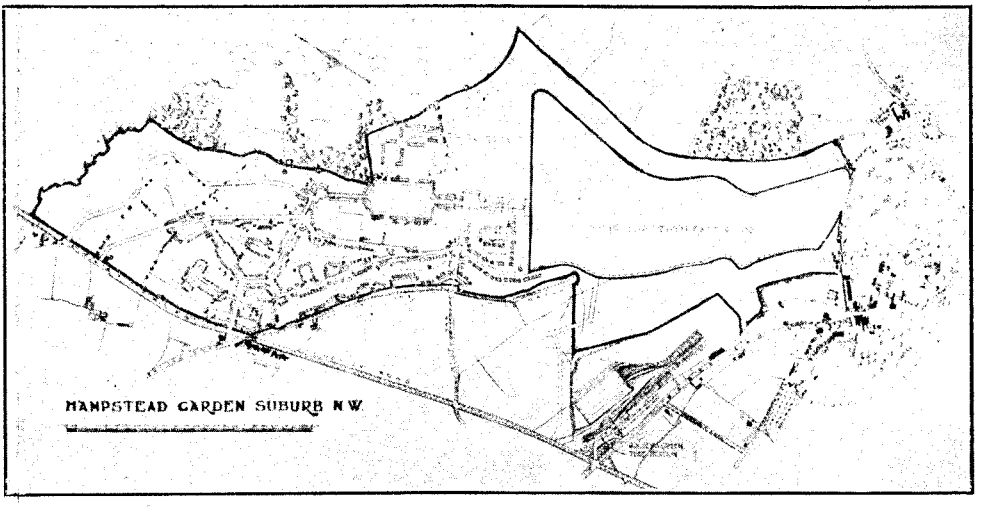
Plan E.

WHAT IS GOOD FOR ENGLISHMEN IS GOOD FOR AMERICANS.

provided at the rate of 10 pounds per acre. Numerous small open spaces, as well as good-sized recreation grounds, are provided on the estate. The houses on either side of the roads are 72 feet apart, and between them runs a 16-foot roadway, bordered with turf margins and trees and then gravel footpaths, which abut on the front gardens of the houses. This arrangement gives more than the usual distance between the houses, and that means more light and air to each house; one-half that of ordinary bye-law roads, with the great advantage that tenants have something cheerful to look out upon, instead of the usual "dreary deserts of macadam."

The houses are built in blocks of two, four, six and eight, according to circumstances and the positions of the houses. The total rents, including rates, etc., vary from $1.40 to $3.00 a week. Building was begun on January 1st, 1908. There are now nearly one hundred houses completed, and another thirty or so on the way. The applications for the houses are 50% in excess of the number of houses available. The capital required is raised by means of 4% loan stock, the shares limited to a 5% dividend, in addition to which, as houses are built, the Public Works Loan Commissioners, an English Government Department, lend at 3½%, half the money spent on construction, which loan has to be repaid within a period of thirty years.

EFFICIENT HOUSING.



GOOD COTTAGES AND GARDENS AT RENTS WITHIN TWENTY MINUTES RIDE OF CHARING CROSS.

Hampstead Tenants, Ltd.

Two hundred and forty acres of land, within 20 minutes of Charing Cross, have been reserved for homes for working people. Instead of crowding 30 to 40 houses on an acre, no acre will have more than 12 houses upon it. Great spaces of land are to be left uncovered, and each house has a large proportion of land with provision for garden, etc.

The Hampstead Tenants, Ltd., is a co-partnership society. Each tenant is invited and expected to become a member. The minimum subscription for shares is 5 pounds, and holders are obliged gradually to increase the holdings by small installments during tenancy.

It is proposed to lay out the estate as a "Garden Suburb." The ideas indicated by this phrase cannot perhaps be better explained than in the following extracts from a letter issued by the Committee of the Hampstead Garden Suburb Trust in July, 1905:

"We desire to do something to meet the housing problem by putting within the reach of the working people the opportunity of taking a cottage with a garden within a 4-cent fare of Central London, and at a moderate rent.

"Our aim is that the new suburb may be laid out as a whole on an orderly plan.

"We desire to promote a better understanding between the members of the classes who form our nation. Our object, therefore, is not merely to provide houses for the industrial classes. We propose that some of the beautiful sites round the Heath should be let to wealthy persons who can afford to pay a large sum for their land and to have extensive gardens.

"We aim at preserving natural beauty. Our object is so to lay out the ground that every tree may be kept, hedge rows duly considered, and the foreground of the distant view preserved, if not as open fields, yet as a gardened district, the building kept in harmony with the surroundings."

Each tenant member's share of the profit is credited to him in shares instead of being paid to him in cash. A tenant member, if he leaves the neighborhood, can transfer shares with less cost than a house, and if he continues to hold them, will receive interest in the ordinary way. The unearned increment, as it is termed, under this arrangement, goes to the tenant members of the society in the shape of increased dividends in their rentals.

The society is managed by a committee elected by the shareholders on the lines usually adopted by industrial and provident societies. It must be noted, however, that, despite the desire of the organization of the Hampstead Tenants, Ltd., to secure a large proportion of work-

ing people, they have succeeded chiefly in getting men and women who are in professional work, such as teachers, etc., or well-paid artisans. This probably, however, is only a temporary condition, since the rents place the home clearly within the reach of the ordinary workingman, and there would be a gradual process of education tending to bring other classes to the neighborhood.

Two of the most striking examples of successful Garden Cities which have been in operation for any period of years are Port Sunlight, the home of Port Sunlight soap, across the Mersey from Liverpool, and Bournville, four miles from Birmingham, England.

Port Sunlight.

"Prosperity Sharing" Mr. William H. Lever, the chairman of the company whose soap products are known throughout the world, calls the system by which this company has attempted to raise the standards of living and working of the people whom they employ. It is particularly noticeable that this effort to secure good living conditions has its basis in the desire to increase the efficiency of the workers, and not chiefly in any philanthropic or emotional interest. There are about 600 houses in the four miles of roadways which they border, widening out at junctures into open space. Mr. Lever believes that the cottage home is the unit of the nation, and the more the comfort and happiness of home life is improved the more the standard of efficiency for the whole nation is raised. There is a density of only 50 to 60 to the acre at the maximum. Many of the families, instead of having in connection with their house a garden, have a share in the allotment sections, where they may raise flowers and vegetables. For a nominal charge a generous amount of land is rented to the workers.

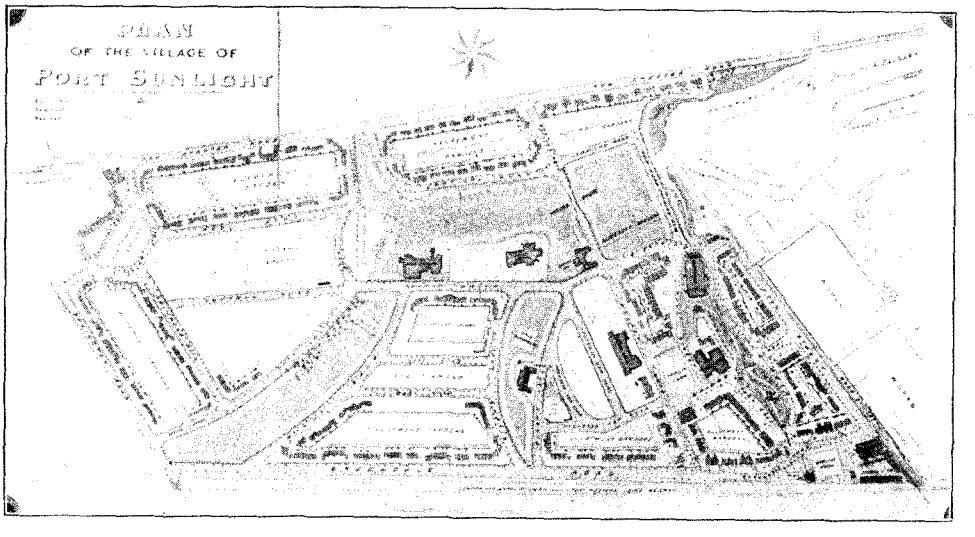
The effect of good home surroundings on the physique of the children is evidenced by an investigation conducted some two years ago of boys living in Liverpool and Port Sunlight. The boys of Port Sunlight were heavier and weighed more than the boys of equal age in Liverpool.

The cottages are built chiefly in blocks, usually from two to seven houses in a block, and no two blocks are alike. Every cottage has a bath and most of them contain a bedroom, living room, scullery and bathroom, and others have a parlor and additional bedrooms.

Mr. Lever, when asked recently what saving there was in moving his factory into suburban areas, said: "First, the enormous reduction in the value of land. Land in the city suitable for works often costs

$4.80 to $24.00 per square yard; in the country, from 12 cents to 24 cents per square yard, and the cost of building is extremely light, since the tendency in towns is to pile the buildings many stories high and the walls have to be thicker. With cheap land buildings are spread over the surface. They are better lighted, less liable to fire, more economical and save the cost of elevators." Mr. Lever gives the following percentage, indicating the use to which land is put in Port Sunlight:

Area covered by buildings	9%
Area covered by streets and front gardens	36%
Area covered by allotments and back yards	28%
Area covered by burial ground and churchyard	1%
Area covered by parks	2%
Area covered by dells and land not built upon	24%
	100%



Bournville.

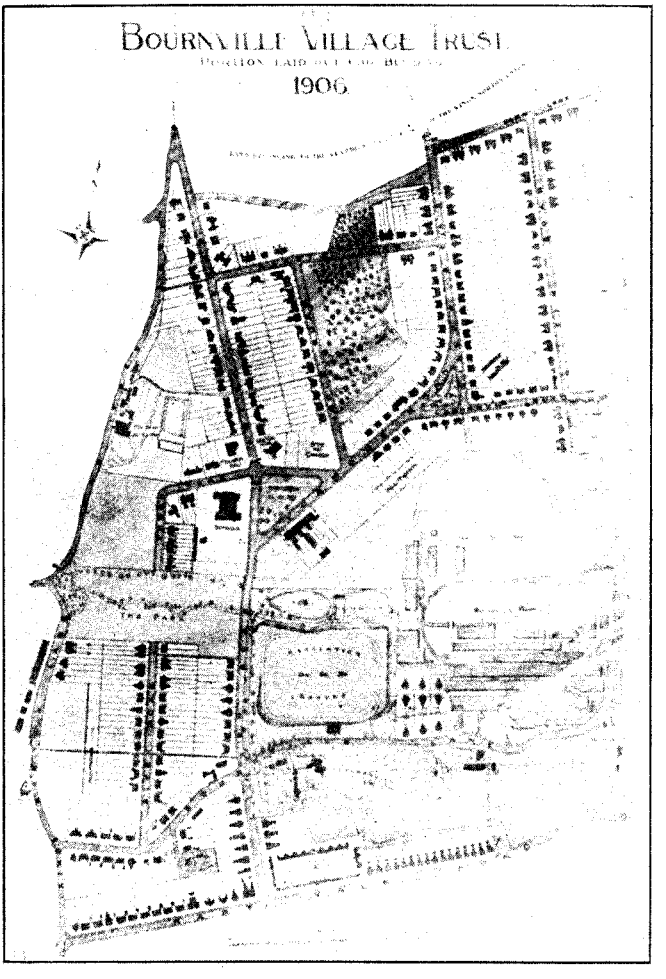
Fifty miles from Port Sunlight, and just out of the City of Birmingham, is the village of Bournville. The Bournville Village Trust owes its existence to Mr. George Cadbury, of the Manor House, North-

field. His object has been clearly set forth as the desire to alleviate the evils which arise from the insanitary accommodations supplied to the large number of working classes and to secure to working classes in factories some of the advantages of outdoor village life with opportunities for the natural and healthful occupation of cultivating the soil. The object is declared, further, to be the amelioration of the condition of the working class and laboring population in and around Birmingham, and elsewhere in Great Britain, by the provision of improved dwellings, with gardens and open spaces to be enjoyed therewith. Some of the houses were built in 1879, but the bulk of the village dates from 1895.

Some of his principles were that there must be no overcrowding, either of cottages on the land, or of people in the cottages. Each house must have a good-sized garden; no building must occupy more than about one-quarter of the site on which it is erected; the roads must be wide and tree-bordered, and about one-tenth of the land, in addition to roads and gardens, must be reserved for parks and recreation grounds. On these lines the village of Bournville was rapidly brought into existence, nearly 200 houses being built in one year. At present the estate is, in fact, occupied in the following percentages:

Open spaces	10.0%
Factory	6.6%
Houses	8.0%
Roads	12.0%
Gardens	63.4%
	100%

At first Mr. Cadbury thought of selling land and cottages outright and so creating classes of small freeholders, but he found that this would be open to many objections, particularly that people might be admitted to the community who would not be in harmony with the wishes and motives, so that plan was abandoned and houses and land were sold on leases of 999 years. Every effort is made to assist those who want to acquire property. Mortgages are granted and 3% charged to those who pay less than half the cost of the house, and 2½% to those who pay half or more. About 140 cottages have been sold in this way. They have now decided to lease building sites for 99 years. Bournville differs a little from Port Sunlight, in that a large proportion of the residents work outside of the village, more than half being



OPEN SPACES	10.0%
FACTORY	6.6%
HOUSES	8.0%
ROADS	12.0%
GARDENS	63.4%
	100%

employed in the neighboring manufacturing villages, or in Birmingham, which is easily accessible by rail, electric car or bicycle.

The estate is held by a trust, Mr. Cadbury surrendering all private interest in it, both as regards capital and revenue. The income, whether from house or farm rents, is now administered by the Trustees, and the Trust Deed enacts that, after making full provision for repairs and maintenance, the surplus must be employed in building

similar houses. The total value presented to the nation is estimated at $1,093,500.00, the area being 502 acres.

There is a clause that no factories shall occupy in area more than one-fifteenth part of the total area of the estate on which they are built.

The same effort, as at Port Sunlight, has been made to avoid monotony by introducing great variety of treatment. There are about six houses to the acre, inclusive of roads. The majority of the houses have two sitting rooms, a kitchen or scullery, three bedrooms and the usual conveniences. There are others with one large living room, instead of two smaller ones, and a few with only two bedrooms. A unique feature of the cottages is the bathrooms, in which the bath is either sunk in the kitchen floor and covered with a trap door, or set at the side of the room, and fitted with a lid, so as to form a table, or arranged so as to work on a hinge and shut up into a cabinet. The cheapest houses are let at $1.08 a week, and range from that up to $1.92 a week, including shops.

The average garden space allotted to each house is 1,800 square feet, and these yards constitute the unique characteristic of Bournville, The gardens are laid out by the estate gardeners when the houses are built, so that when the tenant takes a cottage he finds the garden already prepared, instead of having to begin by breaking up uncultivated land. Lines of fruit trees—pear, apple, plum—are planted, and these, besides yielding a good supply of fruit, form a pleasant screen between the gardens. The tenants usually take a keen interest in their gardens and cultivate them with success. The allotments are eagerly sought after not only by the Bournville inhabitants, but by various villages. There are two gardening classes for boys and young men, the pupils taking a perpetual interest in their work.

Most of the roads are 42 feet wide, and the houses are set back at least 20 feet from the roads, so that there is a space of 82 feet from house front to house front.

In addition to the numerous gardens, there are ample open spaces and playgrounds for children, about 16 acres having been set out as playgrounds for children out of the 118 acres laid out for building purposes.

Bathhouses, gymnasiums, recreation and civic centers are started, and every possible want of the people has been appreciated by the founder.

The demand for the homes is great and tenants rarely leave, while new houses are usually let long before they are completed.

CHAPTER VII.

THE TECHNICAL PHASES OF CITY PLANNING.

In attempting to consider the question of city planning upon the technical side, we must first decide what the features are which effect our problem. To do this it will be necessary to analyze the various buildings which constitute a city and to decide what their respective uses are. Then we must study their relation one to another and also their probable direction of growth. Mr. Richard M. Hurd in his recent book called "The Principles of City Land Values" divides all classes of buildings into Business buildings, Residence buildings and Public or Semi-Public buildings. I believe that for a practical working basis for our purpose we may divide them a little differently, that is to say; buildings in which we work, buildings in which we live and buildings which we use for recreation. In addition we must consider those for transit and transportation. Let us take up each of these classes in turn and search out the special characteristics of each type and class.

I.—BUSINESS.

Buildings in which we work may be subdivided as follows: Factories, warehouses, wholesale stores, retail stores, offices, banks, exchanges and insurance buildings, and government buildings.

Factories.

Factories are of three types, the loft building type, the open mill type and the foundry type.

Loft Building Type. This demands large, deep blocks in a city, with wide roadways for trucking. The streets are congested only early in the morning and late at night at a time when there is no teaming, so the sidewalks may be narrow. There must be big, open floor spaces artificially lighted, allowing at the same time for a good circulation of air. These must be near rapid transit lines on the main avenues. At the same time the rapid transit lines must not interfere with trucking. They must be near railroad yards and warehouses and water, if such exists. For the health of the city these factories must be smokeless.

OPEN MILL TYPE. This is better for the workers, for it is more open. There is more sunlight and air. It demands a large unbroken tract of land within walking distance of the homes of the workers. The buildings themselves are divided up into small units and spread apart to allow of plenty of light in all. They should be near other mills of a similar kind for ease of exchange of employees. They must be on a railway siding or water way with the possibility of the use of water for power or washing. The chimneys should be very tall and as far as possible, they should be to the leeward of the city, so that the smoke will not have to pass over the town.

FOUNDRY TYPE. These must be to the leeward of the city to allow smells and gases to escape without passing over the residence districts. They should border on a water way for transportation of heavy materials. They are one story high, very light and open. About them must be space for big storage yards. The homes of workers should be, if possible, to the windward.

WAREHOUSES.

These may be divided into three classes, general loft type, grain elevator type and storage warehouse type.

GENERAL LOFT TYPE. These must be near factories, railroad yards and water courses. They must not be very high as they demand exceptionally heavy construction. They must open on wide roadways with narrow sidewalks, as comparatively few people would use the latter. They are not necessarily near the residence sections.

GRAIN ELEVATOR TYPE. These must be on water ways or railway yards. They are high, close together with a certain space between for trucking purposes. The question of lighting does not have to be considered.

STORAGE WAREHOUSE TYPE. These will be scattered on the edges of the living sections, preferably between the latter and the business sections. The question of light does not need to be considered. The roadway should be wide.

WHOLESALE STORES.

These are of two types, those which will handle small goods of great variety and those which handle bulky goods of small variety.

The latter should be on the outskirts, in the neighborhood of waterways and railway yards on wide roadways. The former should be near the retail stores, on back streets, off the rapid transit lines. They demand in either case big open floor space of heavy construction. Light is of much more importance than in the case of the warehouses.

Retail Stores.

These are of five types. The department store, the high class shop, the specialty shop, the store for the sale of provisions and local trading, and the markets.

Department Stores. These should be near or on the meeting point of the railways and rapid transit lines. They should be on broad streets with wide side-walks. They should also face on a narrow street with a wide roadway to admit of teaming. They should have good light on all sides with plenty of chance for ample circulation of air. They should not be too high, as they will obstruct each other's light. The floors consist of big open spaces, usually built around large courts with skylights at the top.

IT IS PROPOSED TO BUILD ROUND SKYSCRAPERS WITH SMALL OPEN SPACES AS SHOWN IN THE ABOVE SKETCH, SO THAT THE INHABITANTS MAY HAVE A COMMON GAME GROUND AND ALSO SMALL PERSONALLY-CARED-FOR GARDENS.

ALL CAN BE TRAINED TO PREFER THIS TO BAND BOXES.

HIGH-CLASS SHOPS. These should be on a main avenue leading to the best residential section. This avenue should not be too broad to admit of easy crossing on foot. A north and south street is preferable, so that both sides will receive an equal amount of shade. They consist of many small frontages with offices and studios for professional men above. The blocks must not be too deep. There should be no rapid transit on or above the street, it being left clear for carriages and automobiles or auto-busses.

SPECIALTY SHOPS. These would be scattered among the department stores and high-class shops. Those of a particular kind would be grouped together. Their requirements are like those of the high-class shops.

STORES FOR PROVISIONS AND LOCAL TRADES. These are on the main avenues and wider streets of the residential sections. They are well scattered. The south side of east and west streets is particularly desirable for shade and also as this situation is the most undesirable for residential purposes. The streets should not be too broad to admit of easy crossing.

MARKETS. These should be near the traffic centers, in large open spaces bounded by wide streets. There should be other smaller markets, similar in other respects, in the tenement sections.

OFFICES.

These will be grouped together in the rapid transit converging center and will consist of the following subdivisions: Those for bankers, brokers, and lawyers, those for big corporations and industrial houses, those for engineers and architects, those for newspapers and periodicals.

BANKERS, BROKERS AND LAWYERS. These demand many small offices, single or in groups. For convenience they should be as near together as possible and therefore the buildings have to be high. On the other hand, height, and necessarily narrow streets decrease health and efficiency in as far as they cut off light and air. Therefore height and area covered by such buildings should be limited. Sidewalks should be wide, roadways narrow. Rapid transit stations should be frequent. In the largest cities all rapid transit should be underground.

CORPORATIONS AND INDUSTRIAL HOUSES. These demand large open space; otherwise they are like the above.

ENGINEERS AND ARCHITECTS. These need a maximum of light and therefore are at the tops of buildings. They require large space. They should be convenient to other offices of the district. Many architects are located over high-class shops.

NEWSPAPERS AND PERIODICALS. These should be on unencumbered wide side streets for trucking purposes. The front should be an open square space or small park to care for crowds on election or race days. They should be high for purposes of advertising and illumination. They should be central to railway stations and rapid transit.

FINANCE BUILDINGS.

These may be divided into three classes—Banks, Exchanges and Insurance buildings.

BANKS. National banks have their main houses in the heart of the central financial section on narrow streets. Branches will be scattered throughout the city among the stores and in the main streets of the residence sections.

Trust companies are like national banks in their requirements. Either of them conveniently fill in spaces between high buildings.

Savings banks will be uniformly scattered along the main avenues of the city.

EXCHANGES. These will be in the financial center. They require large plots of land. They will be comparatively low buildings and like national banks may fit in between high buildings.

INSURANCE BUILDINGS. Life insurance buildings demand large plots of ground often whole blocks. They should face on open squares or small parks or wide avenues; this for advertising purposes. All other insurance buildings are preferably in the heart of the financial district.

GOVERNMENT BUILDINGS.

These are National, State or City buildings. National buildings are Post-offices, Custom House, Assay Office and Sub-Treasury and Courts. State buildings are Capitols and courts. City buildings are City Halls and municipal buildings, courts and jails, police buildings and fire buildings.

POST OFFICES. The central post-office occupies a large area. It does not necessarily need to be near the business or financial district. It is desirable that it should be near or over the tracks of the main railway lines. Post-office stations will be in all the centers of the city and on rapid transit lines. In every case there must be ample trucking space in the bordering streets. The buildings should be monumental. This latter is true of all government buildings.

CUSTOM HOUSE. This should be near docks, or railway lines from the border.

ASSAY OFFICE AND SUB-TREASURY. These should be near docks and should border on wide streets for trucking.

COURTS. These should be where they will receive good light and near rapid transit lines. They should not be too high. They are preferably on a main avenue or square.

STATE CAPITOL. This should be the crowning feature of the city, preferably on a hill with open park space about it. It should be at or not far from the center of the city. It should be distinctly monumental in character. Precedent gives it a dome.

STATE COURTS. These should be on the main square not too high, monumental, well lighted and accessible to transit.

CITY HALL AND MUNICIPAL BUILDING. This should be the next most important and monumental building after the State Capitol. It should be on or near an open square or small park as near the center of the city as possible. The municipal office building differs in no material degree from other office buildings. The borough halls should occupy prominent places on squares or small parks in their respective districts.

COURTS. These should be in the center of the city or in or near the centers of the outlying parts and sections of the city, especially the residence sections.

JAILS. These should be in the rear of the city courts connecting with the latter. They should be well back from the streets for privacy and for light.

POLICE BUILDINGS. The central building should be near the courts

and the City Hall. The branch buildings should be near the local center, especially in the residence sections.

FIRE BUILDINGS. These should be evenly distributed throughout the city preferably on wide streets.

PUBLIC COMFORT STATIONS. They should be underground at all important corners or squares in the inner city.

Asylums, Penitentiaries and Poor Farms are necessarily well outside of the city.

II.—DWELLINGS.

Dwellings may be divided into three classes: Houses which are occupied, in the vertical sense, by only one family; tenements and apartments in which there is, in a vertical sense, more than one family and hotels to include lodging houses and boarding houses which are occupied by transient families or by unmarried people.

HOUSES.

These should be in all the outlying districts. They should be grouped about their own centers, that is, their own public buildings, stores, markets and whatever else is necssary for an independent existence. The streets as far as is consistent with the future development of the city should be irregular and winding, arranged in small plots so as to allow of a certain amount of land about each house. The size of the lots will depend on the character of the district. The best residential districts require large avenues and streets, many open spaces and much planting. The cheapest residential districts require small plots of land, but should never call for more than twelve houses to the acre. The roadways should be narrow, the sidewalks narrow with a small grass plot in front of the house and a garden behind. An open space should be left in the middle of the block to serve as a playground for the children of that block. As the houses receive light from all sides, orientation is not important. Rapid transit lines on the main streets should be within walking distance of all homes. It is considered desirable by economists that the most expensive and the least expensive houses should all be in the same neighborhood, that is, with the best houses on the main streets and the poorer houses on the secondary streets. In any case lots should not be too deep. A great deal depends upon the natural topography of the country and every advantage should be taken of this in planning the district.

Tenements and Apartments.

Tenements. These should be within easy walking distance of the main rapid transit lines. They should exist only in the neighborhood of factory and business centers.

The great essential is sunlight and air and anything which will conduce to homelikeness. It has been proved conclusively as a result of scientific research by Monsieur Rey of Paris that the streets in the tenement section should run North and South or at some angle with North and South not over forty-five degrees away from it in either direction. To economize space these north and south streets may be quite narrow, with narrow blocks between, only wide enough to take buildings two rooms deep. By this arrangement it is possible to have sunlight in every room in every apartment for at least one to three hours even on the shortest day of the year. This implies that the tenements should not be over five stories in height. This arrangement further allows of through ventilation in every apartment. Roadways need not be more than 18 or 20 feet in width. These will be bordered by trees, then come narrow sidewalks, then grass plots, then the two-room deep buildings, then in the rear gardens with the spaces in the centers of the blocks used as playgrounds for children. This allows of the conversion of the district, when commerce requires it, into an economical arrangement with wide streets and large blocks. The block of tenements should not be continuous but broken into small units with open stairs between to allow of the free circulation of air. If necessary in winter, these open stairs may be glassed in. The roofs should be used for playgrounds and possible drying space. The street facades of the tenements should be broken in plane and in height with a possible maximum of five stories. They should be made as attractive as possible with the use of light, warm color in plaster, terra-cotta, light brick, faience, sgraffito or painted work and should be decorated with flowers and vines in window boxes, with possible pergolas and trellises on top. Playgrounds and park-like squares should be found at the intersections of the diagonal and cross streets. There should be many of these, no one of them need be very large.

High-class Apartments. These should have larger streets and should be built in larger units; otherwise they are like the above.

Hotels.

Hotels. Hotels should be near the railway stations and the rapid

transit centers, also near the theatres and the important retail stores. They occupy a large area, are necessarily high and, as far as possible, they should have a southern exposure. They are on the main streets and avenues. They require a side street with a wide roadway for carriages and automobiles, also a back alleyway for unloading supplies and coal, and removing ashes.

CHEAP HOTELS AND LODGING HOUSES. These are in the tenement districts on the main streets. They should be near parks and public baths. For convenience of patrons they should be near the rapid transit lines, factories and stores.

BOARDING HOUSES. These are scattered throughout the residence sections on side streets. Their requirements are like those of tenements and houses.

RESTAURANTS. These occupy ground floor space with small frontage throughout the business sections.

III.—RECREATION.

This may be divided into three classes—educational buildings, buildings for social recreation, and those for physical recreation.

EDUCATIONAL BUILDINGS.

For mental education there are schools, colleges, libraries and museums; and for spiritual education, churches.

SCHOOLS. These are well scattered throughout the residence sections. They may face in any direction. Most school rooms should not be on the north side only, however. They should be adjacent to playgrounds or some large open space. They require a large plot near rapid transit lines. They should be on a quiet side street.

COLLEGES. These should be monumental in character, particularly when in a big open space. They should be bordered by quiet streets and near many rapid transit lines. A commanding location is preferable.

LIBRARIES. The main library should be near the college groups, readily accessible to all rapid transit lines. It requires a large plot facing on a broad avenue or park, and should be monumental in char-

acter. The branch libraries should be well scattered throughout all the residential sections and on main avenues.

MUSEUMS. These should be located near the colleges and central libraries and on some large open space or main avenue and near many rapid transit lines. They should be monumental.

CHURCHES. These are well scattered throughout the residence sections on or near main streets and rapid transit lines.

SOCIAL RECREATION.

This includes theatres, operas, concert halls, dance halls, cafes, saloons, billiard parlors, political halls, trade unions, clubs, social settlements, neighborhood parks and recreation piers.

THEATRES. These are all in a district together, near or at the converging of the rapid transit lines and near the railway stations. They should front on wide streets for the convenience of carriages and automobiles.

SALOONS, DANCE HALLS, BILLIARD PARLORS. These are scattered throughout the cheaper residential sections, preferably on the ground floor corners, underneath apartments. Billiard parlors and dance halls occupy rear spaces, with small street frontage, often behind saloons.

POLITICAL HALLS AND TRADE UNIONS. These are on the main streets of the tenement sections near rapid transit lines.

CLUBS. These are in groups on or near avenues leading to the best residential sections and near rapid transit lines. A southern exposure is desirable.

SOCIAL SETTLEMENTS. These occur in the heart of the cheapest house and tenement sections. They should be on or opposite a neighborhood park, preferably on the leeward side, and there should be a space for a garden behind. They should be on quiet streets near the local library and the local bath house. An east or west exposure is desirable.

NEIGHBORHOOD PARKS AND RECREATION PIERS. These are in the tenement sections within easy walking distance for all the families of

the district. They should admit of a good through draught for the prevailing summer winds.

Physical Recreation.

This may be divided as follows into gymnasiums, public baths, playgrounds and recreation piers, parks, and taking recreation in its broadest sense of re-creation; hospitals and sanitoria.

Gymnasiums. These should face on open spaces or play-grounds and should have light and air from the opposite sides.

Public Baths. These should also face on open spaces and should have unobstructed light from above and the possibility of good circulation of air. In all cases they should be well scattered throughout the tenement districts.

Play Grounds and Recreation Piers. Playgrounds should be established in every section of the tenement districts. They should be small and there should be many of them. They should have a southern exposure open to prevailing summer winds. In all cases there should be plenty of trees, grass and flowers. Recreation piers should be open on three sides to all breezes and sunlight, and as near tenement districts as possible.

Parks. These should be distributed in all directions in the outlying districts of the city and connected with one another by broad parkways. They should be accessible from all parts of the city by the main radiating avenues. They should take advantage in every way of natural topography. Larger districts should be reserved, yet beyond, for future parks, to be held until the city grows out to them.

Hospitals and Sanitoria. These must have good air and sunlight. They should lie to the windward of the city on outlying high ground or on the water's edge or on islands. They should preferably be to the leeward of a park. They require large areas to spread out in, as the buildings should not be built more than one or two stories in height. Relief and emergency stations should be scattered throughout the city on quiet side streets. All hospitals should be readily accessible to rapid transit.

IV.—TRANSIT AND TRANSPORTATION.

Under this head we may consider railway stations, yards, express companies, docks and street traffic.

RAILWAY STATIONS. These should be brought together as far as possible near the center of the city, with broad streets and rapid transit lines connecting them. Trains entering the stations should be electric and underground to save space and to avoid smoke nuisance. A good example of this is the Gare des Invalides in Paris. They require large areas. They should be near all rapid transit lines and near the center of the radiating avenues of the city. They should face on broad streets on all sides for the convenience of carriages and automobiles.

YARDS. These should be in outlying districts, if possible on waterways. They should be bounded and approached by broad streets for trucking.

EXPRESS COMPANIES. These are usually between the railway yards and the trucking streets, or in the rear of the stations beside or over the tracks. They should be convenient to the business sections.

DOCKS. If these are on a river a space should be allowed behind them for lengthening the docks at some future time. In any case the avenue behind should be treeless and very broad for trucking. They should be easily approached from the rapid transit lines, especially for connecting with the stations.

STREET TRAFFIC. In general this should be radiating and annular. Elevated tracks should occur only on the broadest avenues. There should be trees on either side to mask the structure as in Paris and Berlin. Subways should be used in all the most thickly populated districts in the business districts. Surface cars should be electric, operated from a slot between the tracks and should be used only on the broader streets. Other surface traffic can be taken care of by motor busses. The stables should be in outlying districts on large plots of land bounded by wide streets, and as far as possible they should be kept out of the residence sections.

APPLICATION.

This covers the features which enter into city planning and gives a general idea in detail of the requirements of the different classes and

kinds of buildings composing such a plan. It is impossible to lay down any one scheme which would be applicable to all cases, as the natural topography of cities differs widely, and as the reason for existence of no two cities is necessarily the same. In general, however, the following scheme shows a possible idea for a typical all-around city which would combine the features we have above enumerated.

The nucleus would consist of the government buildings, which would be of a monumental character, in and about which there would be a circle of broad streets. Around this would be the business center of the city where the main financial buildings would be placed. Next would be found the offices of the large corporations and industries, and those of the bankers, brokers and lawyers. In the near neighborhood would be the railway stations with a ring of tunnels connecting them. From this nucleus there would radiate in all directions broad avenues with intermediate minor avenues. These broad avenues would lead to secondary centers at some distance away. These secondary centers would be connected by broad avenues, among themselves, forming a ring about the city. These secondary centers and this ring of boulevards would form a separation between the business city and the residential city. Inside of this ring would be the factories, warehouses, wholesale stores and some tenements. On the main avenues leading to the secondary centers would be the principal stores and shops, clubs, hotels, libraries, banks, etc. Each of the secondary centers would be complete in itself with all buildings necessary for the immediate use of the residents in this neighborhood. Outside of the ring of boulevards here might be a belt of tenement or apartment houses, depending upon the quarter of the city. These would be on many narrow streets running north and south (or nearly so), as above described. Beyond these would be winding and picturesque streets with irregular blocks and lots for small houses. The mills and foundries and any building with a smoke nuisance should be to the leeward of the city in outlying districts. In and beyond the small house residence districts should be the parks with their large connecting parkways.

These suggestions for combining the features of an ideal city are purely in the abstract and not at all dictatory. In every case every possible advantage should be taken of the natural features of the site. The presence of water-ways and unsurmountable hills having far more effect on the plan and normal development of a city than all other features combined.

In general, every attempt should be made to create a city both for the present and for the future which may be as livable as possible,

that is to say, in which the living conditions of the inhabitants shall be such as to conduce to the greatest healthfulness, efficiency and happiness possible in consideration of the economic and topographic peculiarities of the city in question. The streets should be so arranged as to give the maximum convenience of access, one to another, of related businesses. They should give the greatest ease of access from the homes to the places of work and from the homes to the places for social or physical recreation. The maximum healthfulness should be sought by subordinating everything to obtaining the best circulation of a pure, dustless and smokeless air. The maximum healthfulness and cheerfulness in places where one works or lives should be sought by leaving everything open to the access of sunlight. A healthful, cheerful and moral community may be gained only by so limiting the population in the various sections of the city as to avoid the possibility of ever arriving at the horrible conditions of congestion to be found in most of the world's greatest cities today. Here are the ultimate objectives of every ideal city plan, and without which no city plan can be successful; Convenience, Health, Happiness and all that which tends to make for a better Family Life.

GEORGE B. FORD.

CHAPTER VIII.

Methods of Securing A City Plan In Some Cities.

As a general practice, foreign cities secure their plans through the initiative of the officials instead of through the effort of private organizations, and the city officials take the leadership in working out a plan, which will best determine the growth of the city.

Methods in vogue in Frankfort-on-the-Main have already been fully treated.

In Cologne, on the other hand, the plan is made by Municipal ordinance and is not for a very long period of years in advance. The Town Council determines the general regulations, and its members are elected by the usual voters. They represent all kinds of professions and are not salaried. Those affected by the plan may protest within four weeks after the plan has been published. Upon these protests the final decision is given by the Courts. The most experienced architects and engineers of the city are always consulted in connection with the City Plan, so that the best expert advice attainable is secured. A similar system has been followed in Mannheim and in Dusseldorf.

In Munich the investigation, in order to secure an equitable building code, was very much more thorough than in any other city, since it required a study of the land values of almost every block to enable the city to determine where certain restrictions could be placed without confiscating land values.

In Vienna, the general basis for the building code was enacted in 1883 and the City Council authorized to make changes. As recently as 1908 with the advice of architects they have made some changes restricting buildings even more.

In Zurich, the various departments of the city government co-operate in working out a plan, which has been, as in most German cities, submitted to the people for approval.

The method in vogue in Lausanne is regarded by Mr. Nettlefold as follows:

LAUSANNE REGULATIONS.

(1) With a view to assuring the normal and gradual enlargement of the town of Lausanne, the municipality makes the sketch plan of the future communication ways, squares, and public promenades in the town and its outskirts. This plan also shows building-lines.

(2) The sketch plan is submitted in parts to a public inquiry lasting thirty days. The result of this inquiry is published in the official organ, and communicated by registered post to every land-owner concerned. After the inquiry is over, the plan is submitted to the Communal Council for its approval.

(3) When the plan has been approved by the Communal Council, it is referred to the Council of State, which decides once and for all on the objections raised at the public inquiry.

(4) From the time the public inquiry is commenced, until the town plan is definitely adopted, the municipality can forbid any building that will interfere with the proposed plan.

(5) No compensation can be recovered by owners on the score of their being prevented from building while the sketch plan is being considered; but, if after the plan has been decided upon, there is excessive delay in the execution of it, so far as the municipality is concerned, then owners can get compensation. Landowners may also claim com-

pensation if the plan first approved is altered in any way to reduce the value of their property, as compared with the original arrangement.

(6) The municipality may prescribe the class of houses, and their distance apart in different districts; they also have power to determine the width, direction, and construction of roads. Special powers are given to them to modify their requirements on these points, according to the circumstances of each case.

(7) When a building-line has once been settled, it cannot be altered, and no payment of indemnity by the owner concerned, will relieve him of his obligation to carry out what has been laid down by the Town Plan.

(8) The height of buildings must be governed by the width of the street on which they front. The municipality may forbid the erection of any building that would injure the general appearance of the district in which it is proposed to be placed.

(9) Any dispute arising out of these regulations between the municipality and individual landowners or property owners, must be referred to the Council of State, unless it refers to the question of valuation, in which case it is referred to the Special Court appointed for the purpose.

B.—IN SOME AMERICAN CITIES.

Boston.

The Metropolitan Improvements Commission is the result of a movement which began some years ago. It was felt to be desirable to have an organization which would look after questions of municipal improvement, embellishments, etc.; matters which, although need for them had been felt, had gone largely by default, or been improperly looked after, for lack of anybody whose business it was to deal with them. In consequence, the Metropolitan Improvement League, consisting of a considerable number of leading citizens of Boston and its metropolitan surroundings, was organized. One of the first objects to which this League gave its attention was the need of a proper metro-

politan plan, and the matter was represented to Governor Bates, who embodied in his inaugural a very strong recommendation for the appointment of a commission by the committee on metropolitan affairs, but was turned down by the committee on ways and means that year. Conditions were such, politically and otherwise, that it did not seem expedient to renew the proposition actively the next two years, but meantime the committee of the Society of Architects had been giving very careful study to various problems connected with the improvement of Boston, the incentive thereof having largely been both the organization of the Metropolitan League, and the work of the District of Columbia Commission for the Improvement of the National Capitol. The report of the Society of Architects was so favorably received and made such a strong impression that the time seemed ripe to renew the agitation. Accordingly very strong influences were brought to bear before the Legislature, and resulted in the constitution of this Commission, with the powers as stated in the statute.

The Merchants' Association and the Chamber of Commerce in Boston are co-operating now in the further movement to secure the largest possible publicity of the need for a more comprehensive plan for the city.

Chicago.

The Commercial Club of Chicago has conducted a vigorous educational campaign in order to demonstrate the need for an immediate plan for the development of the city. In some ways the competition seems to be an advertising and commercial idea, but its possibilities are enormous.

Grand Rapids.

In smaller cities, such as Grand Rapids, also a civic organization, the Grand Rapids Board of Trade, has taken up the problems effectively. About four years ago the Municipal Affairs Committee of the Board of Trade conducted some interesting improvements, attacking first such evils as bill posting cards, the smoke nuisance, and neglected lots. A plan was made to secure the co-operation of other organizations and a series of revival meetings were arranged and recommendations made to the City Council that an appropriation of $8,000 be made for the purpose of making a plan for the city, which request was immediately granted. A comprehensive City Planning Commission appointed has been securing the advice of experts and will probably outline a park system, advocate a most conservative plan

for the city, and discuss methods of River front improvement, while it will urge the further and more detailed study of these matters and traffic and housing conditions and problems.

HARRISBURG, PA.

One of the most interesting cities in its development has been Harrisburg, where a remarkable campaign of education was carried on by a group of public spirited citizens. Illustrated lectures, in which the evils of existing conditions were graphically presented and means of securing better conditions depicted challenged the attention of the public while huge posters on the street cars and other methods of arousing the public, proved effective in securing the passage of an ordinance by which loans were voted for paving streets, supplying pure water, intercepting sewers and parks, park ways, etc.

The following summary of the present status of city planning indicates the scope of the effort in a number of cities in addition to those already mentioned in detail.

BOULDER, COLO. in 1903 organized a City Planning Association to secure a plan which should include in its scope of activities, the limitation of the heights of buildings, and the proportion of the site to be built upon, the dividing of the streets into primary and secondary streets, the incorporation of adjacent territory, adequate means of transportation, grouping of public buildings, reservation of sites for playgrounds and the improvement of the water front. The expense of preparing the plan is estimated at about $1,200 which has been contributed privately. The estimated cost of the improvements is $100,000 for parks and parkways, etc., and $200,000 or $300,000 for other improvements.

DETROIT has recommended the establishment of a Park Commission.

DULUTH, MINN., where the Commercial Club inaugurated a movement through the press, has started a plan which includes the grouping of public buildings, the reservation of parks and playgrounds, the improvement of the water front and docks.

HARTFORD, CONN.

Hartford, Conn., has secured a Town Planning Commission through the initiative of the various local organizations, particularly of the

Park Department. (The bill providing for the appointment of the commission is printed in full as an appendix.)

Holyoke, Mass.

Holyoke has through the activity of the Committee on the City Beautiful and the Holyoke Water Power Company attempted to secure a plan for limiting the intensive use of land. They have secured the services of landscape architects in preparing the plan, and the funds for the preparations of the plan are being raised by the Holyoke Water Power Company and public subscriptions.

Jamestown, N. Y.

Jamestown is preparing a City Plan to provide for the reservation of parks and parkways, and playgrounds, and improvements of the water front. The funds necessary will be secured by taxation and the public interest has been secured through the press and the efforts of the Park Commissions. The work is to be done by three city planners. The charter provides for a minimum tax of 1/40 of 1% and a $20,000 bond issue, payable in 30 years for park improvements.

Madison, Wisc.

In Madison, the Madison Park and Pleasure Driving Association have taken up the question of preparing a City Plan which contemplates the zone system and the restrictions of buildings in certain sections of the city, to different numbers of stories and height, and on a certain proportion of the site. It includes also the determining of main and secondary streets, improvement of adjacent territory, adequate means of transportation, and, if possible, the reservation of sites for parks and playgrounds, the improvement of the water front, and of docks and the acquisition of land by the city. The expense of preparing, the plan which will be about $25,000 will be raised by subscription. Areas adjoining Madison are also included in the contemplated plans.

Middletown, Conn.

Middletown through the interest of the City Council is preparing a plan to provide for main and secondary streets, and the reservation

of sites for parks, playgrounds, etc. The funds needed to carry out the city plan are to be raised by taxation and a landscape architect and the City Engineer are co-operating in preparing the plan. Bonds have been issued for this, and also for improvements in the streets which are contemplated.

Newark. N. J.

In Newark the Board of Trade has taken up the question of a City Plan, but one has not yet been adopted.

New Haven, Conn.

New Haven has had a plan prepared by landscape architects and the City Engineer which includes the grouping of public buildings, the reservation of sites for parks and playgrounds, the improvement of the water front and the acquisition of large areas of land. Public interest was secured through press articles and meetings and the efforts of the Park Commissioners. The preparation of the plans will cost $8,000 to $10,000.

Providence, R. I.

Providence started an effort in 1906 to get a City Plan. The Metropolitan Parks Commissions has been very active in the movement and the work will be concerned principally with the Metropolitan Parks. Public interest has been aroused and subscriptions secured through newspaper articles, lectures, competitive essays in schools. An expense of $10,000,000 is contemplated for the purchase of land for a City Hall Park and $5,000,000 additional for the purchase of Public Gardens and a new Post Office.

Roanoke, Va.

In Roanoke the Women's Civic Betterment Club has led a movement for a City Plan which will include provision of main and secondary streets, the incorporation of adjacent territory, the grouping of public buildings, the reservation of parks and playgrounds and open spaces, the improvement of water front and the acquisition of large areas of land by the city. The expense of preparing the plan is about $2,000 raised by a festival given by the club. Landscape archi-

tects and engineers have been secured to make the plan but methods of raising the funds have not been determined though a bond issue has been mentioned. Plans are now in preparation.

Rochester, N. Y.

In Rochester the Chamber of Commerce has been vigorously pushing to secure a City Plan, which will provide for main and secondary streets, incorporation of adjoining areas, adequate means of transportation, grouping of public buildings, reservation of land for parks and playgrounds and proper housing for workingmen. An expenditure of $15,000 is contemplated for preparing the plans. Most of this has been received by public subscription and through the press and the efforts of the officers of the Chamber of Commerce have been factors in securing such a plan. A bond issue will probably be determined upon as the best method of securing the funds for carrying out the plan.

Trenton, N. J.

Trenton has had, since 1898, a tentative plan, which includes the limitation of the heights of buildings and the proportion of the site which may be built upon, in various parts of the city, the determination of main and secondary streets, the improvement of adjacent territory, means of providing transit, reservation of land for parks and playgrounds, improvement of water front and docks. The interest of the press has been enlisted in this plan and part of the expenses of carrying out the plan will be met by private subscription, but the major part by bonds issued by the city.

San Diego.

San Diego, in September, 1907, attempted to prepare a City Plan through the efforts of the Art Association and the Chamber of Commerce. The plan would provide for the grouping of public buildings, the reservation of parks and playgrounds, etc., improvement of the water front. The expense of preparing the plan is estimated at about $3,000 which has been raised by private subscription.

The interest of the public was aroused by the agitation through the press and publication of the plans. A bond debenture issue was determined upon to meet the expenses of carrying out the plan, which has been finished and published.

RESOLUTION

Amending the Charter of the City of Hartford Concerning a Commission on the City Plan.

Approved March 26, 1907.

COMMISSION ON THE CITY PLAN.

Section 1. That there shall be in the city of Hartford a commission on the city plan, which shall consist of the mayor who shall be its presiding officer, the president of the board of street commissioners, the president of the board of park commissioners, the city engineer, two citizens, neither of whom shall hold any other office in said city government, one member of the board of aldermen, and one member of the common council board, to be appointed as hereinafter provided.

Sec. 2. The necessary expenses of said commission shall be paid by the city, but no member thereof shall be paid for his services as such member.

Sec. 3. During the month of April, 1907, the mayor shall appoint one citizen member of said commission to hold office for two years, and one citizen member to hold office for three years from the first of May then next ensuing, and in the month of April, 1909, and in April in the years thereafter when the terms of such citizen members respectively expire, the mayor shall appoint one citizen member of said commission for the term of three years from the first day of May then next ensuing. During the month of April, 1907, and in each April thereafter, the board of aldermen and the common council board of said city shall each appoint from its own number a member of said commission to hold office for the term of one year from and after the first day of May then next ensuing. The members of said commission shall hold office until their respective successors are elected and qualified.

SEC. 4. All questions concerning the location of any public building, esplanade, boulevard, parkway, street, highway, square, or park shall be referred to said commission by the court of common council for its consideration and report before final action is taken on such location.

SEC. 5. The court of common council may refer to said commission the construction or carrying out of any public work not expressly within the province of other boards or commissions of said city, and may delegate to said commission all powers which the said council deems necessary to complete such work in all details.

SEC. 6. Said commission may make or cause to be made a map or maps of said city, or any portion thereof, showing locations proposed by it for any new public building, esplanade, boulevard, parkway, or street, and grades thereof, and street, building, and veranda lines thereon, or for any new square or park, or any changes by it deemed advisable in the present location of any public building, street, grades and lines, square or park, and may employ expert advice in the making of such map or maps.

SEC. 7. Said city of Hartford, acting through said commission or otherwise, shall have power to appropriate, enter upon, and hold in fee real estate within its corporate limits for establishing esplanades, boulevards, parkways, park grounds, streets, highways, squares, sites for public buildings, and reservations in and about and along and leading to any or all of the same; and, after the establishment, layout, and completion of such improvements, may convey any real estate thus acquired and not necessary for such improvements, with or without reservations, concerning the future use and occupation of such real estate so as to protect such public works and improvements and their environs, and to preserve the view, appearance, light, air, and usefulness of such public works.

Approved, March 26, 1907.

STATE OF WISCONSIN.

A BILL

To create sections 959—17a to 959—17j inclusive, of the statutes, relating to the creation and organization of a commission on the city plan in cities of the second and third classes, and to the acquisition of lands by such cities for certain public purposes.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. There are added to the statutes ten new sections to read:

SECTION 959—17a. The common council of every city of the second and third classes may, by ordinance, provide for the creation of a commission on the city plan to consist of seven members whose organization, power, duties and qualifications shall be as set forth in sections 959—17b to 959—17j inclusive.

SECTION 959—17b. Such commission shall consist of the mayor, who shall be its presiding officer, the city engineer, the city attorney, the president of the park board, one member of the common council, and two citizens. In case any such city shall be without a park board the mayor shall appoint three citizen members.

SECTION 959—17c. Upon the adoption of an ordinance as provided in sections 959—17a, the common council of any such city shall, by a two-thirds vote of its members, elect one of its number as a member of such commission, who shall serve as such member until the next ensuing first day of May; and during the month of April of each year, or whenever a vacancy shall occur, the council shall, by a like two-thirds vote, elect one of its number for a period of one year from and after the first day of May then ensuing, or to fill the unexpired term.

SECTION 959—17d. Immediately upon the adoption of such ordinance, the mayor shall appoint two citizens, members of such commission, one citizen member to hold office for three years, and one citizen member for two years from the ensuing first day of May, and in case any city shall be without a park board, the mayor of such city

shall appoint a third citizen member to hold office for one year from the ensuing first day of May or until such city shall establish a park board. In the month of April of each year thereafter, in which the terms of office of such citizen members respectively expire, the mayor shall appoint one citizen member of such commission for the period of three years from the first day of May next ensuing. Whenever a vacancy shall occur in the term of any citizen member, the mayor shall appoint a citizen as a member to fill such unexpired term.

SECTION 959—17e. No member of the common council or citizen shall be elected or appointed a member of such commission who shall be actively engaged in the purchasing or selling of real estate in such city, and all citizen members shall be persons of recognized experience and qualification. Such members of the commission shall hold office until their respective successors are elected and qualified. No member of any such commission shall receive any compensation for his services as such member.

SECTION 959—17f. The common council of any such city shall refer any question concerning the location and architectural design of any public building, the location of any statue or other memorial, the location, extension, widening, enlargement, ornamentation, and parking of any street, parkway, boulevard, park, playground, or other memorial or public grounds within any such city to such commission for its consideration and report before final action is taken thereon by such council. All plats or replats of any lands within the limits of such city or of any lands outside of and within one mile of the limits of such city shall be submitted to the commission of such city for its recommendation to the council before the same are approved by such council.

SECTION 959—17g. The common council may refer to said commission the construction or carrying out of any public work not expressly within the province of other boards or commissions of said city, and may delegate to said commission all powers which the said council deems necessary to complete such work in all details.

SECTION 959—17h. Said commission may make or cause to be made a map or maps of said city, or any portion thereof, showing locations proposed by it for any new public building, statue, memorial grounds, street, parkway, boulevard, park, playgrounds, or any other public grounds and the grades thereof, and the street building and

veranda lines thereof, and for any new square or park, or any changes by it deemed advisable in the present location of any public building, statue, memorial, grounds, street, parkway, boulevards, playground, square or park, and may employ expert advice in the making of such map or maps.

SECTION 959—17i. Any such city, acting through its commission, or otherwise, may acquire by gift, purchase, or condemnation any lands within its corporate limits, for establishing, laying out, widening, enlarging, extending and maintaining memorial grounds, streets, squares, parkways, boulevards, parks, playgrounds, sites for public buildings, and reservations in and about and along and leading to any or all of the same; and after the establishment, layout and completion of such improvements, may convey any such real estate thus acquired and not necessary for such improvements, with reservations concerning the future use and occupation of such real estate, so as to protect such public works and improvements, and their environs, and to preserve the view, appearance, light, air and usefulness of such public works, and to promote the public health and welfare.

SECTION 959—17j. It is hereby declared and the acquisition and conveyance of lands for the purposes and as provided in the preceding section constitute a public use, and is for the public health and welfare.

SECTION 2. All acts and parts of acts inconsistent with this act are hereby repealed.

SECTION 3. This act shall take effect and be in force from and after its passage and publication.

APPENDIX I.

OBJECTIONS TO CITY PLANNING.

This subject has been most completely and conclusively discussed by Mr. John S. Nettlefold, who has been a leader in securing good housing conditions in Birmingham and pushing the Town Planning movement in England, in his book on "Practical Housing" and we concur in many of his conclusions. "Those who have only read or heard of the hygienic and artistic advantages to be obtained by Town Planning are apt to look upon it as a 'beautiful ideal' but no use in practice. They think it will not pay; and I admit at once that it will not pay the land speculator and jerry-builder. I am clear that it will pay well the far-sighted man who wants to be engaged in a safe and permanent business that will bring in a regular and reliable income, and give him something to depend upon when he is no longer able to work."

"What we want to do by means of Town Planning is to bring the living conditions of the poor man nearer to the conditions of the rich man, and I hope I have shown that this can be done, at the same time giving the poor man far better value for his money."

It is perfectly true, however, that Town Planning does not endeavor to do the impossible. It does not attempt to be any substitute for fair wages for the workingman or to be a rate to aid wages. On the other hand, it is perfectly true as an English workingman states: "It is thoroughly unsound to reduce rents in order to meet low wages; the working man's best friends are those who raise wages to meet rents."

The objections which will meet with the greatest acceptance in America are probably the following:

First,—The Unconstitutionality. The most frequent objection to the German system City Planning is that it is not constitutional to permit one man to make a fortune on land and to deprive another of the same opportunity, as contemplated by the zone system. Such an idea deserves careful consideration because of the slur upon the constitution, since the same argument might be brought up against the tenement house law of New York or other cities, as depriving the owner of land not yet built upon of getting as much money from

his land as may be earned by the owner of land covered by the worst tenements. It means practically that the worst conditions should be permitted throughout the city. The injustice of such contention is clearly emphasized by the conditions in New York. A few years ago before the consolidation of the five boroughs no one would have thought of justifying the enactment of a tenement house law, for the boroughs of Richmond, Queens, Brooklyn and the Bronx, such as was contemplated for Manhattan; but when, by act of the Legislature these five boroughs were incorporated into one city, the law at once became uniform for the entire district. The records evidence that instead of developing in the other boroughs small family houses, 5 and 6 story tenements in the Bronx, and 3 and 4 story tenements in Brooklyn have been the rule.

The apparent injustice of restricting the income from land located in the outer sections of the city may be readily offset by a system of progressive taxation upon increase in land values.

Second,—The difficulty of anticipating the City's development. This, it must be admitted is a serious question since no city can absolutely determine for a period of 100 or 200 years, precisely its line of development. On the other hand, the apparent injustice and assumption of omniscience is influenced by the fact that no foreign cities have attempted any arbitrary development against natural or physical conditions, but have merely sought to establish conditions of housing and adapt them to the physical conditions of the community. This objection again is but a different way of stating that the city is afraid to establish a standard for its citizenship, for fear it may deprive its citizens of the opportunity to make untold wealth on land. A fair degree of common sense is necessary on the part of those making city plans and the knowledge of the growth of other cities must be universally available in making a plan for any city.

At this point, it must be noted carefully that City Planning and City Replanning are two quite different problems. A built up city has serious questions which do not confront a new city, and it is inevitable that there should be in the older city, greater difficulty in securing the standards which should be enforced in all smaller cities. Harbors, waterways and lines of railroads naturally serve as factory districts while the co-operation of the city in furnishing or directing the provision of proper means of transit for passengers as well as freight, is really directed to improving the conditions of living.

Third,—It is often claimed that improving means of communication and taxes upon land values will solve the housing problem, without other assistance. To this claim Mr. Nettlefold replies as follows:

"Those who put their faith in better and cheaper terms and trains for the complete solution of the housing problems must have gone about our modern suburbs with their eyes shut. One beautiful country district after another has been utterly ruined by this boasted panacea. True, we want good means of communication in order to make it possible to spread the people out but experience has abundantly shown that without Town Planning this spreading out process will be carried out most unsatisfactorily. The rapid strides made in recent years by those concerned in the business of carrying people about has rendered Town Planning a desperately urgent question."

APPENDIX II.

HOW TO GET A CITY PLAN.

1st.—Secure the Facts About the Conditions of Your City. A famous epigram of missionary zealots has been "Missionary facts are the fuel on which missionary fervor is fed." It is largely the ignorance, not entirely the ignoring, of the conditions, which make our charitable efforts necessary in large cities. Among the facts which should be learned are the following:

1. The Extent and Nature of the Congestion of the Population.—If the complete extent of the congestion were appreciated and the fact that many of our small cities have from 2 to 5 occupants in a great many of their rooms in congested quarters known, the community would be aroused as it is not at present. Overcrowding per room is quite as dangerous as overcrowding per acre and very much more common in the present conditions.

2. Learn the Facts About the Heights of Buildings.—This can be done by a simple study of real estate maps.

3. Learn the Facts About the Intensive Uses of Land, how many of your blocks are solid and how many of them have 5% lungs or 10% lungs and the rest of the land covered solidly.

4. LEARN THE FACTS ABOUT RENT.—No civilized city should permit conditions, under which ordinary workingmen cannot secure decent homes for about 20% of their income, particularly if they have far to travel to their work.

5. LEARN THE FACTS ABOUT COST OF PUBLIC IMPROVEMENTS, PARKS, WIDENING STREETS, ETC., whether your community is paying the cost of years, if not decades, of speculation of land, whether land is more valuable than life, and if so, to what degree and in what sections of the city this is true. Learn where, on the other hand, human life and welfare is valued equally with property rights and land values.

6. LEARN THE FACTS ABOUT THE DEATH RATES.—Where are the great majority of your cases of tuberculosis? In what blocks do you have the greatest infant mortality, particularly from summer complaints?

7. LEARN THE FACTS ABOUT THE OWNERSHIP OF LAND IN THE CITY.—Do a few families or estates own 5 or 6% of the assessed land values of the City? Is it true, in your city, that the labor and the suffering and the poverty of the many are conducing to the wealth and leisure and, so-called prosperity of a few? If so, get these facts.

II.—MAKE THE FACTS PUBLIC.

1st.—IN MEETINGS. It is as true in the propaganda for health and sane living as for religion that there is no better method of carrying conviction than the human voice, which is the organ for facts. It would be particularly valuable to have the meetings illustrated and the people realize through the eye. It is true that "Through the ear man heareth unto knowledge, but with the eye he moveth and votes" and the graphic presentation of conditions, of which many citizens are ignorant, would go far toward securing a sympathetic and effective action on their part.

2nd.—HAVE AN EXHIBIT. This is one of the most successful methods of university extension work and awakening the interest of the citizens to a realization of their own conditions.

3rd.—SECURE THE CO-OPERATION OF VARIOUS CLUBS AND CIVIC ORGANIZATIONS IN THE REQUEST FOR CITY APPROPRIATION TO MAKE

A PLAN FOR THE CITY. Some of the most successful achievements in this regard in America have been those of Boston, Chicago, Grand Rapids, etc.

4th.—PUT THE NECESSITY FOR A CITY PLAN DIRECTLY BEFORE THE OFFICIAL BODIES, the Mayor, The Board of Aldermen or Council and make it clear to them that the public demands the carrying out of such a plan. Persistency is as much the price of progress as eternal vigilance of liberty.

APPENDIX III.

SOME GOOD BOOKS ON CITY PLANNING.

Der Stadebau, by Dr. J. Stubben.

Neglected Neighbors, by Chas. F. Weller.

Massachusetts—Metropolitan Park Commissioners. History and description of the Boston metropolitan parks.

Columbus, Ohio—Plan Commission. Plan of the City of Columbus.

Geddes, Patrick. A study in city development, park, gardens and culture institutes. (A report of the Carnegie Dumfermline Trust, with plan, perspective and 136 illustrations. 1904.)

Manning, Warren H. Report on the Borough of Edgeworth, Pa., Nov. 14, 1906 (typewritten).

Greenville, S. C.—Kelsey & Guild. Beautifying and improving Greenville, S. C. Report to the Municipal League of Greenville, S. C. Kelsey & Guild, landscape architects, Boston, Mass., Jan., 1907. Chapters on city plans, streets, gateways, public buildings, municipal architecture and art, sanitary matters and the abatement of nuisances; parks, playgrounds and reservations, gardens, cemeteries, etc.

Harrisburg, Pa.—The Harrisburg plan. Parks, parkways, filtration, etc. What has been accomplished by the Harrisburg League.

Harrisburg Municipal League. Proposed municipal improvements for Harrisburg, Pa. 1901.

J. H. McFarland. Awakening of Harrisburg; some accounts of the improvement movement begun in 1902.

New York, N. Y.—City Improvement Commission. Report 1907.

John Nolen. Remodeling Roanoke, Va.; report to the Committee on Civic Improvement. 1907.

St. Louis Civic League. City Plan for St. Louis. 1907. An attractive volume containing maps of St. Louis in 1764, 1804, 1822, 1841, 1855 and 1876. Gives many illustrations, an historical sketch of St. Louis, an inner and outer park system, street improvements, etc.

Architectural Record, June, 1906; Vol. 19, pages 425-437. The promised City of San Francisco. (Discussion of plans of Mr. B. H. Burnham. Shows four plans.)

American Civic Association. Department leaflet No. 5. Suggestions for beautifying the home, village and roadway. Warren H. Manning.

England—Statutes. Housing, town planning, etc.; a bill to amend the law relating to the housing of the working classes, to provide for the making of town planning schemes, and to make further provision with respect to the appointment and duties of County Medical Officers of Health. 1908.

Civic Art in Northern Europe. A report to the Art Commission of the City of New York, Oct. 12, 1903. Report regarding the condition of public buildings, parks, boulevards, bridges and other features of city development in some of the large cities of Northern Europe.

Peabody, Robt. Swain. Holiday study of cities and ports, published by Boston Society of Architects. 1908. Waterways, docks, commerce, city planning, Rotterdam, Amsterdam, Antwerp, Cologne, Berlin, Manchester, Liverpool. London, Paris, American ports. How would 'Germany develop a port like Boston?

Robinson, Charles Mulford. Improvement of Towns and Cities, or the Practical Basis of Civic Aesthetics. 1901. Contains chapters on Foundation of Civic Beauty, Beauty in the Street, Aesthetic Phase of Social and Philanthropic Effort, of Education Effort, Means to Secure Civic Aesthetics.

Greater New York—The Harrisburg Plan; Washington, old and new; the Return to Nature.

Select Committee on the Housing of the Working Classes Acts Amendment Bill; Report and Special Report. (H. C., 376 of 1906.) Index and Digest of Evidence. (H. C., 376-Ind. of 1906.)

Adam, Edwin. Land Values and Taxation. 196 pages; London, 1907.

Adams, Thomas. Garden City and Agriculture; how to solve the problem of rural depopulation, with an introductory address by H. Rider Haggard. 180 pages; London, Simpkin; 1s net. 1905.

Aldridge, H. R. Better Homes for the People. (In Millgate Monthly, June, 1906.)

Benoit-Levy, Georges. Towards the idea of Garden Cities in France. (Pages 30-35 of Millgate Monthly, Oct., 1907.)

Cornes, James. Modern Housing in Town and Country. 196 pages, London; Batsford. 1905. 7s 6d.

Dundee Social Union. Report on housing and industrial conditions and medical inspection of school children. 150 pages; Dundee; Lang. 1905.

Horsfall, T. C. Improvement of the dwellings and surroundings of the people; the example of Germany. Ed. 2, 193 pages; London; Sherratt. 1905.

Kaufman, M. Housing of the Working Classes. 146 pages; London; Hack. 1907. (Social Problems, Series No. 2.)

Mansion House Council on the Dwellings of the Poor. (Imperial Buildings, Ludgate Circus, London, E. C.) Reports.

Nettlefold, J. S. Housing Policy. 194 pages; Birmingham; Cornish. 1905.

Rowntree, B. S. Poverty; a Study of Town Life. Ed. 3, 452 pages; London; Macmillan. 1902.

Rural Housing and Sanitation Association. (Parliament Mansions, Victoria Street, Westminster, S. W.) Reports and papers.

Sykes, J. F. J. Public Health and Housing. 216 pages; London; King. 1901.

Thompson, W. Housing Handbook. 270, 101 pages; London; Natl. Housing Reform Council. 1903.

Housing Up to Date. Companion volume to the Housing Handbook. A practical manual giving the latest facts and figures. 306, XII pages; London; Natl. Housing Reform Council. 1907.

The Tenement House Problem. DeForest & Veiller.

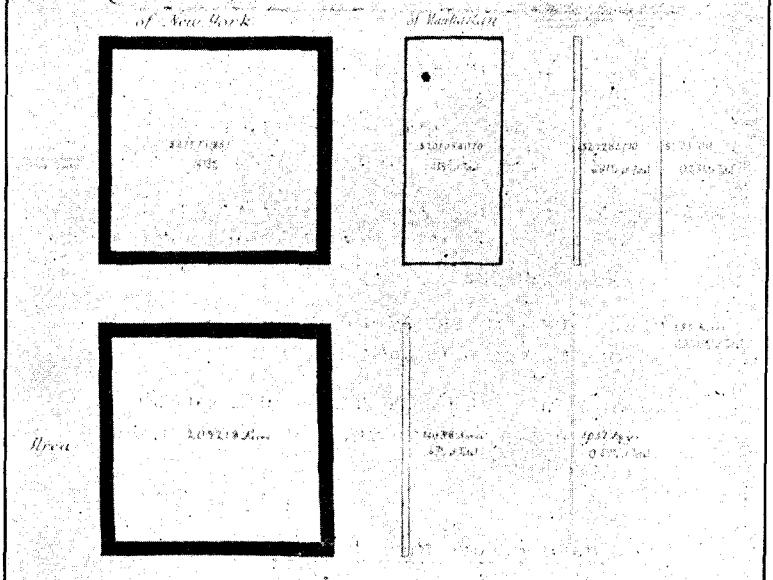
City of Birmingham—Report of the Housing Committee.

The Housing Problem. Alden & Hayward.

Diagram ~

Showing the area and proportion of the total increase in Taxable Assessed Land Value from 1906 - 1908

(Exclusive of Special Franchises & Real Estate of Corporations)



To the Man who Cant afford to build a Sky-scraper!

One Result of intensive use of land is

Concentration of Land Values

Restrict this use and you distribute Land Values

CONCLUSION

HAVE YOU LEARNED?

First, That Government is the most important factor in securing good living conditions ?

Second, That the Tax Payer has to pay the bill for congestion of population and the evils resulting?

Third, That efficient administration is necessary to make "Good Government?"

Fourth, That YOUR city cannot secure healthful conditions without a City Plan for the entire city?

If you have learned these four things,
WILL YOU NOT?

First, Secure a City Plan for your entire city?

Second, Set about getting an efficient administration in your city?