City Form and Changing Process:

The Case of the North End, Boston, 1860-1930

by

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Abstract

This thesis originated from the assumption that the effects of time on city form involve complex processes and are closely related to different physical and social factors where human beings as changing agents play only a partial role. Taking the North End, Boston as a case study, it tries to explore the complexities of the combined effects of some of these processes bearing on city form. In conclusion, the thesis shows that changes in city form do not happen only because there is a deterministic need, such as a population increase, or only because human beings as the primary changing agent wants something to happen in a certain way. Evidently, none of the processes or elements, alone, can sufficiently explain the changes in city form. The relationship between the processes bearing on city form is far more complicated and is generally non-deterministic in nature. At the most abstract level that can be conceptualized as a three dimensional relationship, acting between 1) the stimuli like economic and population growth provoking change, 2) the adaptive change required by the stimuli, and 3) a wide variety of factors that mediate between this stimulus-response relationship, sometimes by enhancing it and at other time by retarding it. The thesis tries to extrapolate the characteristics of these mediating factors, and the relationship between the city and humans as changing agents in the form of some intrinsic regularities and constraints of the changing process in city form.

Thesis Supervisor: William L. Porter
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To my Parents

Acknowledgments

I would like to thank Professor William Porter for supervising the thesis and lending his support in a creative way. I would also like to thank my readers, Professor Julian Beinart, Professor Masood Khan, and Professor Ronald Lewcock for their encouragement and criticism. My special thanks to M. Sevcenko who edited the text for me, and my gratitude to the Aga Khan Program for financing my studies at MIT. Finally, my deepest appreciation to my friends and family for their ceaseless love and affection which gave me the strength that I needed most to complete this thesis.

Contents

Introduction

A city is a complex entity. It is impossible to appreciate it without taking into consideration its critical dynamic dimension that allows it to grow and change; similarly, important is its permanence that makes it historically meaningful.

Looking at the maps of Paris (figures 1 to 4) I wondered, how can a small preindustrial medieval town become a twentieth century megalopolis if it doesn't have a critical dynamic dimension? In its process of transition, medieval Paris must have experienced a kaleidoscopic transformation of growth, reconcentration, reconstruction, reuse, aging, abandonment, demolition, and many other processes that, though identifiable for analytical purposes, continuously interacted with each other to become the twentieth century Paris.

But didn't it also retain its past? What about those concentric boulevard-rings that follow the old fortification walls, or the complex street pattern, residential blocks and monuments? Did they respond to process of change and growth in the same way as did some other elements or parts of the city? Perhaps, they did. But the effects of time don't seem to be the same in all cases. These are among few other elements which tend to persist in the ever-evolving city of Paris.

My interest in the city form lies in this issue of persistence and change, in other words, in the differential effects of time on city form. Why would some elements of a city tend to persist, while others die or lend themselves more to change and transformation? What are the sources for the duality of persistence and change in city form? How is human as the primary changing agent of the city related to this phenomenon of the city? Are they all powerful to make required changes to the city, or the city as an evolving entity restricts the limit of human interventions?

These are some of the difficult issues which have been troubling architectural and urban theoreticians for decades. And, frankly to say, there are no easy answers to these

questions. One of the favorite approaches to explain these issues regarding persistence and change in city form is "environmentalism" or "environmental determinism."[1]The tradition of environmental determinism seeks to establish scientifically the nature of the relationship between man and nature, stressing the view that this relationship is one in which environment 'controls the course of human action'[2]. The environment — usually defined in terms of physical factors like (especially) climate, soils, topography — is believed to influence, even to the extent of substantially controlling, aspects of human behavior (individual and group), economic activity and social organization, and even physiological characteristics. As opposed to this, there also exist "social determinism," which claims that the physical environment is fully determined by the inhabiting forces. In other words, according to this view every society builds certain environment in a fully deterministic manner. Following are some of the basic assumptions that are contained in these deterministic views :[3]

a. The environment determines the formation and evolution of the organism.

b. Man determines the nature of the environment.

c. There is a two-way relationship depending on the situation.

d. When the above relationship happens simultaneously, it is often referred to as "interaction" or "interface".

e. A more sophisticated version of the above interactionism is that which specifies the nature of the relationships, e.g. "against", "opposition", or "struggle".

f. Man and environment exist together in unity.

As a result of these, each side of the relationship must be classified according to the specificity of the context and, then, the effects of the changes that one side has undergone on the other can be studied.

The other explanation to change and persistence in physical environment is "possibilism" which denies the previous dualism of "environmentalism" or "social determinism" on the basis of "autonomy of the physical environment." According to the "possibilists," the physical environment has the capacity to support multiple uses or interpretations and held that although the environment set overall constraints to human

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[1] Glacken (1967) traces the development of this philosophy from its enunciation by Hippocrates in the 5th century BC, in his discourse on Airs, Waters and Places, to its pre-eminence in 19th-century thought. In the former, the influence of topography and climate on human health was stressed. By the 19th-century the philosophy had diversified to consider the limits on human population size which were imposed by limited availability of natural resources (particularly for producing food) and more generally, though the influence of Darwinists, how natural laws operate to differentiate between man .The modern ecological version of the philosophy clearly places man within nature, and as part of it, being dependent on it and subordinate to its laws (D. Pepper ; The Roots of Modern Environmentalism, Croom Helm, London, 1984, p. 35).

[2] G. R. Leuthwaite, quoted in Johnston, R. (ed); The Dictionary of Human Geography, Blackwells, Oxford, 1981.

[3] E. S. Gohar; Sudden Change, Society and Urban Form, Ph. D. dissertation in Architecture, Department of Architecture, Edinburgh College of Art, 1987, pp. 92-93.

endeavor it offers a range of *choices* to man on his course of action. Tatham points out that this view attributes more importance to man and less to environmental influences.[4] Thus Febvre, who coined the term "possibilism" said:

> "There are no necessities but everywhere possibilities; and man as the master of these possibilities is the judge of their use..... It has been the custom for many years to speak of human society in the great climatico-biological regions as adjuncts, so to speak, of plants and animal societies which were themselves as it was assumed, strictly dependent on the meteorological phenomena. But these regions have nothing tyrannical or determinant about them."[5]

As Tatham says such quotations make it quite clear that for possibilists "nature does not drive man along one particular road..... It offers a number of opportunities from which man is free to select."[6] Stanford Anderson also supported this notion of "possibilism":[7]

> "The notion of multiple influential environment (or "possibilism") denies the concept of physical determinism. Within the same physical place, different individuals have different influential environments.[8] Similarly, the intersubjective influential environment of society changes over time without necessarily changing the physical form. The concept of multiple influential environment implies both that activity and significance are interdependent with the physical environment and that this is not a deterministic relation."

These notions are reinforced by other observers, like psychological and social critic R. D. Laing:[9]

> The physical environment unremittingly offers the possibilities of experiences, or curtails them. The fundamental human significance of architecture stems from this. The glory of Athens, as Pericles so lucidly stated, and the horror of so many features of the modern megalopolis is the former enhances and the latter constricts man's consciousness.

"Latency" or "possibility" then according to these theorists assumes great importance. Latency in the environment allows for social change without physical change. Many old buildings and city sectors, with complex patterns of use and still more

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[4] Tatham, Environmentalism and Possibilism, in Taylor G., (ed.), Geography in the Twentieth century, Philosophical Library, London, 1951, pp.128-162.

[5] Febvre; A Geographical Introduction to History, Routledge and Kegan Paul, London, 1924 (reissued 1966); quoted in Tatham, 1951.

[6] Tatham, 1951, p.155.

[7] S. Anderson; People in the Physical Environment: The Urban Ecology of the Streets. On Streets, The MIT Press, Cambridge, 1987, pp. 1-11. Also see, His Critical conventionalism: the history of architecture, Midgard, v.1, no. 1, University of Minnesota, 1978, and The Plan of Savannah and Changes of Occupancy During Its Early Years: City Plan as Resource, Harvard Architecture Review, v.2, Spring 1981.

[8] Holling and Goldberg, Journal of American Institute of Planners (1971), p.225. point out that the ecological systems that survive are those with a domain of stability broad enough to absorb the consequences of change. Acknowledging that such systems sacrifice efficiency in an optimizing sense for openness to change and resilience, they suggest that planning criteria be reoriented from forces that converge on equilibrium and maximize success to those that diverge from limits and minimize the chance of disaster.

[9] R. D. Laing; The Politics of Experience, Penguin, Harmondsworth, 1967, p. 28.

complex histories, provide examples of environment with high degrees of latency, especially in the case of old city sectors are rarely designed environments, but rather artifacts[10] — the product of human action, but not of human design.[11] These evolved environments, adjusting piece by piece overtime to changing demands of use or signification, elude any globally prescribed use and meaning while incorporating many stimulating and sustaining parts.

Then, there are existentialists who, again, strongly dispute determinists' contentions or even possibilists' contentions of the multiple influential environment. They emphasize man's freedom to act independently of any laws, natural and otherwise, and according to his own choice. Existentialism is a *free will* philosophy that can be seen as a 'protest against views of the world and policies..... in which humans are regarded as the helpless plaything of the historical forces, or as wholly determined by the regular operation of natural processes.[12]According to existentialism, then, it is humans who are in control of everything. There are no outside independent laws of economics, history, nature or whatever, which they can not deny or shape for themselves. Thus humans are all free to choose how they will behave and develop and how they will shape society and nature. As Sartre put it, "Man is responsible for what he is."[13]

This free-will philosophy of existentialism is more clearly stated in *phenomenology*[14]which holds that there actually *is no world external and separate from ourselves.* We and the world are one — a single united entity. It is thus an anti-positivist science, opposing Cartesian dualism.[15] It does not deal in laws, or in cause-effect relationships consequent on dualism, and neither can it be concerned with analysis —

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[10] "Artifact," by archeological definition, is "a product of human workmanship especially one of the simpler products of primitive art as distinguished from a natural object." In the accepted use of the term two qualities can be distinguished which are of considerable value. First, "artifact" as used by the archeologist and anthropologist refers to material objects or tools near to their natural state which human use has altered and for which humans have found one and another cultural role. Second, it is clear that the definition is a relative one. An industrial culture might consider a trenching spade a mere artifact, the use of which it comprehended in only the vaguest terms. At the same time an agricultural society to which effective drainage meant the difference between survival and starvation would view the same instrument as a highly complex tool to be used in a skillful and thoroughly sophisticated fashion. So when the term is applied to an urban complex, it is applied to seek all those aspects of the city and its life for which the material structure, buildings, streets, monuments were properly the tool or artifact, and which is the product or artifact of the whole culture, not only of its economy, social standing, politics or any other aspects of urban life taken singly or alone. (Sir John Sumerson;Urban Forms, The Historian and the City, Oscar Handlin and John Burchard, eds., The MIT Press, Cambridge, Massachusetts, 1963.)

[11] Anderson; 1987, p.7.

[12] Encyclopedia Britannica, 1978.

[13] J. P. Sartre; Being and Nothingness, 1943, Translated by H. Barnes, Methuen, London, 1957 and Sartre, J. P.; Existentialism and Humanism, 1946, Translated by P. Mairet, Methuen, London, 1948, source, Pepper, 1984.

[14] It is summed up by Nietzsche, who said, "Objectivity is the main enemy of understanding. It means the myth that there are hard observable facts ... but all the concepts we employ in describing the world and predicting its behavior are imposed on it by ourselves. We have the choice about what view of the world we adopt"(quoted by Warnock, M.; Existentialism, Oxford University Press, 1979, p.13, source Pepper, 1984, p.119).

[15] Pepper, 1984, p. 120.

breaking the world into parts. It is taken up with the individual and the unique, and it is holistic in approach.[16] According to their explanation the uniqueness and the meaning of the environment dwell in the existential dimensions of the environment — such as imageability, memorability, inhabitability, and, so forth — which can not be explained in deterministic terms. According to Norberg-Schulz, "The existential dimensions are not determined by the socio-economical conditions, although they may facilitate or impede the (self-) realization of certain existential structures. The socio-economic conditions are like a picture-frame; they offer a certain space for life to take place, but don't determine its existential meanings."[17] He also writes, "...[H]uman identity presupposes the identity of the place (in other words, the existential dimensions of the place), and that *stabilitas loci* therefore is a basic human need."[18] Furthermore, according to him, it is this *stabilitas* or *genius loci* which helps in preserving the identity of cities under the pressure of the historical forces. Thus he puts immense importance on these presupposed existential dimensions as affecting the problem of constancy and change in city form.

Then there are organicists who liken the city to a constantly changing organism or entity. The use of the concept of "organicism"[19]to understand urban processes is certainly much wider in scope. And as far as the processes of change and development are concerned, the philosophy of "organicism" with its ideas of wholeness, transformation and self-regulation[20] provides a much closer approximation to the nature of cities.[21] It is

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16 See D. Walmsley; Positivism and phenomenology in human geography, *Canadian geographer, 18*, 1974, pp. 95-106.

17 C. Norberg-Schulz; Genius Loci, Rizzoli, New York, 1979, p.6.

18 Ibid., pp.180-186.

19 Starting from Plato up until the synthetic a priori of Kant everywhere organicism was taken only as a value concept; it was taken metaphorically, as a simile. Thus when John Hosper expounds the organic simile like the following: "In the living organism the interaction of various parts is interdependent, not independent.....The functioning of the stomach depends on the functioning of the heart, the liver and other organs of the body, and malfunction of one of these involves malfunctioning of the others as well. Similarly in a work of art, if a certain yellow patch were not in a painting, its entire character would be altered, so would a play if a particular scene was not in it, in the place where it is" (J. Hospers; Problems of Aesthetics, Encyclopedia of Philosophy, New York, 1967) — then one might ask what it is in the art or play that corresponds to the stomach in a tragedy? (For further details see, G. N. G. Orsini; Organicism, Dictionary of the History of Ideas, V..III, pp. 421-427.) But people like Chistopher Alexander , in his "A New Theory of Urban Design," certainly went beyond analogy or metaphor.

20 Through these ideas organismic philosophy implies that 1) an organism is a whole which can not be reduced to its parts; 2) were it not for the idea of transformation, the structure of organism would lose all its explanatory import, since it would collapse into static form, and 3) self-regulation implies that the transformations inherent in the structure never lead beyond the system but always engender elements that belong to it and preserve its laws (Jean Piaget; Structuralism, translated and edited by, Chaninah Maschler, Basic Books, Inc., New York, pp. 3-16. For details also see, Frederick Burwick (ed.), Approaches to Organic Form, D. Reidel Publishing Company, Boston, 1987, and G. N. G. Orsini; The Organic Concepts in Aesthetics, Comparative Literature, The University of Oregeon Press, 1969.) The definitions of organicists about wholeness, transformation, and self-regulation are not different from the definitions given by Piaget. I am using Piaget's definitions because they are clearer.

21 Here, I am talking about the "patterns" of Christopher Alexander. Each of his pattern is linked to the human consequences. Each is meant to be very real piece of the world but based on an imagined human way of relating to that world which is underlying and stable. Thus, while the system as a whole is concerned with how the decisions are made, the substance of the patterns is a long, richly illustrated disquisition on the match of form with behavior. But it is this very connectedness of the "patterns" in which the variations of culture, political economy, or individual values are

also far less deterministic. The ideas of transformation and self-regulation through evolving consciousness are concepts that stand in contradistinction to determinism and thus have much in common with the philosophies of free-will.[22]

It is not necessary to enlarge the list further. In this thesis I intend to investigate the relevancy or sufficiency of some of these ideas to examine change in city form as a process. I would like to start from my belief that the effects of time in city form involve complex processes and are closely related to different physical and social factors in which human being as an agent of change plays only a partial role. The number and variety of these factors are enormous, and include culture, religion, politics, economics, demography, legal instruments for control, materials of construction and technology, architectural and urban conventions. There are, in addition, many other human institutions take on a life of their own and are not always easily controllable. In order to examine the combined effect of all these factors in the city, I have selected a small city segment of Boston where I could undertake a comprehensive investigation of some of these processes bearing on changes of city form. Due to its limitations, this thesis couldn't be all-inclusive and sometimes, its arguments were based on only impressionistic observations. The thesis deliberately avoided any preconceived theories either about how the city and humans as changing agents are related to each other or about persistence and change in city form.

The case study

The North End of Boston was taken as the case study for the thesis for the following reasons:

First, Boston was one of the most well studied cities that I knew. On the other hand, in case of any deficiency about the available information, I could directly go to the site to check it for myself.

Second, the North End is one of the most persistent segments of the city of Boston. It did not undergo radical changes that some other older segment of the city went through under their urban renewal programs. Perhaps it could be a good idea to study one of those areas that underwent radical changes. But for the time being, I kept that out of my concern because I wanted to study the more subtle part of changing processes of city form.

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submerged. As kevin Lynch put it: "The dogmatic forms of these Tablets of the Law belies their humane content and his own convictions about user participation."(Lynch, Kevin; Good City Form, The MIT Press, Cambridge, Massachusette, 1981, p.285.)

[22] Pepper, 1984.

Finally, this area of the city evolved by itself. Its persistence was not the direct result of some normative or regulatory bodies nor was it laid out like the South End or the Back Bay. Its persistence was the result of the process itself which makes it so interesting as a case study.

The study period

The study basically concentrated on the physical and structural changes in the North End area from the 1860s to 1920s. This period represented the most crucial period of the urbanization of the American cities. Large cities like New York, Boston, Chicago, Baltimore experienced truly remarkable economic and population growth in the nineteenth and early twentieth centuries. As Table I & II (Appendix) demonstrate, cities not only increased considerably in number in this period, but also attained such big sizes that by 1920 fifty-one percent of the nation's total population was living in urban areas. The speed with which the population of Boston grew was unprecedented. It increased by an average of 33,635 per decade before the civil war and by well over 98,000 each decade after, more than doubling in each of the decades of the 1820s, 1830s, 1840s, 1860s and 1870s (Table III, Appendix). Similarly it embraced an ever increasing economic productivity through gathering manufacturing and commercial activities at a greater pace in this period.[23]

On the other hand, innovations in technology — transportation, industry, building construction, innovations in economy, planning ideas, etc., all were changing the face of the cities in a way never expected before. Problems of different magnitude and nature subsumed every sphere of the cities. The small walking cities and towns of early nineteenth century, the nuclei of the emerging metropolises, were not designed to accommodate the crush of people and business settling within them.[24]Under such increased pressures the old segments of the city, like the North End, Boston needed to undergo radical changes. Perhaps nothing could be more interesting and revealing than to study the process of changes in this era in a city segment like the North End and to expose the complexities of the changing processes.

Furthermore, resource constraint was a good practical reason for selecting the period. The *Sanborn maps* that were used for investigating the changes in the morphology and residential architecture in the study areas go back only to 1867. Since there are no

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[23] Christine Meissner Rosen; The limits of power, great fires and the process of city growth in America, Cambridge University Press, Cambridge, 1986, pp. 6-10.
[24] Ibid.

other maps informative enough prior to the 1860s, I was rather handicapped, even though, at times it was necessary to go back to the earlier period.

Outline of the thesis

The first part of the thesis deals with the case study. The first chapter of this part provides some historic information about the North End, Boston and presents the prospects and dilemmas of Boston in the nineteenth century. It tries to delineate the great demand for change that existed prior to the study period in the North End. The second chapter presents studies done on the Sanborn maps and states the findings about different morphological changes and changes in residential architecture in the study areas. It also includes comments on the sufficiency of these changes to meet the existing demands.

The second and third parts of the thesis deal with the processes and elements that might have influenced or resulted in the physical changes in the study areas. While the second part studies some of the short-lived processes, like shifts in demographic patterns, changes in the attitudes of the inhabiting population toward the physical environment, influences of different technological innovations, etc., the third part deals with processes and elements of more permanent nature, like the reformation movements, inappropriate taxation system and different persistent urban elements.

In conclusion the thesis tries to summarize the studies and observations and states the intrinsic regularities and constraints of the process of change. It also suggests some directions for further research.

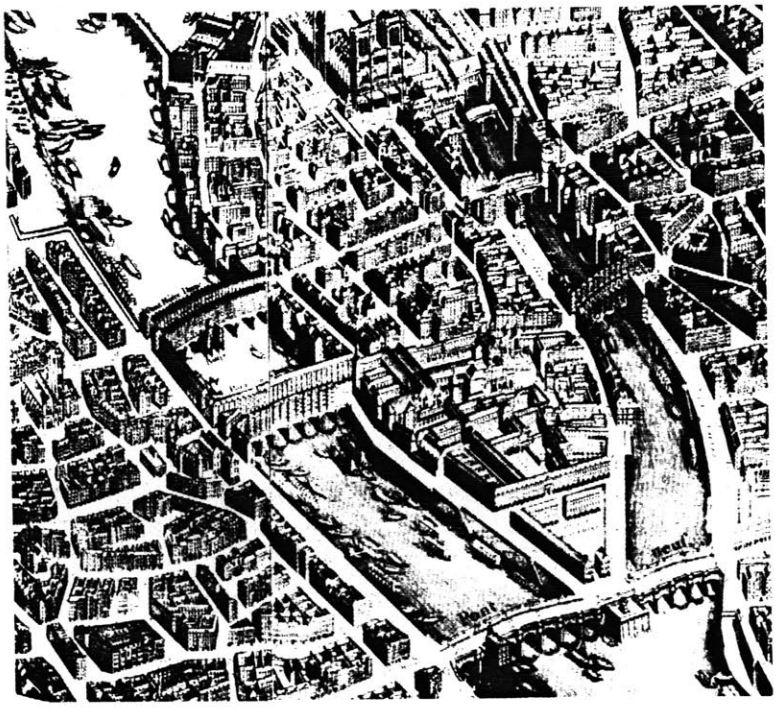
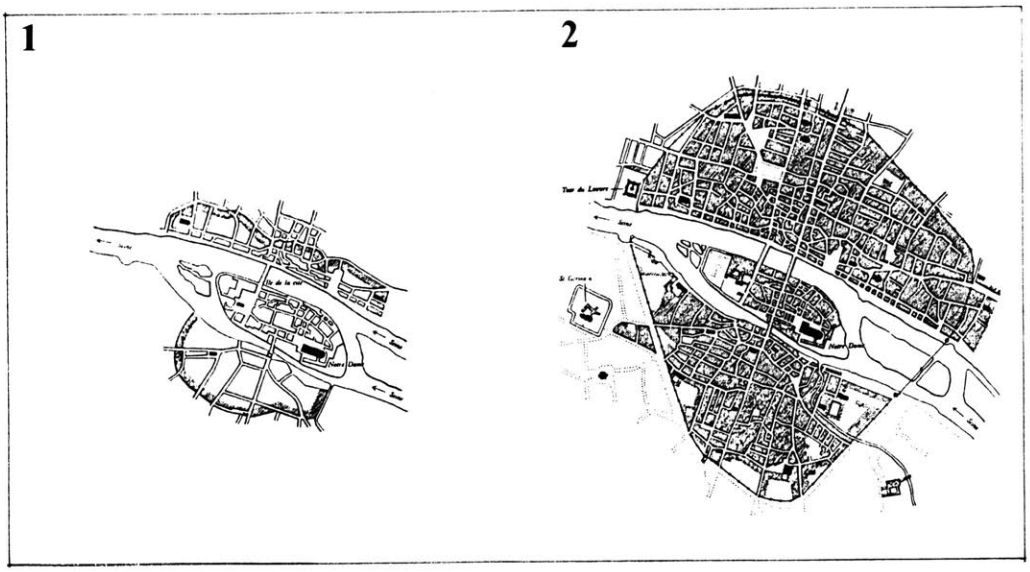


Fig 1
Paris, 1739: The center and origin of the city on Île de la Cite´.



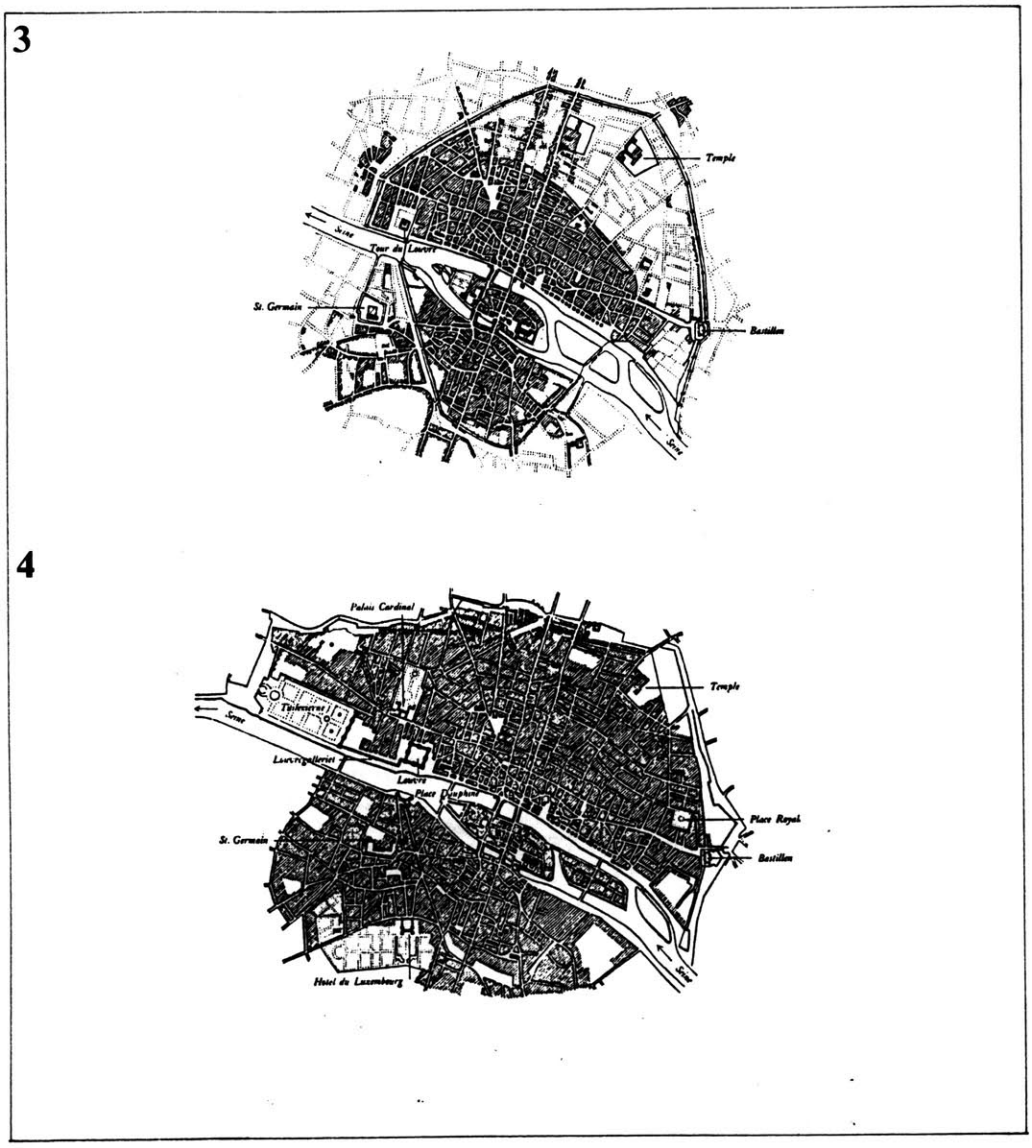


Fig 2
Growth of Preindustrial Paris:
1. Early middle ages.
2. Paris, 1180 -1225.
3. Paris, 1370.
4. Paris, 1676.
(Source: S. E. Rasmussen, Towns and Buildings, The MIT press, 1969.)

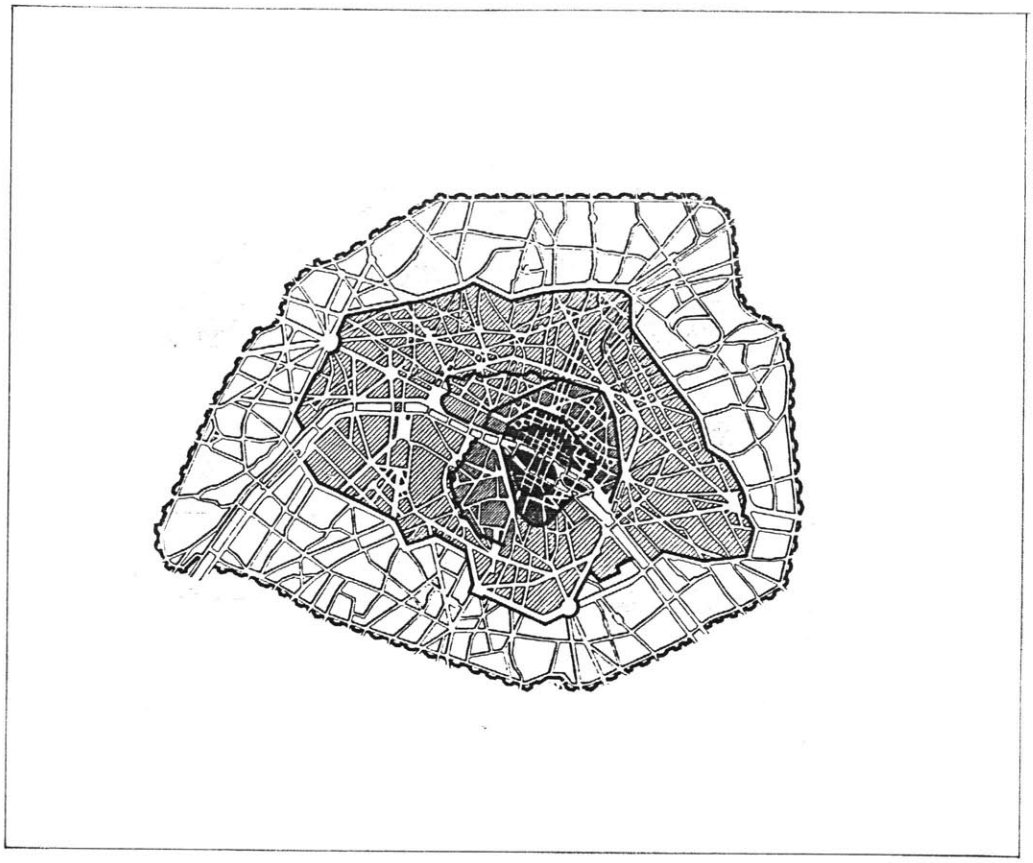


Fig 3
Growth of preindustrial Paris within fortification walls. Presently, the ring-boulevards of the city follow these walls.

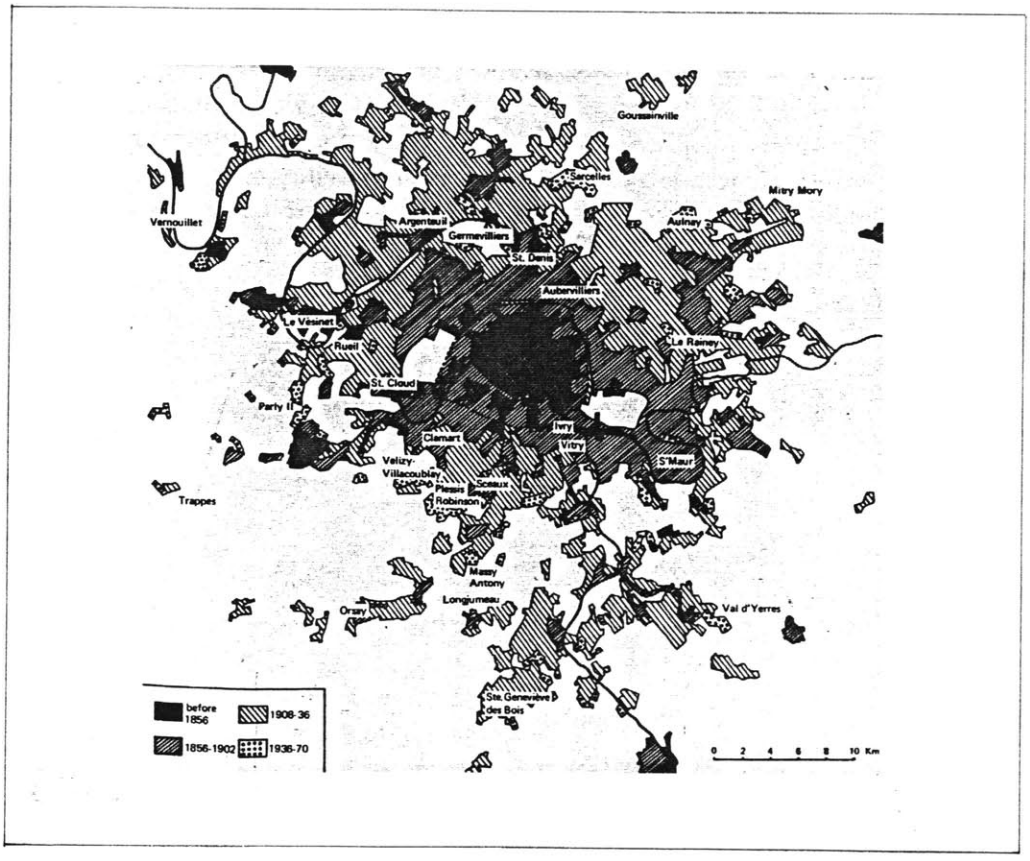


Fig 4
Growth of industrial Paris, 1856-1970. (Source: Lozano, E., Community Design and the Culture of Cities, The MIT Press, 1990.)

Part 1

Chapter 1

Background

The North End

The North End is one of the oldest neighborhoods of Boston. Boston's first Puritan settlement was established here in the 1630s. At that time the North End was noticeably different in physical size and shape from its present-day configuration (figures 8 & 9). It was a peninsula connected by a neck with the mainland. A large tidal inlet, later known as Mill Pond, was one of the more prominent features of the landscape. When a causeway was built, roughly paralleling the present Causeway Street, a large segment of the North End — extending inland to Salem and North Margin Street — was covered with shallow water. This low marsh was channeled by a canal along the present Blackstone Street which severed the North End from the rest of Boston during the colonial period.[1]

With the filling of the Mill Pond that began in 1804 and the canal in 1833, the area of the original Island was increased from sixty-three acres to hundred acres of which the inner seventy acres were devoted mainly to residential purposes (figure 10). The remainder, on the south and east side of the area, was largely devoted to industries and never been used for residential purposes.[2] Over the years as additional land was created by the filling of the harbor, the tradesmen, merchants and the artisans moved their operations from the inner core of the area to the new waterfront and freed the area that became a fashionable residential neighborhood.[3] Up to the time of the Revolution, the North End remained as an important residential quarter of the town.[4]

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[1] The North End: a survey and a comprehensive plan, Report of the City Planning Board, Document 40, 1919, p. 1.
[2] Ibid.
[3] Fanny Rosembaum de Cohen, Open Spaces in the North End, Housing Settlement Design Series, Laboratory of Architecture and Planning, MIT, 1978.
[4] Jane Holtz Kay; Lost Boston, Hougton Mifflin Company, 1980, p.28.

After the Revolution in 1775, the loyalists who had given the North End its aura of glamour and fashion left the town. The Yankee artisans and mechanics became the major inhabitants of the area.[5] However, under the tremendous pressure of industrialization and immigration in the 19th century the North End presented itself as a dilemma for the flourishing Boston.

Nineteenth century Boston and the North End

The industrial revolution in the nineteenth century changed the old Boston way of life. In the place of the quiet, simple, slow-moving life of farming and churchgoing and the leisurely, gracious living of the merchants and busy life of the artisans of the federal era, Boston began to throb to the pulse of industrialization with frequent inventions and innovations, and changed from a busy picturesque town to a thriving utilitarian city. (Table - Events in Boston, 1820 - 1930 presents a synopsis of these events.)

The machine replaced hand labor, brought in new techniques, and speeded up production. And as the factory system developed the social order changed. Personal contact between the artisan and the apprentice was replaced by the more impersonal relationship of capital and labor. The craftsmen gave way to the factory workers. The ready-made replaced the hand-made, especially in the clothing business, and the machine produced quantity rather than quality. Many new products and processes were introduced at this time. Rubber imported from India was made into fire hose, waterproof clothing, tires of bicycles and carriages. The boot and shoe business became one of the largest industries in Massachusetts. Foundries made iron pipes, stoves, furnaces, locomotives, elevators, marine engines and sewing machines in large quantities. Old companies as well as the newly founded businesses expanded and installed the latest machinery. Power looms increased the manufacture of cloth. Towns surrounding the city built great mills of brick and stone beside the rivers. Large painted wooden factories, often with a clock tower stretched out along the railroad tracks. Numerous inventions brought new methods, tools, and machinery. Steam first and then electricity replaced water power.

Methods of transportation also changed rapidly. New types of private and public carriages, as well as commercial wagons, tip carts, and drays clattered along the newly improved roads. In the earlier part of the era commercial teams and wagons were drawn by large, strong horses which were later replaced by the street-cars drawn by horses. Trolley cars succeeded these horse railroads. They ran along iron tracks in the middle of the street and were propelled by electricity. When downtown Boston became congested,

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[5] David Ward; Nineteenth Century Boston: A study in the role of antecedent and adjacent conditions in spatial aspects of urban growth, Ph. D. Dissertation, The University of Wisonsin, Department of Geography, 1963, p.28.

; in Boston, 1820-1930

)29	1830- 1839	1840-1849	1850-1859
oston's population is 43,298. :ign born. oston becomes a city and . charter which grants a :ight aldermen, and forty- ıncilmen to the city. Until)ston's executive power is mong mayor, aldermen and :ouncil. 'he city begins installing 's first municipal sewer ınd gas lighting. ruction of Boston's market filling in of the land around lock. ın omnibus line to Roxbury ıe first of twenty that will)ston by 1845. America's first awn train travels over the Railway from Quincy to Hill. wo toll bridges open, ; population growth in : suburbs.	**1830** - Boston's population is 61,392. 18% foreign born. Boston is second only to New York in imports, but manufactures are estimated at only $13,400,000. The city does not have a single industrial establishment that employs one hundred workers. Boston forbids the pasturing of cows on the Common. **1832** - The Boston Almshouse has cared for 613 immigrants, while the Free Dispensary treated 1331 immigrants, 1234 of whom were Irish. **1833** - The British Cunard Company agrees to make Boston the western terminus of their Liverpool packet. No Cunarder carried immigrants until 1863. Ferry services to East Boston are authorized. The South Cove Associates forms to build a terminal for Boston and Worcester Railroad. By widening Boston Neck their project ultimately adds seventy-seven acres to the city. **1835** - The Boston-Providence and Boston-Lowell Railroads open. **1836** - Boston Common is enclosed with 5,932 feet of iron railing. **1837** - Boston's first commissioner of sewers and drains is appointed. Over 5000 Irish have landed in Boston, the largest amount recorded before 1840.	**1840** - Boston's population reaches 93,383. 22% foreign born. Native Bostonians begin to move to the suburbs and it is estimated that there was a thirty percent change in the nature of the population before 1850. **1844** - The Enoch Train Line, founded this year, carries thousands of those who fled the Irish famine. **1845** - The potato famine ravaged Ireland. Boston's population reaches 114,366 of whom 32.6% are foreign born. In the next decade, 230,000 Irish will land in Boston. Boston's proposed water system wins legislative approval. **1847** - Boston sends four ships of provision to aid famine victims in Ireland. Boston's eight railroads bring 20,000 suburbanites into the city each day. A building boom is underway but wages fall due to the presence of cheap Irish Labor. **1848** - New establishments include Hinckley and Drury Locomotives and the Globe Iron Works. **1849** - Boston's suffers an epidemic of Asiatic Cholera that kills 1000 citizens.	**1850** - Over a quarter million people live in the Boston are. The city has over 46,000 Irish among its 138,788 residents. 46.7% foreign born. From 1850 to 1855 Boston's Irish population increases 200%. **1851** - Boston completes installation of ninety-six miles of sewer pipes. **1854** - The Massachusetts legislature amends the Boston Charter to allow mayoral election by plurality. Boston amends the charter that gives the mayor veto powers. His appointees remain subject to approval by the aldermen. **1855** - Boston's population reaches 161,429. 53% foreign born. The harbor's nineteenth century high point was reached when two hundred docks and five miles of wharfage handled 541,644 tons of shipping. The filling of the Back Bay begins. An additional 1000 acres will be added to Boston over the next forty years. Boston becomes the first large American city to integrate its public schools. The city also opens girls high schools. **1859** - First escalator patent by Nathan Ames.

Events in Boston, 1820-1930 contd.

1860-69	1870-79	1880-89	1890-99
1860 - With a population of 177,902, Boston ranks as America's fourth largest city; her railroads carried 13.5 million passengers yearly. **1861** - Elizabeth Peabody founded first kindergarten in the United States. **1863** - Hancock House demolished for nonpayment of taxes. **1865** - Boston, utilizing its seemingly inexhaustible supply of Irish labor, ranks as America's fourth manufacturing city. The Boston system of manufacturing utilizes good machinery and a wise division of relatively unskilled labor. **1866** - The city creates first municipal baths. Leveling of Fort Hill begins; its dirt , with some imported from Needham, will help filling the Back Bay.	**1870** - The population of Boston reaches 292,687. Boston appoints its first superintendent of Common and Public Grounds, and names a Board of Street Commissioner. **1872** - An epidemic of small pox results in creation of a three-man Board of Health. The Great Fire of Boston consumes sixty-five acres and causes losses of $75 to 100 million. New building codes were promulgated. First elevator patent for a vertical-geared hydraulic electric elevator in Boston by Cyrus W. Baldwin. **1875** - Boston's first Park Commission is appointed. A water Board is created and municipal sewer system is extended into the suburbs. **1876** - Alexander Graham Bell invents the telephone and its wires soon to stretch to Salem and beyond.	**1880** - Boston has a population of 362,839, of which 60% is either foreign born or second generation. The city produces clothing, iron, shoes and sugar products. It also remains a printing center. **1882** - Construction begins on Olmsted's Fenway Park, part of the 'Emerald Necklace'. **1884** - City reforms its contracting procedures and expands park system. **1885** - Boston approves the new charter giving all executive and administrative power to the mayor. **1889** - Whitney introduces the electric trolley in Boston. The entire street railway system is electrified by 1892.	**1890** - With a population of 448,477, Boston ranks as America's sixth city. It remains landlord's paradise here 81% of all residents rent. In the North End, Italian immigrants obtain their own parish, Sacred Heart, as they create an ethnic enclave. **1892** - A Metropolitan Park Commission is created. **1893** - A fire destroys $5,000,000 of property in the downtown area. Edwin Mead organizes Boston's Twentieth Century Club, and it opens in 1894. **1897**- First public indoor gymnasium in America opens. America's first subway track from Boylston to Park Streets opens for service.

Events in Boston, 1820-1930 contd.

1900-1909	1910-1919	1920-1929
1900 - Boston has a population of 560,892. Although it has declined as a textile and leather center, Boston retains its importance in the printing and woolen trades. **1901** - The Water and Sewerage Boards are combined into a single commission. The first elevated line in Boston opens and reduces transit time from Dudley Street to Sullivan Square by half. **1904** - The East Boston Tunnel opens, reducing the travel time to downtown Boston from half an hour to six minutes. **1905** - Honey Fitz, the hero of the North End, becomes the mayor. He inaugurates council meetings in various neighborhoods to obtain citizens' ideas. The harbor and wharves undergo renovation and the Street Department is reorganized. **1907** - George F. Parkman dies, leaving $5,400,000 to aid the Boston Park System. **1909** - The Boston City Club, led by Edward Filene, begins to plan for an honest, a more modern Boston. Led by Edward Filene, Robert Woods, and Louis Brandeis, the "Boston 1915" movement is officially launched to seek Charter revision, educational reforms, and to develop a more livable city.	**1910** - Boston is America's fifth largest city. The Public Works Department is created. **1912** - The department of Public grounds, Baths, and Music are merged into a Park and Recreation Department. **1914-1918** - World War I. **1914** - Boston's first Planning Board was formed. **1916** - Boston's first Italian newspaper, La Notizia, begins publications. **1918** - Amendments to the Massachusetts Constitution create a Metropolitan district commission to run the sewers, parks, and water supply of the Boston Area. Boston influenza epidemic. **1919** - A Metropolitan District Commission is created uniting the park, Water and Sewer Boards. A massive paving program resurfaces 313 miles of streets and seventy-five miles of sidewalks.	**1920** - Boston's population of 748,060 pays highest property tax in its history. **1923** - Boston's first airport opens. **1925** - City again changes its council system to elect a representative from each ward rather than nine at large councilmen. **1929** - Boston's postwar boom continues as its coastwide trade reaches 12,865,706 short tons, a 51% increase since 1923.

Basic source: Boston: A Chronological and Documentary History (1602-1970); compiled and edited by George J. Lankevich, Oceana Publications Inc., Dobbs Ferry, New York, 1974.

elevated tracks for electric trains were built high up on iron trestles over the surface traffic.

Although Steam trains came to Boston in the 1830s, it was much later in the nineteenth century before the railroads became the great transportation system of the age. They connected Boston with the West and brought the later in more direct touch with Europe by the way of Atlantic seaports. Although the few existing turnpikes and canal boats were still in use, most of the huge new commerce in foods and other commodities was hauled by long freight trains. Bostonians invested heavily in these railroads and more wealth came to the city in return. Huge train stations with long sheds covered with iron-supported glass were erected to serve the several lines running into the city.[6]

The port of Boston continued to be busy and important although New York and other ports on the western seaboard had attracted more and more trade by the middle of the nineteenth century (Table-IV, Appendix). Boston led the country in foreign trade from 1844 to 1854 and its ships sailed to all parts of the world. The demand for speed brought a new type of vessel, the "clipper ships" that were famous all over the world, and brought prosperity and name to the city of Boston. As shipping interests, both passenger and freight, expanded, wharves were improved and new ones built. By the 1880's there were two hundred of these spacious quays, and Boston's waterfront was alive with activities.[7]

The late 19th century also brought innovations in architecture and larger and more efficient buildings. The use of stone, structural iron and the invention of the elevator changed the construction and design of the buildings. Structural iron was a basic new element and cast iron was popular for ornamental details. Large and elaborate lanterns and door grill of iron appeared on banks and other buildings. Interiors were made more comfortable. Furnaces provided central heating. More efficient lighting and set plumbing were installed.[8]

More and more people worked in the offices, railroad terminals, warehouses, factories. And still more jobs were created by the land filling operations, still-expanding railroads and quarries. With this came influx of migrants and immigrants. But until the 1840s it did not posed as a severe problem. As Handlin put it:

> "Up to 1840 Boston has easily accommodated the gradual increase in residents, of whatever nationality, for it was well on the way the way toward a solution of its

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[6] Marjorie Drake Ross; The Book of Boston: The Victorian Period, 1837 to 1901, Hasting House Publishers, New York, 1964, pp. 26-52.
[7] Ibid.
[8] Ibid.

> urban problems. Slowly and often laboriously it had surmounted the original limitations constricting its area. By 1845 the peninsula on which it perched was no longer isolated from the mainland. . . Filling operations in the flats created new land and preclude the possibility of an acute shortage of space. Wide spread building prevented overcrowding and led to a notably scarcity of slums. The rise in the number of persons per dwelling probably "more than overcome by a larger and better class of houses,"[9]for facilities kept in pace with the demand."
>
> "After 1840, however, growth by immigration — completely unexpected and at a rate higher than ever before — violently upset the process of physical adjustment. In 1845 the foremost authority on demography in Boston confidently asserted that there could be no further increase in inhabitants. Yet the next decade witnessed the injection from abroad of more than 230,000 souls, of whom enough remained to raise the population more than a third and to convert a densely-settled into an overcrowded city."[10]

Those who had the ability went out of the city-proper to secure better and comfortable housing. This centrifugal movement separated the rich from the poor. The poor, for various economic reasons, had to live in the city proper. A major part of Boston's poor were immigrants. In 1855 there were approximately 50,000 Irish only within the narrow limits of the old Boston that was almost as many as the entire population of the city thirty years earlier.[11]All these poor immigrants moved basically into the deteriorating neighborhoods of the North End, South Cove, and West End.[12] These early nuclei of the city were not designed to accommodate so huge a population. The areas they covered were simply too small, their one- to three-story buildings too small, their streets too difficult to navigate, their sewerage too primitive, and their wells and springs too few and in many cases already too contaminated to provide properly for the new settlers.[13]

This rapid population growth along with the growth of business and industry made several fundamental changes absolutely necessary in these congested districts of the city. First, it required the construction of new buildings and continual increase in building size to accommodate the surging demand for more and more space. This involved expanding the buildings horizontally to increase the size and number of rooms on every floor, as well as enlarging them vertically to increase the number of floors. Second, growth necessitated the continual change of building design and repeated renovation of existing buildings to accommodate changing land use demands. This included remodeling of residential buildings from single family to multifamily dwellings or adapting non-

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9 Lemuel Shattuck; Report to the Committee of the City Council, Census of Boston 1845, Boston, 1846, p. 55.

10 Oscar Handlin; Boston's Immgrants: A study in Acculturation, 1790-1880, The Belknap Press of Harvard University Press, Cambridge, Massachusetts, 1959, p.88.

11 Naomi Miller and Keith Morgan; Boston Architecture 1975-1990, Prestel-Verlag, Munich, 1990, p.31.

12 Handlin, 1959, p.50.

13 Rosen, 1986, p. 10.

residential building for residential use; sometimes it also required the conversion of residential buildings into commercial or industrial uses. Third, growth also necessitated improvements in the architectural design and construction to protect against fires, to ensure light and ventilation. Fourth, intensification of land use made it necessary to introduce various infrastructural conveniences into the areas. The narrow and crooked streets had to be widened and straightened, properly graded, sewered, and paved in order to channelize the traffic. On the other hand, schools, fire stations, and buildings for different social services had to be constructed. Parks and play ground had to be established to give the inhabitants of these areas some relief from the pollution, congestion, and ugliness of their increasingly built up surroundings. Finally, it was also necessary to remove the unsafe and unhygienic land uses from the localities.

Taking two different sectors as study areas, the next chapter of the thesis will identify and study the nature of different morphological changes and changes in the residential architecture in the North End between 1860 to 1930 on the Sanborn maps. It will also investigate the adequacy of these changes to meet the exiting demands of the 19th century.

Fig 5
The North End in the 1878 Map of Boston. (Source: Miller, Boston Architecture, 1975-1990.)

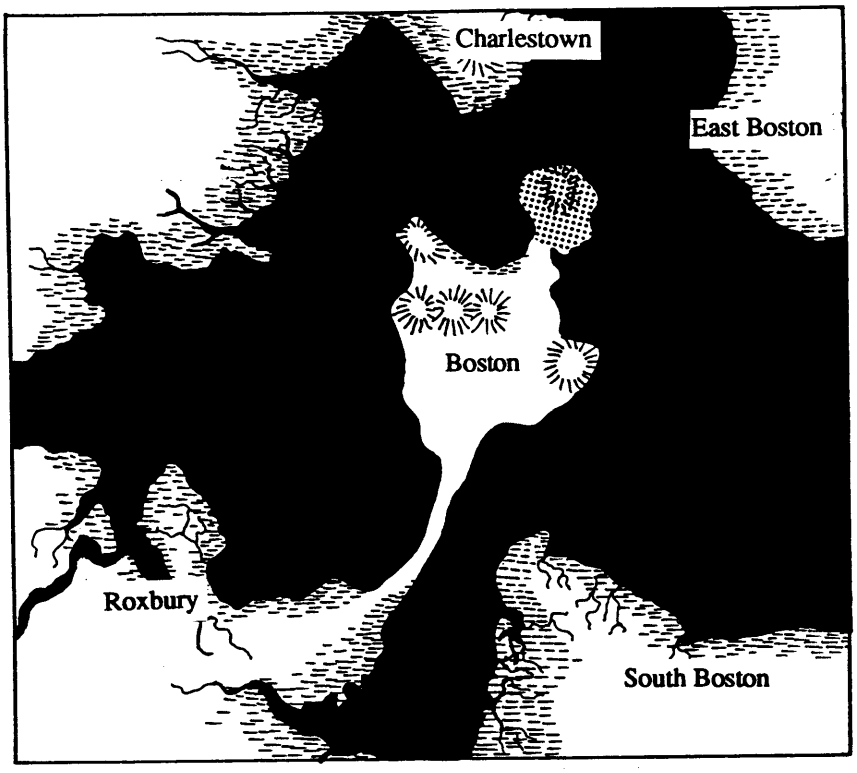


Fig 6
The Boston peninsula and its environs, 1630.

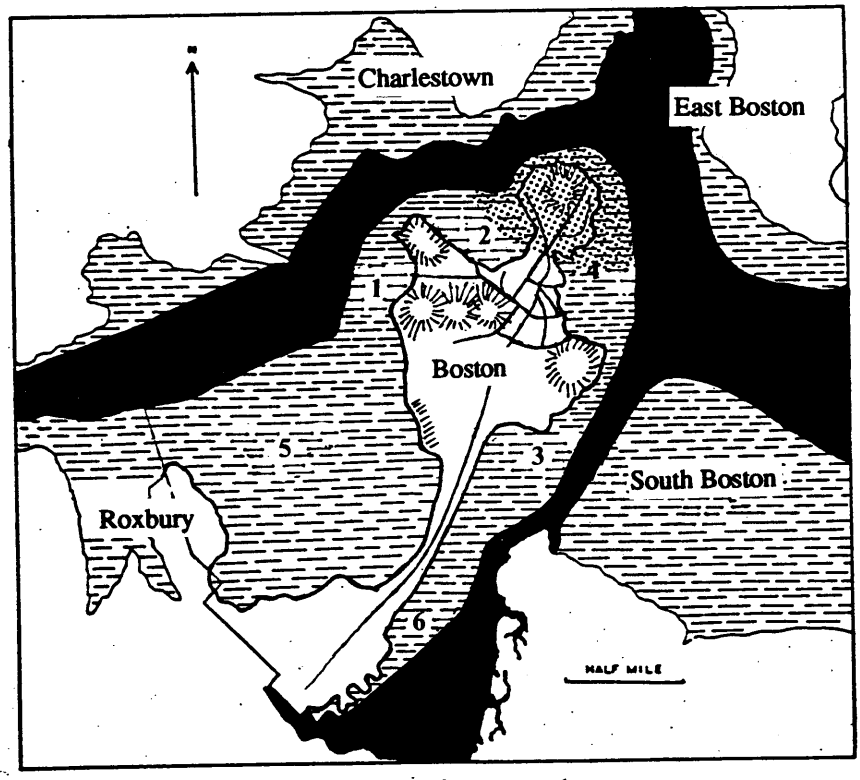


Fig 7
Land filling operations in the 19th century Boston.
1. West Cove - 80 acres, 1803 - 1863.
2. Mill pond - 70 acres, 1804 - 35.
3. South Cove - 86 acres, 1806 - 43.
4. East Cove - 112 acres, 1823 - 74.
5. Back Bay - 580 acres, 1857 - 94.
6. South Bay - 138 acres, 1850 - present.

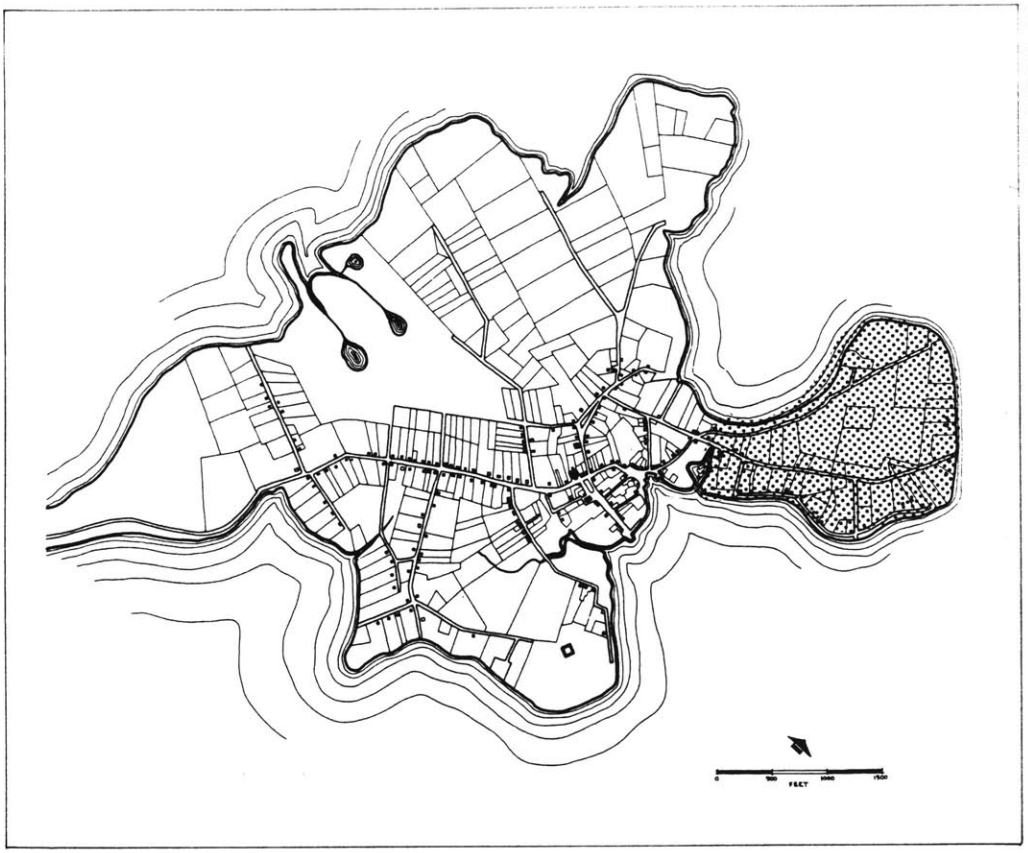


Fig 8
The North End in 1640's Boston. (Map of the Book of Possessions, Drawn by Samuel Clough).

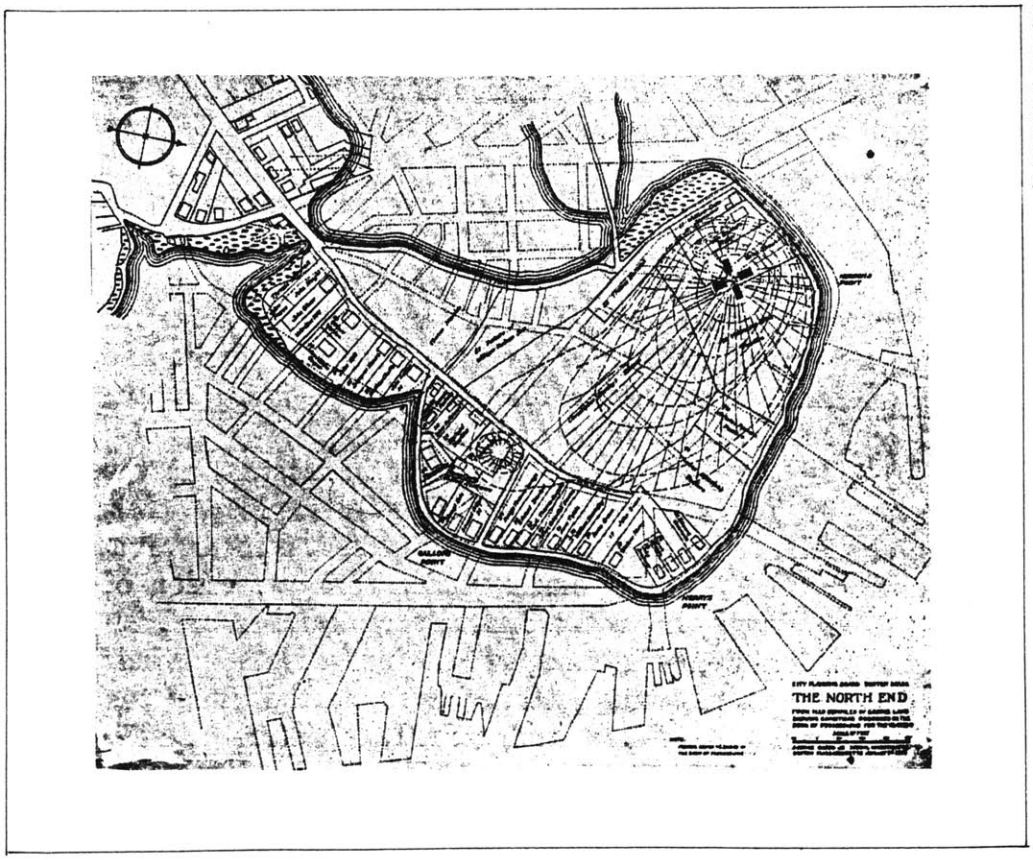


Fig 9
The North End as it was in 1645 (from map compiled by George Lamb), superimposed on the 1910's map.

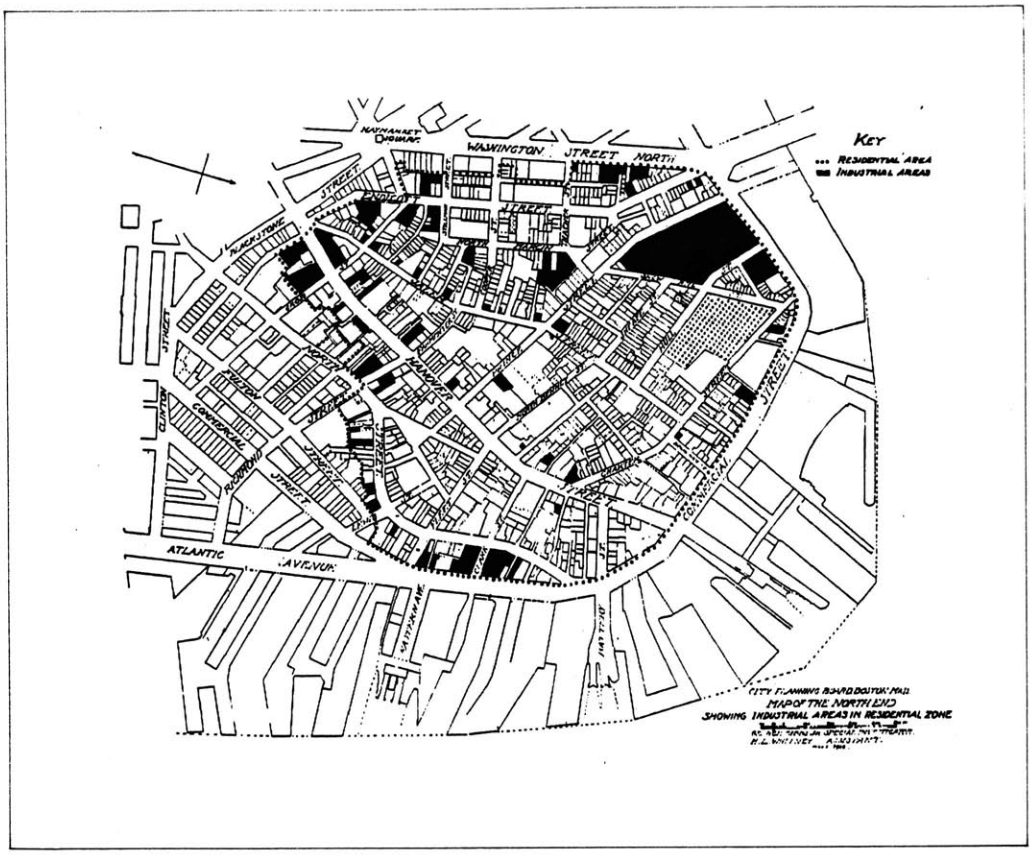


Fig 10
The boundaries of residential zone with non-residential areas in 1919. (Source: The North End Report, 1919.)

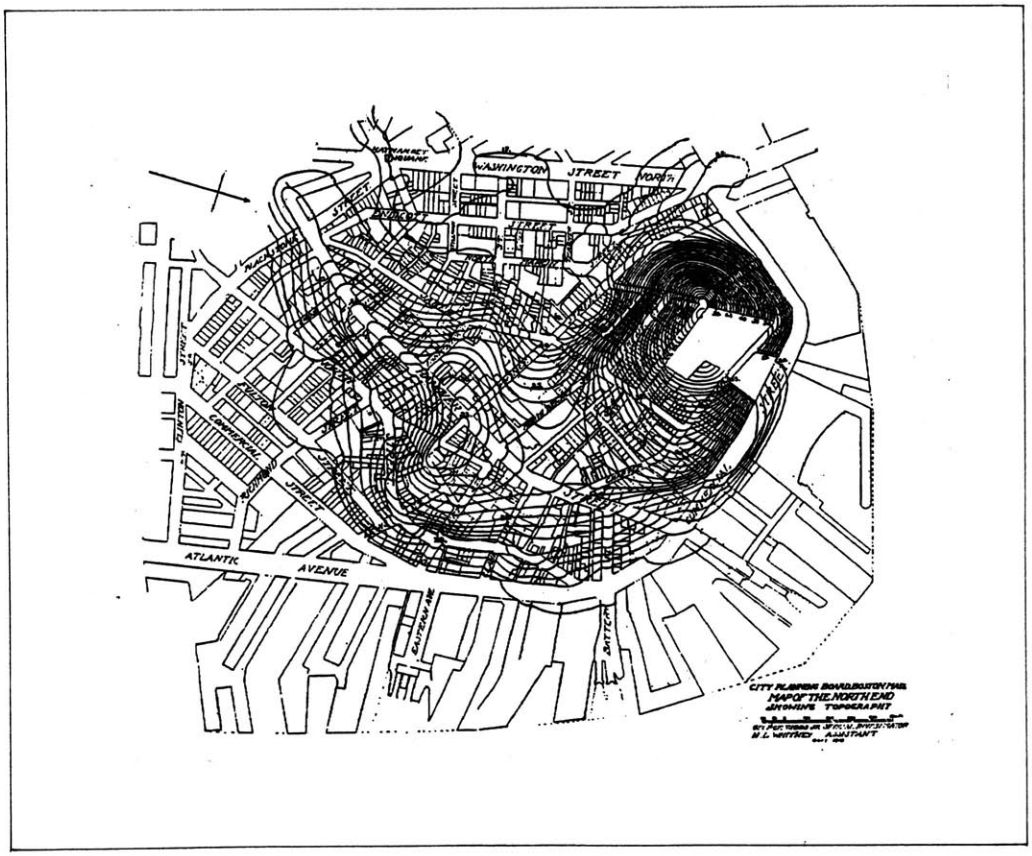
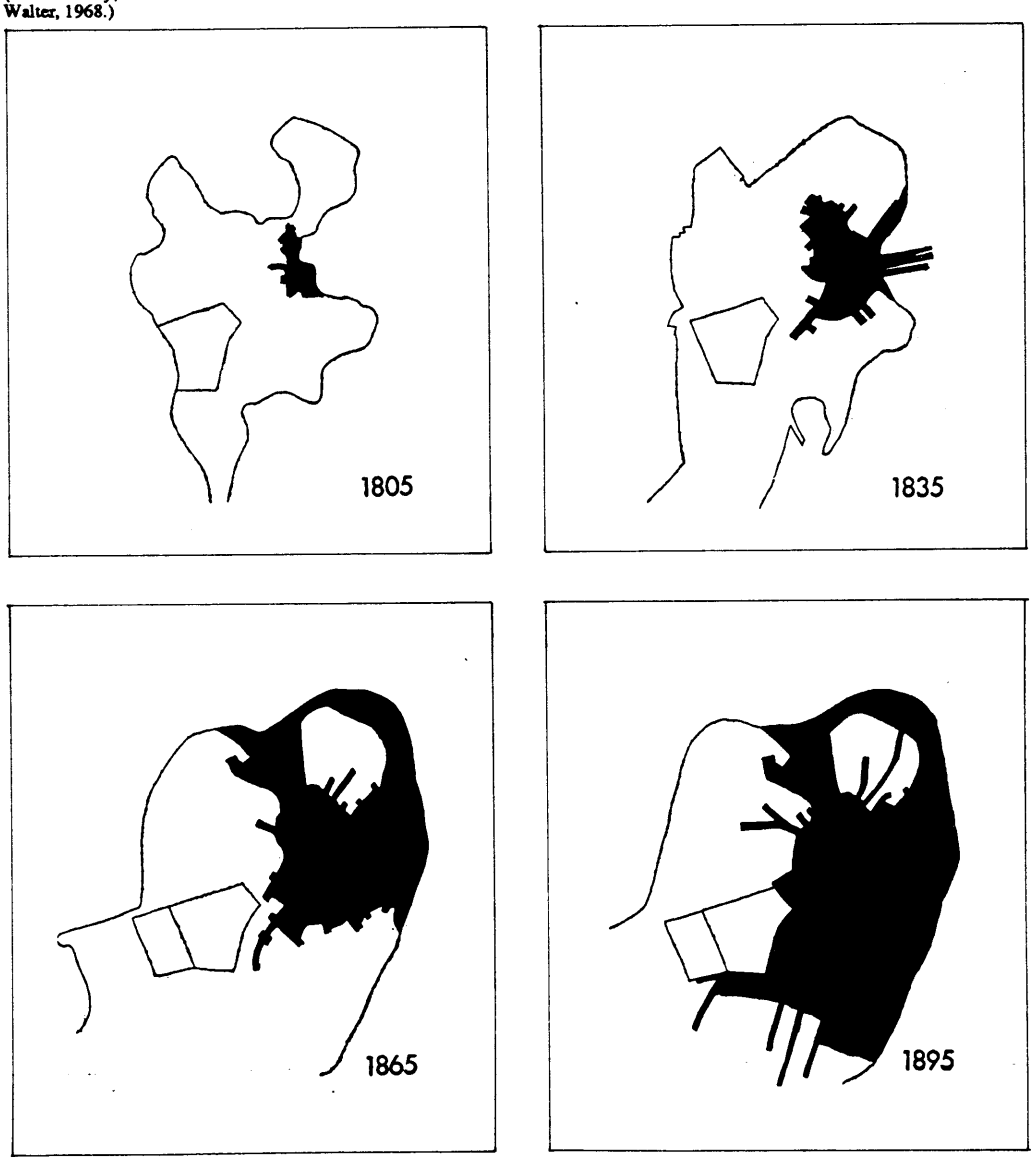


Fig 11
The Topography of the North End. (Source: The North End Report, 1919.)

Fig 12
Boston's commercial expansion and persistence of the North End as a working class Neighborhood. (Source: Firey, Walter, 1968.)



Chapter 2

Changes in the built-environment of the North End
1860 to 1930

Study on the Sanborn maps

The *Sanborn maps* [1]were instrumental in this chapter to investigate the physical and structural changes in the study areas of the North End. These maps show the height of the buildings, their construction characteristics, their major internal use and details of land subdivision (figure 13). But not all the information that was necessary for the study could be obtained from the maps. So some items had to be separately developed from the map for the sake of the study which included the land subdivision, the built forms along with the subdivision, the foot-print of the built forms or the figure-ground, the height of the buildings, the principal land uses and the street pattern or the access system.

As each diagram referred to only one specific attribute of the area, comparing diagrams for different period in a set revealed interesting information. For example, the changes in the areas for every ten or twenty years were fairly gradual and almost imperceptible, but these changes taken together from 1867 to 1929 were quite substantial. Similarly, changes in the first forty years between the 1867 and 1909 were moderate, but for the later part of the study period they were quite significant.

The study was done for the years 1867, 1887, 1897, 1909, 1919, and 1929 in eleven blocks out of about thirty-six blocks of the North End, taken as representative of changes in the inner core of the North End. They were completed in two different segments for the sake of comprehensibility (figure 14). Study area-I is surrounded by

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[1] Sanborn maps are, however, technical tools for the use of insurance companies. They are often impractical for design and planning because of their scale. In the absence of any other tool that traced the changes in the North End, Boston with enough accuracy and details, these were used for this thesis.

Hanover, Charter, Salem and North Bennet Streets, study area-II by the Salem, Charter, Snow Hill and Prince Streets. The study revealed different changes in the morphology and residential architecture of the study areas. (More specific information and data on these changes are provided in Tables 1, 2, 3, 4 & 5 and also in the 'Summary of persistence and change in the study areas' at the end of the chapter.)

Different morphological changes in the study areas

Changes in land subdivision and land platting pattern (figures 17 to 22)

For the first two decades there were only a few cases of site assembly and land platting. Otherwise the land subdivision pattern was fairly consistent for both study areas. There were some significant changes made through site assembly in the 1910s and 1920s in study area-I, but the configuration of the new site followed the previous property lines and configurations. Study area-II changed even less. There were only twenty cases of site assembly and twenty five cases of new subdivision in that area for a period of sixty years (Table 4). Throughout the study period the land subdivision pattern in both the areas remained highly irregular and fragmented, which might have restricted any significant development on the sites.

Changes in open spaces and access system (figures 19, 20, 23 and 24)

There was virtually no change in the access system and open spaces for the first thirty years in both study areas except for the widening of Hanover Streets in the 1870s. There were no sidewalks and services, such as sewerage and water pipes for the first twenty years. But they were more or less laid down in the 1890s. Though there is no evidence of street grading on the maps, it can be assumed that the streets were already graded within the study period.

In the 1900s the builders started using tunnels on the peripheral buildings to get to the inner lots of the study area. But by the next decade the proliferation of the tunnel completely overwhelmed the access system of the area. As a result the density of the built forms increased substantially.

There were no open spaces in the areas except the Copp's Hill Burial Ground in study area-II. It was not until the 1910s that an open space was introduced in the built fabric of study area-I. In the 1920s that was enlarged through further demolition of buildings and was named the Paul Revere Mall. This space eliminated Webster Avenue, Revere Place, and some other narrow alleys and dead ends from the area.

Changes in built forms (figures 25, 26, 29 and 30)

There were no changes in built forms for the first twenty years except some minor additions and extensions for both study areas (Table 3 & 4). The horizontal extensions of the built forms ceased due to lack of spaces. So vertical extension was the basic mode of change during the study period. Most of the one-, two- , or three-story buildings of the study areas were transformed into four- or five-story buildings in this period. For example, the number of one- to two and a half story-buildings in study area-I dropped from eighty in 1867 to only five in 1929, while the number of four- to five-story buildings increased from two in 1867 to eighty in 1919. It then fell again to sixty when buildings were demolished to introduce Paul Revere Mall (Table 1 & 4).

In the 1910s and 1920s both study areas underwent vigorous reconstruction. But it was essentially fragmented in the hands of owners, and because lots were narrow these new houses remained as narrow as the previous ones. There were also changes at the level of surface details and architectural elements. Bay windows and access tunnels were introduced for the first time in the area. There are still sixty-one houses with bay windows in the area from that period (Table 5).

Construction techniques also changed during the later part of the study period. In the first thirty years, most of the buildings had brick shells and wooden floors with framed roofs. In some cases they had only brick fronts, and wooden houses were also not uncommon. According to the maps, most of these houses were not fire-proof, and were poorly built and already rundown. But the newly constructed flats were brick buildings with flat composite roofs spanned with structural iron and concrete.

Most of the institutions were also rebuilt and enlarged in this period including the Eliot School, Freeman School and Michael Angelo School. The Christ Church was also renovated in 1912.

Changes in land uses (figures 15, 16, 27 and 28)

Though the majority of the buildings remained residential throughout the study period, there were significant changes in the nature of these residences. Previously they were subdivided dwellings; now they were tenements or flats — the floor-through apartments.

Most institutions remained on their original sites. Salem Church on Salem Street in study area-I was converted to an industrial school, and a school on Sheafe Street was torn down in study area-II, but it was replaced by another school in the same study area near the Copp's Hill Burial Ground. Some public facilities, like a dispensary on Hull Street, a convent on Sheafe Street, a fire station on Hanover Street, a social service

building on North Bennet Street were also built during later half of the study period. In the 1890s there were some sailor-houses on Hanover Street and Charter Street, but they no longer existed in the 1900s. There were some clubs in study area-I after 1900.

Commercial activities increased on Hanover Street, Salem Street, Prince Street and Margaret Street during the study period. Some of the residences were converted to a post office in the 1910s at the corner of Hanover and North Bennet Streets, but it reverted to the previous use in the 1920s. There were also some bakeries and laundries in the study areas. We know from other sources that a significant number of residences contained sweatshops and other small manufacturing industries on Salem, Margaret, and Prince Streets, specially in the 1870s and 1880s, but they were not recorded on the Sanborn maps.

Changes in the residential architecture

Until the end of the eighteenth century dwellings in the north End were mostly detached houses set in relatively large and wide lots (figures 31, 32). But, pressures of development in the mid- and late-nineteenth century resulted in the predominance of narrow row houses and detached houses disappeared. There were some semi-detached houses shared by several families. The basic house-types, as could be identified from the sanborn maps, were the 'Victorian box' and 'French flat'.

The "Victorian box" (figures 33 to 40)

Most of the row houses of the area during the last half of the nineteenth century was "Victorian box" type house.[2] Usually set on a custom-made base that responded to the irregularities of the topography, this house was a predesigned "box" onto which many additions could be made to suit the particular needs of the owners. It consisted of a series of rooms of identical size, strung along a circulation path or hallway. In tenements no particular functions were assigned to these rooms and often each of these rooms was occupied by a family, with the stairway for the upper floors and the water closet in the hallway.

The width of the available lots influenced the type of these houses. For proper light and ventilation to central rooms, recesses needed to be accommodated in these

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[2] These wooden framed 'box' buildings with slated or tiled roofs were not uncommon during the federal era of Boston. Truly speaking, I could not find any significant difference between the 'Victorian box' and the late Federal house type that was a simplified version of the Adamesque style (for details see, Abott Lowell Cummings; Architecture in Early New England, Old Sturbridge Village, Sturbridge, Massachusetts, 1958). I preferred the term 'Victorian box' because these houses of the study areas were built predominently in the Victorian era. I coined this term from A. V. Moudon's 'Built for Change - Neighborhood Architecture in San Francisco' (The MIT Press, Cambridge, 1986).

houses which formed part of a typology of the row houses (figure 48). Two principal types of circulation, the single-loaded and double-loaded corridor/ hallway also defined the typology (figure 34).

These houses usually had brick exteriors and wooden floors. Some of them only had brick front and rest was of wood. Most of them had framed-roofs; but toward the end of the century, they were all converted to flat composite roofs under the pressure of the tenement housing laws. There are still some of these wooden houses in the area.

The 'French flat' (figures 41 to 47)

This type of residential building was first introduced in the area around 1900 though they had existed in Boston for last 40 years. In 1890 there were more than five hundred "French flats" or apartment hotels in Boston.[3] Hotel Pelham,[4] supposed to be the first "French flat" hotel not only in Boston but in the United States.[5] This flat was probably designed either by Architect Gilman, or Snell in 1857, and was located at the corner of Boylston and Tremont streets. It is believed that this building type had distinct influence from the traditional Parisian flats (figure 42). Both of the probable designers of the flat studied architecture in Paris and may have brought this idea back to Boston with them. On the other hand, Architect Calvert Vaux of New York had argued that he was responsible for the introduction of the flat in the United States in an address to the American Institute of Architects in New York.[6]

Toward the end of the 1880s and 1890s, the French flat had become commonplace, and were used by these middle or lower-middle class people of the North End. The most popular of the 'French flats' was the "dumbbell" type flats (figure 43.4).[7]

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[3] King's Handbook of Boston; Moses King Publisher, Cambridge, Massachusetts, 1878, pp. 55-56.

[4] It should be noted that most of the early apartment houses were called 'Hotels', but such apartment hotels were quite distinct from commercial hotels catering primarily to transients. Though several commercial hotels encouraged permanent residents, apartment hotels did not seek transient guests, although they were popularly described as the habitat of the "newly wed and the newly dead." Something about the design concept of the city's first apartment houses as understood during the period can be gleaned from the 1885 edition of the king's handbook of Boston:

> The "French flat," or Continental system of dwellings, sometimes called "family hotels," — a single tenement occupying the whole or part of a floor, instead of several floors in a house, — gained its foothold in America by its introduction in Boston..... The first building of the "French flats" or "family hotel" class was the Hotel Pelham..... built by Dr. John H. Dix about twenty years ago..... This style of dwelling rapidly increased in popularity, and their number is so great that it is hardly practicable to mention them here. They range from the most palatial and elegant structures, equally beautiful in exterior and interior decorations, to plain and comfortable houses adapted for people of moderate means (King's Handbook of Boston, op. cit., pp. 59-60).

[5] Elizabeth Collins Cromley; Alone Together, A History of New York's Early Apartments, Cornell UniversityPress, Ithaca & London, 1990.

[6] Douglass Shand-Tucci; Built in Boston: City and Suburb 1800-1950, The University of Massachusetts Press, Amherst, 1978, p. 101.

[7] "Dumbbell" type flat was the winning design by James Ware in the competition for better housing design organized by the Plumber and Sanitary Engineer magazine of New York in 1877. The basic requirements of the competition were to design a 25-foot-wide building where every room should have direct exposure to outside light and air, and there should

Builders in the North End found them rather convenient for their narrow plots, because only the developers with great resources could assemble small lots and erect a large building or apartment house. Builders on the typical narrow lot adopted some fairly standard configurations. The most popular plan used small indentations in the flank walls to create light wells; the rooms could look out onto the street, the light wells, or the backyard (figure 43).

Remarks on changes

Although the morphology and the residential architecture of the areas changed continuously throughout the study period, until the end of the nineteenth century those changes failed to make any substantial impact on the physical environment of the area. During this period, changes were mainly in the form of minor extensions and additions to the old buildings. There were also some changes in land uses. Multi-family dwellings were converted to tenements or tenements to sweatshops, which had a negative impacts on the well-being of the area. Toward the end of the nineteenth century and in the early twentieth century, there were some positive — qualitative and non-marginal — changes made to the areas. Schools were reconstructed and a park was built following the existing street pattern, property lines and built forms. In this later part of the study period, there were also changes in the house type, access system, building fenestration, etc.

According to the City Planning Board, these changes were not adequate to meet the demands of a good living environment in the neighborhood. In a report on the North End in 1919, the Board:

> A series of progressive changes have taken place, however, until now it is chiefly a tenement district, so congested that it has already necessitated much regulation and many costly improvements, but still greatly in need of wholesale reformation if living conditions are to be made wholesome and agreeable.[8]

At another place it stated:

> With the enactment of more rigid health laws and regulations, and the untiring efforts of city officials and philanthropic workers, the crowding in rooms and the lack of sanitation and of ventilation have been greatly relieved, but the small lot facing on an inadequate open space still remains, while the demand for habitations in the district seems to be greater than ever. Some improvement is being made in the spacing of buildings on the land, especially where small, unsatisfactory holdings are brought together under a single ownership, while the land values are increasing in a large part of the district.

---

also be outside light in halls, stairs and water-closet inside the building, and it should also have a rear yard. During the next couple of years, hundreds of variations of the "dumbbell" type were constructed in New York only.

[8] The North End; 1919, p. 2.

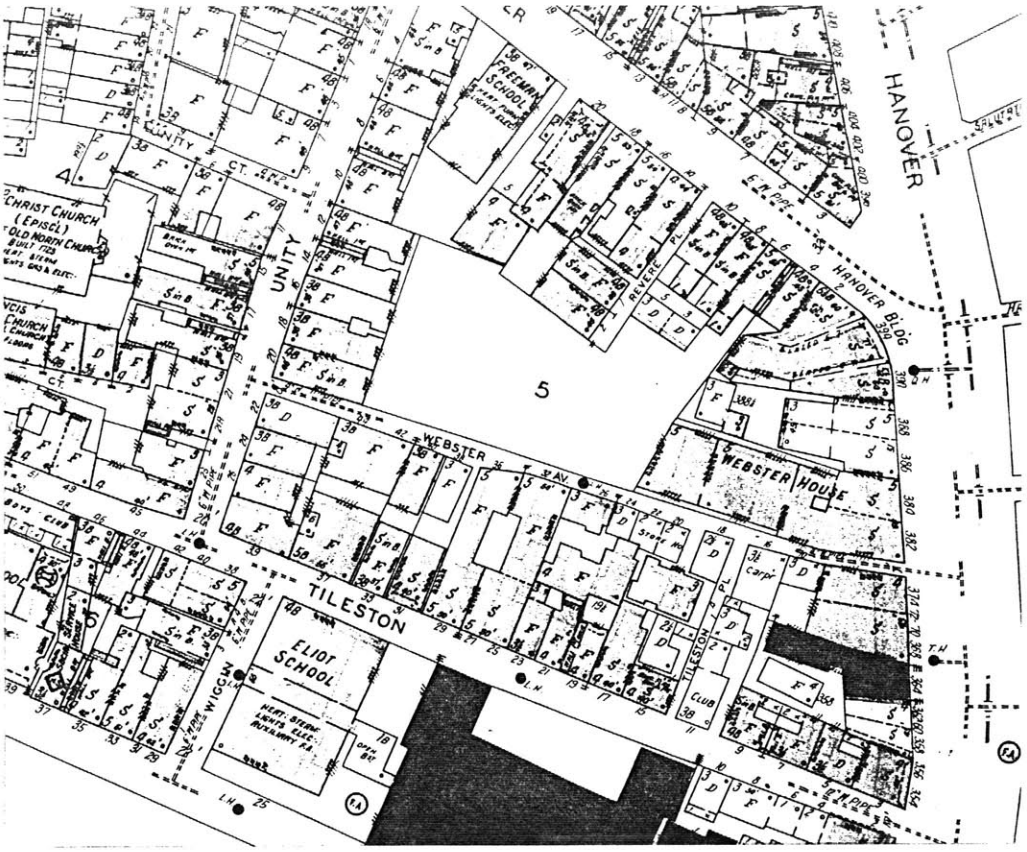
> With the loss of the private yard the need for open spaces has become intense.[9] Through the opening of school yards and play-grounds some relief has been afforded, and in the past many improvements have been made in street areas, but conditions are still inadequate and the present activities for betterment by the city are far too small.[10]

The questions asked here, why did the North End fail to respond sufficiently to the demands? How did the poorly-built houses of the area exist till the end of the century? Why did significant changes happen only toward the end of the nineteenth or after the beginning of the twentieth century? Why did changes have to follow the old conservative property lines? What were the reasons behind the persistence of the crooked narrow streets and lanes, or the irregular land subdivision pattern? What were the reasons for the introduction of 'French flat', 'access tunnel' or 'bay window' in the area? In the next few chapters we will study different historical processes and persistent elements of the North End in greater details to find answers to some of these questions — to see why changes happened in the way they happened.

---

[9] According to the Board, the amount of open space available in the district was slightly more than seven acres. But, considering one acre for each 1,000 population for healthy living, the Board calculated that only one half of the 1920's population would require fifteen acres of open space, which was simply double of the space available at that time (Ibid.; p.31).

[10] Ibid, p. 8.



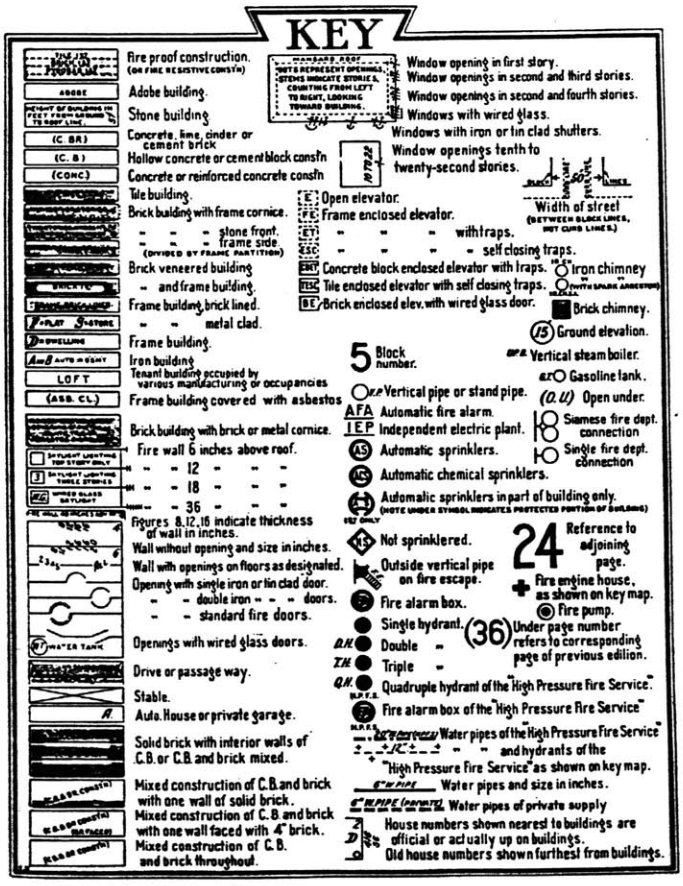


Fig 13
Sanborn map plus key to all symbols used in the map. Note the colors indicating building material cannot be shown here.

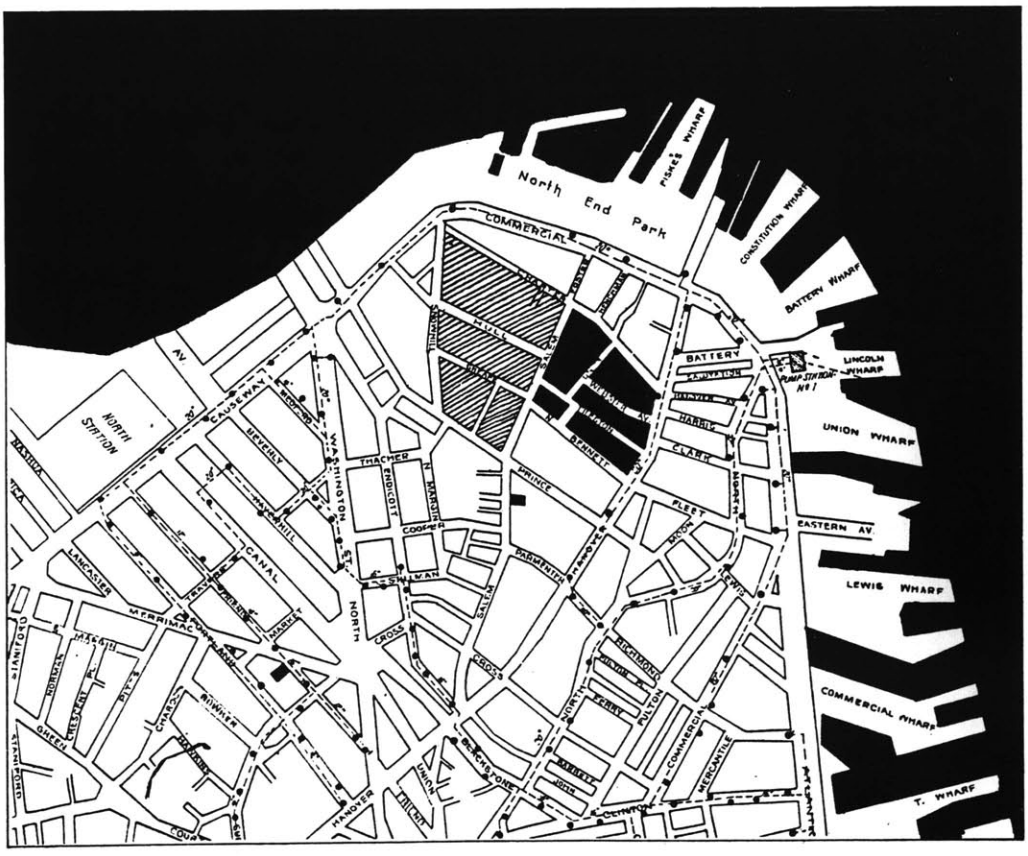
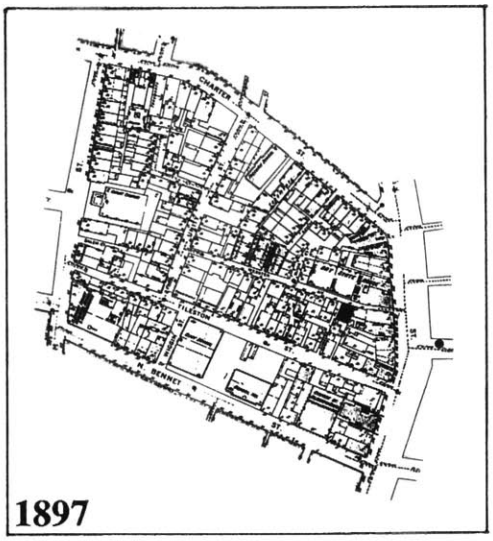
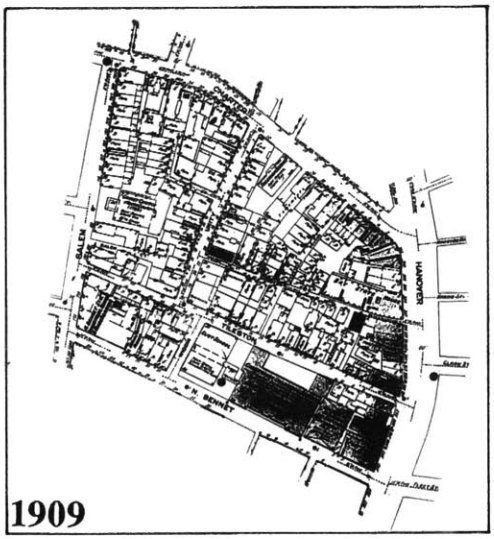


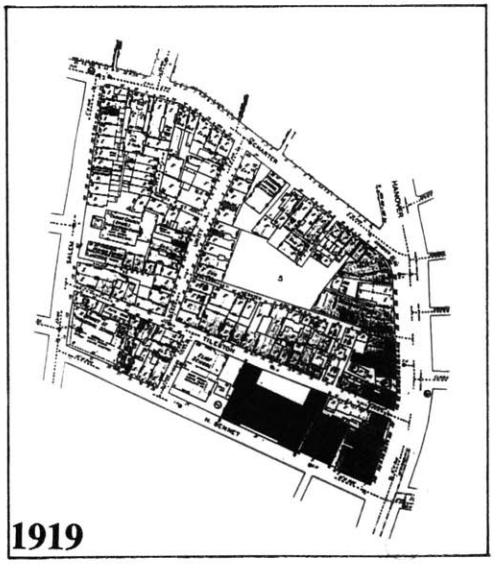
Fig 14
The North End and the study areas.
Study area I - *Black.*
Study area II - *Hatched.*

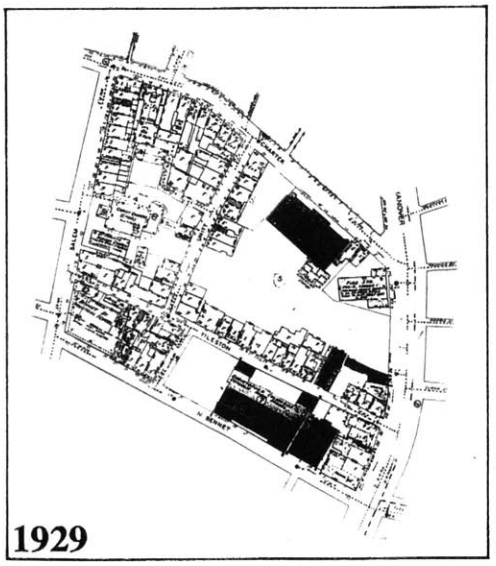
Changes in the morphology of the study areas

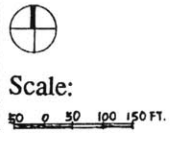
Fig 15
Sanborn maps
for study area I.

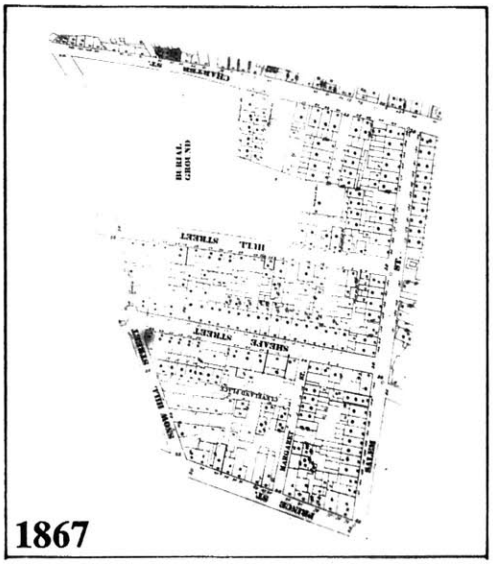












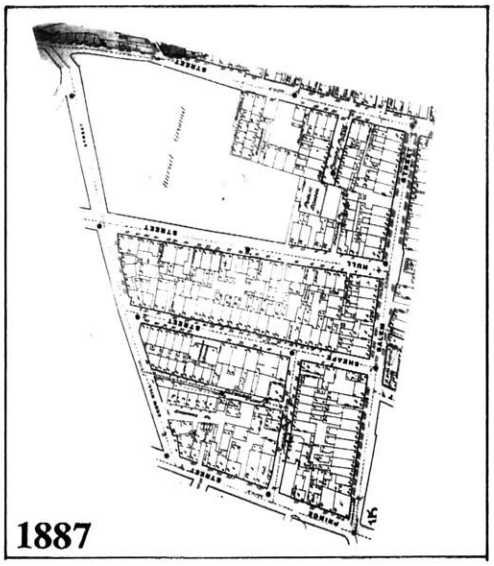
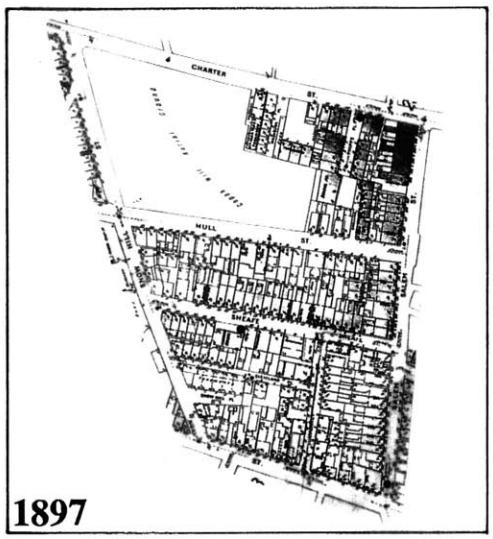
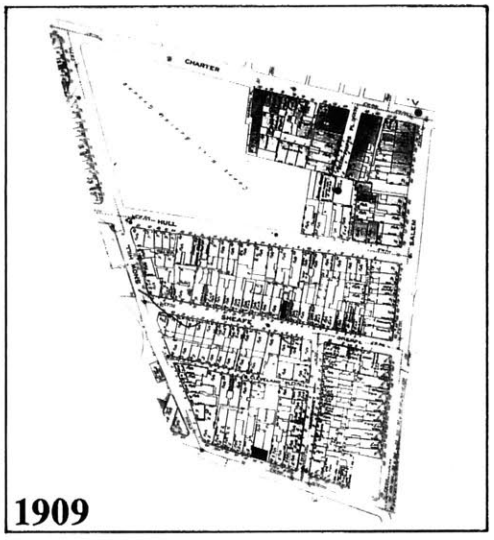
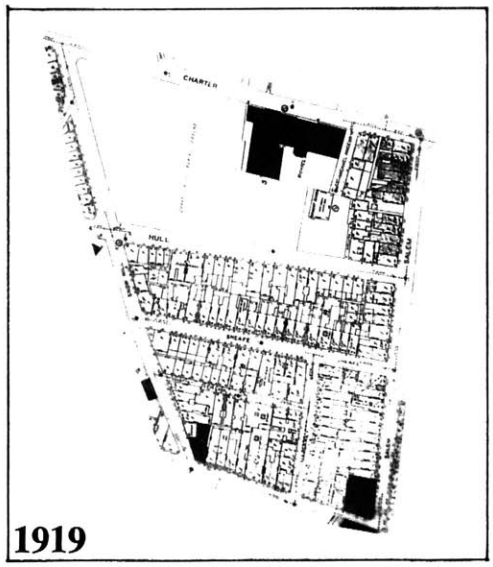
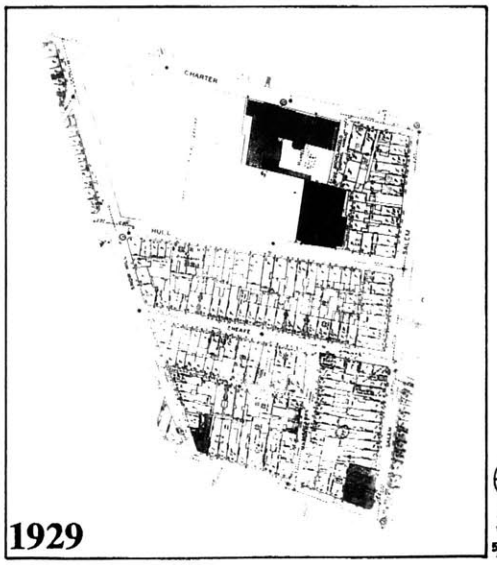


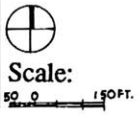
Fig 16
Sanborn maps
for study areaII.











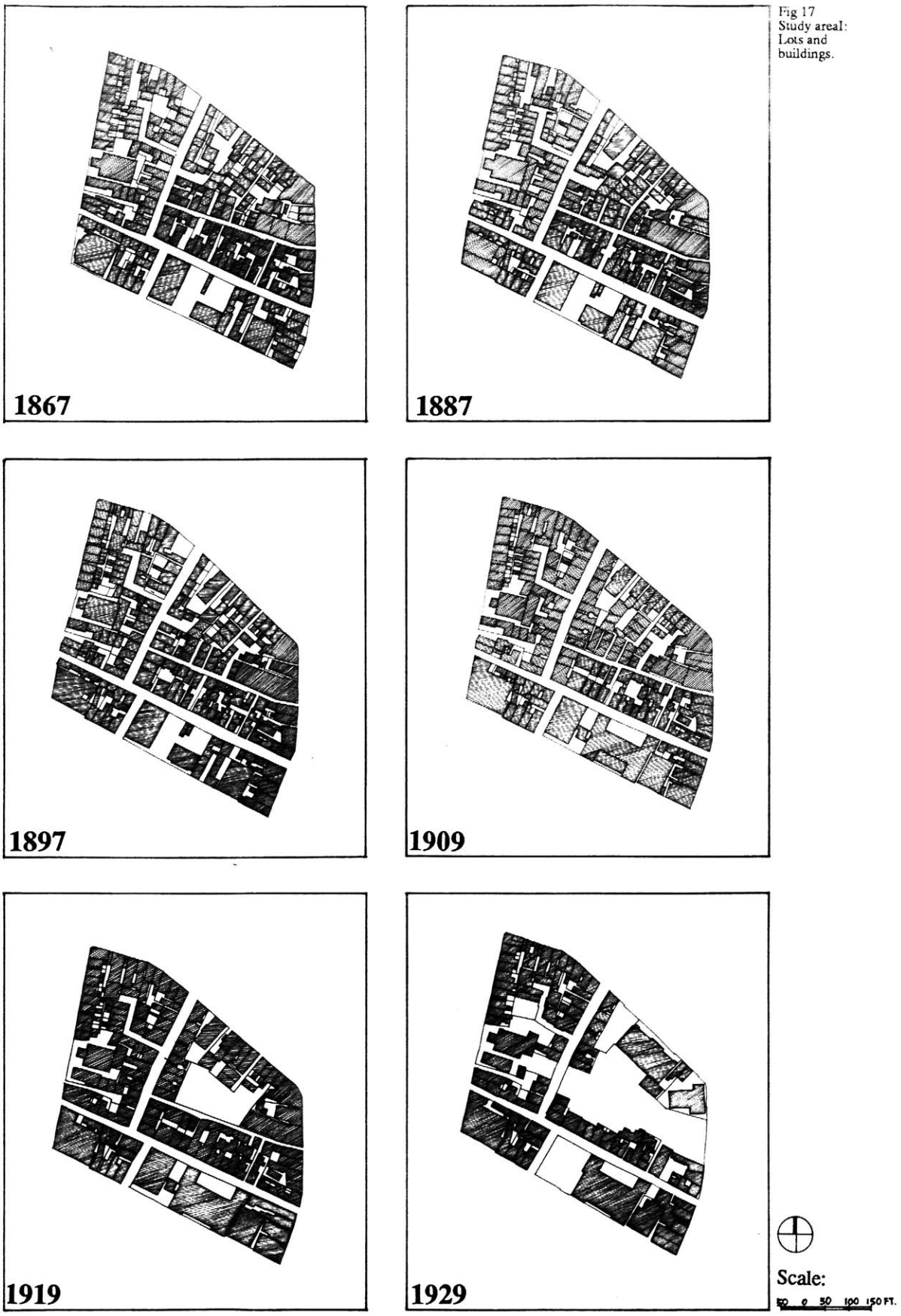


Fig 17
Study areal:
Lots and
buildings.

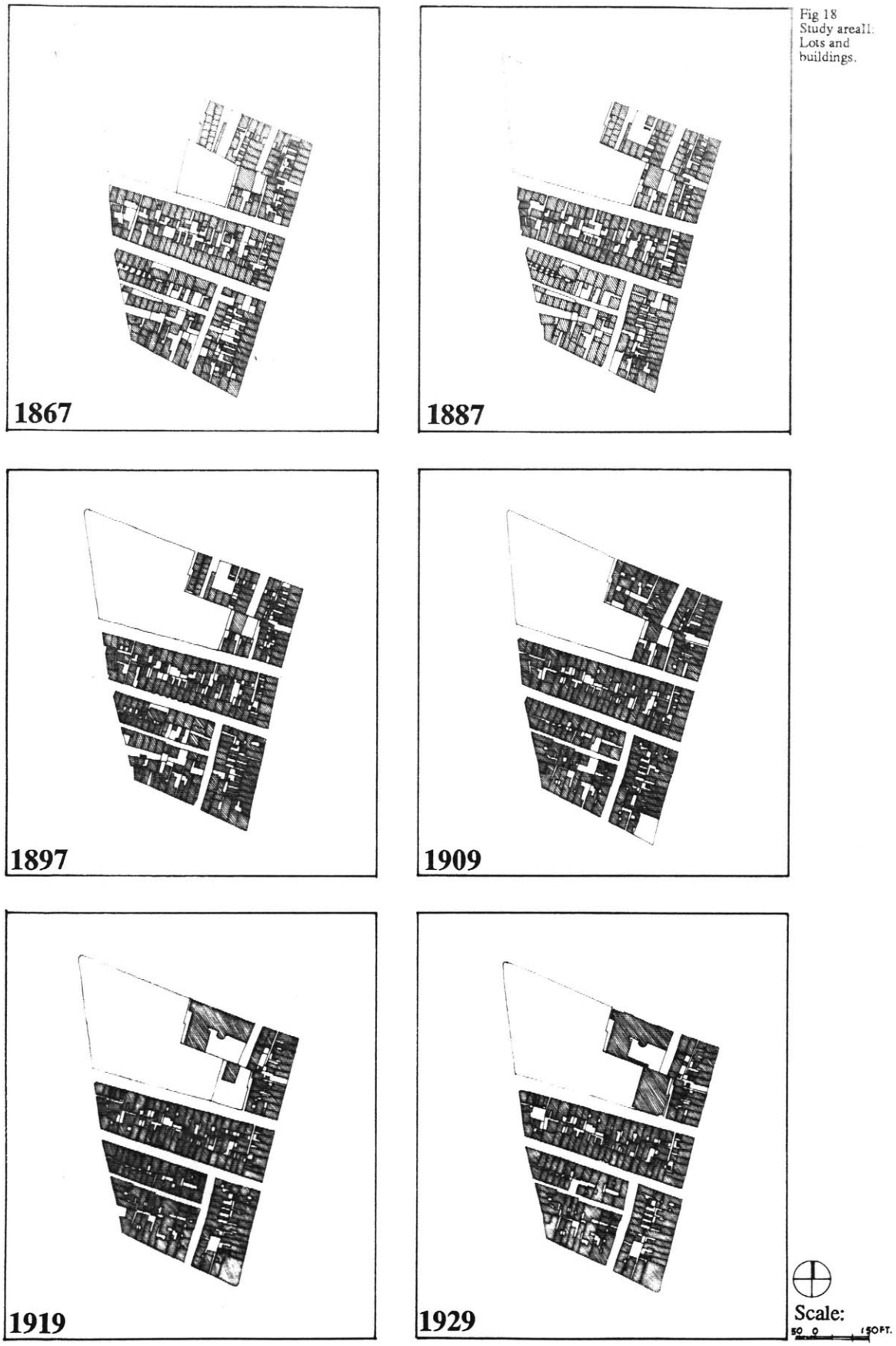


Fig 18
Study areall.
Lots and
buildings.

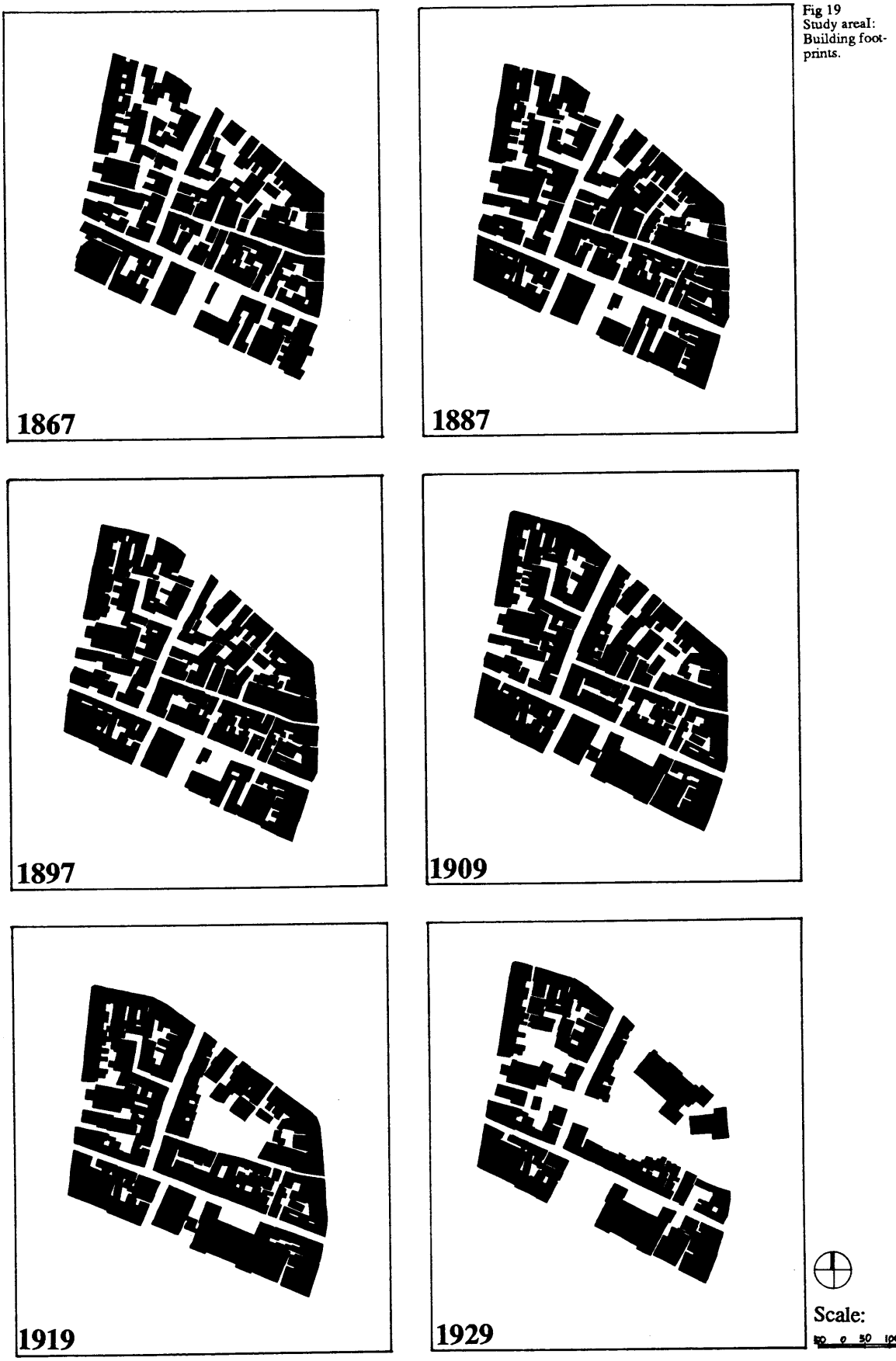


Fig 19
Study areal:
Building foot-
prints.

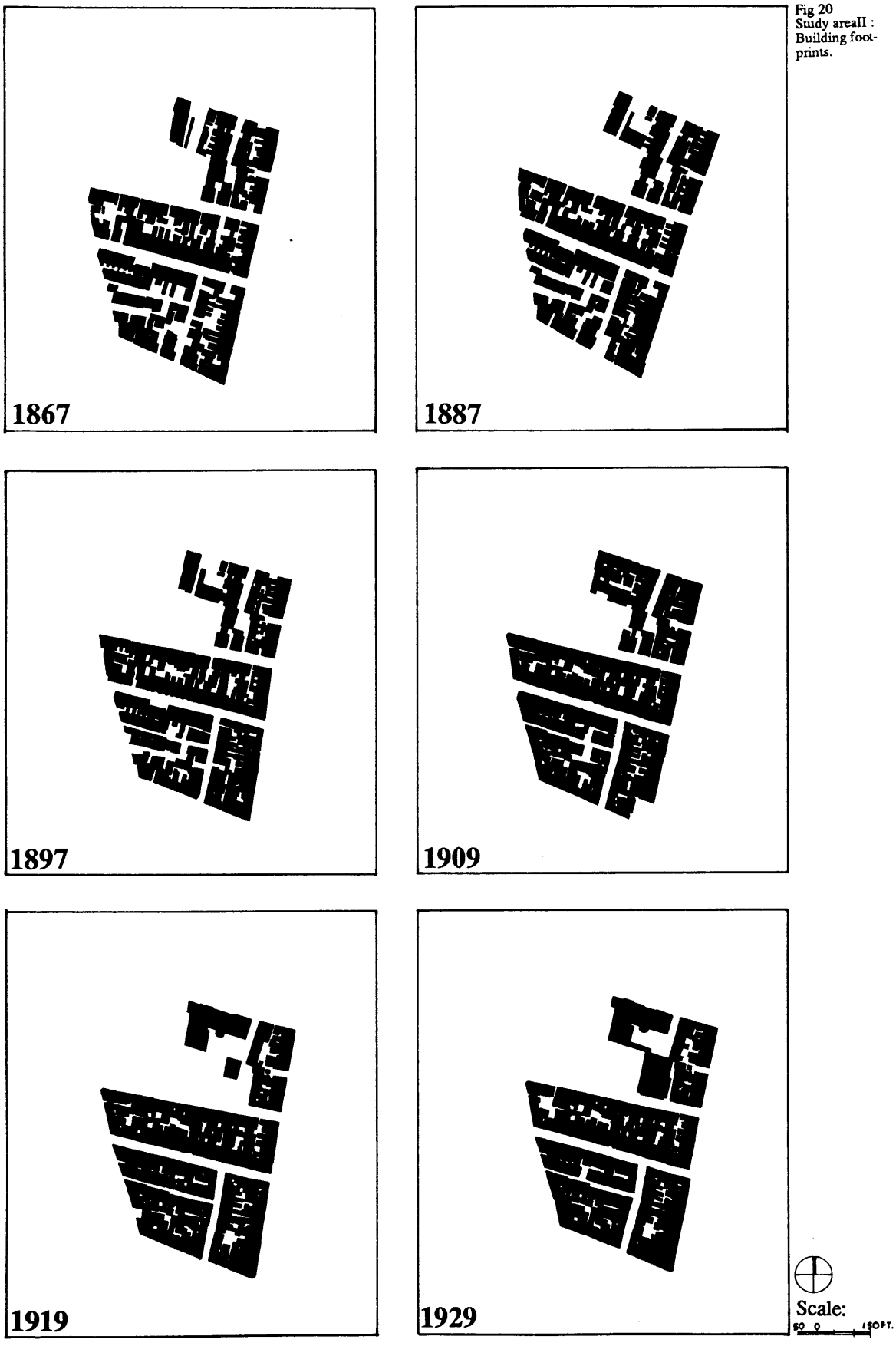


Fig 20
Study areaII :
Building foot-
prints.

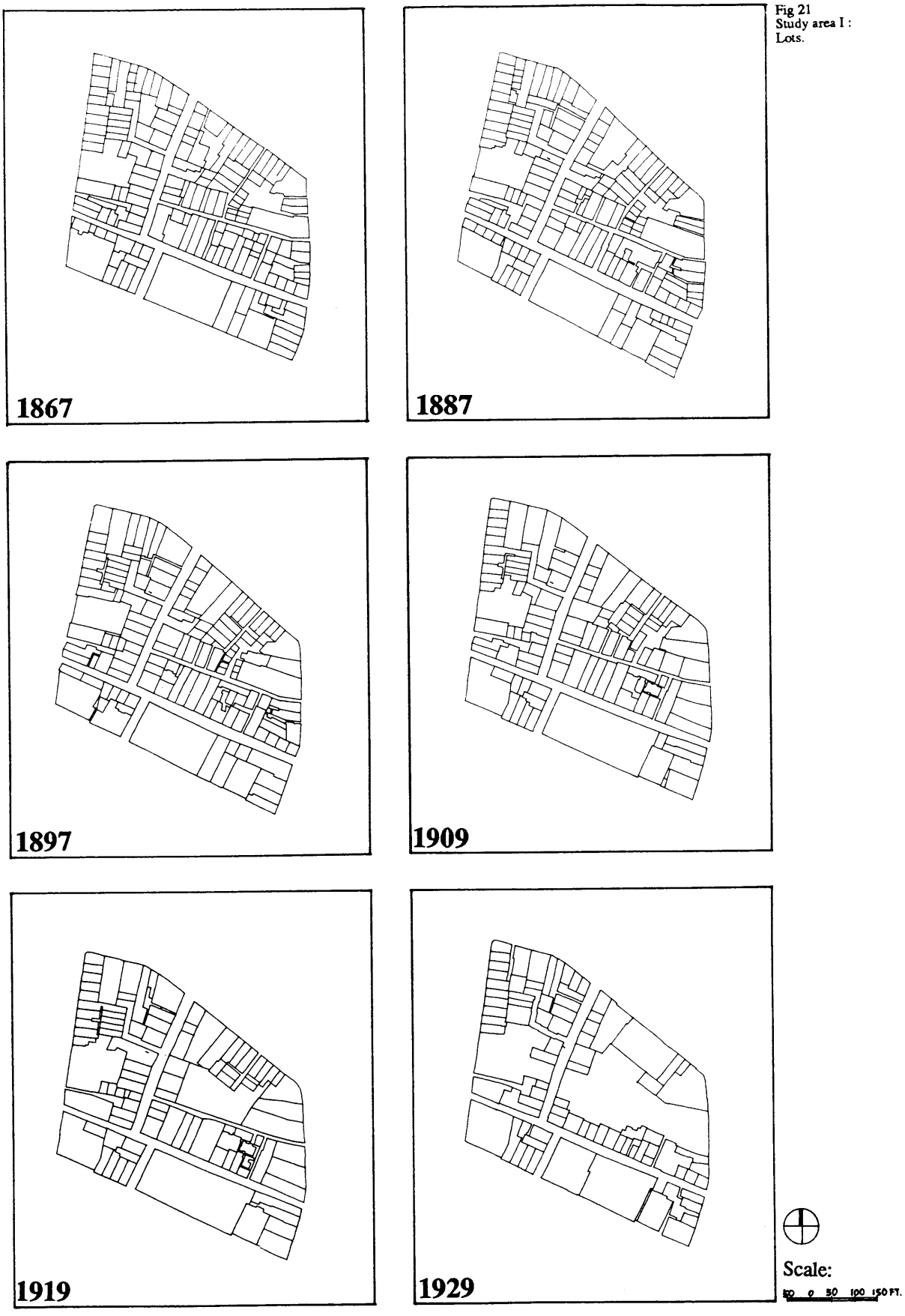


Fig 21
Study area I :
Lots.

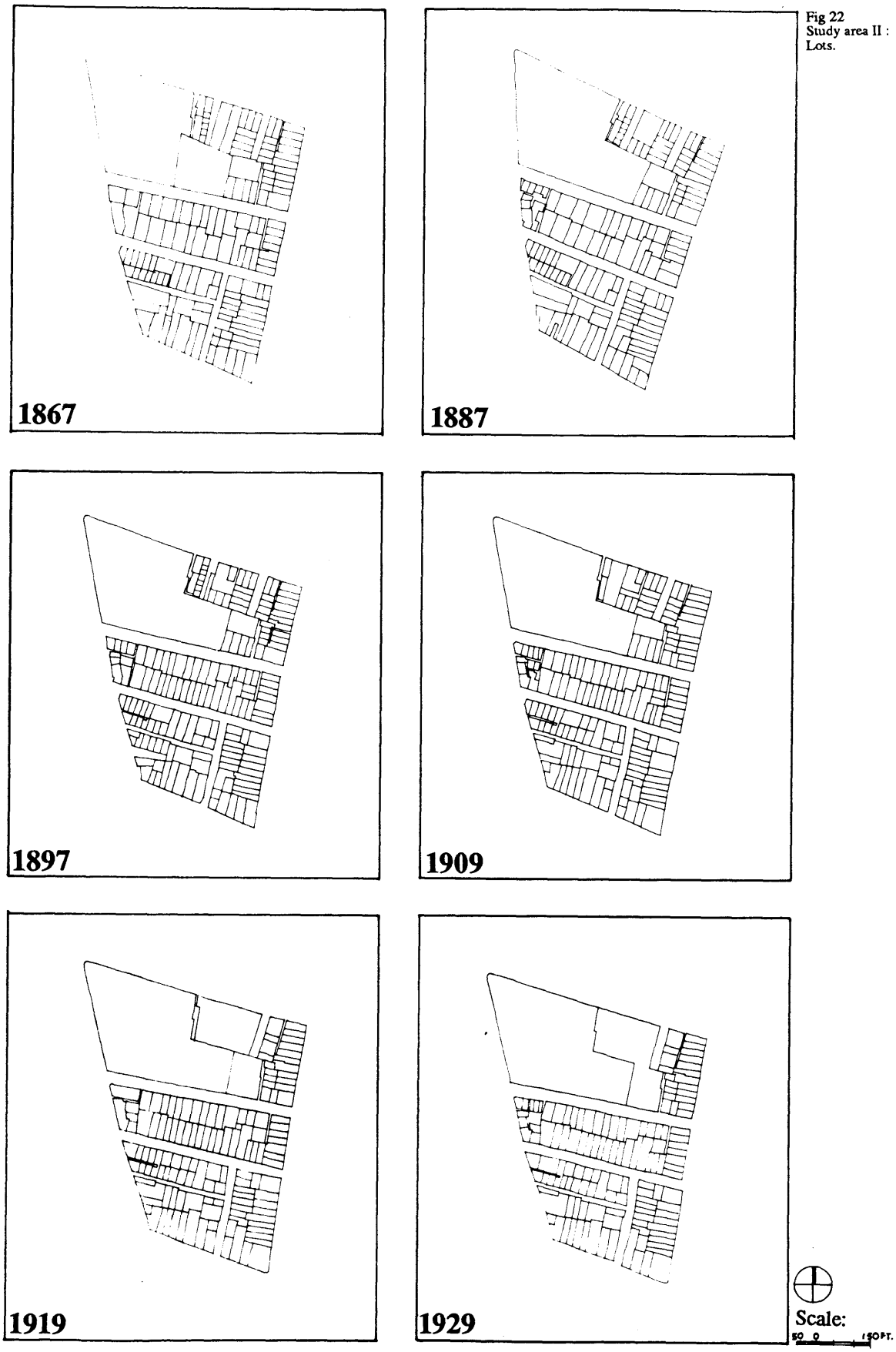


Fig 22
Study area II :
Lots.

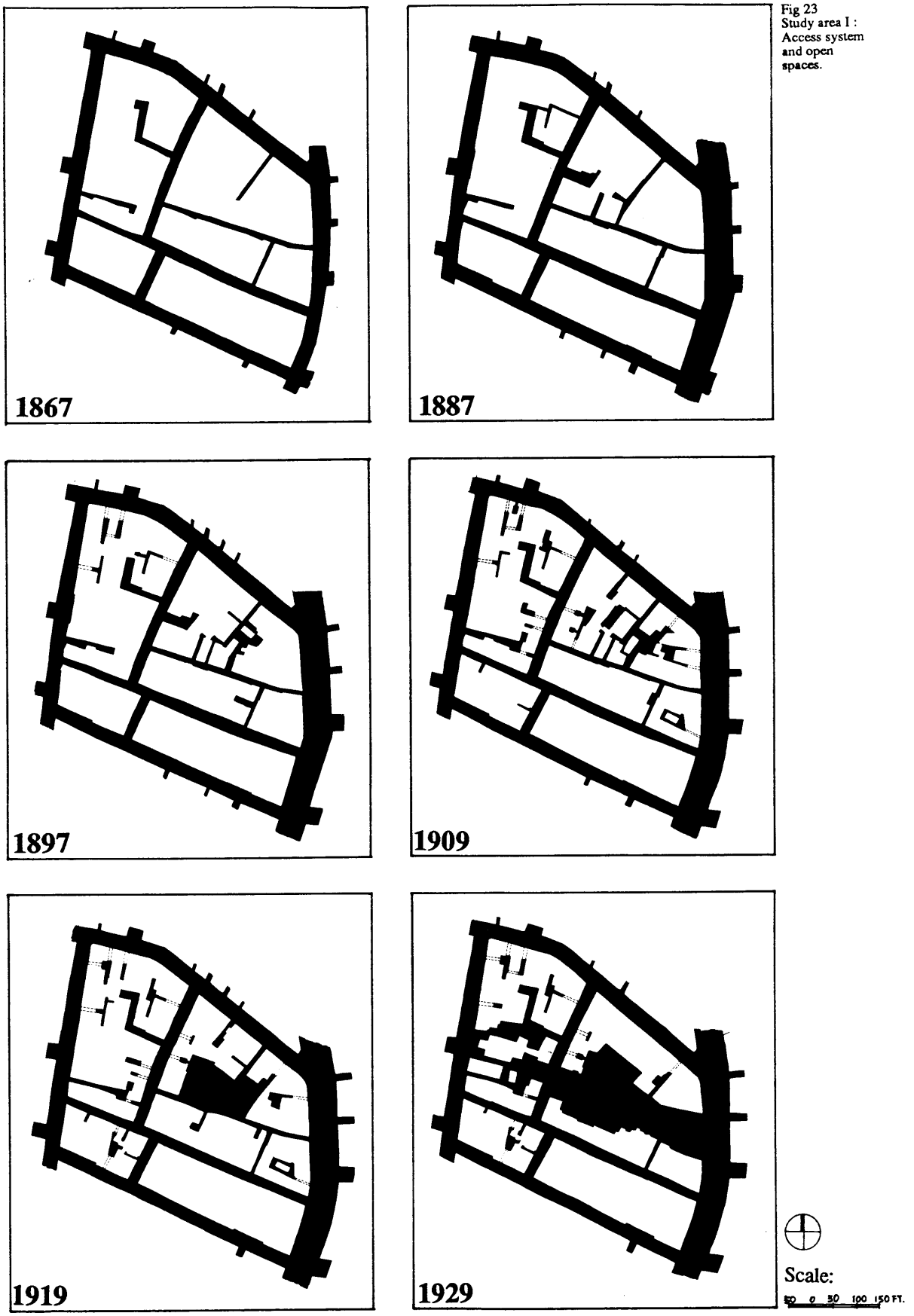


Fig 23
Study area I :
Access system
and open
spaces.

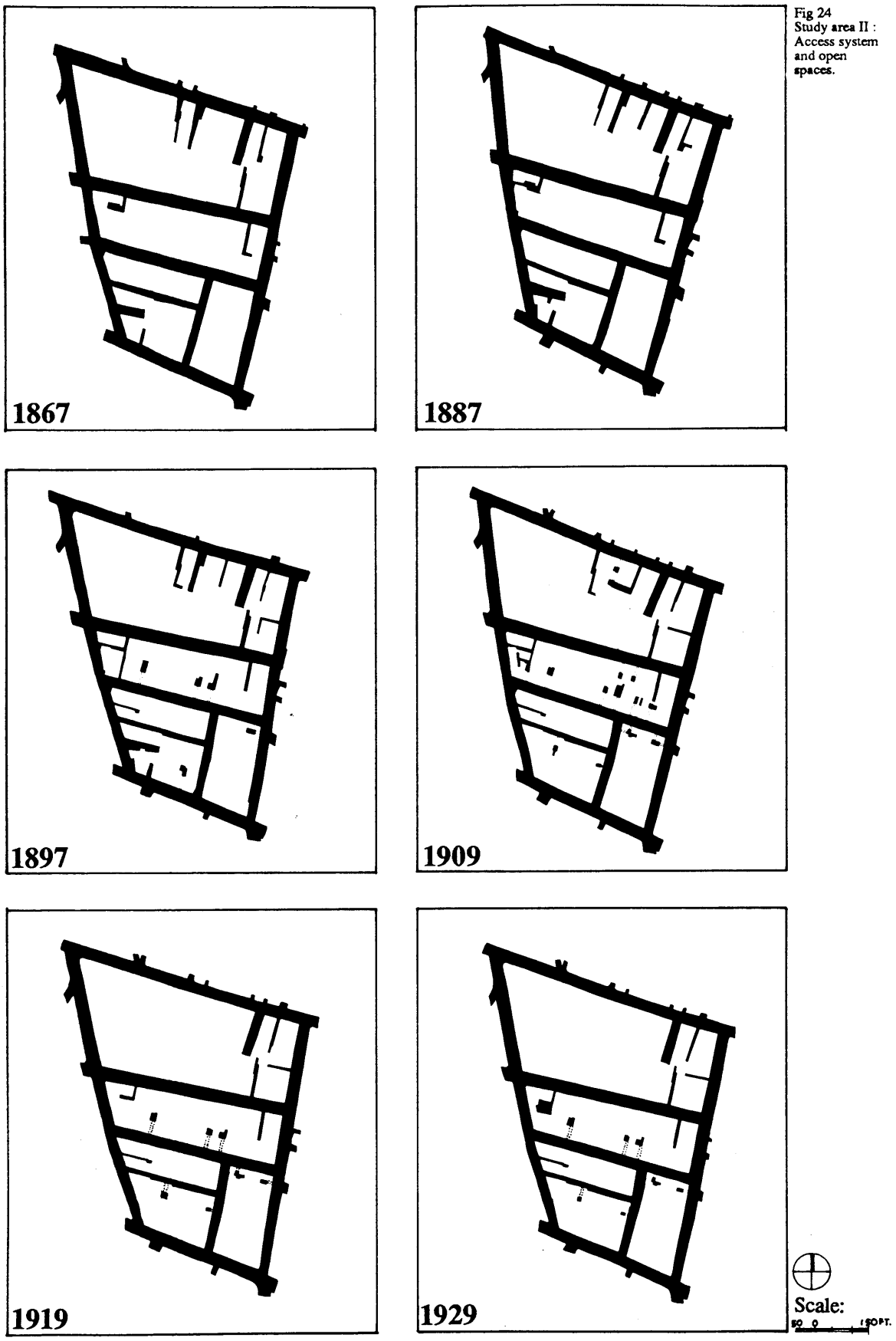
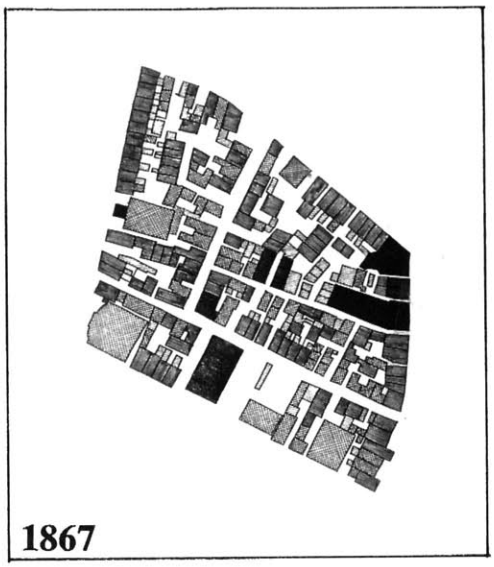


Fig 24
Study area II :
Access system
and open
spaces.



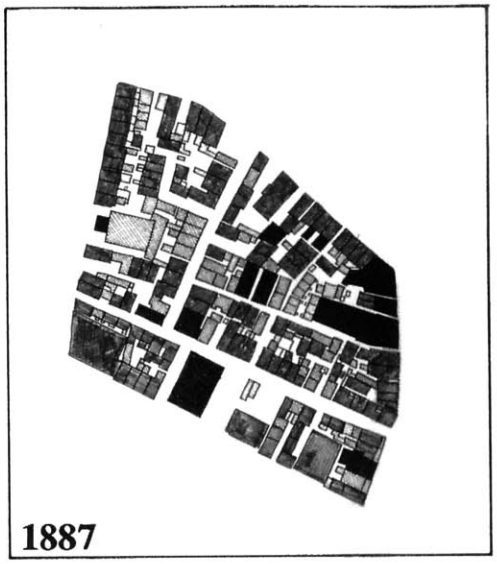
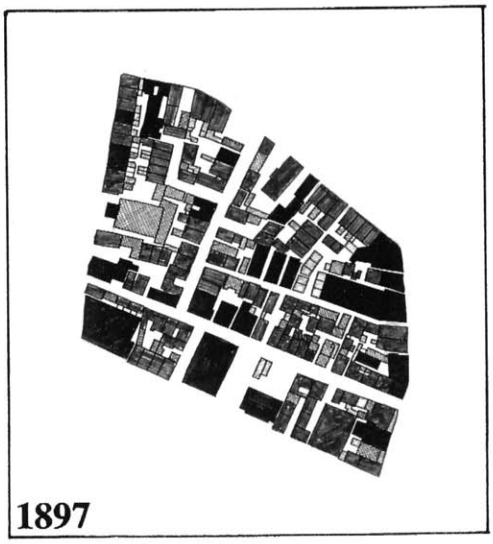
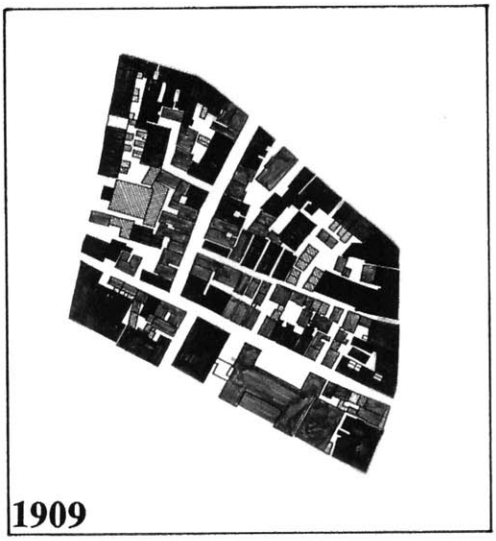
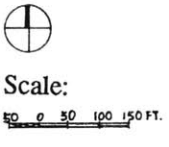


Fig 25
Study area I :
Heights of the
Buildings.
1 to 2 -
Hatched.
2.5 to 3.5 -
Gray.
4 to 5 - *Black.*







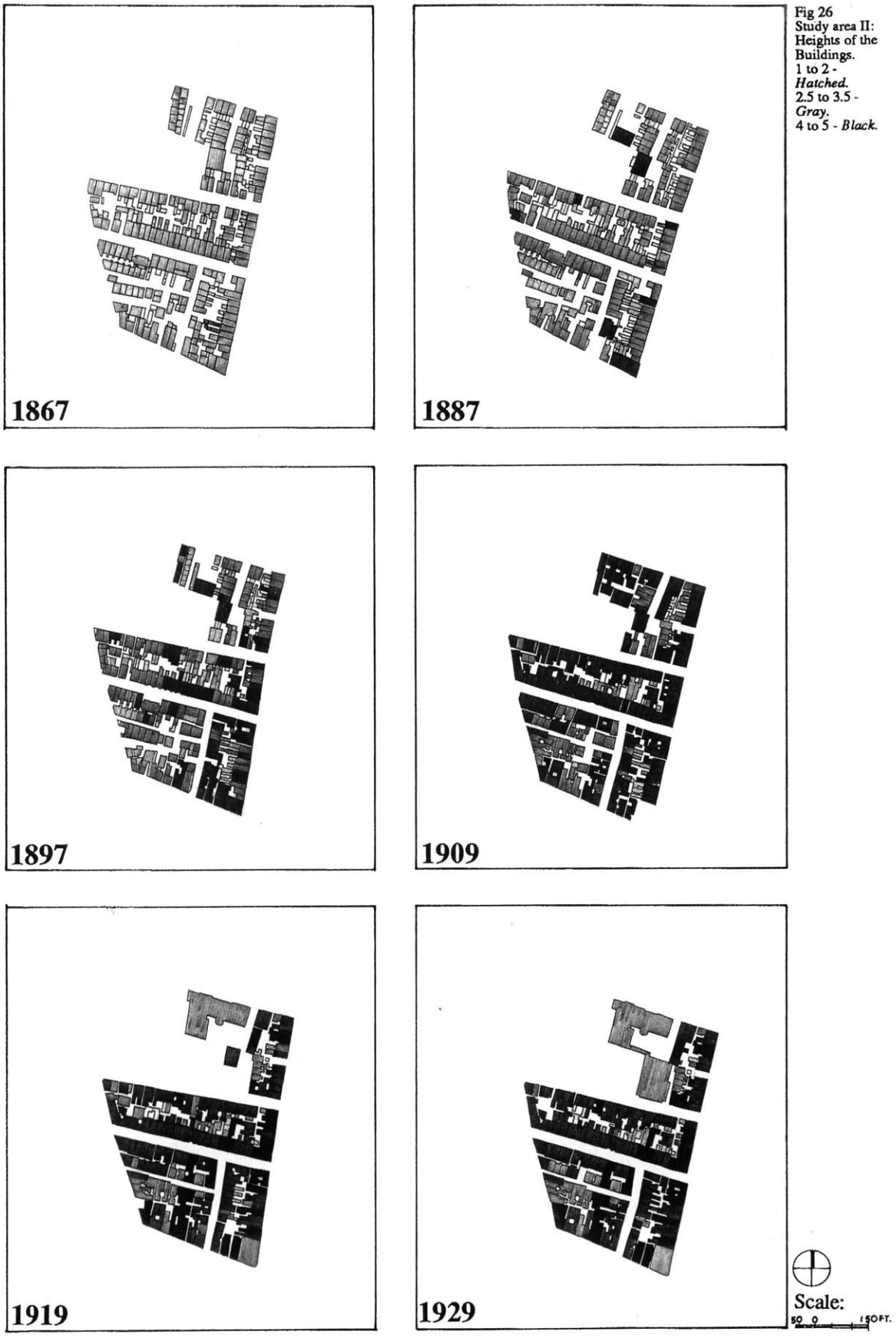


Fig 26
Study area II:
Heights of the
Buildings.
1 to 2 -
Hatched.
2.5 to 3.5 -
Gray.
4 to 5 - *Black.*

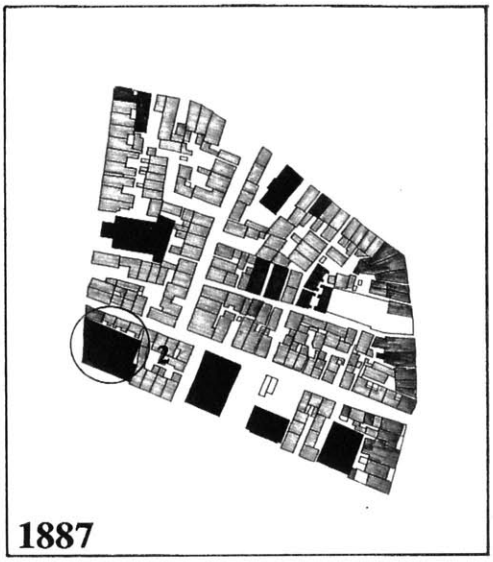
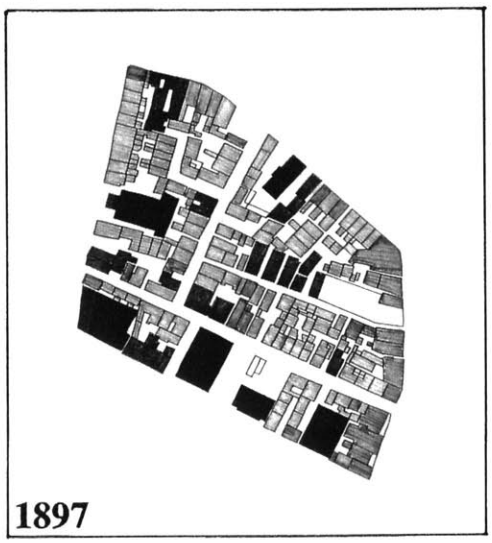
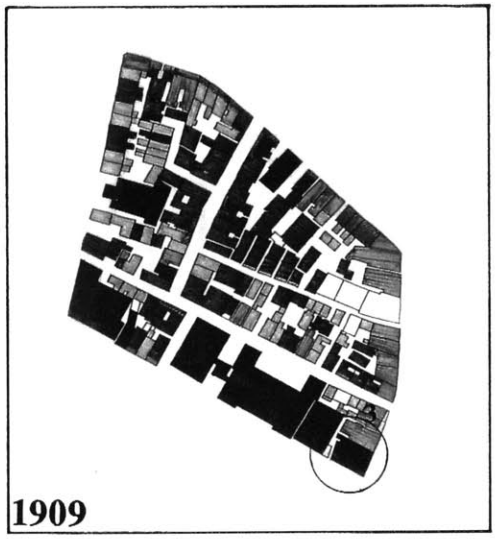
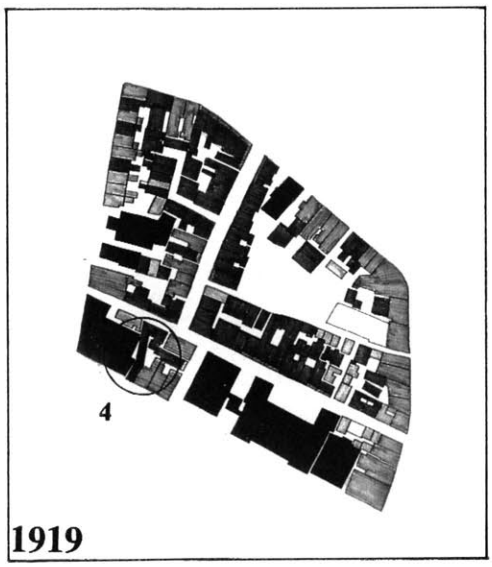


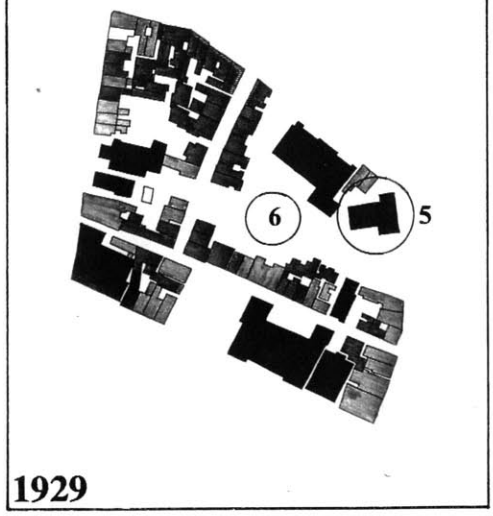
Fig 27
Study area I : Principal Land uses.
Tenement dwellings - *Light gray.*
Flats and tenements - *Gray.*
Houses with shops - *Gray with light edge.*
Institutional - *Black.*

1. Salem Church.
2. Industrial school.
3. Post office.
4. Social Service building.
5. Fire Station.
6. Paul Revere Mall.









Scale:

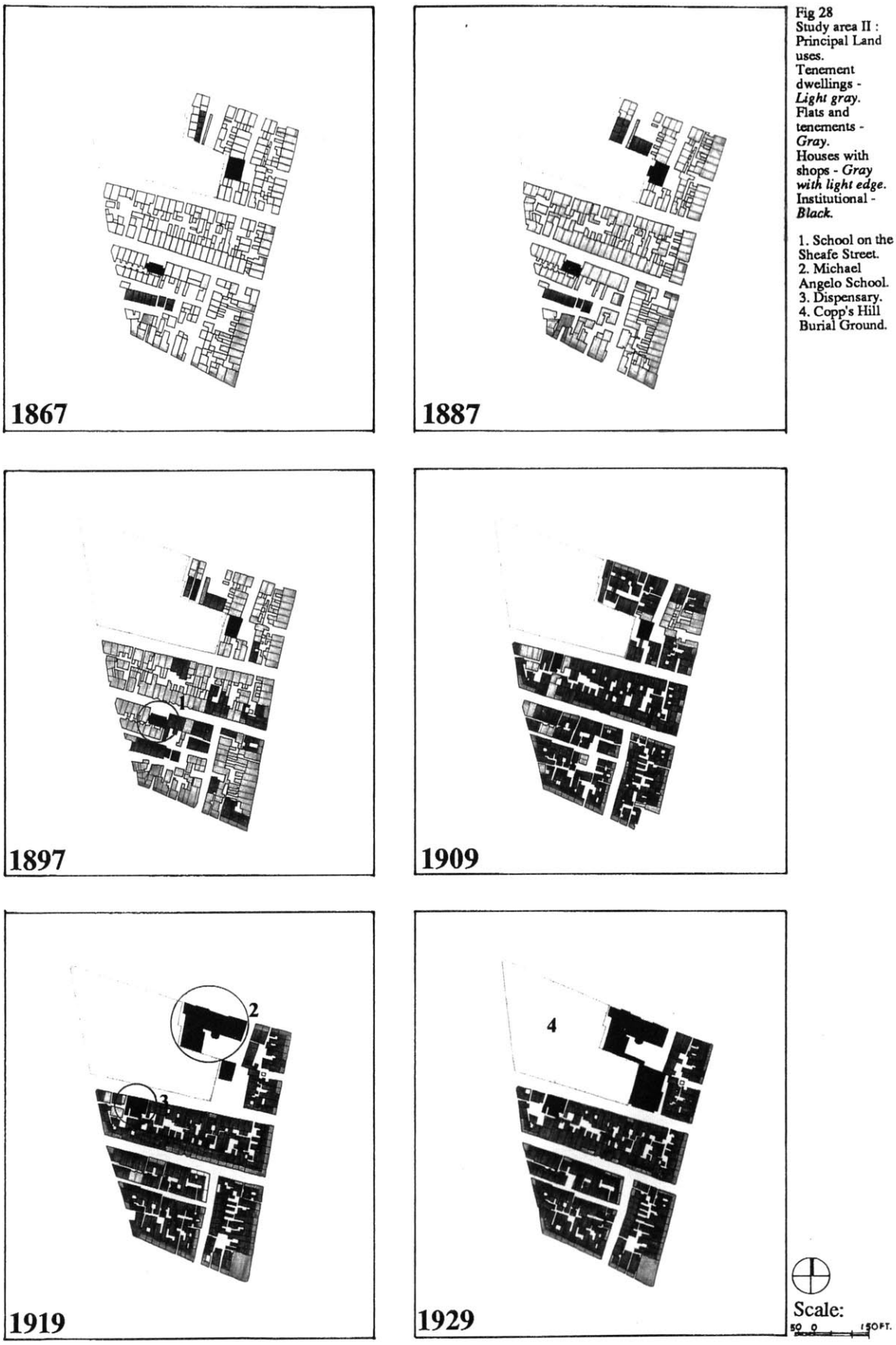
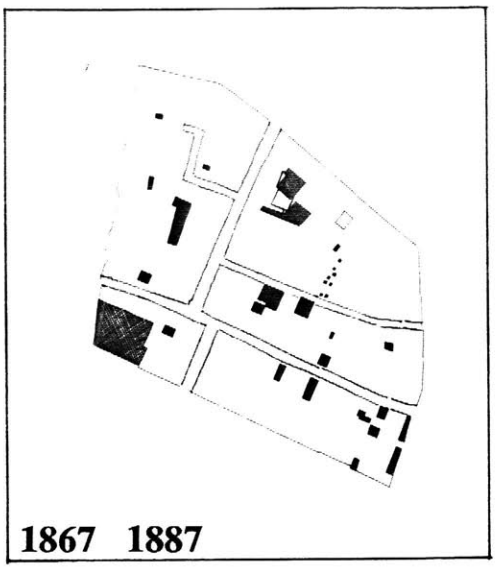
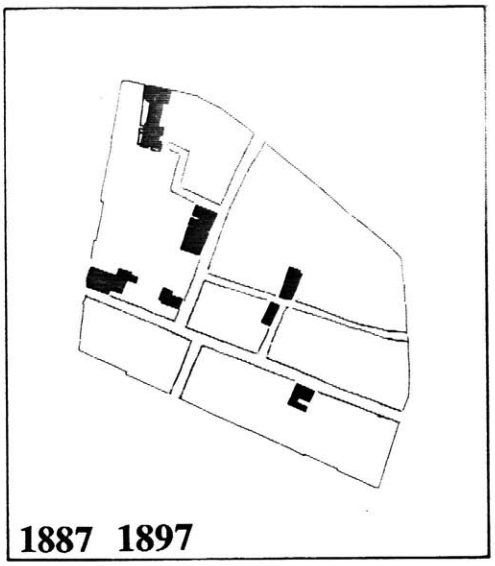
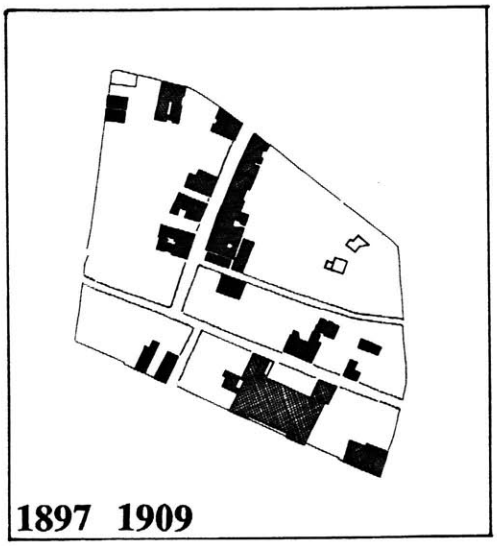


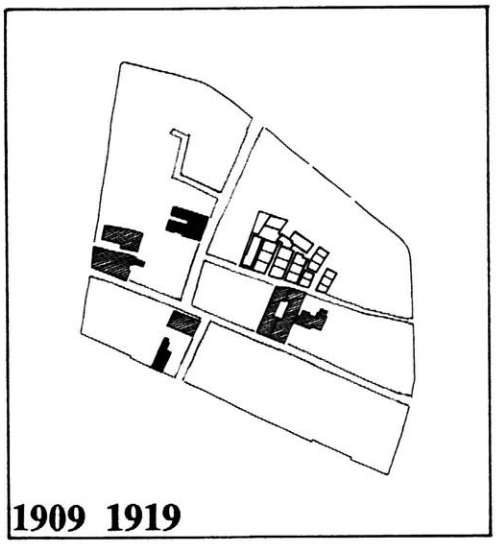
Fig 28
Study area II : Principal Land uses.
Tenement dwellings - *Light gray.*
Flats and tenements - *Gray.*
Houses with shops - *Gray with light edge.*
Institutional - *Black.*

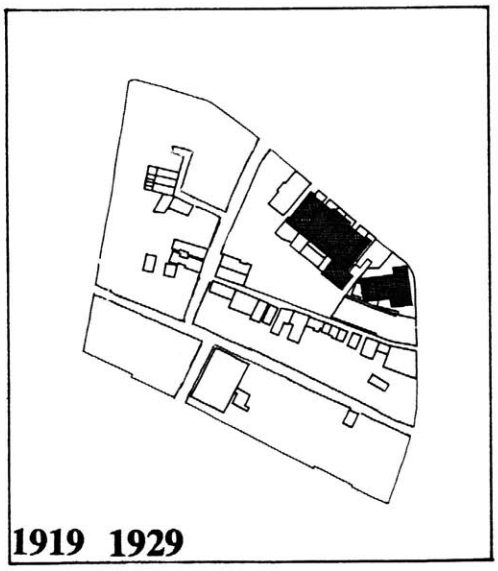
1. School on the Sheafe Street.
2. Michael Angelo School.
3. Dispensary.
4. Copp's Hill Burial Ground.

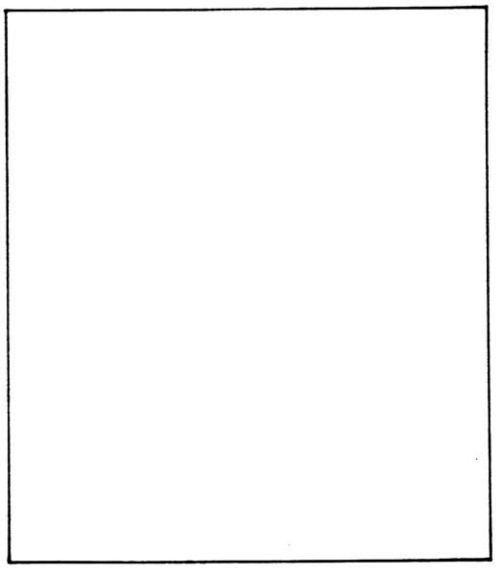












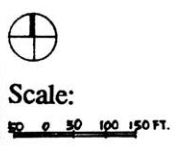
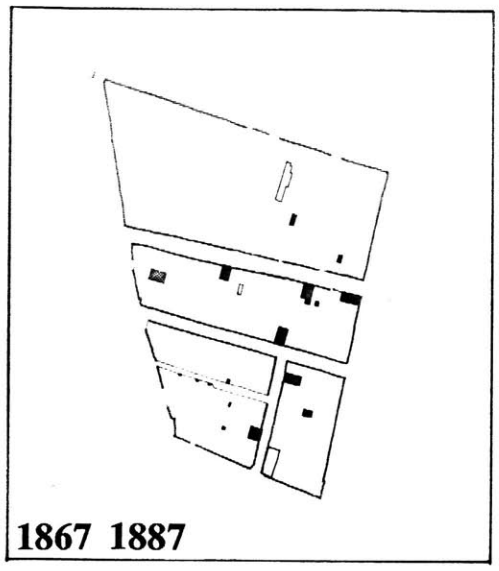


Fig 29
Study area I :
Summary of
Changes.
Extension -
Black.
New
Construction -
Hatched.
Demolition -
Wire-frame.



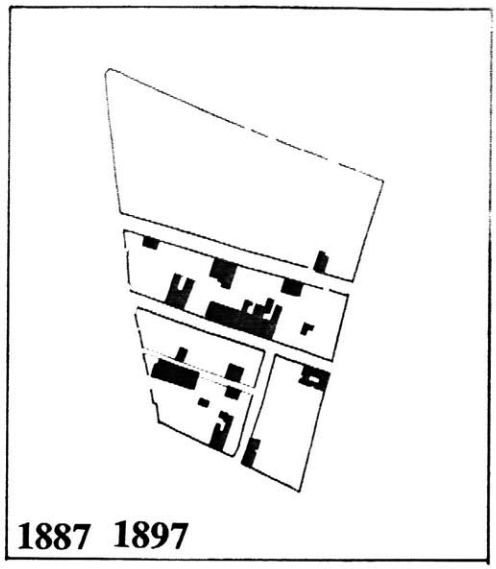
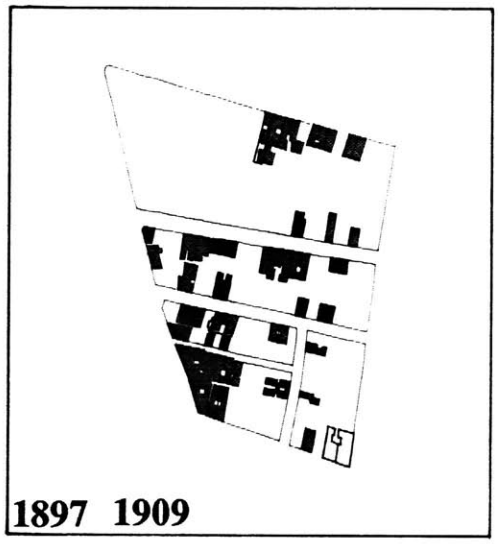
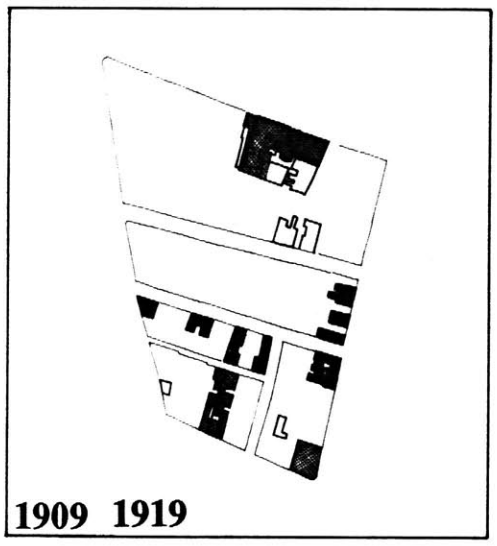
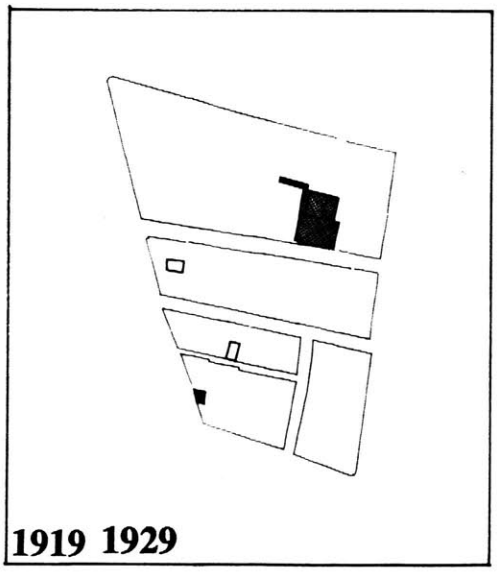
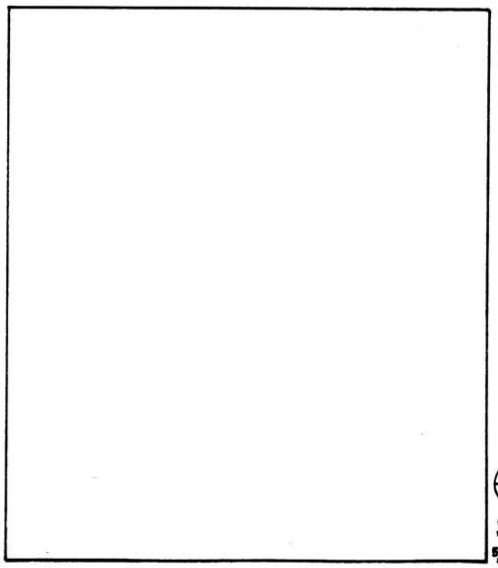


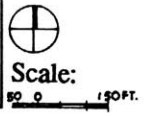
Fig 30
Study area II :
Summary of
Changes.
Extension -
Black.
New
Construction -
Hatched.
Demolition -
Wire-frame.











Changes in the residential architecture of the study areas

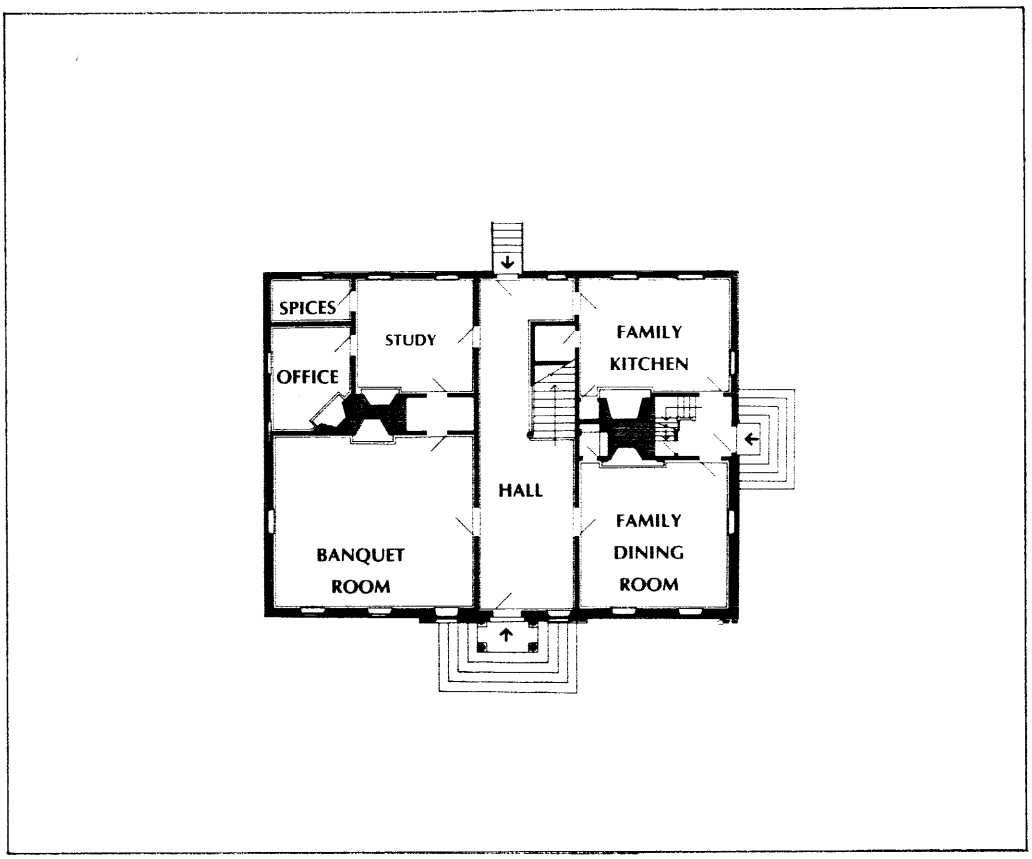


Fig 31
Plan of a typical 18th century house in the North End. (Source: Historical Atlas of Massachusetts, 1991.)

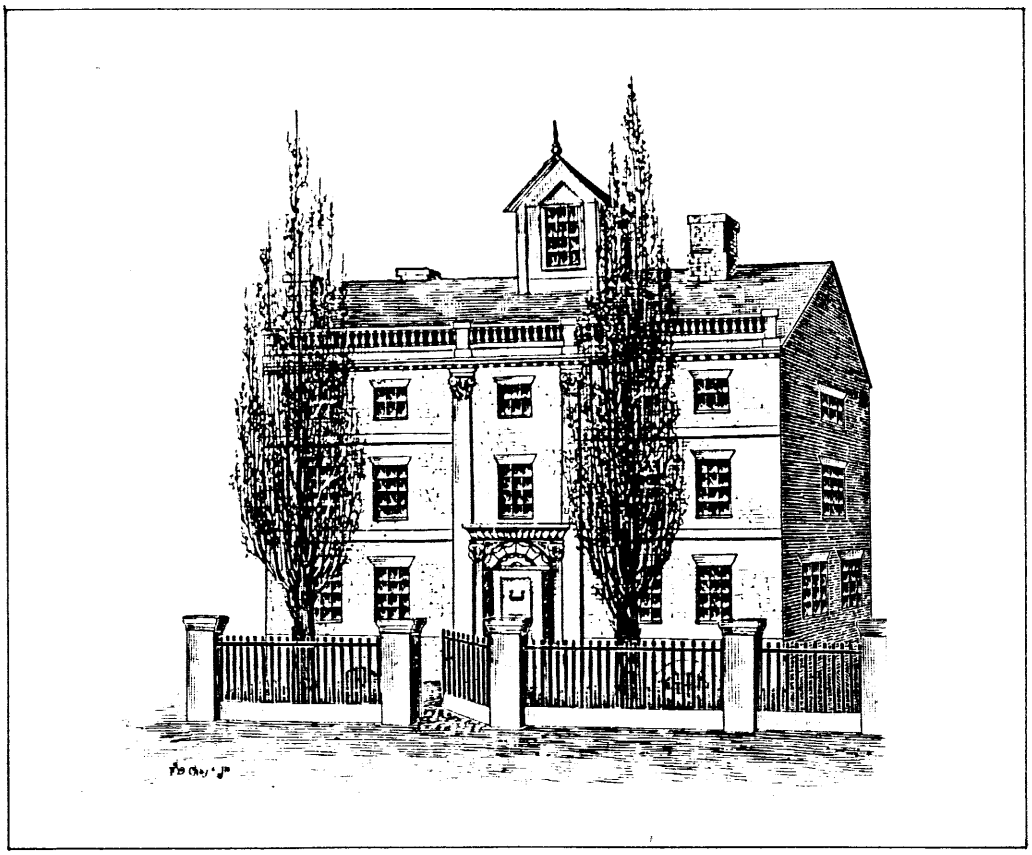


Fig 32
A Typical 18th century house. (Source: Kay, 1980.)

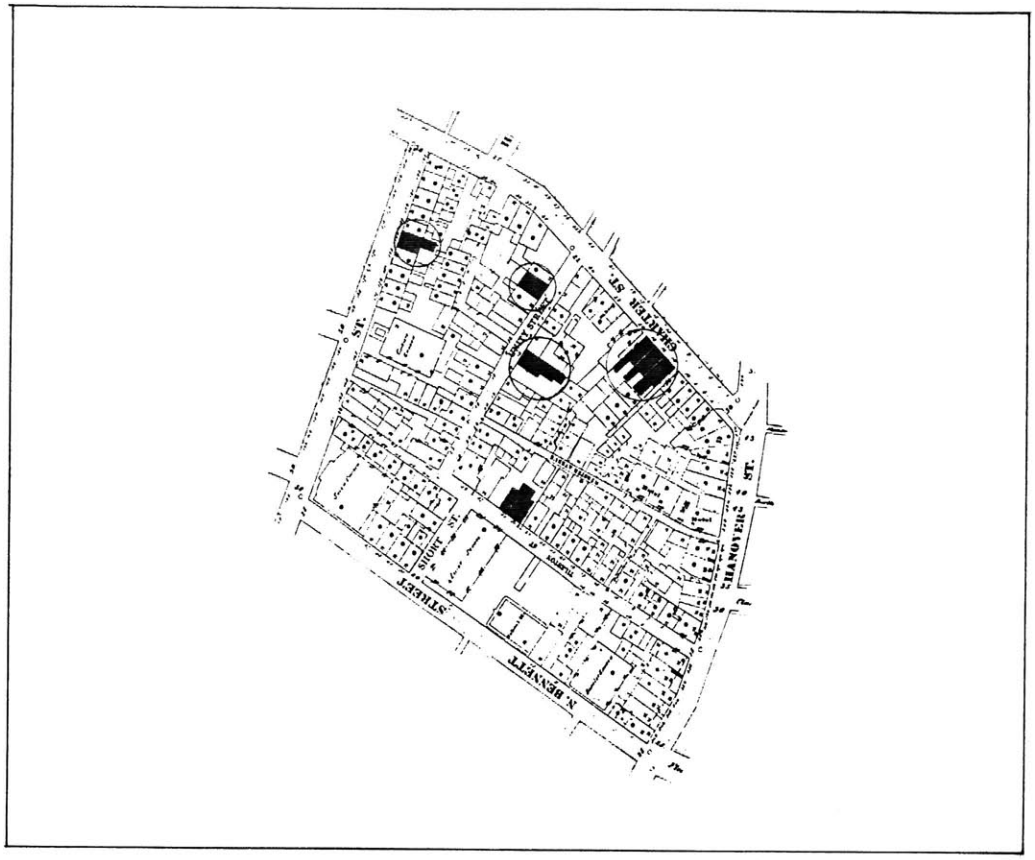
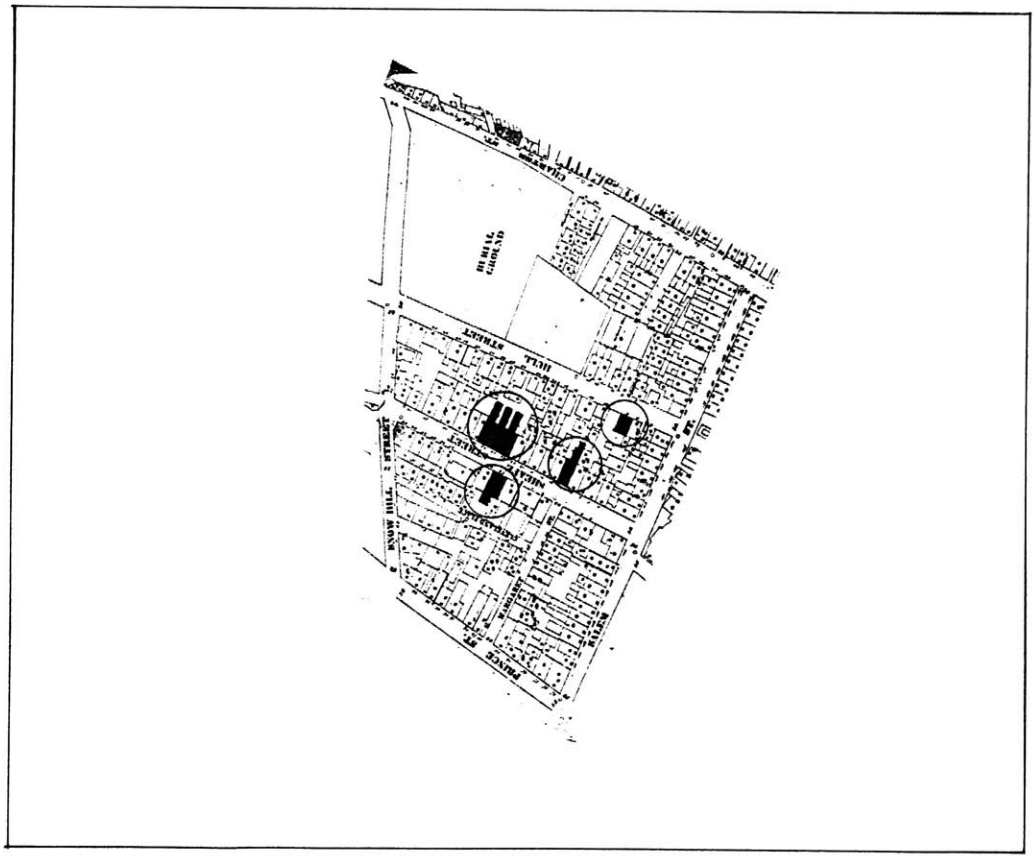


Fig 33
House type - 'Victorian box' built as dwelling house and later converted to tenement.



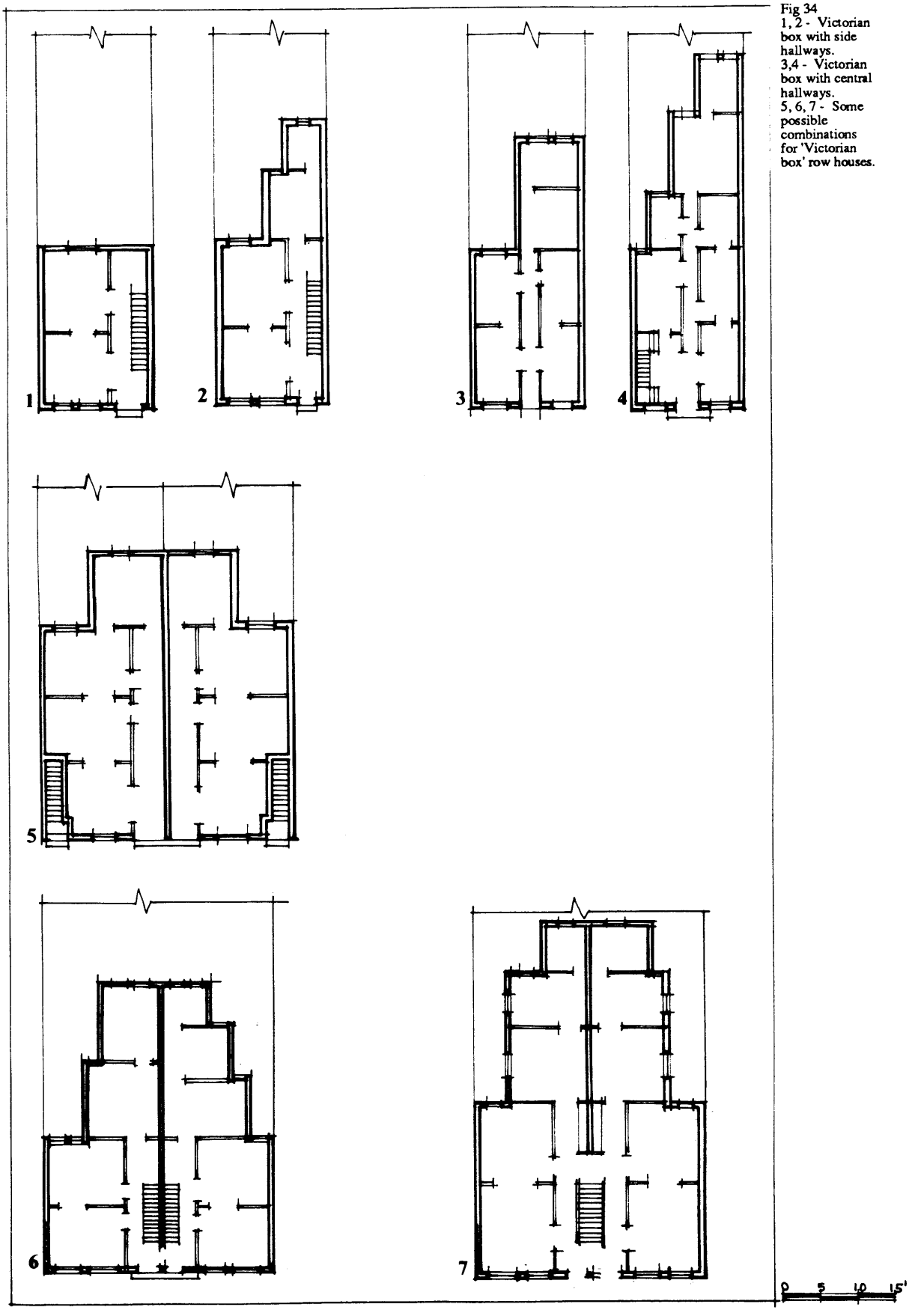


Fig 34
1, 2 - Victorian box with side hallways.
3,4 - Victorian box with central hallways.
5, 6, 7 - Some possible combinations for 'Victorian box' row houses.

Fig 35
Elevations:
Victorian box.
(Drawn from
19th century
photographs of
the North End.)

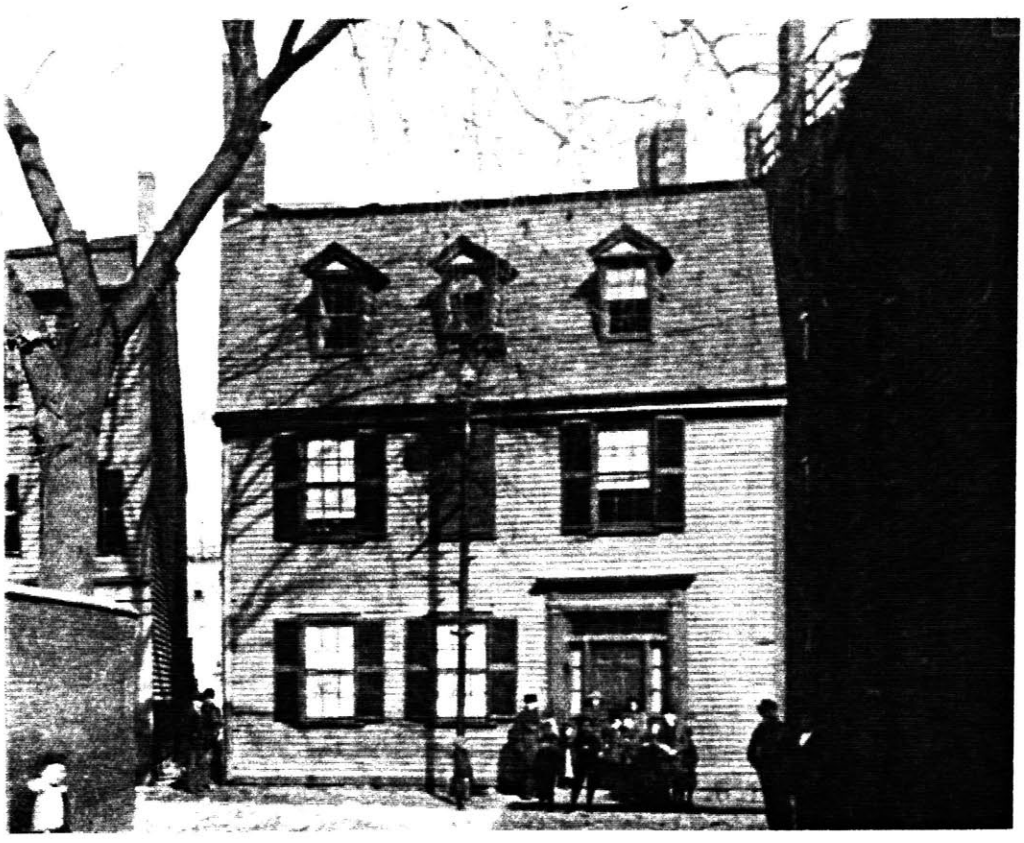


Fig 36
A 19th century
'Victorian box'.
(Source:
Todisco, 1976)

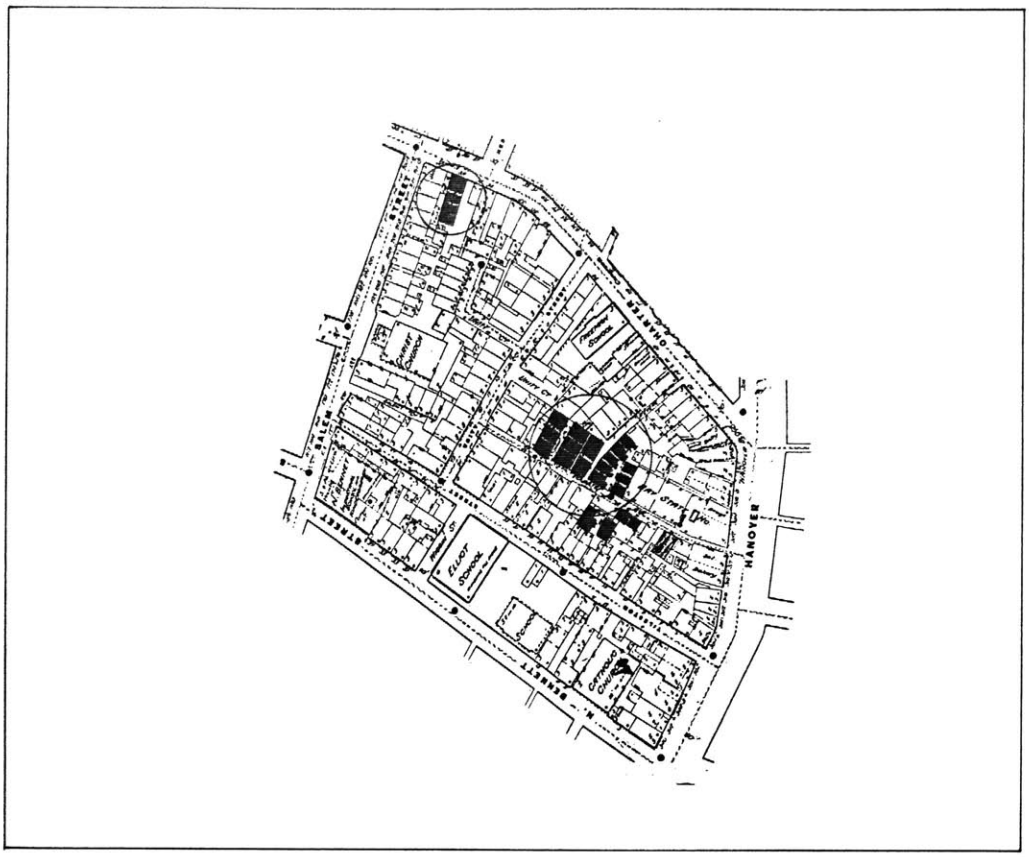
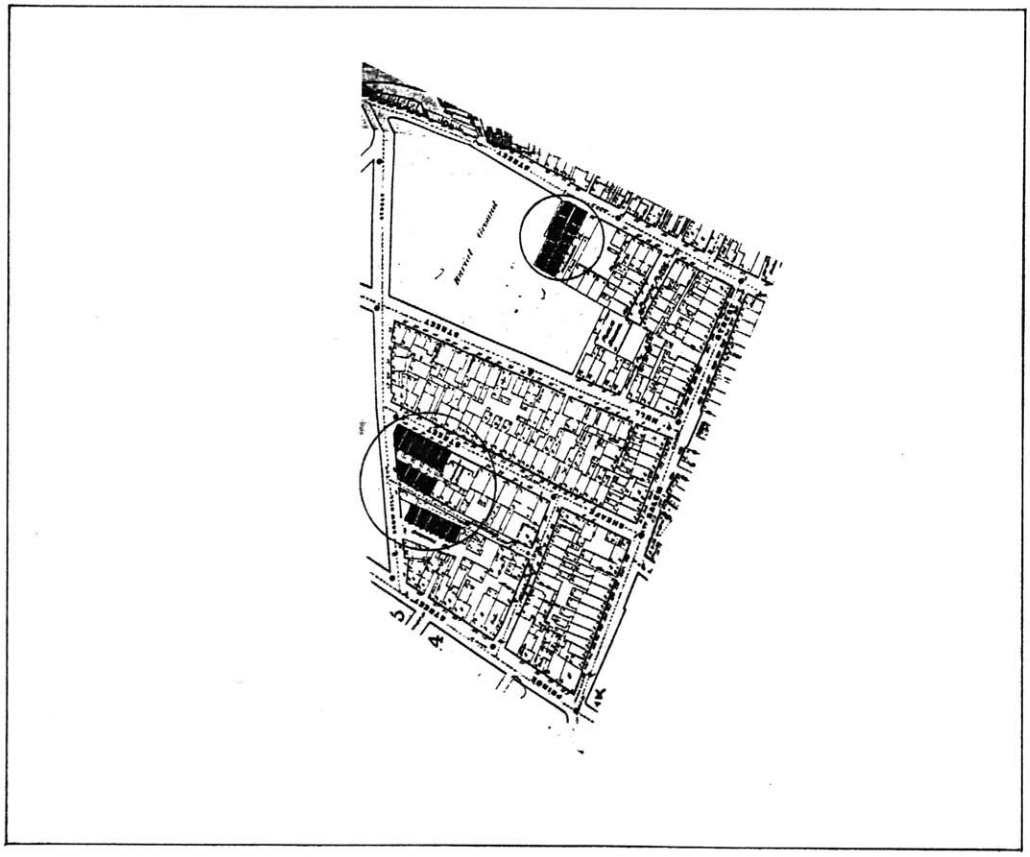


Fig 37
'Victorian box' built purely for tenement purpose.



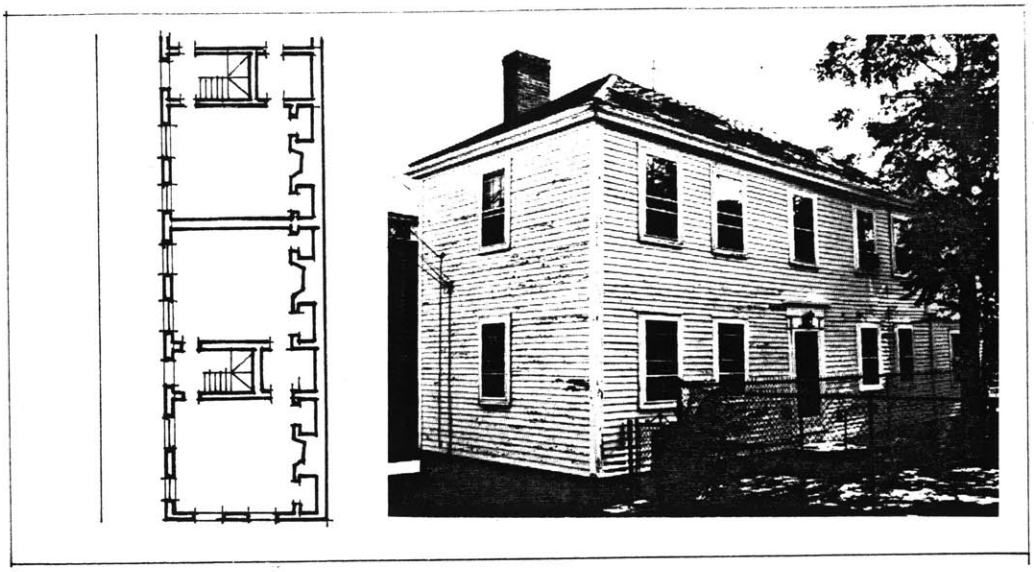


Fig 38
Smallest size 'Victorian box' built as tenements. Generally, one family occupied one room. (Drawn in light of Handlin,1959; Maycock,1988; and Sanborn maps.)

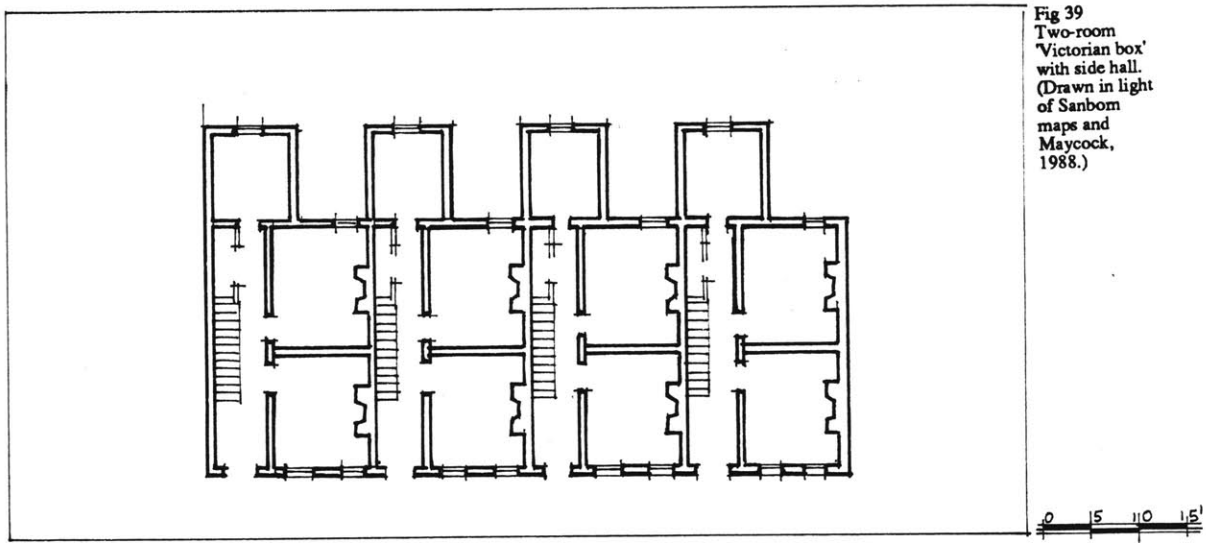


Fig 39
Two-room 'Victorian box' with side hall. (Drawn in light of Sanborn maps and Maycock, 1988.)

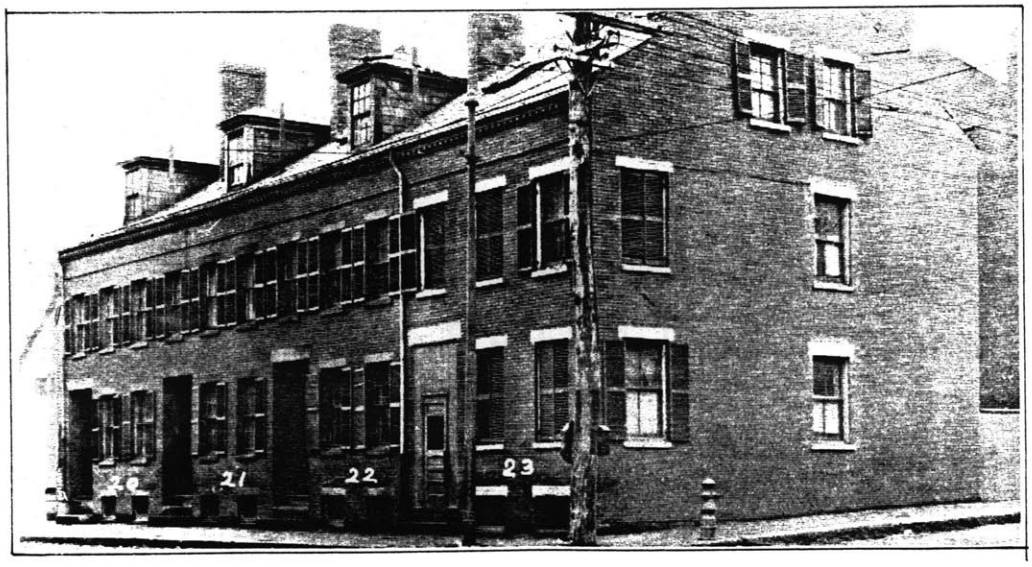


Fig 40
A typical row house of late 19th century. (Source: Maycock, 1988.)

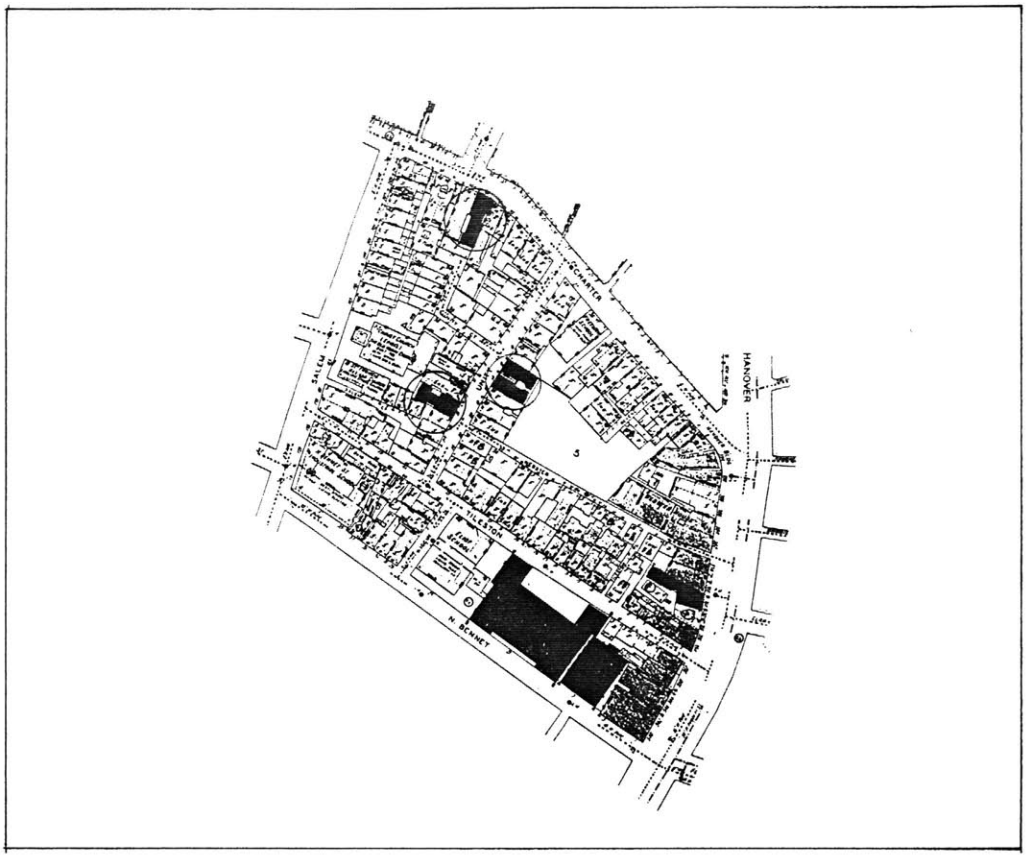
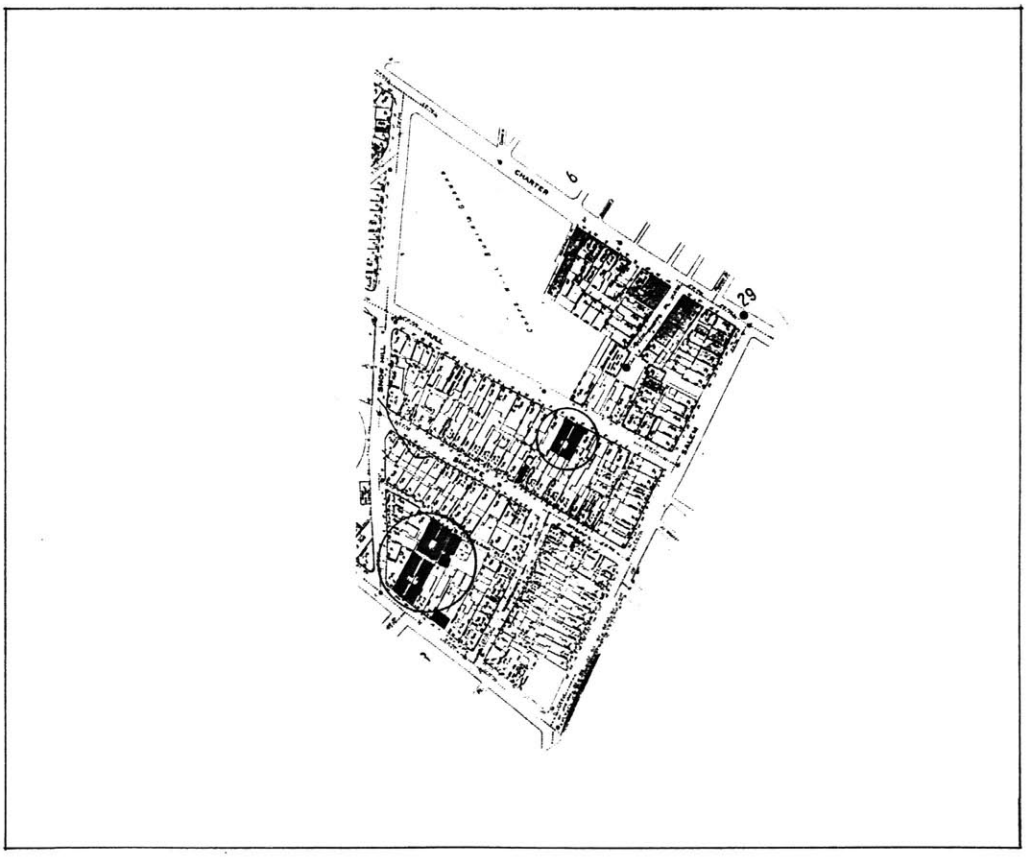
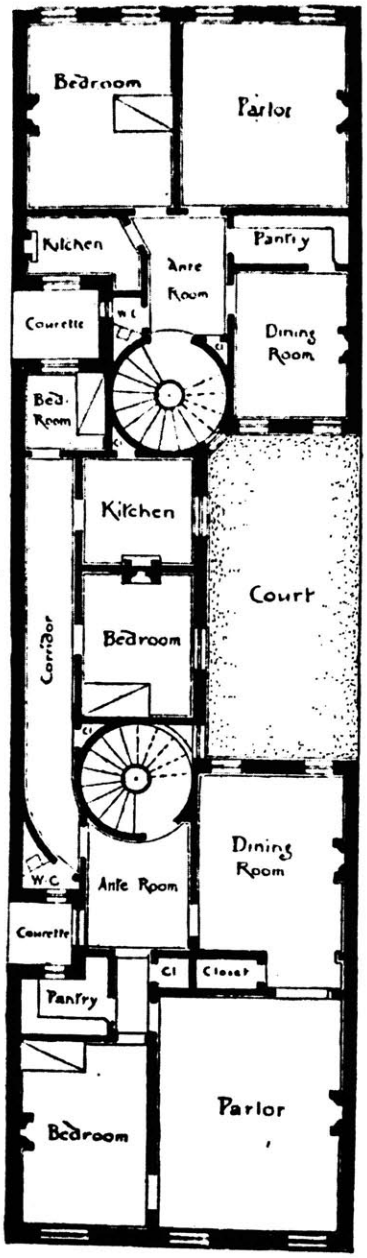
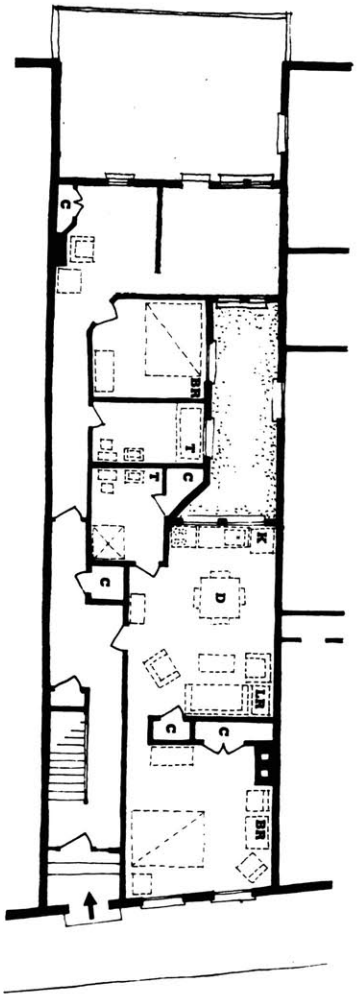


Fig 41
'French flats' - late 19th century introduction in the North End





A typical Parisian flat



A typical flat in the North End

Fig 42
Parisian flat as opposed to a typical North End flat. (Source: Apartment Houses, American Architect and Building News 29, September, 1889, p.194; Sanborn Maps and Caminos, 1969.)

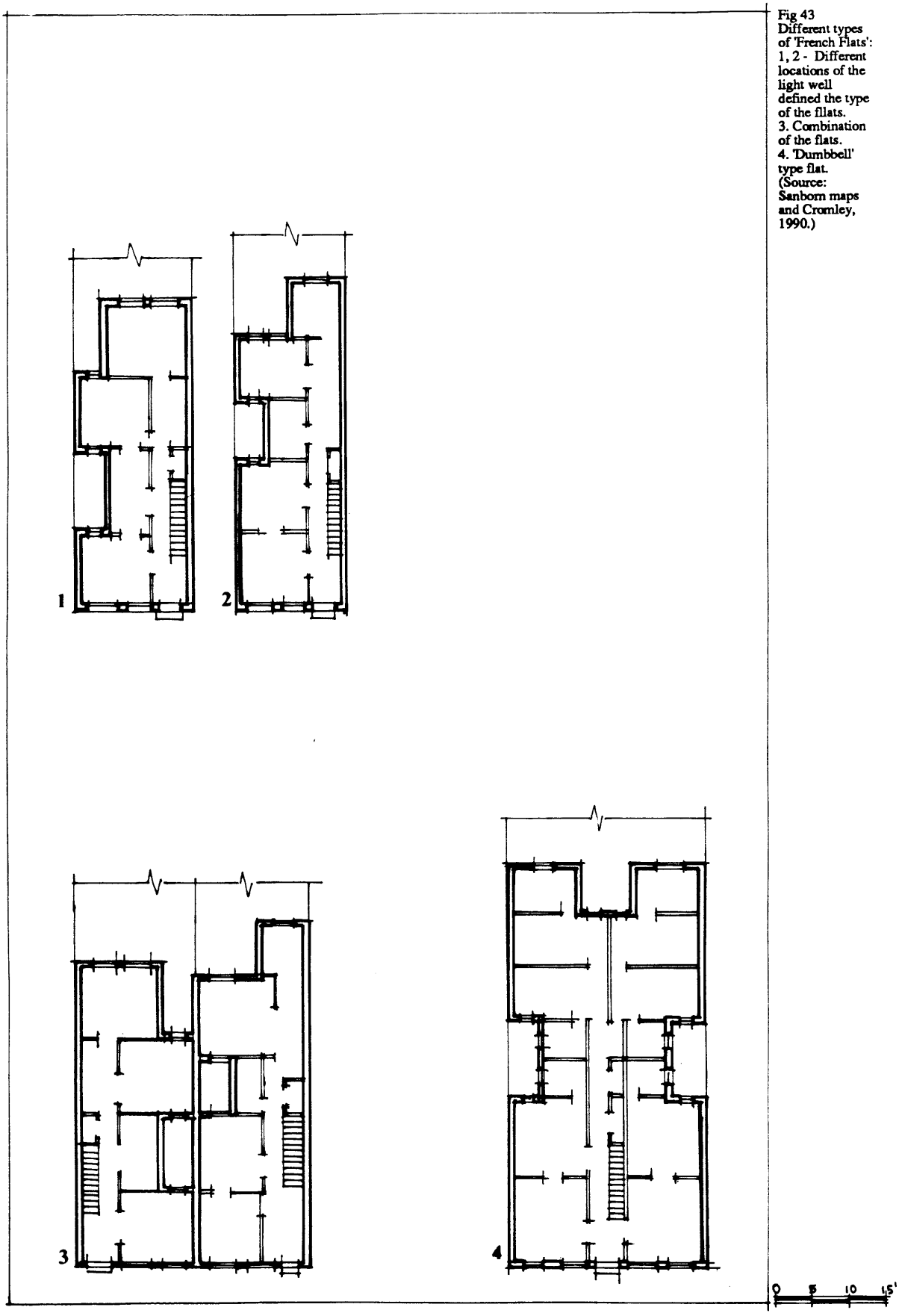


Fig 43
Different types of 'French Flats':
1, 2 - Different locations of the light well defined the type of the fllats.
3. Combination of the flats.
4. 'Dumbbell' type flat.
(Source: Sanborn maps and Cromley, 1990.)

Fig 44
Elevations:
French Flats.

Fig 45
Series of French flats on Hull Street, most of which were built in first decades of 20th century.

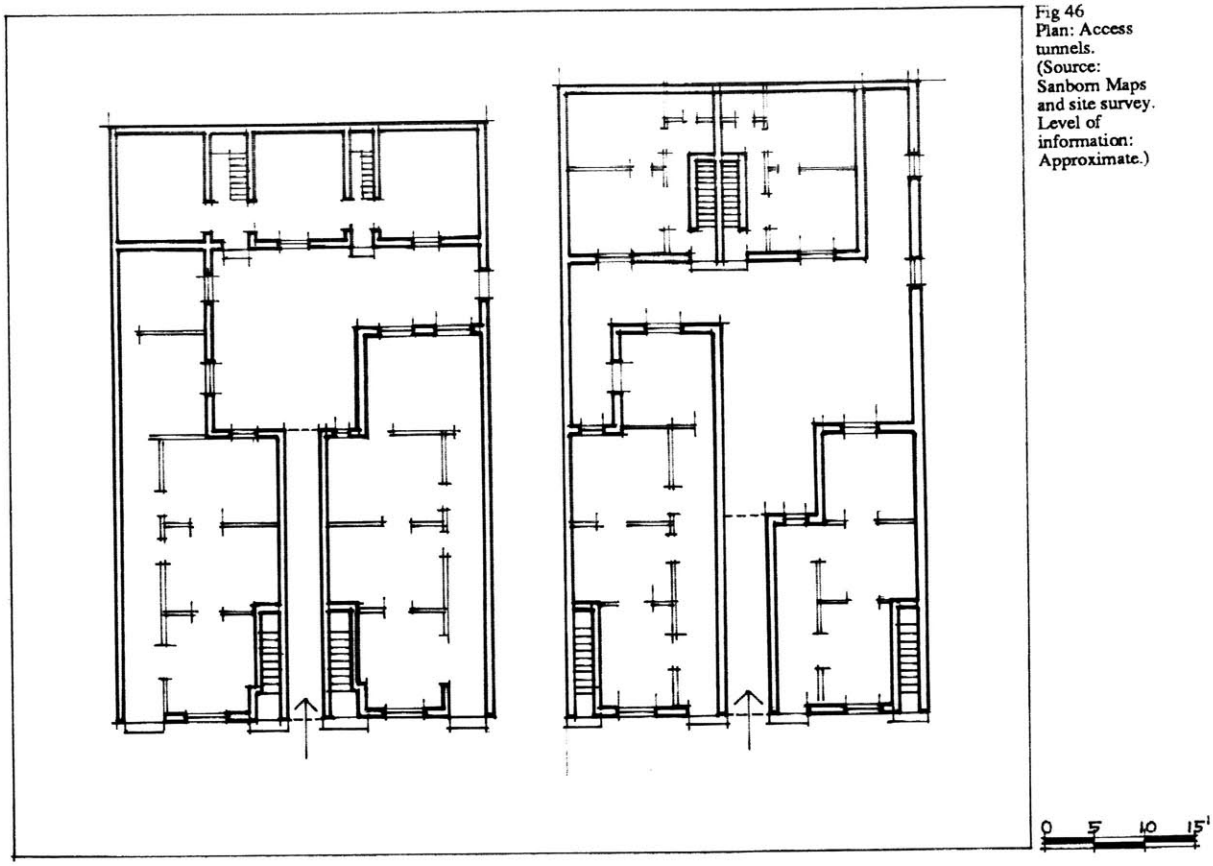
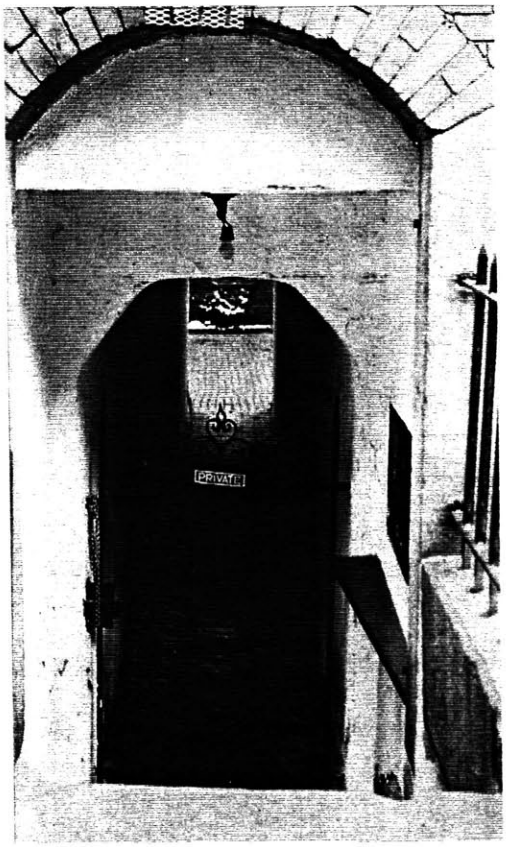


Fig 46
Plan: Access tunnels.
(Source: Sanborn Maps and site survey. Level of information: Approximate.)



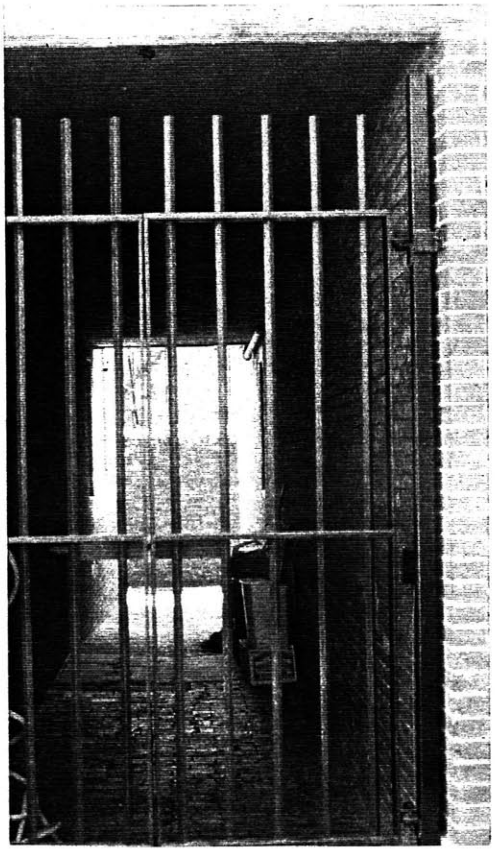


Fig 47
Access tunnels.

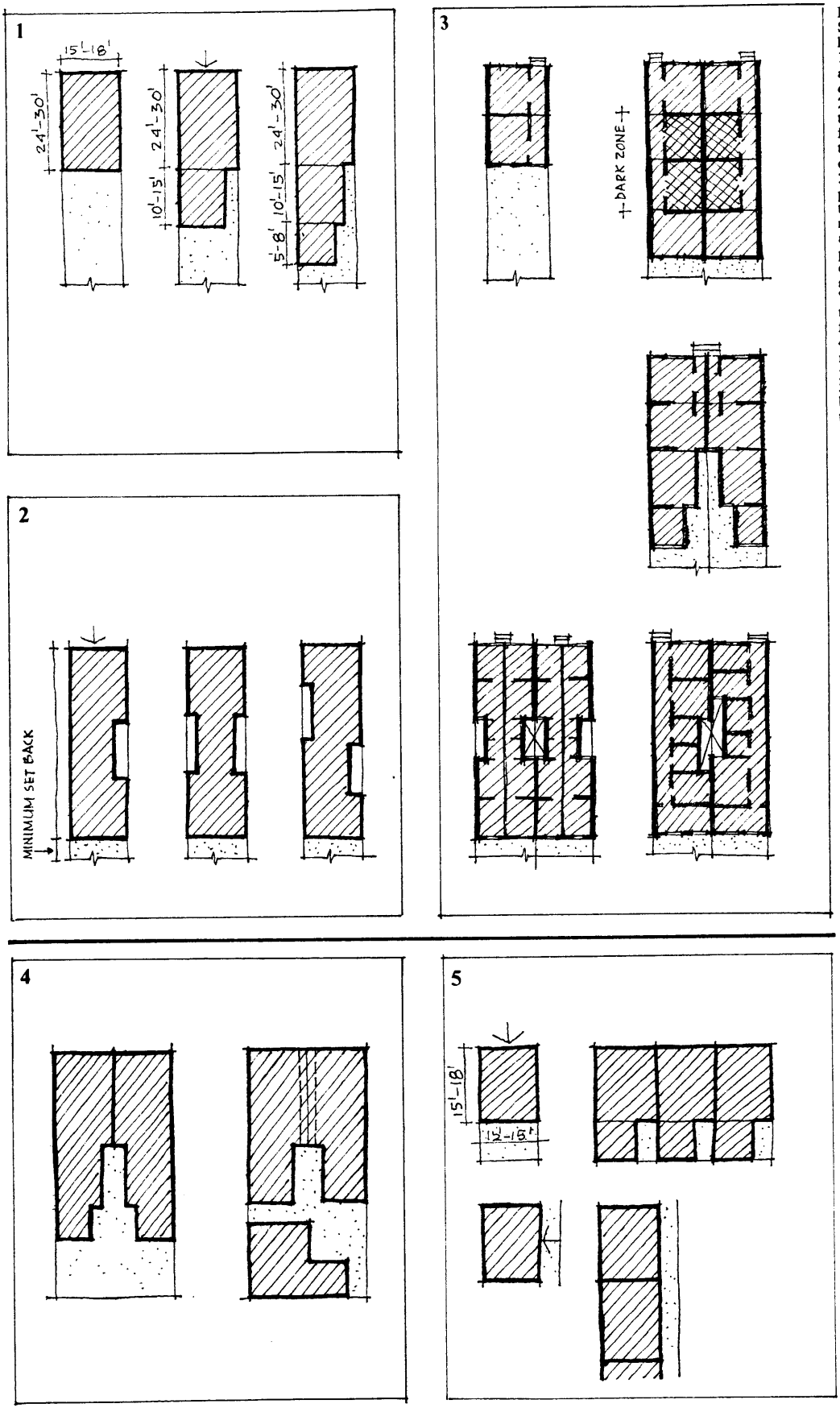


Fig 48
Summary of house types.
1. Victorian box and its stages of development.
2. Different types of French flats according to the placement of light wells.
3. Design principles for the houses on narrow lots.(It also shows possible evolutionary stages from 'Victorian box' to 'French flats'.)
4. Tunnels to reach the back yards.
5. 'Victorian box' built as tenement.

Summary of persistence and change in the study areas:

Elements of change	1867-1887	1887-1897	1897-1909	1909-1919	1919-1929
Street Pattern , access system. and open spaces	No significant change except the widening of the Hanover Street. No sewerage or water services under the streets..	One or two cases of tunnel for accessing the deeper lots. Sewerage and water pipes were laid down. Evidences of sidewalks exist in the 1897 map.	Adoption of access-tunnels in more buildings.	Further adoption of access-tunnels. Introduction of an open space in study area-I.	Webster Avenue and Revere place are eliminated due to the extension of the open space, also known as the Paul Revere Mall. Streets must have been graded by this time.
Land subdivision and land-platting pattern	Almost no change in the land subdivision except some cases of land assembly at a smaller scale or further subdivision of the plots in few cases. No further land platting.	Similar cases of land assembly or plot subdivision as were in the earlier period.	Same as the earlier three decades.	A larger case of land assembly for public open space.	Extension of the public open space by further land assembly.
Built forms	No significant change in the built forms except some cases of minor horizontal and vertical extensions. Further subdivision inside the houses to accommodate more tenants.	More cases of vertical extensions. Introduction of 'French flats'.	Demolition of one or two older buildings. Further proliferation of the 'French flats'. Reconstruction of one institutional building.	Few cases of reconstruction of the flats. Demolition of larger amount of building in study area-I.	Demolition of more buildings in study area-I for extending the open space and institutional buildings.
Land uses	No significant change in the land use pattern except the conversion of more buildings into tenements. Conversion of a church into an industrial school.	Conversion of even more buildings into tenements and flats. No changes in the institutional land uses.	One or two cases of change in the institutional land uses.	Extension of institutional and public land uses.	Still more land added to public uses.

Table - 1
Number of plots, buildings and height of the buildings in the Study Area-I

Year	Number of plots	Number of buildings	1 - 2 story built forms	2.5 - 3.5 story built forms	4 - 5 story built forms
1867	163	165	80	83	2
1887	167	173	62	99	12
1897	160	165	46	92	27
1909	157	164	22	52	90
1919	148	140	5	55	80
1929	134	88	5	13	60

Table - 2
Number of plots, buildings and height of the buildings in the Study Area-II

Year	Number of plots	Number of buildings	1 - 2 story built forms	2.5 - 3.5 story built forms	4 - 5 story built forms
1867	133	126	48	78	0
1887	141	130	44	73	13
1897	157	136	40	51	44
1909	158	120	18	28	74
1919	139	116	8	38	84
1929	138	116	8	38	84

Table - 3
Changes in the Study Area-I

Period	No. of site assembly cases	No. of new land sub-divisions	No. of horizontal extensions	No. of vertical extensions	No. of reconstruc-tions	No. of buildings demolished
1867-87	0	4	17	5	3	3
1887-97	7	0	0	9	2	2
1897-1909	3	0	0	18	40	4
1909-19	11	0	0	3	6	24
1919-29	14	0	0	0	2	52

Table - 4
Changes in the Study Area-II

Period	No. of site assembly cases	No. of new land sub-divisions	No. of horizontal extensions	No. of vertical extensions	No. of reconstruc-tions	No of buildings demolished
1867-87	0	8	9	7	3	3
1887-97	0	16	0	11	16	0
1897-1909	0	1	0	18	42	4
1909-19	19	0	0	10	7	15
1919-29	1	0	0	0	2	2

Table - 5
Number of "bay windows" on the streets of the North End:

Name of the street	Number of "Bay windows"
Richmond Street	2
North Street	6
Hanover Street	8
Parmenter Street	3
Stillman Street	3
Prince Street	10
Noyes Place Street	2
Copper Street	8
Margin Street	9
Thacher Street	3
Pond Street Place	1
Endicott Street	6
Total	**61**

Part 2

Chapter 3

The North End

1630 to 1860

3.1

Development of a well-ordered neighborhood

All things to do, as in the beginninge of the world. Buildings, fencings, clearings, breakinge up of ground, lands to be attended, orchards to be planted, highways, and bridges and fortifications to be made.[1] So John Winthrop, the first governor of the Massachusetts Bay Colony, recorded the establishment of Boston in the New World, in his journal. It was the last stop for the floundering Governor and his Puritan fellows after Salem and Charlestown in the New England since they sailed with the *Arbella* and three sister ships from England on March 22, 1630.[2] The Reverend William Blackstone, a bookish loner and the first settler on this Shawmut peninsula, warmly greeted the flock who settled near the spring of today's Spring Lane and in the North End. These early Puritan settlers built a community that linked their physical and moral well-being intimately. It was a close plan settlement that bound the first Bostonian physically and spiritually "with the notables — the Governor, the elders of the church, the artillery company and the captain of the artillery company, and the most needful of the craftsmen and artificers of the humble plantation; and at a short distance . . . the meeting-house, the town-house, the school-house, and the ever-flowing spring of pure water."[3]

"OUR TOWN" the men of Boston wrote when petitioning the General Court in 1648.[4] The phrase, with its overtones of proprietorship and pride, was significant. By

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[1] Quoted in Kay; 1980, p. 2.

[2] Ibid.; p. 3.

[3] Ibid.; p. 4.

[4] Durrett B. Rutman; Winthrop's Boston: Portrait of a puritan town, 1630-1649, published for the Institute of Early American History and Culture, The University of North Carolina Press, Chapel Hill, 1965, p. 202.

now, there already evolved a local government of the community from the early church congregation. To the average Bostonian the church was more and more concerned with its own members and the affairs of the soul, less and less with the full town. The local community through the general town meeting and participation of all elements of the population, actually belonged to the townsman..[5] To the townsman, town government — the political establishment of town meeting and selectmen — was the arbiter regularizing his relations with his fellows in the community. The town's arbitral role was reflected most often in land regulations. The common cultivation of the town's fields, with the community organized as the congregation making decisions about when and what to plant, did not persist beyond the first years for individual ownership followed quickly and Bostonians cultivated their own garden lots on Shawmut. But the community — organized as the town — did decide who should get the land, and how much should be granted, and upon what basis grants should be made, page after page of the town's records during the first decades are devoted to such matters.[6] To the town fell the task of determining the individual's responsibility for common fences, and the earliest Boston records show the community requiring that "every man shall make his [portion of the] fences sufficient for all his planting ground on the neck" by a set day and appointing committees to inspect the work.[7]

The town government also laid out the streets and paths for his convenience and maintained them. If someone dug a cellar entrance out on to the thoroughfare to the hazard of the passers-by, or if he used the public highways as mines for clay to daub on the chimney, the town guarded society's interest with cease and desist orders and fines. In the interest of the townsmen the town licensed new construction in the village, hoping to avoid "disorderly building to the inconvenience of streets and laynes," and to enforce "the more comely and Commodious ordering of them." And when the natural springs of Shawmut would no longer suffice for the population, the town licensed the digging of wells and building of conduits.[8]

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[5] There is an enormous literature dealing with the functions of the New England towns (and to a lesser extent, Boston specially), from Carl Brindenbaugh's general consideration of Boston in his *Cities in the Wilderness: The First Century of Urban Life in America, 1625-1742* (N. Y., 1938), through such works as Robert W. Kelso , *The History of Public Poor Relief in Massachusetts, 1620-1920,* (Boston and N. Y., 1922), to even more specialized studies such as Robert Francis Seybolt's *The Public Schools of Colonial Boston, 1635-1775* (Cambridge, Massachusetts, 1935), and Edward H. Savage's *A Chronological History of the Boston Watch and Police , from 1631 to 1865* (Boston, 1865). But it was not until Rutman(op. cit.) that there was a little tendency to consider the town as little more than an agency of commonwealth government, to bypass any considerations of the town as the most immediate and important entity to its inhabitants, and to neglect any discussion of its independent institutional growth.

[6] Rutman; 1965, p.203.

[7] Ibid.; p. 204.

[8] Ibid.; p. 203.

Justin Winsor in "The Memorial History of Boston" states that in 1676, following the great fire of that year, the first established street lines were staked out by the selectmen. He further says that " In 1692 a law was passed (by the town authority) forbidding the erection of any wooden building over 8ft. in length or breadth and 7ft. in height, and in 1700 an act recites that this provision has been constantly set aside; and while it would be too severe a punishment to destroy all that had been erected, yet that such bold and open contempt might not pass wholly unpunished, and to deter other from doing the like in future, a fine was imposed not exceeding £50 for one offense on all who had so offended. But larger discretion was given to the governor and council to grant licenses."

Under the surveillance of efficient town government Boston had developed into a well-ordered town by the late seventeenth century. But as the town got bigger and bigger, the agricultural community of the peninsula became divided. The townsmen turned from agriculture to trade and commerce, and with that also changed the town's arbitral role. Now more important considerations for the town government were wharfing rights and rates, the town's inns and pubs, etc., rather than the environment of any community. The sense of an undivided community and congregation that tied the population together started to break down by the beginning of the eighteenth century.

Interestingly enough, by the first half of the eighteenth century, the North End, also known as the court end, flourished as a prosperous neighborhood of the town of Boston. It was then well covered with buildings including substantial town houses set in the spacious grounds of merchants and royal officials[9](figures 31 and 32). There were also some commercial and manufacturing activities located within the district that were smaller in scale. But as they got larger in scale, the general tendency was to move out from within the residential core to the peripheral waterfront. Thus the area was astonishingly homogeneous toward the end of the eighteenth century.[10]

It is likely that these early settlers had mutual private agreements to protect their environment by preventing hazardous land uses. One such mutual agreements could have been in the form of the deed restrictions,[11] which appeared in Boston at least as early as

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9 Thomas Pemberton; A Topographical and Historical Description of Boston in 1797, Massachusetts Historical Society: Collections, 3, 1810, pp. 241-304.

10 Rosenbaum; 1978, p. 6.

11 Deed restrictions were property laws based on private agreements that controlled uses on the property or properties and addressed changes in the domestic environment. It was an attempt on the part of private sections to extend a lasting control over their environment in the absence of any other kind of regulatory bodies. This was also the first systematic attention paid to the questions of property rights, which was inevitable in the nineteenth century America, with its reverence both for individual rights and for private property (Michael Holleran; 'Changeful times': Preservation, planning and Permanence in the Urban Environment, Boston, 1870-1930, Ph. D. Thesis, Department of Urban Studies and Planning, Massachusetts Institute of Technology, Cambridge, 1991). For further details on deed restrictions see, Appendix.

1703, and before 1810 were used on Beacon Hill to specify front yard setbacks, maximum and minimum building heights, and construction "of brick or stone" only.[12] The residential subdivisions that used systematic deed restrictions, such as Mount Vernon Street (1801) and Louisburg Square (1826) on Beacon Hill were designed as ensembles and used restrictions to ensure that the actions of independent builders would contribute to an overall composition. In the case of the Beacon Hill, the proprietors even formed an association that dated from the 1840s, when the property owners abutting the Louisburg Square decided to enlarge and ornament the oval plot in front their houses and agreed mutually to bear the necessary expenses. Later the association assumed the task of perpetuating the proprietors' collective legal rights to the square by prohibiting public trespass.[13] Similarly, five deeds on Common (now Tremont) Street in 1811 contained the condition:

> that all the said houses to be erected on said house lots shall be erected on a right lane, so that no one of the said five houses shall project before another, and also that all said houses . . . shall be as to the number of stories and the height of them in conformity with the new block of houses to the northward thereof on Common street, unless the proprietors of the said five house lots unanimously agree on some other plan, in which their several houses shall be uniform, one with the other.[14]

It might be that precedence for these early deed restrictions were set in the North End, following English laws,[15] which assumed real importance regarding the built environment of the area after the Revolution, when over 1,000 of the North End's most wealthy and influential residents left with General Howe and became exiles in Canada and England.[16] Most of their mansions and houses were left unoccupied. People capable of maintaining them preferred to live elsewhere. The town had no legal right to held these properties nor did it have the money to maintain them. So, these houses started deteriorating and might have been destroyed altogether if the streams of immigrants had not begun to arrive Boston around that time in the 1820s.[17] The deed restrictions that applied to these mansions and houses were by then obsolete. So, in the absence of any kind of legal restrictions these people could easily settle in some of these deserted mansions and houses. They changed and modified the derelict houses in the way best suited to them.

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[12] Allen Chamberlain; Beacon Hill, its ancient pastures and early mansions, Boston, 1925, pp. 181-89.

[13] W. Firey; Land Use in Central Boston, Greenwood Pres, New York, 1968, p. 112.

[14] Codman vs. Bradley, 201, Mass. 361, at 365; source, Holleran; op. cit., p. 82.

[15] It requires an elaborate research into the deeds of that area from that period. For our purpose we will try to see its importance only by implication.

[16] Todisco; 1976, p. 18.

[17] Ibid, p.20.

On the otherhand, with the advent of industrialism, small artisan businesses in the area were replaced by large industries. In 1800, there were already three mills for meal, lumber and chocolate on the canal (now Blackstone Street), and along the warterfront streets at the north side and along Commercial Street there were factories for brass and iron, cannon and bells, and earthenware. On Charter Street Combs were made.[18] These industrial areas became increasingly noisy. This, plus the fact that the North End was a center of shipping and merchant activities, made it a much less desirable area in which to live. By that time the Beacon Hill and South End were flourishing neighborhoods for wealthy citizens, and the Back Bay was also opened to habitation by leveling and filling operations that went on throughout the 19th century. The remaining wealthy population of the Norht End moved out to these places (figure50), and as the transportation improved, they moved still further out to Roxbury and other suburbs.

The North End, as it lost its former monopoly of exclusive residences, became the main residential and industrial district of the Yankee artisans. As one of the sources recorded in 1838 it was: "....occupied chiefly by mechanics, who lived not indeed in palaces , but in good, substantial, comfortable dwellings, owned by themselves." In 1845 this district had one of the highest proportion of native Bostonians living in the area with relative comfort. More than two-fifths of the dwellings were still occupied only by one family, in a city with an average of 1.7 families and 10.6 persons per dwelling.[19]

3.2

The Irish Immigrants and the decline of the neighborhood

The waves of immigrations in the 19th century strongly affected the North End. By 1846, one third of the North End population of 20,000 would be immigrants (Table V, Appendix). The first significant Irish influx came in the 1840s when a huge group of Irish farmers left their country after a disastrous potato famine. Poor, desperate, starving as they were, they needed any means to sustain existence, any place to sleep at night, and any work that they could do. Except for some of the derelict mansions of the Tories which were occupied by the earlier immigrants, most of them still were left unclaimed and derelict. These homeless, jobless starving people conveniently located themselves here in these houses of the North End — only quarter to half a mile away from the ware houses and shipping businesses, and only a mile or one and a half miles away from the business district, which Handlin put:

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[18] Justin Winsor (ed.); Memorial History of Boston, James R. Osgood Company, Boston, 1881-1883.
[19] Ward, op. cit., p. 28.

> "In this transition originated the Boston Slums — precisely the housing the Irish needed. Near the wharves and cheap in rent, these localities became the first home for such immigrants in Boston. New coming Irishmen, nostalgic for the Emerald Isle gravitated toward these vicinities, augmenting the number of Irish already there..."[20]

In the absence of any kind of legal codes the Yankee inhabitants of the area could not control these immigrant squatter. Most of them found it both easier and more profitable to sell their lands or atleast move out and hold the land for speculations. These speculative owners converted their houses into tenements dividing their plots to the smallest pieces possible. Old mansions were torn down. New tenement houses of lowest qualities were built; stables made of permanent materials were converted into shelters and tenements for the newcomers.[21] Professor Handlin has pointed out how "enterprising land owners utilized unremunerative yards, gardens, and courts to yield the maximum number of hovels that might pass as homes,"[22] and how the abundant ground surrounding early well-built Boston residences, and hitherto unusable sites created by the city's irregular streets, once guarantees of the commodious living, now fostered a slum. According to another authority:

> " In its earliest form the tenement house was a discredited private house or other building, not originally built for the occupation of several families, but altered for the purpose. Each floor of what was originally a private dwelling was changed so that it could be occupied by two or more families — later the floors were subdivided — finally the cellar occupation became the worst evil ."[23]

The immigrants were the people who demanded to use and willing to pay to occupy these lowest quality buildings. Poverty was their biggest problem. poverty forced them to inhabit these strategically located structures, even if they had enormous physical inadequacies, and even when this meant living under miserable conditions in the slums. They had no alternative, because they could not afford to pay higher rents. Time was another restraining factor for these Immigrants. They toiled ten to twelve hours per day at least six days per week. Because of their exhausting work, few could spend more than thirty minutes commuting to their jobs one way, which was about what it took to walk one and a half miles. The vast majority evidently felt that they could not spend even this much time and effort at such a tiring and unremunerative chore. In Philadelphia, for instance, even as late as 1880, more than half of all industrial workers still lived within five-minute (three-tenths of a mile) walk from their working place, and more than half of

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[20] Handlin; 1959, p.50.

[21] For details see, ibid, pp.88-123.

[22] Ibid.

[23] Robert W.DeForest; Tenement House Regulation, Annals of the American Academy of Political and Social Science, 20, 1902, pp. 83-95.

all industrial workers still lived within a fifteen or twenty minute (one mile) work.[24] Quick and easy access to a job was especially important for wage earners with families in which several members and for irregularly employed workers who had to seek new jobs frequently.

The effect of these accessibility[25] requirement, were most obvious in the evolution of the working class or tenement district like the North End. These restricted the bulk of the recent immigrants in the immediate vicinity of the business and industrial centers that employed them. The immigrants made the physical durability of the rundown and low quality buildings a barrier to structural improvement through creating a large demand for them. They gave property owners a huge captive market that made ownership of these undesirable, often inefficient structures a profitable use of the land. The owners profited from the persistence of the buildings, despite the relatively low rents they have to charge, because the persistent demand enabled them to subdivide the buildings and so multiply the number of rents they received, and because it allowed them to neglect maintenance, saving carrying cost. The result was that owners usually enjoyed high rates of return on their investments on the buildings, despite the buildings' failure to satisfy their tenants' and society's needs.[26] Thus, an inquiry into tenement house conditions reported as early as 1846 that:

> ".... tenements occupied by day laborers yield more in proportion to the ground they occupy than any other class of buildings .... and it follows that these tenants pay the highest rents; and moreover that landlords will continue to let the buildings contiguous to the wharves and stores, to laborers, as long as the latter will continue to pay as high rents relatively as they do now .... day laborers will continue to pay them (high rents) rather than move out of town, or much further from their work."[27]

The survival of congested low-rent, rundown housing district immediately adjacent to the business district was a consequence not only of the economic and occupational status of the immigrants and the particular labor demands and competitive capacity of the neighboring business function, but also the desire of the immigrants to live

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24 Theodore Hershberg and others; The Journey to Work: An Empirical Investigation of Work, Residence, and Transformation, Philadelphia 1850 and 1880, in Theodore Hershberg (ed.), Toward an Interdisciplinary History of the City: Work, Space, Family, an Group Experience in Nineteenth Century Philadelphia, New York, 1979.

25 Accessibility was a constraint, that was technologically as well as economically based, resulting as much as from the primitive condition of intra-urban transportation as from the economic needs of the immigrants themselves. Transportation within the city during the nineteenth century largely depended on the slow passage of people and animals through the crowded streets. As a result the time and money the people spent moving themselves across distances, even very short distances, substantially increased the economic and psychological cost of living and working in the city. The need to minimize these costs made accessibility a matter of direct geographical proximity.

26 Reformers often claimed that slum owners received forty percent or more per year. For details see Marcus T. Reynold; The Housing of the Poor in the American Cities, New York 1969, p. 31, reprint of 1893; also see, Anthony Jackson; A Place called Home, Cambridge, Massachusetts, 1976, pp. 146-47.

27 Boston City Documents, 184, 1846, pp.13-14, source, Ward; 1963, p.71.

among their fellow country man and co-religionists. In the midst of hardship in an unfamiliar land, the Irish were the first major immigrants to congregate in a particular quarter of the town and to establish a society whose value and structures were distinct from, and, often in conflict with, those of the native American society around it.[28] Their living conditions were, indeed, often wretched in the extreme but these provided a way of life familiar to the newcomers so that quite apart from the economic necessities of the congested living, there were strong positive attractions for the immigrants in such a locality.

The Irish were marked off from the older residents of the city by their peasant ways, their poverty and, above all, their religion. The Roman Catholic Church was one familiar institution that the Irish found in this New World, and with no resources to move to the West, the Irish peasant that domiciled here often came to regard his condition as merely temporary and even actively hope to return to a free and 'unexploited' Ireland. Concentration was both a source of comfort and guarantee of identity in a world of hardship and was associated with the freer and easier practice of a religion that assured them of ultimate heavenly bliss at the end of this life's miseries and frustrations. The Irish past furnished an endless source of romantic themes that stimulated and reflected their separateness from the American community and became expressed as Anglophobia that made them even more distinct in a region and a city that came to venerate its English ancestry increasingly as the century progressed.[29]

Group consciousness not only reinforced concentration in congested quarters but also stimulated attitudes which in some ways perpetuated congested living, and even provoked reactions in native Bostonians who also began self-consciously to segregate themselves from the new comers. The Irish rarely intermarried with other groups; indeed the percentage of intermarriage was lower than that of any other groups including the Negroes.[30] They rejected the Yankee's faith in the perfectibility of man and condemned reforms as presumptuous transgressions into the realm of providence.[31] Under these circumstances the Irish settlement came to represent to the Bostonians as a disfigurement of their fine city.

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[28] Although these semi-autonomous immigrant societies which gradually became segregrated in particular districts of the city offered vivid and frequently unfavorable contrast with the native society, it is important to empasize that their districts, unlike 'Skid Row" areas, were not socially disorganized. We will discuss this in more details also with respect to the Italian immigrants in the North End.

[29] Handlin; 1959, p. 127, 131, 143.

[30] Ibid.; p.77.

[31] Arthur Mann; Yankee Reformers in an Urban Age, Cambridge, 1954, pp. 24-25.

Chapter 4

The North End

1860 to 1930

4.1

Influx of the Jewish and Italian immigrants and stabilization of the tenements in the North End

By the 1860s, when most the Irish could improve their living standard substantially and the influx of Irish immigrants have subsided significantly (Table-VI, Appendix), the "second wave" of immigration descended on the North End, which consisted basically of Jews driven out of eastern Europe by a seies of pogroms and Italians mainly from the south beset by an oppressive rise in taxes (taking as much as 54% of a family's income) coupled with drought and poor crops in years when population was burgeoning. Like the Irish, the destitute, the starving, the persecuted, the undereducated, the unskilled began packing their belongings to make the trip from Italy to America and to a new opportunity. Unfortunately since they arrived penniless and friendless, their dreams soon gave way to the realities of life in a coastal slum — long hours of work at low pay to keep from utter starvation.[1] They took the lowest position in the society. They worked long hours for extremely low wages. They preferred the lowest desirable dwellings for obvious reasons as did the Irish, and thus started another round for the obsolete structures of the North End.

Population figures show how dramatically the tide swung in the North End (Table-V, Appendix). In 1885, 14,000 out of 26,000 North Enders were Irish. In 1880 the Irish has increased and there were little more than 1,000 Italian in the North End. By

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[1] Richard Gambino; Blood of my Blood:The Dilemma of the Italian Americans, Doubleday, Garden City, New York, 1974, devotes a great deal of space to an examination of the reasons for immigration from Italy.

1895, however, there were 7,700 Italians, 800 Portuguese, 6,200 Jews, 1,200 English, and only 6,800 Irish.[2] One of the observer from that time recorded:

> "... the population of the North End is now almost entirely foreign born and the quarters wear the old world look. In the upper end of Salem street and its neighborhood, ... the Jews predominate. Where once the elegant quarter is now Italian quarter; 'Little Italy' with its gay shops, its banks hotels and restaurants, its bandbox of a theater and its two churches in the charge of Italian priest."[3]

The Italian immigrants settled into the North End, unlike the Jews who were "birds of passage". They stayed briefly, improved their condition, and moved out. The Jews settled in a triangular area nearly one-quarter mile on each side, extending roughly from Hanover Street to Endicott Street and back to Prince Street.[4] The majority of these Jewish immigrants were small town dwellers, unlike the Irish and South Italian farmers. They brought with them a traditional respect for scholarship and learning and an orientation to business. They proved themselves well suited to the task of starting over in a new land.[5] As the second generation Jews grew and prospered, they started moving out of the neighborhood and assimilated into the larger community. By 1910 the last North End Jews were moving on into the mainstream of society, leaving the memories of the North End behind.[6]

Before they left, however, they instituted the contract system sweatshops which substantially deteriorated the physical environment of an already congested area.[7] It was a very popular industrial venture at the domestic scale, which was possible due to improvements of the sewing machine. This intricate but small machine could easily be installed in the tenement houses of the North End without much labour and cost. Again, it

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[2] Firey; 1968, p.181; also see Robert A. Woods, Americans in Process, Houghton Mifflin, Boston, 1902, p. 41.

[3] Edwin M. Beacon (ed.); Boston of Today, 1893, p.20, source: Ward, 1963, p.181.

[4] There were other Jews settlement in Boston, but they were composed mainly of German Jews. The Russian and other eastern Jews felt no closer a bond with their German co-religionist than southern and northern Italians felt for each other. Regarded as outsiders by the more westernized German Jew, they formed a separate settlement in the North End.

[5] One of the first trade undertaken by many of the Jewish immigrants was that of peddler. With only a outlay of cash, a man could buy enough goods to make a journey of a few days or a week and turn sufficient profit to support himself. The peddlers sold linens, kitchen utensils, knickknacks, and occasionally even groceries from house to house. By dint of hard work, he might eventually advance himself sufficiently to begin supplying other peddlers as did eight former peddlers in forming Harris Gorfinkle and company in 1888, or Freedman Brothers. Other families became clothing retailers — Richmond Cohen and Reinherz, and Michael Slutsky. Soon there were small businesses of all kind — real estate, tailoring, money-lending — that prospered and grew through the immigrants' efforts. Even women were encouraged to help. Yente Rabinowitz opened a small grocery store. Bernerd Bereson, world famous art critic, grew up watching her mother run a small luncheonette. The community in general prospered and many famous people began their careers in the North End. The stop and Shop food chain grew out of a store owned by Rabinowitz family. Bankers, such as Albert Ginzbergand I. Reinherz, religious leaders of stature of Rabbi Margolies, later head of the New York congregation, and doctors, like Samuel Levine — all were product of this small ethnic community in a slum area of Boston.(for further details on the Jewish community in the North End see, Arnold A. Weider; The Early Jewish community of Boston's North End, Brandeis University, Waltham, Mass,1962).

[6] Todisco; 1976, p. 31.

[7] Ward; 1963, p.184.

did not require expertise of any kind. So, the women of the locality could work there and add to the scanty income of their poor families. Especially the Italian women found it very suitable. Because, unlike their Jews and Irish counterparts, they were not extrovert enough to go out of the community boundary for work. One of the inspectors appointed to supervise the sweat shops described:

> "The work is done in a room about 24 feet square. Within the space there are 16 women and 3 men at work. There are also half a dozen sewing machines, a large stove (kept at the full blast to heat the flat irons, necessary for every stage of clothing manufacture), two pressing machines and piles of unfinished clothing. Two windows illumine the room, furnishing light for 19 workers."[8]

In another report:

> "Rooms were filthy beyond description. The coal was piled up in huge heaps on the floor every where; dirts and scraps of cloth literally made a carpet for these rooms."[9]

By the end of the 1880s there was hardly any tenement house in the locality which did not have a sweat shop.[10] This proliferation deteriorated the environment so badly that in 1891, and again in 1892, a legislation was introduced to prevent the manufacture of clothing in a domestic setting since it facilitated the spread of contagious diseases. After 1892 clothing could not be legally manufactured in tenement houses or in the premises which were also living quarters.

4.2
Migration out of the Irish population and further stabilization of the tenements

What influenced the migration out of the Irish from the North End in the 1860s more than anything else were the machine-making industries both in the South Boston and Lower Roxbury.[11] It was only after the mechanization of the large-scale manufacturing industries, like the machinery, iron products and glass industries around

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[8] Louis A. Banks; White Slaves or The Oppression of the Worthy Poor, Lee & Shepard, Boston, 1892, p. 99.

[9] Ibid., p. 102.

[10] Ward; 1963, p. 184.

[11] These industries required less skilled laborers and thus increased the employment opportunities for the semi-skilled and unskilled laborers. Although manufacturing activities concentrated in central locations and although in 1860 over 45% of the total labor force was employed in the central areas, by 1875 manufacturing was also well established in such peripheral districts as South Boston, Lower Roxbury, Cambridge etc. In the central districts 50 to 55% labor force was employed in manufacturing but in these peripheral districts, the proportion employed in the manufacturing was even greater at between 58 to 66%. Indeed in South Boston the average number of men employed per establishment was as high as 55.7.

By 1850, however, the western section of south Boston had become a major center of immigrant settlement. Even then, it was actually in no rival to the central districts. Until that time the industries had employed mainly skilled labor and the eastern section of the peninsula was still far away from industrial development and immigrants housing to preserve its residential status for skilled workmen employed in the local industries and, to a much lesser degree, in the city center with which South Boston was linked by horse car after 1854 (ibid.,pp. 97-8, 223-8.).

1875 that these isolated suburban settings like the South Boston, Lower Roxbury, Cambridge could grew almost autonomously to become industrial suburbs. Now they became the centers of unskilled employment and their immigrant population rivaled those adjacent to the business district.[12]

Improvement of the local transportation around the same time certainly contributed the suburban drift of the population except for the poorer of the city. These services catered to a clientele in more exclusively residential suburbs developing beyond the industrial suburbs to the south and west. Not to mention that the fares of these services dropped significantly with the opening of the first omnibus services as early as the 1830s but not the time required for the journey. The introduction of the railroad services which could overcome such difficulties also encouraged a special group of prospective residents who purchased railroad land holdings.[13] Thus in a way they were also in favor of a more distant suburban living which was not affordable by the group of people, basically of Irish origin, who wanted to get rid of the unbearable congestion of the inner residential districts like the North End. Under such circumstances these industrial suburbs like the South Boston and others assumed especial significance. These intermediate areas between the central residential districts and the streetcar suburbs farther out became a "zone of emergence"[14] into which people moving from central residential tenement districts moved and where they found an existing supply of houses abandoned by more successful and prosperous classes.[15]

As the number of the Italians grew in the area, there developed a tension between the Italians and the Irish. Many of the Irish, now second generation, looked down on the arriving Italians in much the same way as they have been looked down upon by the native-born. They perceived the Italians to be an economic threat. The Irish feared competition for the menial jobs which they had held unchallenged. Economic fear was augmented by a general misunderstanding of each other's customs. For the Irish, fighting was a sport. For the Italians, it was a serious provocation. They retaliated, not with fists

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[12] Ward, 1963, p.101.

[13] Ibid; pp. 104-109.

[14] The term ascribed to these districts by two contemporary observers, Robert A. Woods and Albert J. Kennedy in "The Zone of Emergence" distributed for the joint center for Urban Studies of the Harvard university and Massachusetts Institute of Technology, The Harvard University Press, Cambridge, Massachusetts,1962.

[15] In this first move these migrating families rarely had the resources to buy new houses in the suburbs and tended to rent middle-class residences already a generation old. Speculators also converted some of these old dwellings into tenements and built cheap houses or three decker tenements on the vacant lots. In general, these houses were lot better for these Irish population than their previous ones in the inner residential districts. On the other hand, the nature of the job they would avail in these industrial suburbs were not at least the menial jobs or the jobs of a daily laborer which were highly insecure and very low paid. The jobs in the industries in these industrial suburbs were more secured and relatively prestigious. So to the less prosperous second or third generations of the Irish such relocation was certainly an improvement over the earlier status.

but with knives.[16] To avoid confrontation the Irish decided to move elsewhere, the poor to the industrial suburbs, the more prosperous Dorchester, Hyde Park, Brookline, etc., even if it added cost to their living. Education for the children had become important to them. The idea that children should be educated in well-lit environment with enough air, space and color for their better mental and physical growth was getting popular among the middle class. The city authority around that time agreed that the better schooling system was one of the significant pulls why the well-to-do population of the city started moving out to the bright, airy suburbs of Boston.[17]

These moving out of the early Irish population had different negative impacts on the physical qualities of the North End. Due to the negative values[18]they attached to the locality, these people never did anything to improve the area. On the other hand, each person moving out was also potentially a speculative real estate owner. They converted their houses into tenements, subdivided their already subdivided houses until by the turn of the century nearly all the houses in the North End were tenements (figures 27 and 28).[19] Most of the tenements occupied almost the entire lot and since most of the lots were narrow, the building enclosed constricted courts and yards which served as receptacles for garbage and usually contained privies and a stand pipe which supplied fresh water to the tenement dwellers. To one observer:

> "A big Boston tenement house means from four to ten cabins on a floor, and from three to six roof under one roof. In a great many of these sunlight is an impossibility - Boston is peculiarly cursed with its rear tenement. All through the North End and some parts of the west End and the Cove, there abound dark courts, oftentimes reached only by a tunnel, that are almost entirely barren of sunlight. For instance there is a court off North Street, reached by a tunnel such as I have described, where the tenement houses were three deep from the street. The inside tenement facing on the court through most of the year is densely packed with people. For a large part of the length of the court it is only four feet wide and the front windows of the house, which is three stories high look out on the dark wall which is only four feet away."[20]

According to another description:

> "The court consists of two blocks of wooden houses with brick end and a brick middle partition , four stories high, fronting each other, the passageway being 140 by 14 feet. A low wooden building stands in the middle of the court 19 feet by

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16 Todisco; 1976, p. 28.

17 Cited in , Boston School-1962, A Report on Schools of Boston, A study taken under the contract between the Boston Redevelopment Authority and Haravrd University, with the cooperation of the Mayor, the School Committee, and the School Building Commission of the City of Boston.

18 It was explained in chapter 3 that the Irishmen, due to various volitional reasons, gathered and appropriated the congested living conditions of the area.

19 Frederick A. Bushee; Ehtnic factors in the poulation of Boston, Publcations of the American economic Association, Third Series, 4,1903, pp.30-33.

20 Banks; 1892, pp. 147-49.

> seven feet and 9 feet high to peak, containing eight privies, with one end having space for ash barrels and the other for swill and house garbage. Two low iron hydrants in the yard supply water for all the tenants and two covered drains carry away slops and waste for all the tenements. Each block contains 32 rooms, with four entries 5 feet wide, each entry having to rooms to a floor."[21]

Like the representation of the external conditions, there are also descriptions available for the interior of these houses:

> "At our first visit we found 54 families occupying 56 rooms.... From the testimony of the lessee and others there had been as many as 450 occupants at one time— an average of seven persons to a room, each being 17 by 15 feet and 7 feet high. The rooms are smoky, damp, unpainted and mostly unwhitewashed and sitting room, kitchen, and living room all are united in one, with no solar ray ever entering them, excepting at the uppermost floor. No room, no entry was ventilated. There was no transom window over any door and not a window in the house could be let down from the top for air. There was but one solitary sink in any room and that was in a room occupied by a colored woman , and this she had put in at her own expense."[22]

Adding to the neglect of buildings and tenants was the sublease system which severed ownership from control.[23] By this system tenement owners leased their buildings to agents at an annual rental. Generally both owner and agent made a good income on the cost. Sometimes tenements passed through the hands of several agents. For example, a wooden tenement in Kingston Court was owned by the heirs of L.M.Sargent who had leased it to the heirs of Thomas Thompson whose agent had sub-leased it to a grocer who lived in the neighborhood.[24] Thus the owner was relieved of the bother of control and collecting rents. The sub-landlord with little regard for the tenants' welfare, tolerated or ignored numerous housing evils, for any expenditure on his part merely would reduce his profit.Inspite of all these, the demand for the tenement-house accommodation in the North End increased until about 1920 and, by then, it would accommodate no less than 40,000 people (Table V). Only Calcutta could boast more people per square mile than this on the earth. But ironically it was around this time the North End began to feel the positive impacts of different changes made by its Italians inhabitants.

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[21] Massachusetts Senate Documents 120, 1870, p. 169 , source, Ward, 1963, p.81.

[22] Ibid; p.170.

[23] David M. Culver; Tenement house reform in Boston, 1846-1898, Boston University, Ph. D. Dissertation in Modern History, 1972, p. 107.

[24] Ibid.

4.3
The Italian population and endowment of an ethnic identity to the North End

The North End underwent a spectacular increase in Italian population toward the end of the nineteenth century. In 1895, 26.6% of the North End population was Italian; in 1920, it was 90%. As the Italian population established majority the streets of the North End took on the characteristics of an Italian town. The people spent as much time as possible outside, gathered on the street corners or in some shops or restaurants. The traditional Italian interest in gambling was continued, but otherwise crime was low in the district. But this does not mean that the qualities of the built forms were better than before. Even in 1891, 154 families of the North End were living in one room per family. Most of the houses were three to five storied walk-up apartments without private baths and central heating. 74.5% of the families shared toilets, 13.6% shared water. In short, the housing condition was miserable and it was the least desirable of Boston's residential districts from any physical stand-point. The North End had become "Boston's classic land of poverty."[25]

Unlike the Irish or the Jews the Italians did not move out when they prospered. Instead they established *paesani*, lodges, clubs, and other benefit societies. Out of a composite network of family, *paesani*, and other groups there emerged a social system of a greater inclusiveness. In general, Italian associations put a premium upon residing in the North End. There was for instance a pronounced tendency for members of the same extended family to live near one another. It was not uncommon to find a single tenement entirely occupied by a single extended family: elderly parents, matured children with their mates, and grand children. There are instances where such a family overflowed one tenement and expanded into an adjoining one, breaking out of the partition of the doorways. Another manifestation of the localizing effects of Italian kinship solidarity was preferential renting, by which an Italian who owned a tenement would let apartments to his relatives at a lower rental. Frequently this preferential renting extended to a close family friend.[26]

As a result of such localized solidarity the Italians continued to settle in the area.[27]Turnover of the population was also exceedingly small toward the end of the 1920s. Such stability contributed in no small measure to the perpetuation of the Italian community. This it did partly through minimizing the number of accommodations which

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[25] Woods; 1902, p.5.
[26] Firey; 1968, pp.192-194.
[27] Ibid; pp. 212-216.

had to be made to a non-Italian population and partly through creating a "center of gravity" in the form of a settled population of old, Italian-born residents. Italians more than most immigrant nationalities, attached a great deal of significance to the ownership of real estate; an attitude that can be traced back to the quasi-servile tenant status most had known in their homeland. The result of this was to establish an extraordinarily high value on property ownership. Many of the North End Italians have regularly sent in a portion of their savings to relatives in Italy with a view to investing it in land. Others more certain of remaining in the United States invested it in the North End and suburban real estate. As a result the proportion of North End buildings and lots which were owned by Italians increased markedly during the first decades of Italian residence in the district. As early as 1902, out of 1981 buildings and lots, 378 i.e., about 20% were owned by the Italians.[28] Following the outbreak of the First World War further shipment of the money to that country by persons was prohibited. Consequently, the Italians, barred from remitting savings to relatives in Italy, took to investing their funds in local real estate. By the year 1922, out of 1617 building and lots, the number owned by Italians was 836 around 52%, whereas rest of the properties were owned by banks and mortgage companies (Table-VII, Appendix).[29] Many of them undertook extensive improvements in their tenement buildings, so that the value of such property was enhanced. Some of them also constructed new buildings.

Apart from these individual efforts, there were also group efforts to improve the physical quality of the neighborhood. Joseph Campana, known as the "father of credit unions," helped organize to open the credit union in a settlement house on the North Bennet Street on September 1, 1921. It started with a capital of $14.25. When the charter was granted, there were only 11 members. Two months later there were 33 with a combined savings of $1,486. Two years later 243 members had contributed assets of $5,099.[30] Even children were encouraged to contribute their dimes and pennies. Loans were given to local people that no other bank would approve because the North End at that time was considered high-risk slum area. Yet the people worked hard and they used their loans to build businesses, repair homes, and upgrade the neighborhood. The Social Service Credit Union helped make much of this possible.

Though for the outsiders it was still a slum— an eyesore and a blight on the image of Boston — its Italian inhabitants always thought the North End as their own neighborhood. When the first attempts of urban renewal and development began in 1919,

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[28] Atlas of the City of Boston: Boston Proper and Back Bay, G. W. Bromley and Co, Philadelphia,1902.
[29] Ibid,1922.
[30] Todisco; 1976, p.40.

the City Planning Board proposed the creation of "Lafayette Street" to connect the North End and Charlestown across the Charlestown Bridge. The plan would have effectively split the North End in half. The Italian citizens, never before a strong political force, erupted in unified protest and the plan was abandoned.[31] Such pride and care taken by the Italians about the North End did have definite impacts on the appearence of the area, and this was evident at every level of the physical environment. From the access system to the very details of the surfaces of the buildings — every architectural innovation adopted in the area could partly be attributed to its Italian inhabitants.

4.4
Various architectural innovations and their effects on the built environment

In the 1890s the density of the built fabric in the North End reached its peak. Both horizontal and vertical possibilities of growth were exhausted. Most of the houses, by now, were four to five story high (figures 25 and 26). The North End had to accommodate no less than 900 persons per acre, the highest in the whole Boston area and still more to come.

The effect of this situation was aggravated by the irregular layout pattern of the streets which made the blocks too deep. When the inner lots of these blocks were built up with extreme density, accessibility to the inner buildings became a real problem. To solve this problem of accessibility, builders or owners came up with the idea of providing tunnels on the peripheral buildings through which one could reach the inner buildings on the lot — the buildings that would be otherwise inaccessible or were accessible only via other's property (figures 46 and 47). The tunnel also allowed the whole frontage of the lot to be used for building and saved valuable space for the owners. In addition, they could also extend the upper floors over the tunnel to gain maximum profit from square footage. The benefits from such an approach were so obvious that within the next decade the access pattern of the whole area changed; numerous access tunnels making the place more congested and densely built than it was ever before.

Before the 1880s when the structural iron was not very comon, wooden beams were the basic structural material used to span the roof of any building.Spanning an access tunnel with wooden beams that would have to support the upper floors did not seem to be very practica to the builders. It is true that they spanned even the roofs of the warehouses with the wooden beams, but those roofs did not have to support any added load other than their own loads. Builders had to wait for structural iron or concrete to become popular and cheap structural materials to use for the purpose.

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[31] Ibid, p. 44.

Again, the use of a tunnel to get into the more internal spaces could be a cultural phenomenon brought to the place by the Italians. They were used to this kind of space where a block of housing would have a courtyard in the center for communal interaction and which could be accessed by a tunnel (figure 57). May be from the nostalgia of a past life the Italians adopted the same spatial provision into the housing fabric of the North End area — something that could serve the purpose of the communal interaction.

The innovation of tunnels as a cultural necessity could also be a plausible hypothesis because the Italians were mainly responsible for most of the changes in the built forms of the North End around that time. As mentioned earlier, by the beginning of the 1920s more than 50% of the total buildings and plots were owned by the Italians. On the other hand, different financial organizations marked it as a "red line" zone and refused to give any kind of financial support for constructional purposes. So, the responsibility of the changes fell totally on the Italians and their different social organizations.[32] Because often a single extended Italian family would occupy the whole tenement or the whole premise, a space of more communal nature could enhance interaction amongst themselves. Most of the time these internal places would contain the sources of fresh water which could again be a good reason for the Italian women to gather and share their feelings, who in those days were not encouraged to go out of the family or community premises.

Introduction of the "bay window"

The attitude of the Italians to the female gender perhaps was the reason for the introduction of the Mediterranean "bay windows" in the North End (figure 58). In the traditional Italian society the "proper" Italian girl as she reached maturity was required to lead a very circumscribed life. Her parents jealously restricted her extra-familial activities with the result that her whole scheme of aspirations became oriented to the traditional Italian values[33]. Likewise the Italian women were far more immersed in the confines of the North End than was the Italian men. Sartorio remarked that:

> "One of the greatest surprise of my life ... is to hear from time to time, especially from Italian women who have lived in America for years, a statement like this: "I have been down to America today," meaning that they have gone a few blocks outside the district of the Italian colony."[34]

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[32] Ibid, p. 40.

[33] Firey; 1968, p. 211.

[34] Enrico C. Sartorio; Social and Religious Life of Italians in America, Christopher Publishing House, Boston,1918, p.19.

What could be the outcome of such confinement of women in domestic spaces? Certainly there would be the necessity to provide provision for the females to stay private while participating in the happenings on the out side. Probably the most ingenious solution to the problem was the "bay window" where they could sit and do their household works like knitting, minding the kids and observe the outdoor activities without being noticed by the others.

The Bostonians were familiar with the brick bow-front houses that were abundant in the South End and Back Bay, but not with this type of "bay windows". The bow-front the facade swelled out from the ground level continued upward and thus was a load-bearing part for the building itself (figure 59). One could not just add or subtract it from the building. Whereas the bay window are non-load-bearing elements that could be very easily added to the upper levels keeping the lower level flushing with the street. In other words, this was also a kind of illegal extension of the private domain on the public street, which probably was not an offense in those early days of building regulations (figure 60). Again, this was a type of device made from wood or caste iron and glass that could easily be added later without doing much damage to the building.

Apart from the cultural reasons climatic necessity could be another good inspiration for the innovation of "bay windows" in the North End. Besides giving an elegant and graceful shape to the interior and exterior of the row houses, the projecting bay windows certainly allowed more light into a narrow house having no side windows than did the flat fronted building, and also allowed more interior space to the congested row houses of the North End.

Use of different surface treatments for the buildings

Though most of the buildings built by the Italians in the North End were not comparable to the first-class row houses built at other places of Boston, they signaled new architectural taste, especially in the treatment of the architectural elements. The doors, windows and corner blocks in some of these houses built by the Italians were so emphasized that the building surface became more active and aggressive. Finally, the use of the Italianate motifs differentiated these dwelling from the earlier ones in the area. This interest in a rich and plastic treatment was most articulated in the handling of roofs and cornices of the buildings (figure 61). Although the overhanging cornice on each house was treated simply, its exaggerated projection terminated the wall in a dramatic manner, casting deep shadows on the surface. The importance of such chiaroscuro effects is demonstrated by one contemporary writer who wrote, "The strength and character of a building depend almost wholly on the shadows which is thrown upon its surface by

projecting members."[35] Some of the house would have traditional ridge roofs interrupted by chimney and perhaps iron cresting running the entire length of the roof.

But the decorative possibilities for most of the row houses were limited only to their front facades. The side walls were usually party walls, and the rear walls, not intended to be seen, were given over to functional considerations. Corner houses, however, presented two elevations to public view and hence had more surface to be ornamented (figure 62).

The "French flats"

The most significant architectural innovation of the North End was the introduction of "French flats" around the 1900s (figures 41 to 47). The builders in the North End found this type of residences rather convenient for their narrow plots. Another reason for its proliferation was the widespread availability of standard architectural plans of these flats. Because standardized construction materials were widely available through catalogues, these blueprints often became packaged, stereotypic plans which people used over and over again, whether or not they made economic sense, simply because they were readily available and easily approved by the local building authority.[36] Twenty-five by one-hundred-foot dumbbell tenement plans probably constituted the most pernicious examples of this problem (figure 43.4).[37] As housing reformer Ernest Flagg pointed out, the developers used these designs without thinking, even to fill large multi-lot parcels of land that suited the construction of much more efficient, sanitary, and profitable block tenements and apartment buildings. In doing so, they paid for the construction of unnecessary walls, partitions, corridors, and entrance ways, unwittingly wasting money that was worse than through away, since the vast amount of useless masonry not only took up the rental space, but also made building dark and unhealthy.[38]

The changes made through such architectural innovations were mainly related to the individual owners or developers. Hence, they were small in scale and, for most of the time, were insignificant for upgrading the quality of the total neighborhood. It was only after the interventions of the city authority that significant changes were felt in the area. These were possible through the reformation movements led by different individuals and groups which resulted in major amendments in the charter of the city of Boston.

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[35] Henry W. Cleaveland, et al.; Village and Farm Cottage, p.96, source, Margaret S. Smith; Between City and Suburb: Architecture and Planning in Boston's South End, Brown University, Ph. D. Thesis, Architecture, 1977, p. 153.
[36] Rosen; 1986, p.33.
[37] Ibid.
[38] Ernest Flagg; "The New York Tenement house evil and its cure," Scribners Magazine, 16, July, 1894, p.109, source, Rosen, 1986, p.40.

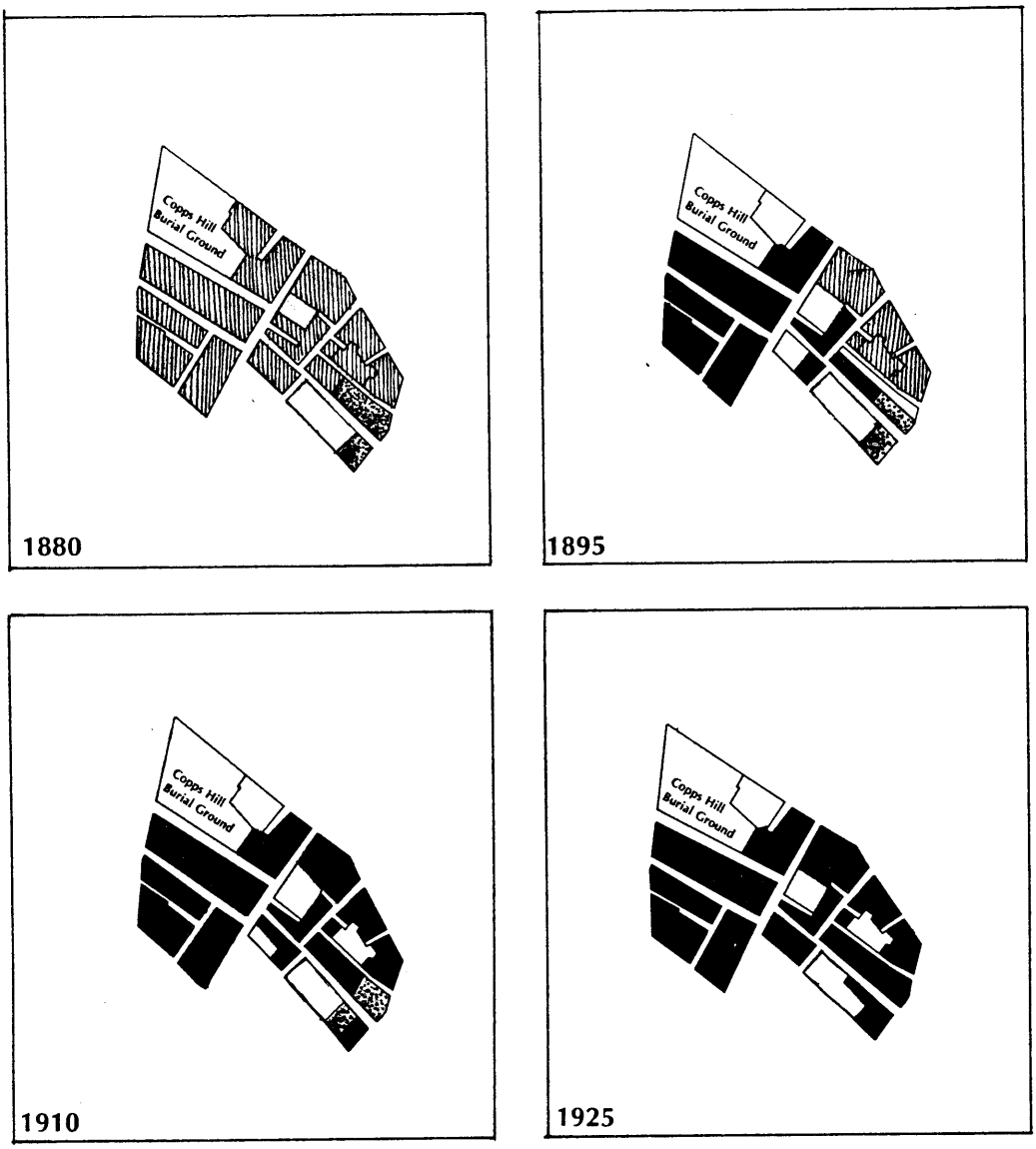


Fig 49
Ethnic changes in the study areas.
Irish - *Hatched.*
Italian - *Black.*
Portuguese - *Dots.*
(Source: Historical Atlas of Massachusetts, 1991.)

Fig 50
The diagram shows that there were only six residences of wealthy persons in the North End by 1846. (Source: Firey, 1968.)

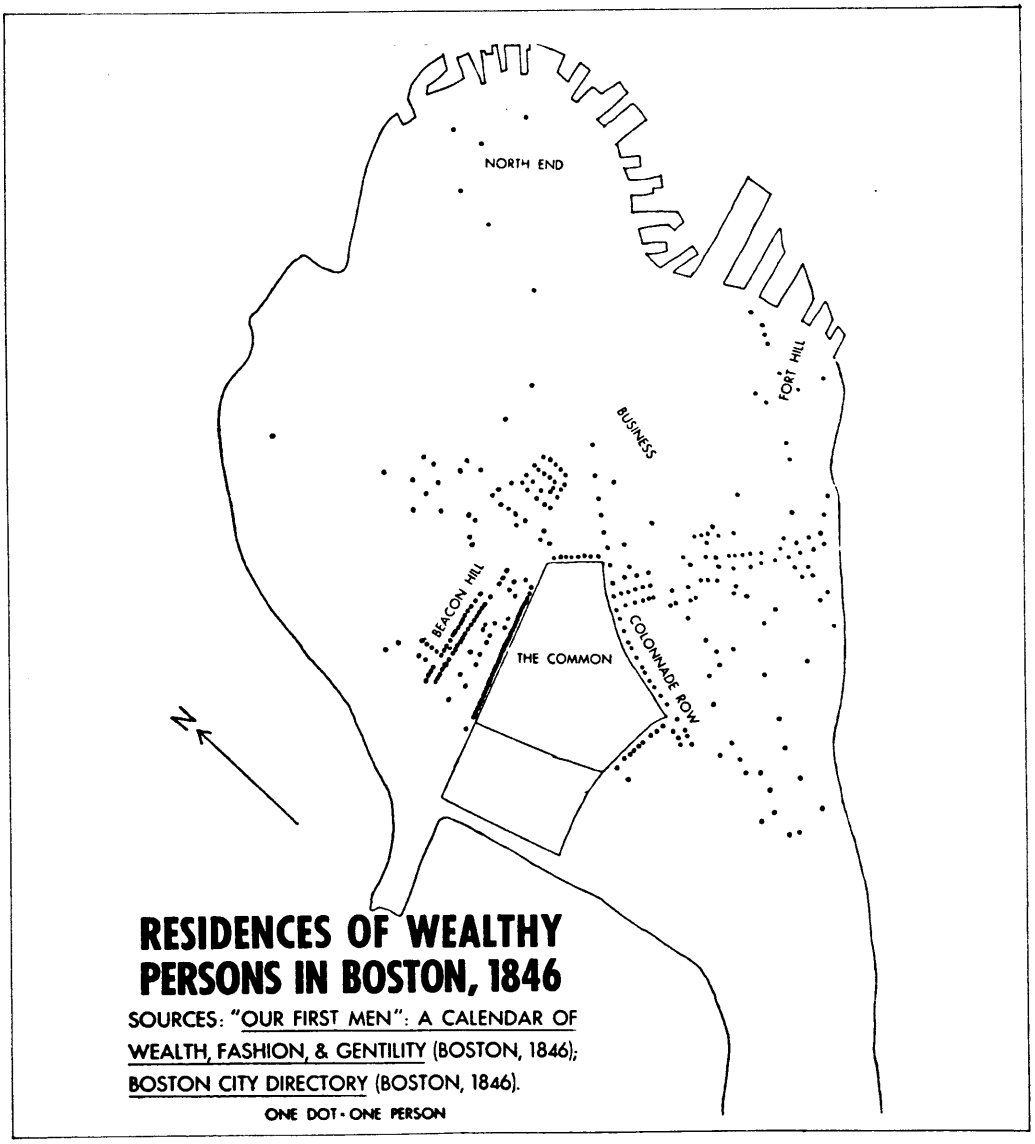
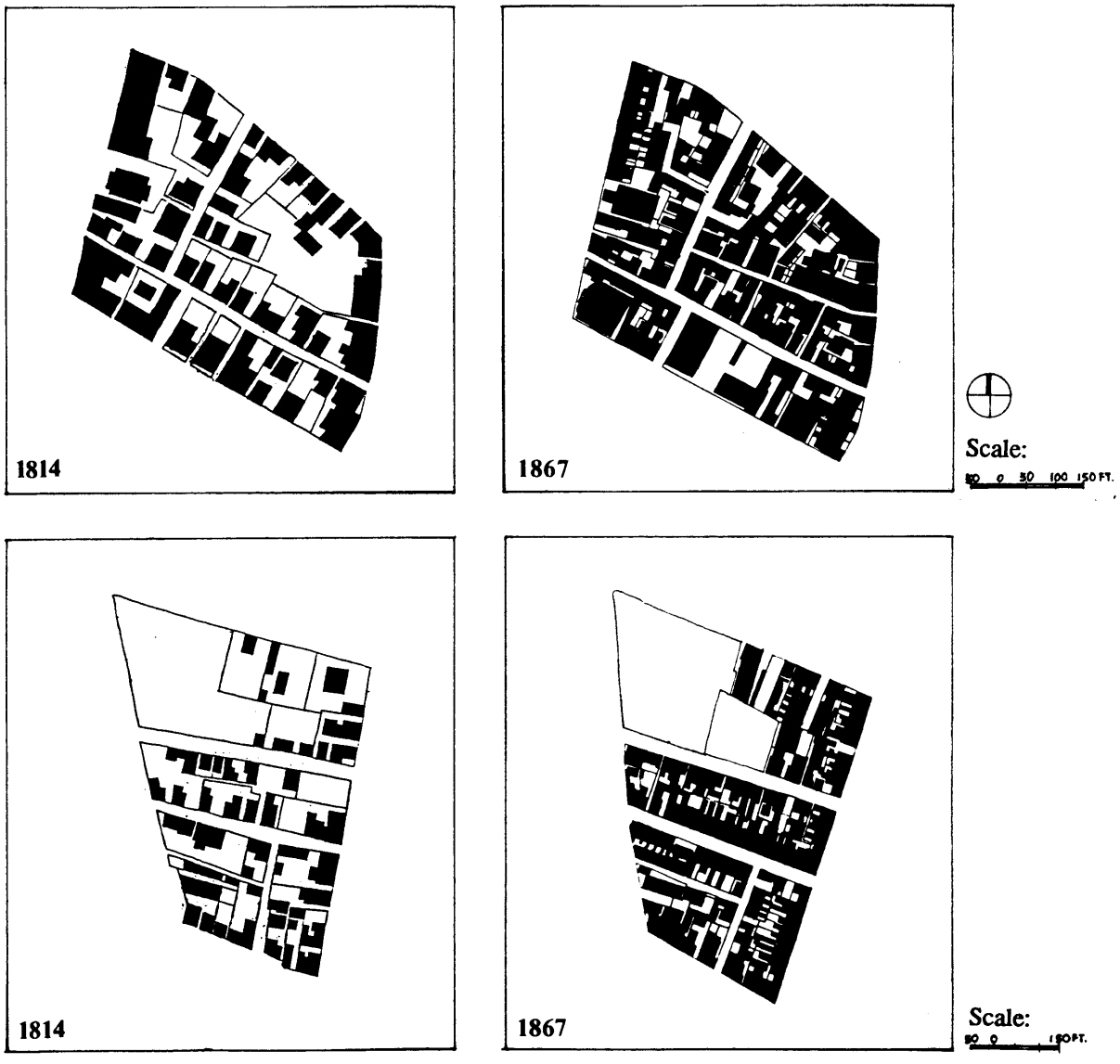


Fig 51
Study areas in transition.
(Based on the 1814 Hales' map and Sanborn maps.)



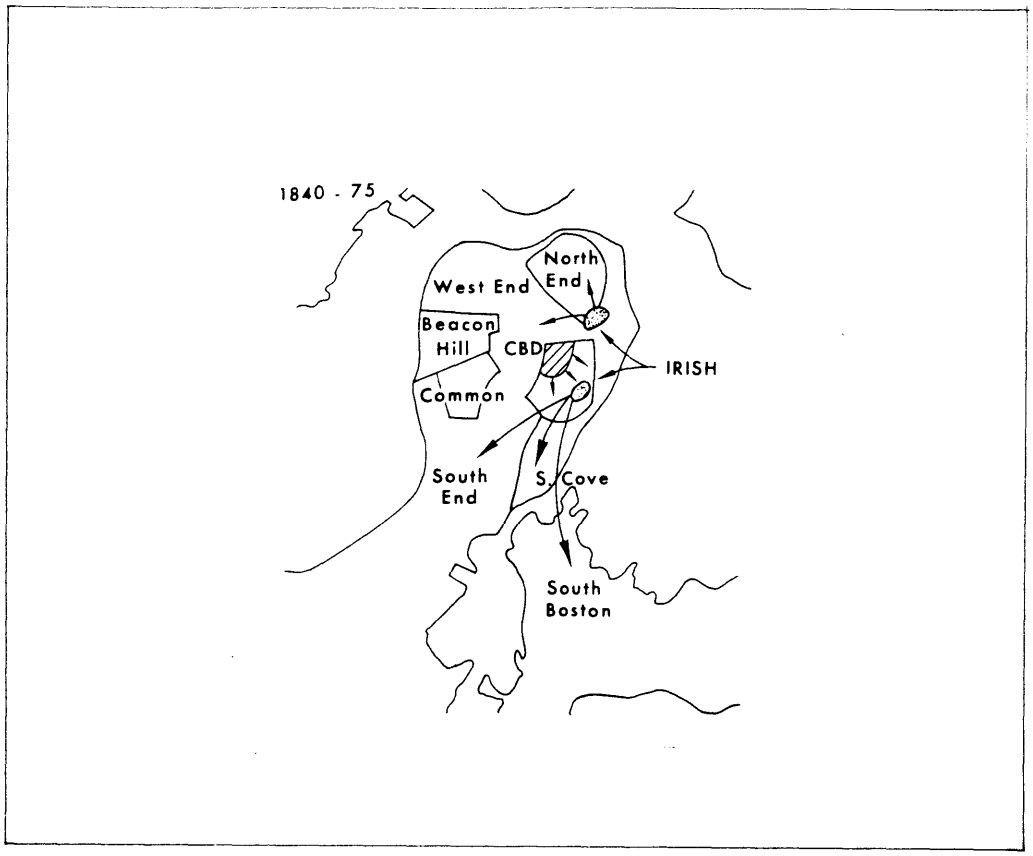


Fig 52
Boston's ethnic movement, 1840-75. (Source: Conzen and Lewis, 1976.)

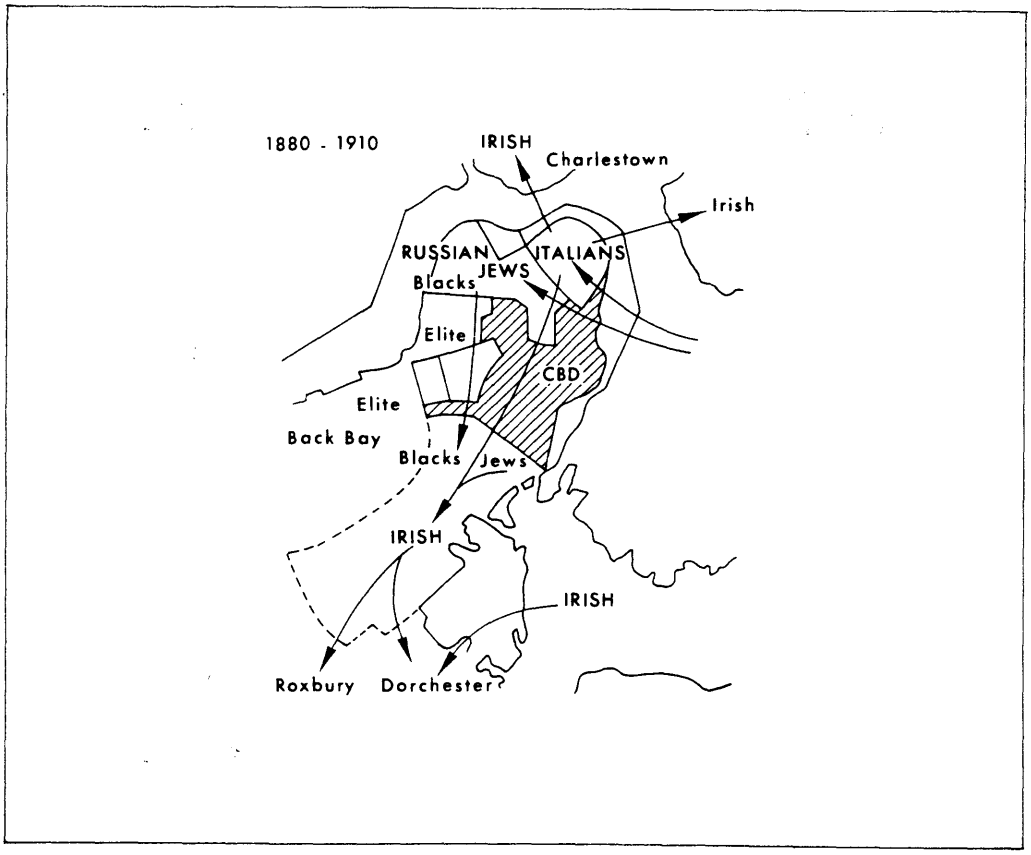
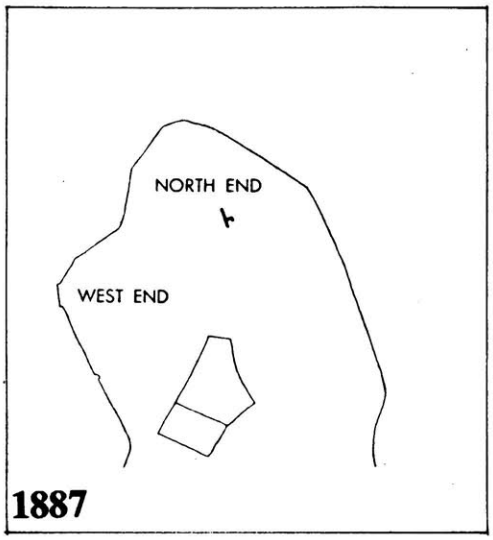
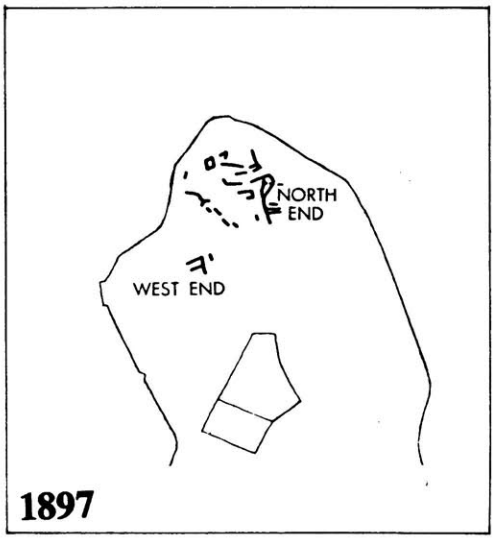


Fig 53
Boston's ethnic movement, 1880-1910. (Source: Conzen and Lewis, 1976.)

Fig 54
Sources of Italian Immigrants in the North End. (Source: Historical Atlas of Massachusetts, 1991)





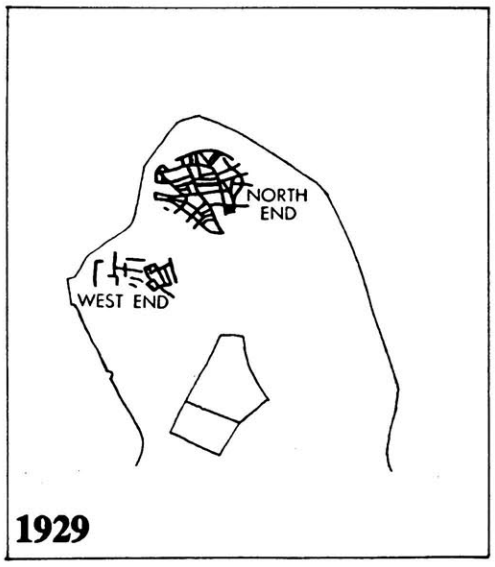


Fig 55
Streets occupied by the Italians. (source: Firey, 1968.)

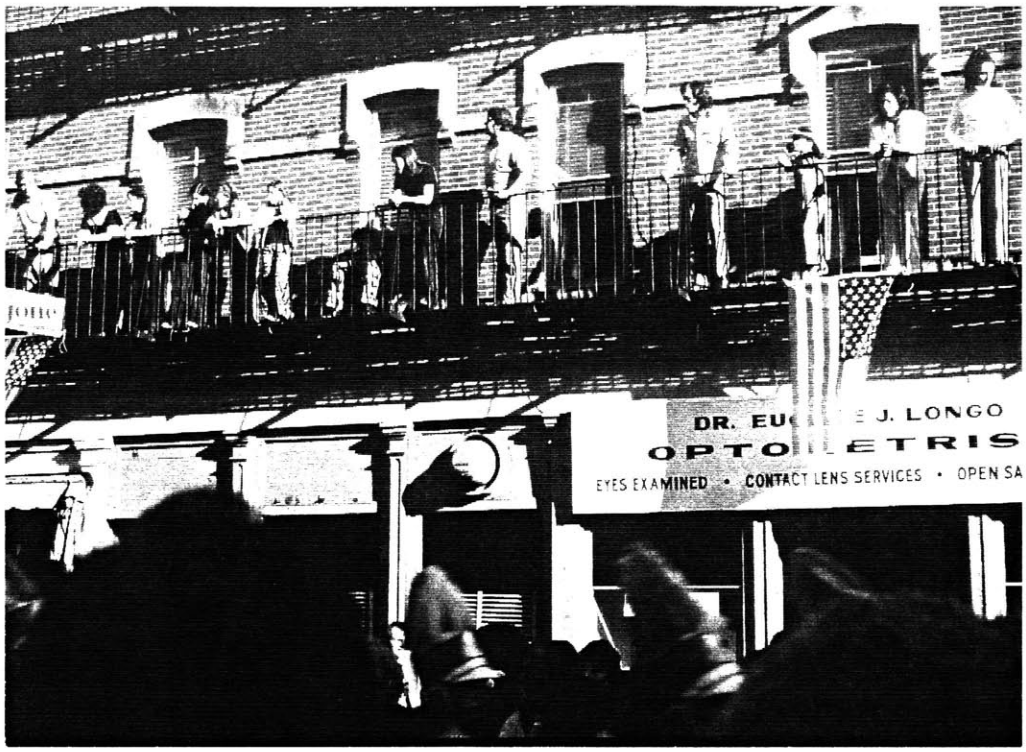
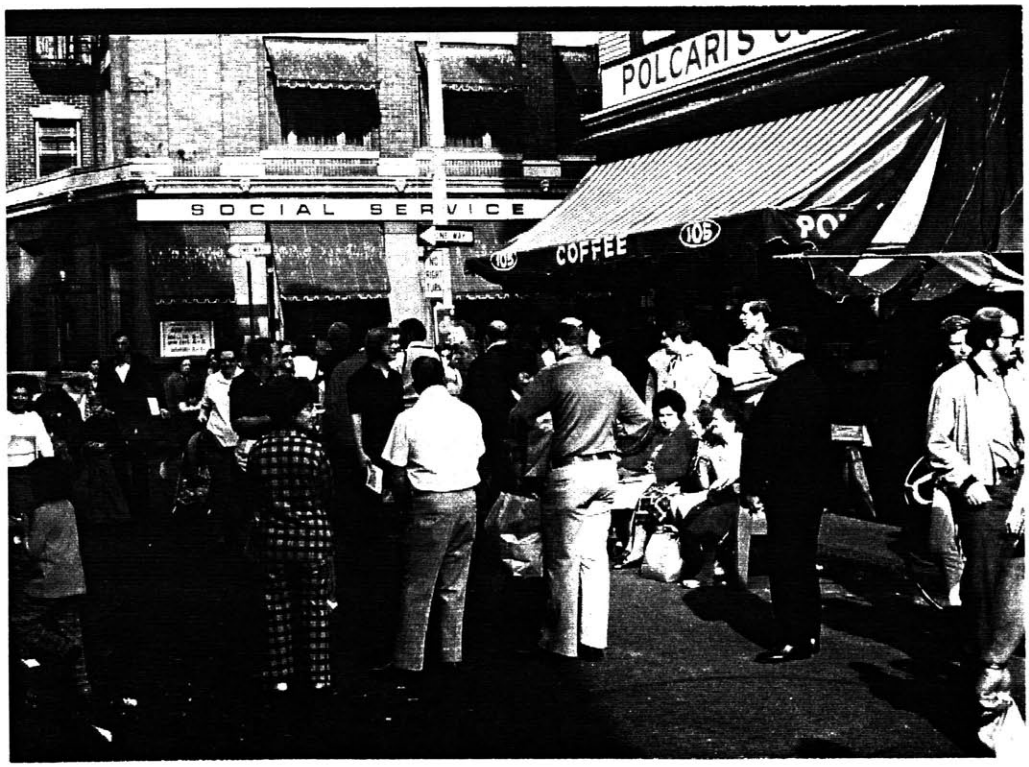


Fig 56
Scenes of Italian festivals in the North End.



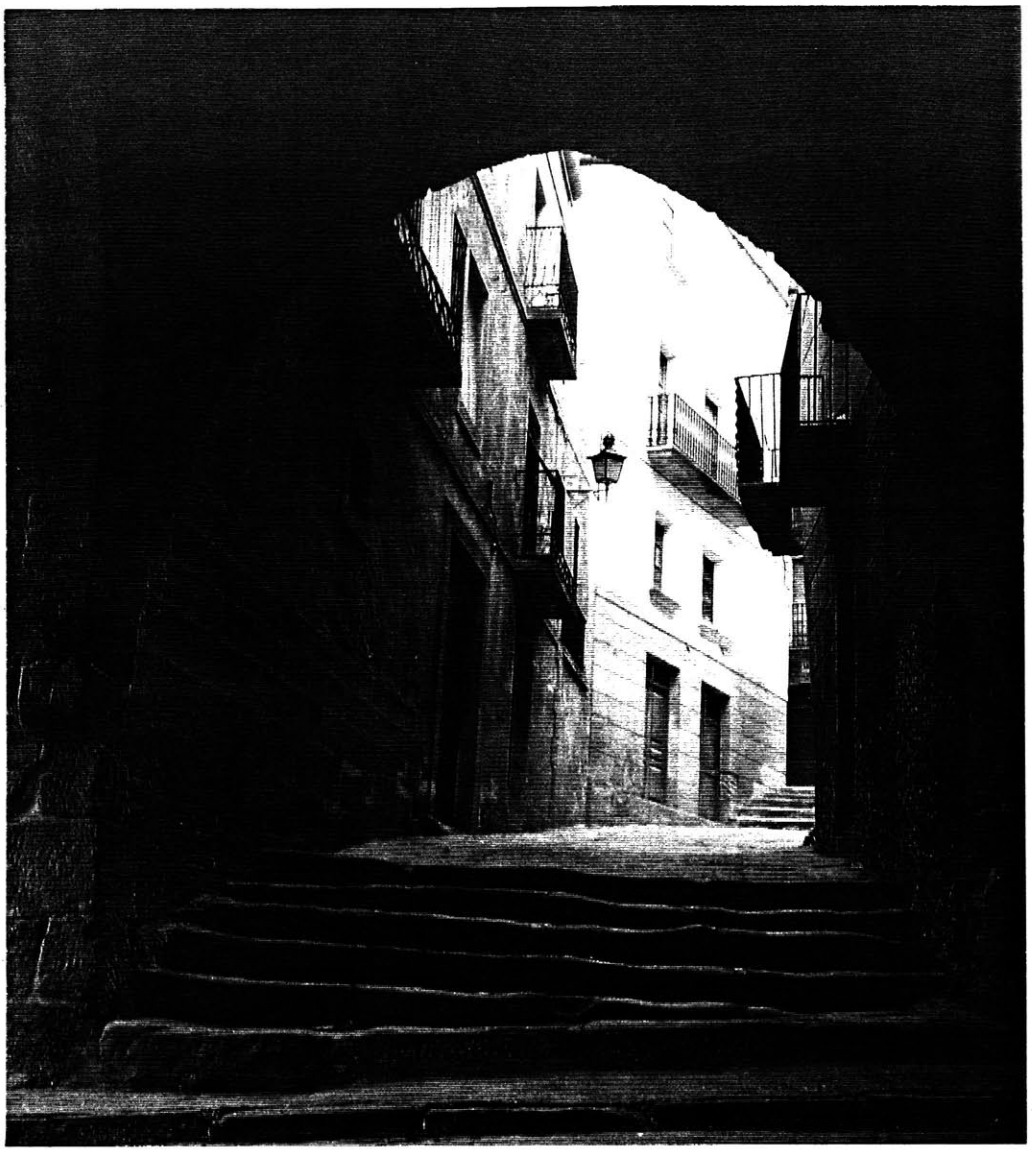
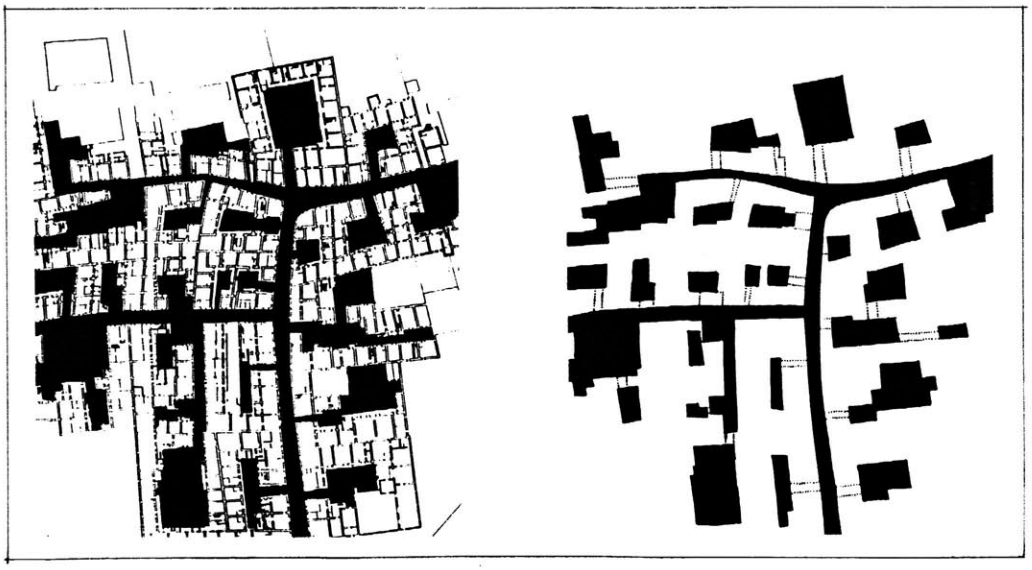


Fig 57
A small segment of a 18th century residential area from Napoli. (Source: Le citta´ nella storia d'Italia, 1984.)



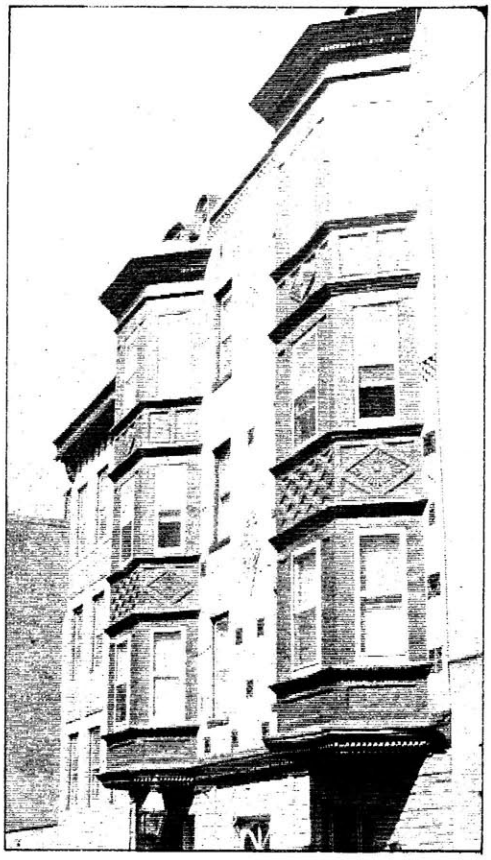


Fig 58
Bay Windows in the North End.

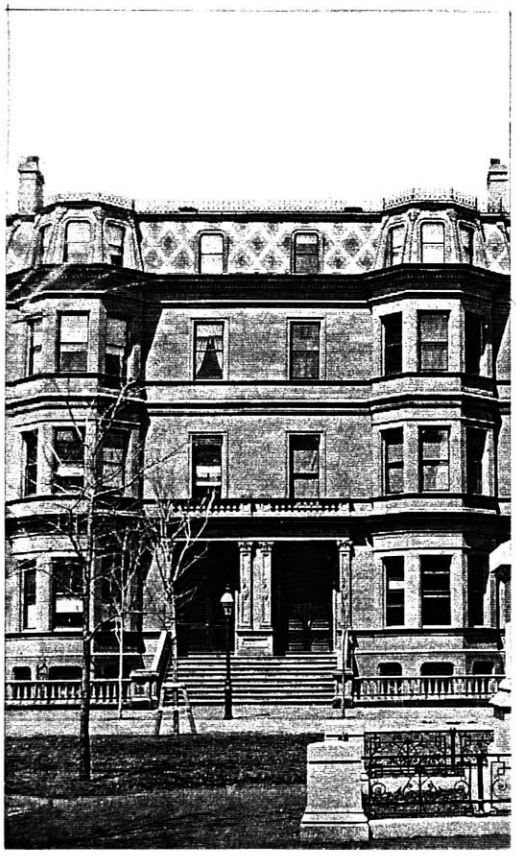


Fig 59
A bow-front house in the South End.

Fig 60
A late 19th century view of the North Margin Street shows a series of 'bay windows'.

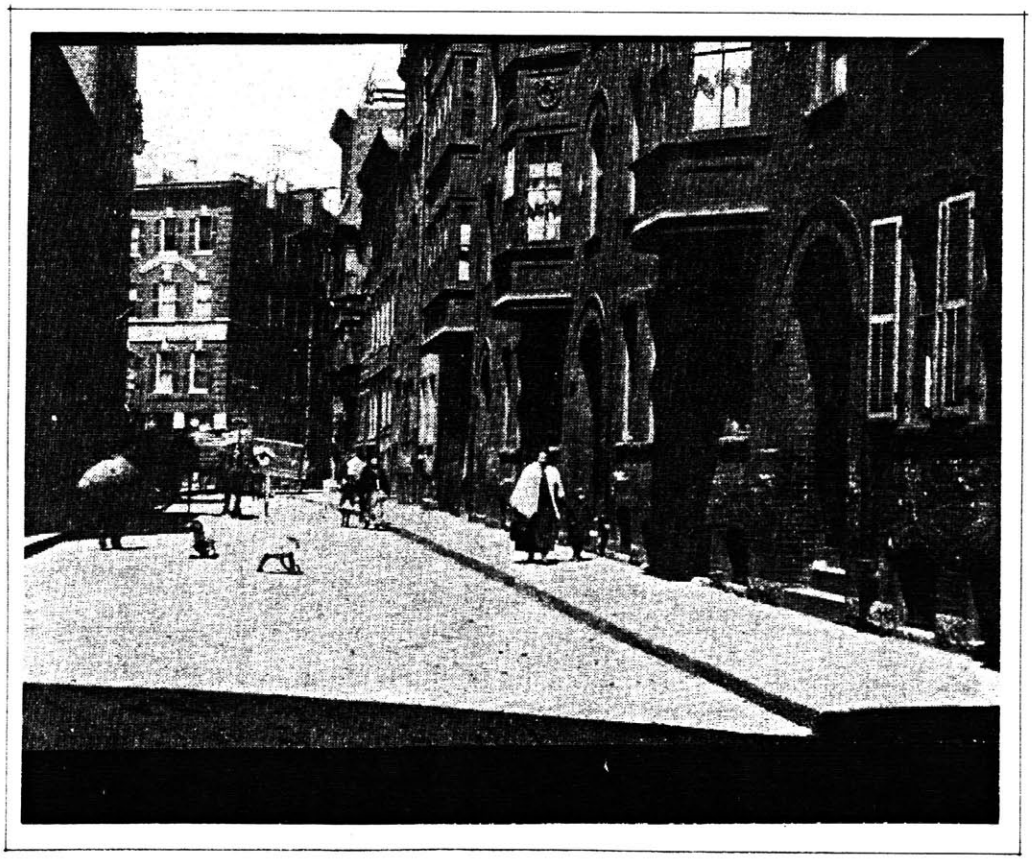


Fig 61
Typical details
of roof cornices.

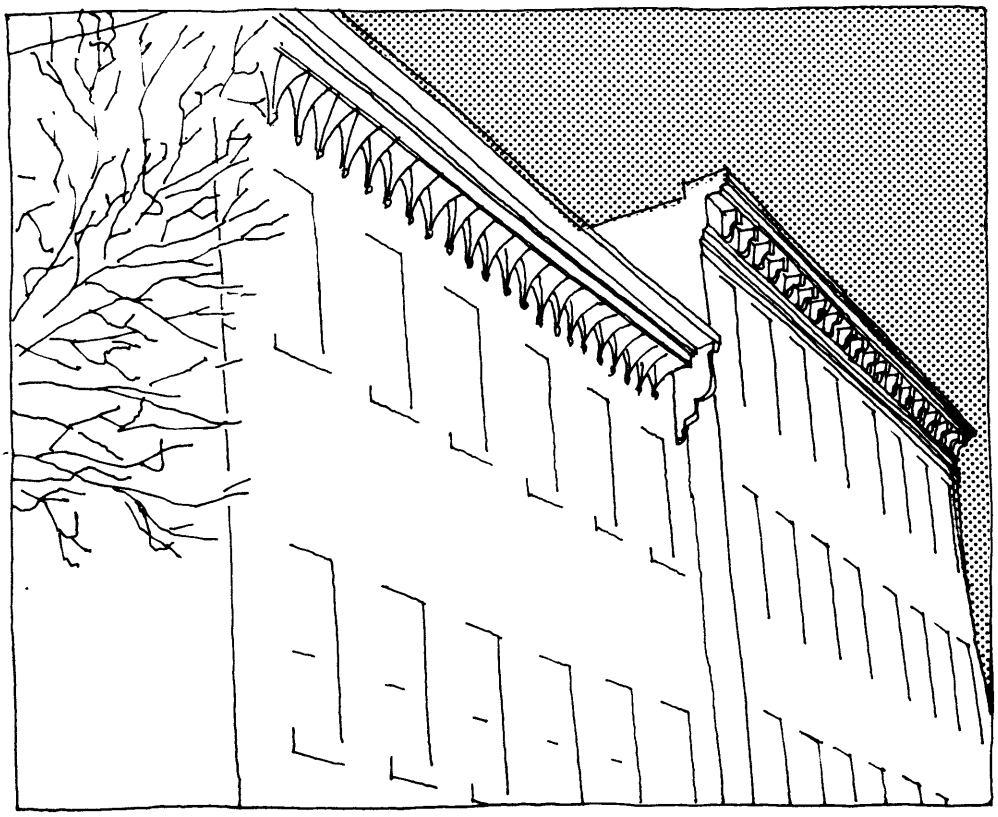


Fig 62
A corner house on the Hanover street.

Part 3

Chapter 5

Reform movement and municipal reforms

As Boston grew larger and larger in the 19th century, the tenement problem became more serious. Slums grew from small areas to cover large sections of the city. By the end of the century these slums became one of the central concerns of the city.[1] The impulse for housing reform resulted largely from fear of cholera and small pox that generated in these slums, and throughout the 19th century, housing reform and sanitary control were linked. Even before the germ theory of disease was understood, reformers sought to control the spread of diseases. The discoveries of bacteriology in the 1890s gave a fresh impetus to efforts to enact more rigid sanitary controls. At the forefront of the reform movement were a number of physicians who worked for housing and sanitary regulations.[2]

Another impetus for housing reform came from the repeated claim that bad housing was an unnecessary expense to the community. As E. R. L. Gould, one of the nation's leading housing reformers at the turn of the century, wrote:

> "The economic value of sanitary reform has never been fully appreciated. The loss of any nation by allowing unsanitary conditions to prevail is simply tremendous. It is likewise twofold. There is in the first place a great waste of productive power which might otherwise have been utilized; and secondly, there is the expense of maintenance of hospitals and pauper institutions, a large number of inmates of which are recruited through sickness caused by unhealthy living environment."[3]

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[1] Culver, 1972, p.286.

[2] Ibid.

[3] E. R. L. Gould; The Housing of the Working people, Eighth Special Report of the Commissioner of Labor, Washington, 1895, p. 423, source, Culver, p. 287.

Bad housing, it was also believed, fostered immorality and social decline. In overcrowded tenements, "any latent disposition to depravity and vice in either man or woman, will be fostered and developed..."[4] Children, especially were condemned by their tenement environment. "Girls of tender years are lure into a life of shame. Boys come to man's estate with their whole nature corrupt and ruined."[5] The nineteenth century housing reformer recognized that bad housing was responsible for a myriad of social evils including drunkenness, crime, immorality, and pauperism. As Robert T. Paine expressed it:

> "Give a man good wages, and then oblige him to live in a filthy hovel, such as are found in any part of this city, and you may confidently calculate on making him, first of all, improvident, then intemperate, and, last of all, a miserable pauper."[6]

Public health officials and social reformers reacted in horror to the insufficient quantity and quality of the housing to meet the needs of the area's mushrooming population; and as they admitted, their horror did not compare with the anguish of the people who had to live and work in overcrowded and deadly slums. Bad construction also appalled insurance underwriters, businessmen, and property owners, especially when it led to ruinous conflagrations that destroyed numerous buildings. Not only were the physical dangers of the poorly constructed, blighted buildings disturbing, but their property-value-reducing "nuisance" qualities were as well.[7]

Those wishing to improve the situation took several routes. One was to seek internal reform of the real estate market by educating owners and builders about the great need for new construction and the absolute necessity of safer, more fire resistant buildings with adequate room size, water supplies, and sewerage and ventilation facilities. This involved publicizing the suffering of the poor and making known the catastrophic effect of the epidemics and fire, as well as disseminating information about new construction techniques and architectural designs. Some housing reformers also became involved in model tenement building as a way to demonstrate physically the practicality of erecting better quality dwellings for the poor.[8]

The movement to provide better housing for the working class or the poor began in Boston as early as 1846, when a public meeting was held at the Warren Chapel in the South Cove, one of the poorest neighborhood of Boston, to discuss housing conditions in

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[4] First Annual Report of the Massacusetts Bureau of Statistics of Labor, 1870, p. 183, source, Culver, p.287.
[5] F. Spencer Baldwin; The Housing Problem: A study of Tenement Reform in Cities, Boston, 1900.
[6] Homes for the People, Journal of Social Science, XV, September,1881, p.3, source, Culver, p. 287.
[7] Rosen; 1986, p.34.
[8] Ibid.

this and other crowded parts of the city. A committee formed to look into the matters of providing better tenements for the poor published a detailed report the same year.[9] Referring to this 1846 report, Charles Eliot Norton, one of the two initiators of the model lodging houses in Boston, recommended that the government take a more active role in regulating the sanitary condition of dwellings in the congested area and urged that a benevolent society be established in Boston. Instead of advocating outright charity, Norton stressed that, if designed correctly, model dwellings should be able to demonstrate that safe and convenient accommodations could be provided at rents that working poor could afford, and such dwellings should also bring reasonable return to their investors. He started an organization around 1850 to achieve his goals. The other person related to the movement was Abbot Lawrence. These two people designed two groups of "model lodging houses" in the early 1850s that were constructed from 1855 to 1892 at different places of Boston except the North End. Both Norton and Lawrence never built for the poorest of the poor. They held that the only way for that was outright charity. They hoped to work through existing financial and governmental institutions by stimulating private investment and more rigorous municipal surveillance. They reasoned that, by providing for the working poor, more space would be available for the destitute, and the general level of housing would gradually improve.[10]Their "trickle down" policy never worked for Boston. Along with the efforts of these individuals, a special committee of the Twentieth Century Club had also been very active in agitating for tenement house reform; and there were also a number of other companies that usually bought up old houses, and alter them or gradually improve them.[11]

One of these companies was the Boston Co-operative Building Company that was responsible for the construction of many model tenements in Boston. As Harold K. Esterbrook wrote:

> "The Boston Co-operative Building Company has proved conclusively in Boston that model tenements can be provided at fully as low rents as are generally charged in their neighborhoods, and yet bring a moral commercial return ..."[12]

E.R.L. Gould also wrote that the Boston Co-operative Building Company had clearly demonstrated that there was absolutely no reason why private capital should not house the working population of Boston on a satisfactory commercial basis.[13] F. Spencer

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9 Stephen H. Perkins et al.; Report of the Committee on the Expediency of Providing Better Tenements for the Poor, Boston, 1846.

10 Cynthia Zaitzevsky; Housing Boston's Poor: The First Philathropic Expriments, JASH, XLII:2, May 1983 , pp. 157 -167.

11 Ibid.

12 Harold Kelsey Estabrook; Some Slums of Boston, Boston, 1898, p. 23.

13 Gould; 1895, p.420, cited in Culver, 1972.

Baldwin, a professor of economics at Boston University and an active housing reformer, wrote:

> "It has been conclusively proved that model housing can be made to pay a good profit on the investment. When this fact has been thoroughly brought home to the public there will be no lack of capital for investment in improved dwelling."[14]

In 1885 the Boston Co-operative Building Company purchased five small tenements on Clerk Street in the North End where sixty-seven people lived.[15] In the next year the company acquired another estate on Thatcher, Endicott and North Margin Streets, containing twenty-nine tenements in three buildings.[16] There was however no rush to emulate the Boston Co-operative Building Company. For one thing, the high initial outlay of the capital was frequently prohibitive. Further the six percent return earned by the Boston Co-operative Building Company was usually high, and for most model housing companies the return was four to five percent and sometimes less. This rate of return simply could not compete with substandard tenements that earned higher dividends. Finally, the high cost of land and building in the core city necessitated a rental that those most in need of housing could not afford. At no time did the model tenement come close to meeting the housing need of the poorer people. Nevertheless, reformers remained steadfast in their faith in the efficacy of the model housing.[17]

These efforts by the reformers and other social organizations were undermined as the reformers failed to transcend the barriers posed by the strong and persistent demand for relatively cheap, centrally located living and working space created by a large number of poor immigrants.

Government intervention and different legislative controls

Reformers soon learned from hard experience that they could not rely on example and reasoned argument alone to make people change their behavior. As a result, they increasingly concentrated on achieving the power necessary to compel change, attempting to accomplish their goals through restrictive legislation, building codes, zoning laws, etc.

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[14] Baldwin; 1900, p.22.

[15] Fourteenth Annual Report of the Boston Co-operative Building Company, 1885, p.6, source, Culver, p.205.

[16] Fifteenth Annual Report of the Boston Co-operative Building Company, 1886, p.5, source, Culver, p.205.

[17] Culver, p.292.

Due to a general demand[18] to improve and protect the living environment of the working people in the districts like the North End, it was in the year 1868, the Massachusetts legislature passed a tenement house law that set the minimum standards of light, ventilation, sanitation and safety. But control of the housing conditions was always dependent upon enforcement, which was always inadequate. There were never enough inspectors. Enforcement was also impeded by the land lords and owners who constantly thwarted efforts by public authorities to maintain standard consistent with physical health.[19] Though the landlord and owner compliance improved in the 1870's, resistance still remained a problem.[20] An illustration cited by the Board of Health was the case of an absentee of four large tenements, containing sixteen families, who made his home in Providence where he preached the word of God. The Board notified him that his buildings were very much in need of repair. He replied that his agent had been directed to make the necessary repairs, but a subsequent inspection revealed that conditions were unchanged. A second notice was sent to Providence and a second reply repeated the previous claim. On to the agent who said that he was not authorized to spend any money for building improvements. Patience exhausted; the Board of Health threatened to vacate the dwelling, if repairs were not made. This threat, however, was met by further dilatory tactics by the Providence minister. He cried foul and said that the whole affair was an injustice; he complained that the taxes were high and that the city was unreasonable in expecting him to make palaces for these people to live in. But this was his last maneuvering tactic and following another warning from the Board of Health, he reluctantly put his buildings in "passable condition".[21]

But, at other times, there were even no real efforts to enforce the housing codes and had it not been for the Associated charities, the Better Dwelling Society and the Twentieth Century Club, enforcement would have been even weaker. Furthermore, even had Boston possessed a larger and more efficient administrative organization, enforcement was often restrained by the consequences of vacating unfit tenements. Public officials were loath to order families out of dwellings when substitute housing was unavailable.

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[18] Writings of the reformers, like Woods, Bushee, Paine, DeFrost and others contributed significantly toward developing such consciousness among the general people.

[19] Estabrook; 1898, p.5.

[20] Fifth Report of the Board of Health of the City of Boston, 1877, p.8, source, Culver, p. 122.

[21] Cited in Culver, p. 123.

In 1892, the tenement housing law of 1868 was amended.[22] It now required that all tenement houses after that date should be completely fire-proof. This law was again changed and made into an act in 1897, and this time all possible requirements for a tenement building — like the number of occupants, types of materials to be used, the height of the buildings, quality if light and ventilation, etc., — were spoken out in details. For example, the law provided that a first-class building should be althrough fire-proof, whereas a building that had only brick or stone exterior and party walls would be classified as second-class building, and such building could only be erected to a height not greater than 65 feet to be used as a tenement house. The law also provided that no wooden building more than three-storied high should be used as tenement unless the basement and first story were constructed with fire-proof material. Then, it also contained the provision for restricting the height of all buildings in an area. It required that no building should be erected to a height exceeding two and a half time the width of the widest street on which the building stood.

In regard to the percentage of the lot permitted to be occupied by a tenement house, the law stated that no building above the second story should occupy more than 65% of the area of the lot. Every tenement house was required to have at least two exposures on the land of the owner, or as a part of the public ways, open spaces of at least 10 feet in width; such space to be open to the sky and to remain undiminished so long as the building would be occupied as a tenement. In addition, it also required that a clear open space from the ground to the sky must be maintained across the whole rear of every tenement, except in the case of a corner building (figure 63).

In regard to the ventilation of the rooms, it required that every room in every tenement house to be erected, or in every building altered to be used as a tenement house after 1897, should have one or more windows on an open air space with an area at least one-tenth as great as the room. The act also mentioned the requirements for the fire-proofing, fire-escapes, basement or cellars, hall-ways and toilets or water closet for these tenement buildings.

In regard to building unfit for habitation, the Board of Health, under the provisions of the act of 1897, had the power to vacate any tenement whenever they felt necessary. The act gave them the power of condemning any tenement unfit for habitation and provided the authority to demolish the whole or part of the unfit building. If the

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[22] For further details see, Statutes Relative to the Erection and Alteration of buildings in the city of Boston, Chapter 419 of the Laws of 1892 of the Commonwealth of Massachusetts, as amended by subsequent acts. Tenement House Laws, Chapter 97, Acts of 1895, as amended by Chapter 161, Acts of 1899. Acts of 1885, Chapter 382, an Act in relation to the preservation of health and buildings in the city of Boston, as amended by chapter 219 of the Acts of 1897.

property was not removed by the owner, the city would have it removed at its own expense. The act also required that the city must pay the owner for the damages of the building as determined by the Board of Health and the owner, and if they failed to come to an agreement, then it should be decided by a jury of the Superior Court on petition of the owner or the Board within one year of the destruction of the property.

During the first six months of 1898, the Board ordered sixteen buildings to be destroyed; in the last six months of that year, forty-two buildings were condemned. The following year, the Board utilized its power more extensively and ordered eighty-six buildings to be destroyed; in the first four years after the passage of the law in 1897, over one hundred and fifty dwellings and eighty stables were torn down in Boston. Under the provisions of this act of 1897 (later amended in 1907), the city, during the year 1917, took down 521 dilapidated houses, repaired another 172, and evacuated 57 others only in the North End area. Up to December 1916, it also examined 855 basements, vacated 340 and issued noticed evacuation for another 235.[23]

Relocating the slum dwellers

A third tenet of housing reform was relocation of slum dwellers, which was coupled with the improvement of suburban transportation. The benefits would have been twofold: congestion in the old areas would be relieved, and the laborer would become a property owner. Reformers talked confidently about providing separate homes in the suburbs, an enterprise that would benefit the railroads and thereby gain their support. Robert Treat Paine was enthusiastic about the prospect of "an increasing proportion of the population leaving out in suburban homes in this city of unsurpassed suburban beauty."[24]

Like the construction of the model tenements, this solution avoided government compulsion; and to an age that cherished the laissez faire principle it was an appealing formula. A suburban exodus also was well in keeping with America's rural heritage. Boston reformers still thought in terms of pre-urban-industrial age; their vision was cast backwards and they never fully accepted the tenement house, even a sanitized one.[25]

But to expect a rural exodus that would transform a threatening urban proletariat into virtuous homeowners was unrealistic, a fact not answered by the occasional tendency to blame the tenants for staying in their rookeries. Suburbia lay open, some thought, but, incredibly, Boston's slum dwellers, out of sheer ignorance or preference, remained in the

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[23] The North End; 1919, p.42.

[24] Robert Treat Paine; Housing conditions of Boston, Annals of the American Academy of Political and Social Science, III, July 1902, pp. 121-136.

[25] Culver; p.293.

city.[26] Other reformers recognized that the poorer classes could not leave the city for rustic surroundings, but they believed that the removal of higher-paid laborers would "thin out" the tenements and make better housing available for the poor.[27] Efforts to decentralize on any extensive scale were bound to fail because the poorer classes, even if they were inclined toward suburban living, could not afford to relocate due to various reasons explained earlier in the thesis. Suburban growth in the late nineteenth century was substantial, but it was an evasion of, not a solution to Boston's tenement house problem.

By 1900, Boston's tenement house problem was more severe, especially in places like the North End and the South End. Because understanding was still limited, remedies were often inadequate. Nevertheless, there had been progress. In the first place, the tenement house problem had been placed prominently before the public. Investigations had also changed public attitudes toward the tenement dwellers. Greater sympathy was paralleled by a shift away from a moral explanation of the plight of the slum dwellers. To be sure, allusions to his depravity persisted; as late as 1894, the United States Bureau of Labor defined a slum as "dirty back streets, especially such streets as are inhabited by a squalid and criminal population."[28] Increasingly, however, housing surveys revealed that the tenement house problem had social and economic roots and the tenement dwellers were not society's dregs, but its victim. Housing surveys and the gathering of data were also a prelude to the establishment of administrative machinery to regulate sanitary and housing conditions. Government controls were now regarded as necessary. Slum clearance thus represented a significant step away from general 19th century aversion to violating property rights. By now it was recognized that the health and welfare of the poor citizens were too important to be left solely with the builders and landlords.

Street improvements

The laying out and improving the city streets had always been a great problem for the city government. For a long time it had not been able to do much to improve the situation. One problem was that it had no power over the construction and maintenance of the private streets.[29] Another far more serious problem was despite decades of trying the city had not been able to obtain the authority it needed to levy the betterment assessments on abutters to offset the high costs of condemning land and paying property damages. Abutters had sometimes been among the most vociferous of those demanding

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[26] Boston Evening Journal, October 26, 1892; Boston Advertiser, October25, 1892, source, Culver, p.293.
[27] Boston Advertiser, October 25,1892, source, Baldwin , 1900, pp. 22-23.
[28] Carroll D. Wright; The Slums of Baltimore, Chicago, New York, and Philadelphia, Seventh Special Report of the Commissioner, United States Bureau of Labor, Washington,1894, p.13, source, Culver, p.296.
[29] Rosen; 1986, p. 185.

improvements. They had never, however, voluntarily offered to move or tear down their buildings and rebuild on smaller lots without insisting on the payments of heavy damages. Since commercialization and rising property value went hand in hand, this assembly problem had made street improvements increasingly difficult for the city to undertake until 1868, when a new state law finally gave it the power to force abutters to bear some of the land assembly costs.[30] For some special cases it also got the power of eminent domain under the act of 1865.[31] The city made good use of this power in dealing with Fort Hill, and it also completed the much needed widening of the Hanover street in the North End around that time (figure 15 and 23, compare the maps of 1867 and 1887).

To get around problem of site-assembly, the city of Boston had resorted to the practice of working on an individual basis with property owners to get improvements made. The Boston Board of Street Commissioners had informed property owners giving notice of their intention to redevelop their buildings what street grade and with the city planned to establish as the standard on their streets, in the hope that the property holders would then build in compliance with the standard of their own accord. At times, the Commissioners had also negotiated for the actual widening of the section of the street abutting a proprietor's land, taking advantage of the owner's own intention to demolish the buildings to pay lower damage costs. Occasionally, they had also made a partial widening simply because the termination of a lease or leasers enabled them to widen without paying lease damages.[32]

This haphazard and piecemeal procedure had frequently served only to intensify problems, however. In many places it resulted in streets of unequal and uneven widths, which created traffic bottlenecks. It had also antagonized those property owners who had compliantly built stores and warehouse to confirm to the contemplated street grades and widths, who had then had to wait years before their building could be properly used. In any case, the method had not been one that could bring about much far-reaching change. Its result was deplorable, without system, and entailed an extraordinary cost.[33]

It was at the instigation of Mayor Matthews that the legislature passed an act in 1891 for the appointment of a board of survey by the Mayor, subject to the confirmation of the Aldermen to facilitate the laying out and improvement of the city streets. This Act of 1891 was declared unconstitutional in 1892 by the Supreme Court, with a consequent

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[30] John Koren; Boston, 1822-1922: The Story of its Government and Principal Activities During One Hundred Years, Document 39, 1922, City of Boston Printing Department, 1922, pp. 152 - 160.
[31] Ibid.
[32] Rosen; 1986, p.185.
[33] Ibid.

loss to the city estimated at forty million dollars. Additional legislation was sought but did not benefit Boston.[34]

In spite of the adverse action of the General Court, Boston had to go on to the long delayed street improvements. For the greater part, the money needed came from loans, most of which was first raised outside of the debt limit. In 1906 the General Court also passed a law under which all future improvements should be paid from taxes or from loans within the debt limit "except those ways constructed under some special act in which a contrary provision is made." Under these circumstances Boston was seriously handicapped in all its works relating to streets.[35]

To place the entire blame for the costliness and unsystematic procedure in street work on the general court and its constant interference would not be wholly fair. The city administrations were frequently at fault through wasteful and careless methods. Thus, the custom had been for a number of years of appropriating money for construction work in equal sums for different wards, regardless of actual local needs. Then, too, the habit of granting contracts without competition involved at times a great extravagance.[36]

To solve these problems, under the Charter of 1909 the street commissioners became an appointive body. Now, it had the power to lay-out, alter or discontinue by-ways, to order repairs and the construction of the sewers, to take lands, etc., needed for construction. It could also levy the betterment assessments and made award to damages. The board therefore took the place of the Board of Survey, which discontinued in 1895. It also licensed street stands for the sale of the merchandise and granted or withheld permits for the erection of anything relating to the street. In 1911, the active works of constructing and maintaining of all public streets, together with other authority of the street commissioners were transferred to the Public Works Department, which was a consolidation of different departments. The fruit of such organization on the improvement of the North End was not felt before the end of the 1920s. At that time, the City Planning Board planned for some major widening and modification of some of the streets of the North End.[37]

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[34] Koren; 1922, pp. 152- 160.
[35] Ibid.
[36] Ibid.
[37] For details see, The North End, 1919.

Parks and Play grounds for the North End

Boston has a long history regarding its parks, park-system and open spaces. It has always guarded its public ground with jealousy. Its first Charter of 1822 forbade the municipal council from selling the Common without the consent of the voters. Josiah Quincy, Jr., in his second inaugural speech as the mayor in 1847, strongly advocated the need of public parks. This early urge for the open spaces found its expression through different acts and improvements undertaken by the city of Boston. In 1850, the Back Bay Act was passed whose work began in 1857 under the direction of Arthur Gilman. Then in 1875, Park Commission Act was passed by the Commonwealth. The contributions of F. L. Olmsted were significant in passing this act. This was followed by formation of the nation's first Metropolitan Park Commission, which took the most ambitious plan of an interconnected park system ever taken for the whole city.

In the meantime a new development had also taken place through the establishment of public play-grounds, both within and outside the park system. Because for sometime it had been recognized that the parks were too distant to serve the children in many parts of the crowded district, like the North End, South End of the city. From 1891 only a few playgrounds were taken into use, but when Mayor Quincy came into office in 1896, a definite policy in regard to this new venture for public play-grounds was adopted. He wished every ward to have a play-ground and called attention to what other cities had done to provide space in which children could play under decent conditions. The project found immediate favor; the Park Commissioner approved it, and the requisite legislation was obtained in 1898 under which the Park Commissioners were authorized "... for the purpose of establishing a comprehensive system of playgrounds ... to purchase with the approval of the mayor of the city, land for play-grounds in such locations as they may be best adapted for such purposes, but not exceeding twenty in number." A loan of $500,000 to carry out the plan was authorized at the same time, but not more than $200,000 could be spent in one year. Since then, the number of separate play-grounds rose to 43, covering an area of 324 acres with 13 play-grounds in the parks themselves, by the year 1922.[38]

Under this provision, there were couple of playgrounds acquired for the North End. In 1920, nearly 8% of the area within the District together with the North End Beach were devoted to park, playground and beach purposes. The areas were approximately as follows:[39]

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[38] Koren; 1922, pp. 118-128.

[39] The North End; 1919, p. 29.

1. North End Beach, acquired in 1893:	
Land for playground	3.7 acres
Flats available for bathing	3.0 acres
2. Copp's Hill Terraces	0.6 acres
3. Prince playground, acquired in 1897, 1899 and 1901	0.4 acres

In the next decade another open space of significant size was created for the North End. It was created by clearing out some congested buildings in the block surrounded by the Hanover, Tileston, Salem and Charter streets. Since then, the space was named as the Paul Revere Mall (figure 27).

The role of these reformers and the municipality, thus, could be identified at three different levels of the physical environment. One was at the level of the physical qualities of the tenements, the other at the level of infrastructural changes, and the last was at the level of spatial changes and improvements. But due to various physical, economic, political / admininstrative, and legal barriers their efforts were restrained, undermined, or even unfruitful for most of the time. And it was not until the beginning of twentieth century that some remarkable improvements were achieved by these reformers.

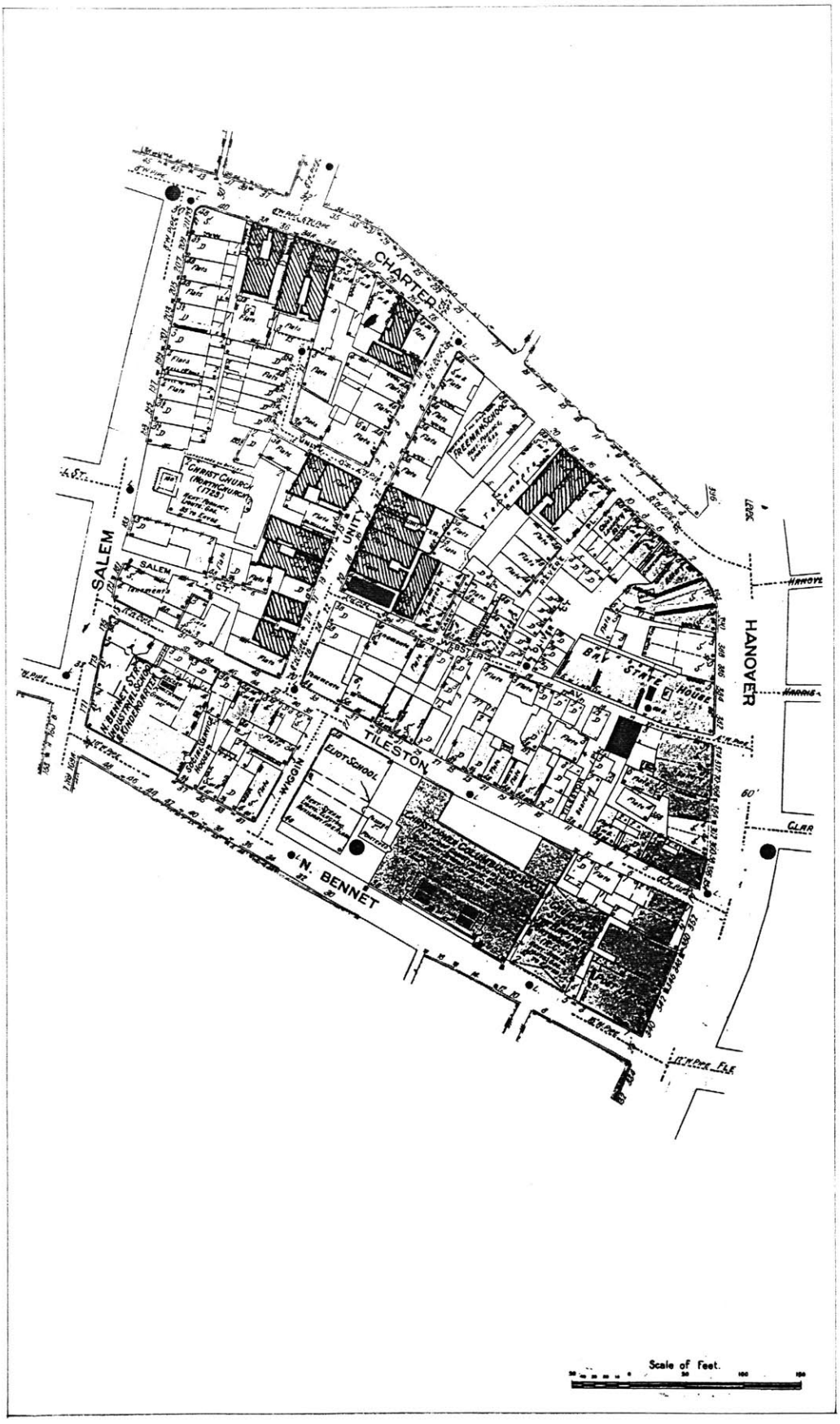

Fig 63
These were some flats built after the amendments of tenement housing laws in 1897. As were mentioned in the maps, most of these houses were fire-proof and within 65 feet height limit. required by the laws.

Chapter 6

Taxation system and physical changes in the North End

A persistent socio-economic element that significantly retarded the process of change in the North End during the 19th and early 20th century was the taxation system. The taxation system[1] due to its failure to recognize some of its own peculiarities was creating an obstacle for the development of built forms in the city. It failed to recognize that investments in the land by the society were exempt from taxation which resulted in a basic distinction between land and houses or other man made structures on the land. In other words, it failed to realize that for the developments made to the site through providing services one could not increase the taxes paid for the built forms on the site that could have other repercussions in itself.[2] Such inadequacies of the system are vivid in the following letter which was written by a property owner to the tax assessors of Boston in the late 19th century:

> "Gentleman —— I am assessed on my house lot, Newtonville Avenue and Bellevue Avenue, 20,264 square feet, at fifteen cents a foot; on additional land, less desirable, facing on Lewis terrace, 17,496 feet, valued at ten cents a foot, in all ——

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1 The criticism of the coventional taxation system in this chapter is based on the arguments made by C. B. Fillebrown in his book "The A B C of Taxation," who, in his turn, followed Henry George's "Progress and Poverty". Fillebrown criticized the conventional taxation system from a viewpoint that might be termed socialistic. His approach is apparent in the following:

"To go to the foundation of the whole matter of taxation, we contend that the social disorder and derangement complained of today is mainly due to an unnatural and unequal distribution of wealth. Wealth is produced in proportion to the skill and the industry of the hands and brains of all the world's workers. The annual division of these wealth among these workers, before taking taxes into account, is in proportion to the ability and in proportion to special privilege, chiefly the private appropriation of the ground rent. After this grossly unequal annual division has been made, comes an unequal and unjust taxation to aggravate still further these inequalities.....Such inequalities tend to increase rather than decrease with time."(C. B. Fillebrown; The A B C of Taxation: With Boston Object Lessons, Private Property in Land, and Other Essays and Addresses, Doubleday, Page & Company, Garden City, New York, 1909, pp. 108-9).

2 For further explanations see, Ibid; pp. 3-55.

On land, $ 4,750 at $16.20 per thousand	$76.95
On house, $9,000 at $ 16.20 per thousand	$145.80
Personal estate and water tax	$ 74.40
Total	$ 297.15

"To the valuation of the land, which is fair and reasonable, I make no objection. Upon so large a tax upon my house I desire to protest, and I respectfully ask its abatement not only because the actual cost of the house was fictitious and exaggerated beyond any true market value, but because its selling value is greatly depreciated by the surroundings, which today would not justify a house of much more than half its pretensions. Not only have I by building my house contributed liberally to create the value of my neighbors' land, but also best part of my substance has in the last ten or a dozen years been largely wasted in trying, by private improvement and adornment of both the house and land, to counteract the adverse influences of coal yards and freight yards and steam whistles. I have thus attempted to rescue and protect my neighbors' land values just as much as my own, and mine have rapidly perished in the attempt.

"I think that we are all agreed that the value of the land is created by the whole community of Newton, with its improvements, character, activity, and its industry. Are we not also agreed upon the fact, equally important and more patent perhaps to the casual observer, viz., that this land is maintained from year to year by the public expenditure of the Newton's taxes? When your public service ceases or languishes, when you stop the care of streets, the water supply, fire departments, or the schools, land value responds almost instantly. All these public expenditure of the people's money add nothing to the value of a house—— which value is ultimately the cost of building another house as good —— but they add to or rather maintain the value of my neighbors' land and mine, which otherwise would rapidly depreciate in value. Why should you tax the decaying value of my house, to maintain the augmenting value of hundreds of other men's vacant acres, standing unused ?

"There would be far more reason to ask me and others to pay taxes on our houses, if public services were all limited to the needs of these houses, instead of being, as it is, vastly in excess, if not indeed double, that need. This public service costs the same for a vacant lot as it does for the adjoining similar lot with a $20,000 house on it. I object to being taxed to pay for the other man's share of this public service. It is unequal taxation for equal benefit.

"Now for what purpose do you lay taxes except for public service? what more reasonable than to lay these taxes in proportion to public service rendered, in proportion to the benefit bestowed; that is , in proportion to special privileges enjoyed? The land value is a perfect reflection of this constant service. The same is not true of houses or other improvements or personal property.

. . . . . .

"The land value is the balance or equilibrium between this public advantages and disadvantages. If assessed according to my proportionate and constitutional share of the public expense, my tax would be determined in this wise: as $20,927,850 (the total land value of Newton) is to $4,750 (the value of my land), so is $895,915 (the total tax of Newton) to $203.35 (my proportionate

share of that tax). I am taxed today $ 297.15. or $93.80 in excess of this fair amount....."[3]

Land value is a social product which is created principally by the community through its activities, industries, and expenditures. It is primarily based upon economic rent, defined as "what land is worth for use," what it would command in the open market[4] Strictly speaking this "worth for use" usually attaches not to the land itself,.... but to scores of things exterior to the land and through it made available for use, so that as applied to urban land, the following would be more accurate definition:

> Ground rent is the annual value of the exclusive use and control of a given area, involving the enjoyment of those "rights and privileges thereto pertaining" which is stipulated in every title deed, and which, enumerated specially are as follows: right and ease of access to water, health inspection, sewerage, fire protection, police, schools, libraries, museums, parks, playgrounds, steam and electric rail service, gas and electric lighting, telegraph and telephone service, subways, ferries, churches, public schools, private schools, colleges, universities, public buildings—— utilities which depend for their efficiency and economy on the character of the government; which collectively constitute the economic and social advantages of land; and which are due to the presence and activity of population, and are inseparable therefrom, including the benefit of proximity to, and command of, facilities for commerce and communication with the world —— an artificial value created through public expenditure of taxes. In practice the term "land" is erroneously made to include destructible elements which require constant replenishment; but this forms no part of this economic advantage of situation or site value.[5]

Consequently ground rent may be said to result from at least three distinct causes, all of which are connected with aggregated social, as distinguished from individual, activity: 1. public expenditure which is mainly provided for by the state; 2. quasi public expenditure by the municipality and private corporations; 3. private expenditure by private and voluntary organizations. Thus their very nature and origin would seem to point to selling values of land as peculiarly fitted to bear justly the burden of taxation.

The conventional taxation system, instead of taxing the net land value or the selling value based on "what land is worth for use," was taxing the gross value of the land which could be much lower than the selling value due to different other elements a land could be subjected to — such as a mortgage, or an established tax, or both. Thus, under the taxation system of that period, *the selling value of land was an untaxed value* and a land owner who invested under this system could well be entirely exempt from land taxation.[6] This practical exemption of the selling value of land is vital in its bearing upon

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[3] Source, Ibid.
[4] Ibid.; p.1.
[5] Ibid.; pp.3-4.
[6] Ibid; pp. 153-163.

any proposition for obtaining an increased revenue from that source. In the light of this it could be interesting to consider how much ground rent a city like Boston was losing around the year 1916:

Chart: I[7]

The gross ground rent of the land of Boston	$55,000,000
Amount already taken in taxation	$10,000,000
Leaving to the land owners a net ground rent of	$45,000,000
State and local taxes upon improvements, buildings, personal property, and polls amount to	$15,000,000
The amount city was losing to the property owners	$ 30,000,00

Tax imposed by time

According to a representative real estate man of Boston, the lifetime of the best new building in the city in late 19th century cannot be figured to exceed forty years, and that with swiftly accelerating changes they will have to give way in forty years to a new and better order.[8] Granting these facts that during the forty years the new buildings would yield to the owner interest upon their cost and 2.5 per cent annually for their depreciation, he should be at no disadvantage from the necessity of tearing down the buildings and build new ones, while both labor, which builds buildings, and businesses, which uses buildings, would be greatly benefited from such a process. On the contrary, a piece of land , instead of depreciation increased in value by other people's labor and apparently paid its taxes at same rate as the building, but paid no insurance and repair. Any sensible readjustment and equalization of taxation should have taken this annual depreciation of built forms or appreciation of land value directly into account. Was the conventional taxation system taking these into account?

The inequality of the conventional taxation system should be apparent in the following calculations, based upon the assumption of 2.5 per cent depreciation for the buildings and 5 per cent appreciation for the land, regarding the city proper of Boston for the years 1887 to 1907:

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[7]Ibid; p.161.
[8] Ibid; p.21.

Chart: II[9]

Buildings	
The valuation of Boston's buildings in 1887 was	$223,000,000
If time's annual tax or depreciation of 2.5 per cent (besides the city tax of 1.5 per cent which is paid by he owner only when he is also the tenant) has been for twenty years 50 per cent or	$111,500,000
Then the value of the same buildings in 1907 was	$111,500,000
Land	
The valuation of Boston's land in 1887 was	$322,000,000
Time's average net annual appreciation has been(after paying city's tax of 1.5 per cent) for each year 5 per cent and for twenty years more than hundred per cent or	$331,000,000
The value of the same land in 1907 was	$653,000,000
Thus the increase in the valuation of the land in twenty years was nearly 50 per cent more than was the valuation of all the buildings twenty years ago.	

Implications of the taxation system

According to Charts I & II, the city was losing a significant amount of money due to the conventional taxation system which had several implications on the built environment, specially in areas like the North End. In the nineteenth and early twentieth century, the city required a vast amount of money to make necessary changes for the development of the city. According to Justin Winsor, the amount of money the city expended in the city proper for just widening and extending streets from 1822 to 1866, a period of forty-four years, was $4,418,283 and in a footnote he added, "The North End received much the largest share of the improvements funds, Blackstone, Commercial, Court, Friend, Hanover, North, and Union Streets, having had the sum of $1,142,234 expended upon them."[10]

While the city was investing major portion of its resources in developing the infrastructural facilities of the city proper and its suburbs, it failed to collect the same amount from the land owners who benefited from that because of the inappropriate taxation system. Thus financing the development projects became a real headache for the city. The Report of the City Planning Board admitted that the developments through opening up of slum districts like the North End with park areas had some definite economic hindrances for the city. It would result in the loss of taxable values, need initial cost as well as the annual maintenance of the park properties.[11]But it never considered the

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[9] Ibid; p.23.

[10] Winsor; 1881-83, v.4, p. 45.

[11] The North End, 1919, p. 42.

increased land value of the surrounding area as a result of such interventions; so the ground rent remained unaffected.

To compensate for such expenditure the city had to look for alternate economic sources, like the federal government, state authority, etc., which often required a long period of time. But the most available method at its disposal was to increase taxes on built forms or property (Table—III, Appendix) and the services it was providing for the public in general. This made any kind of change in the built forms expensive on the part of the owner, because any external physical improvement added to his tax. How much it added depended on the kind of improvement made. In cities like Boston where reassessment were infrequent, however the property owners could easily double or treble their annual property tax bills by tearing down the old structures and replacing them with new ones. The scale of increase this often entailed is suggested by demands made in Baltimore, after the great fire of 1904, that the city spread the anticipated tax rise on the new buildings out over several years, holding it to twenty percent for the first year and to one hundred percent per year after that. Property owners feared that a single leap in the tax levy would raise their carrying costs so high as to make their new buildings unrentable.[12] Needless to say whatever the size of the increase, the additional tax burden permanently increased carrying costs, while creating no offsetting revenue-producing improvement in the property itself, further discouraging the improvement and replacement of obsolete but still economically productive structures. Thus, in places like the North End where most of the inhabitants were tenants, physical improvements of the buildings were least considered by the owners because despite their dilapidated conditions, these houses were piling huge amount of economic return for the absentee owners.

Another effect of the taxation system was that the owners with both the will and means to finance improvements were discouraged from making any improvement of the built form due to the overall condition of the neighborhood. This is well evident in the resentment of the writer of the letter presented earlier in the chapter. The writer, here the owner, found it meaningless to make improvements to his building while other landowners left their lands vacant or used them for purposes that had bad effects for the whole neighborhood. As a result, the writer was adding to his tax amount without getting the benefits of living in a better environment. Called "market imperfections"[13] by modern-day economists, the taxation system was one of many other factors that prevented the real estate market from functioning in an efficient way. Probably this was

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[12] Baltimore Sun, February 17, 1904; source, Rosen, 1986, p. 17.
[13] Ibid.

why one individual could never expect to build in the high-risk slum area[14]like the North End. This also was evident in the analysis of the changes in the North End on the Sanborn maps — there were practically no changes at the private level except for some extensions and additions in the backyard for the first thirty years of the study period (figures 29 and 30). Any change would meant a substantial rise in the rent making it out of reach for the potential users or the working class of the North End.

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[14] Todisco; 1976, p. 40.

Chapter 7

Persistent urban elements and their effects on changes

Street Pattern

Street pattern has been one of the most persistent elements in the fabric of the North End. It still bears the imprints of its earliest irregular streets whose layouts are often attributed to the cow.[1] This early colonial street pattern in the area provided a strong morphological frame that the later development would faithfully respect throughout its next three hundred years of evolution even if it proved to be unsuitable for development.

The North End in the early days was divided into a number of large lots along those early few lanes or roads. The map prepared by George Lamb from the conditions recorded in the Book of Possessions of 1645 shows the settlement in Boston centering along the Washington and State streets, now the business center, and the North End, with Hanover street as the main artery (figures 8 and 9).

Although these large irregularly shaped lots have been divided and subdivided several times, their original boundaries formed by the streets had been largely unchanged and was instrumental in determining the plan of the area. The present-day principal streets were already in their places as early as 1720s as were shown in the Bonner map of 1722 (figure 64)and in the Burgis map of 1728 (figure 65).

Since then, a complete network of streets and alleys has developed with relatively large and irregular blocks between streets of reasonable width, and many backlots approached only by narrow and crooked passageway. Any way, the street pattern did not pose as a serious problem until the mid-nineteenth century. Toward the end of the 1860s, when the area was completely built up under the pressure of tremendous population

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[1] Walter Muir Whitehill; Boston: A Topographical History, The Belknap Press of Harvard University Press, Cambridge, Massachusetts, p. 8.

growth, these crooked narrow streets of the North End became real problems. Due to the excessive depth of some of the blocks in the area tenements built in the inner lots were almost inaccessible. Some of them were also deprived of any kind of light and ventilation.

Most of the time, the crooked narrow streets were blamed for much of the physical decay in the area. They rendered the area inaccessible, inefficient for circulation or any other kind of public services.The City authorities had to wait for a long time to relieve the condition through the powers of the eminent domain and other laws[2]

Land subdivision pattern

Another persistent and otherwise fundamental constraint on the development of the North End was its extremely irregular and fragmented land-division pattern (figures 21 and 22). Like the layout of the streets, this land subdivision pattern goes back to the colonial days when it was inhabited only by a handful of people. This pre-urban nucleus consisted of a small collection of settlers' homesteads clustered very loosely around the meeting of several agricultural lanes near the center. Most often the houses had generous setbacks from the fronting streets and backyards for growing fresh vegetables.[3]

In the first half-century of its existence, the settlement grew steadily to a size of about 4,500 inhabitants, and this growth was accommodated simply through early ribbon development of homestead lots along the proliferating agricultural lanes, and by lateral sub-division of the inner homestead lots that were frequently set off from surrounding fields along the major streets.[4]

Since then, the morphology of the area changed significantly but along those early conservative lines. Under the increasing population pressure the land parcels became increasingly fragmented and smaller. In the greater part of the North End such subdivision of irregular lots resulted in a great lack of uniformity in size and shape, and presented a great hindrance in the process of development in the area. The backyards of these plots were filled up with new but poorly constructed housing, manufacturing facilities, and storage buildings through a process of intense repletion. Lots under 1,000 square feet in area, and even of only 200 or 300 square feet in area in various parts of the North End, were occupied with small buildings, fronting on narrow courts and places,

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[2] Also see Chapter 8 of the thesis.

[3] M. P. Conzen; Town-plan analysis in an American setting: cadastral processes in Boston and Omaha, 1630-1930, The Built Form of Western Cities, T.R. Slater (ed.), Leicester University Press, Leicester and London, 1990, pp. 142-171.

[4] Ibid.

many only 6, 8, and 10 feet wide.[5] Conditions were bad, and as these buildings became old and dilapidated the problem intensified. Tremendous densities and irregular land platting of these deep blocks made it difficult to maintain a standard in the living environment. Hidden as they were, these inner tenements became the worst evil for the whole area — sources of diseases and, perhaps, crime also. According to a report of the Boston City Authority, it was in the rear of lots in excess of 60 feet in depth there were large areas of land in which most of the seriously menacing conditions in the North End were to be found.[6] Comprehensive redevelopment to change the situation occurred only at the beginning of the twentieth century either to insert public institutions or open spaces and play grounds in the area.[7] This accounted for substantial changes but essentially within the earlier property constraints.

'Victorian Box' — the persistent house-type

One other basic constraints of the built fabric in the North End was the persistence of the already rundown 'Victorian box' houses. These houses were easily adaptable to changing demands. The physical durability of these buildings was no less important. These comparatively primitive brick or wood buildings had life expectancies of many years in nineteenth and early twentieth century cities.[8] Wooden buildings were vulnerable to fire and dilapidation, of course. Nevertheless, like brick buildings, they offered decades of economic utility. In fact, the very lightness of frame construction often discouraged the demolition and replacement of unsafe, unsanitary, and otherwise obsolete and decrepit wooden buildings by allowing their owners to move them from one place to another. This saved them from being wrecked when a new building was constructed on the lot where they had originally been built.[9]

Toward the end of the nineteenth century restrictions enforced by the tenement act, brought construction of these houses virtually to a stop. Mills producing the materials for the wooden houses also ceased to operate. The "French flats" or the "dumbbell" type tenement houses were preferred by the owners and builders.

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[5] The North End; op.,cit., p.7.

[6] The North End; 1919 p.18.

[7] Also see Chapter 2 for the details of different changes.

[8] Leo Grebler estimated that the brick tenements on New York's Lower East Side had an average life of more than eighty years. Furthermore, his data showed that most tenements were demolished not because of extreme physical deterioration and loss of economic usefulness, but because they had to be torn down to make ways for business buildings and street widenings. This suggests that the true life of these structures was actually much longer (Leo Grebler, Housing Market Behavior in a Declining Area, New York, 1952, pp. 25, 120, 165-68).

[9] Rosen; 1986 p.15.

The primary elements

According to Aldo Rossi, primary elements are the urban elements of dominant nature and they participate in the evolution of the city in a permanent way, often becoming identified with the major artifacts constituting the city. Very often, primary elements includes the fixed activities of the city. Monuments are always primary elements because its quality as an urban artifact, as a generator of a form of the city, remains constant. But primary element are not only monuments, just as they are not only fixed activities; in general sense they are *those elements capable of accelerating the process of urbanization* in a city and, often, they act as catalysts. At first their presence can be identified only by their function (and in this respect they coincide with fixed activities), but they rapidly take on a more significant value. Frequently they are not even physical, constructed, measurable artifacts: for example, sometimes the importance of an event itself "gives place" to spatial transformation of a site. Thus primary elements play an effective role in the dynamics of the city, and as a result of them and the way they are ordered, the urban artifact acquires it own quality, which is principally a function of its placement, its unfolding of a precise action, and it individuality. Architecture is the ultimate moment in this process and also what emerges from this complex structure.[10]

According to the above ideas, the Copp's Hill Burial Ground and Christ Church (or the Old North Church), and the Eliot School could be termed as the primary elements of the North End (figure 67). They have survived through the history of the North End and are still surviving. These urban elements have influenced the changing process of the area definitely in a positive and propelling way.

The Copp's Hill Burial Ground

In the 1650s overcrowding of the King's Chapel Burying Ground, the only cemetery in town led the town fathers to search for a second suitable location. Land was purchased from John Baker and Daniel Turrellon on the Copp's Hill, the most prominent location in the North End and the North Burying Ground, the second cemetery of Boston (figure 11), was established. It was first used for interments in 1660. The hill had been named for William Copp, a shoemaker who piled his trade on Prince Street, and gradually the cemetery also became known by his name. The cemetery was subsequently enlarged by the addition of land belonging to Judge Samuel and Hannah Sewall in 1708. There were several other additions, including the one in 1809, which made Copp's Hill — 88,000 square feet — the largest cemetery in the city proper.[11]

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[10] Aldo Rossi;The Architecture of the City,The MIT Press, Cambridge, 1988, pp. 86-87.

[11] Todisco; 1976, pp. 6-7.

The fame of the burial ground is assured not only for it antiquity but because it is a repository of so many noteworthy personages. Among the illustrious dead who are buried in this ground are Edmund Hartt, builder of the frigate "Constitution," the Rev. Drs. Increase, Cotton, and Samuel Mather, Andrew and John Eliot, two well-known ministers, Deacon Shem Drowne, artisan of the weather vane, and Capt. Robert Newman who achieved a footnote in history for hanging the lanterns in the old North Church as a signal to Paul Revere. The grave of Prince Hall, founder of the African Masonic Grand Lodge of Massachusetts, is also here. It serves as a reminder that over 1,000 slaves and freedmen are also buried in the cemetery.[12]

When the hill was cut down, early in the nineteenth century, the burying ground was left untouched, and during the study period it also remained unaffected even though there was a tremendous need for land in the city proper. As the city was no longer using the graveyards in the city proper as burial places, 'there were several proposal for their removal for some other public improvement. The influence of the conservative Bostonians, jealous of their city's good name and reputation, was promptly brought to bear and thus the dead are respected. So, the ancient graveyards, the most interesting of the old landmarks, are saved from the hand of desecration.'[13]

Christ Church

This church, popularly known as the Old North Church, on Salem Street is the most prominent landmark in the North End. It was the second Anglican church in Boston built in 1723. It is the oldest standing edifice in Boston continuously functioning, surviving revolution and social changes that have seen its entire congregation move away from the area. The building was a copy of a Christopher Wren church in London that was destroyed in World War II.[14] Its great beauty lies in its graceful, simple lines uncluttered by needless adornment. In the 18th century the church was both a royal favorite and the recipient of many valuable gifts from the parishioners. Paul Revere, who seems to be involved in every activity of the colonial Boston, was one of the bell ringers at Christ Church. Over 1,000 people were buried in the church's crypt, including Major John Pitcairn, British commander of the expedition to Lexington and Concord, who was fatally wounded at the Battle of Bunker Hill. Samuel Nicholson, the first commander of the *Constitution* was also buried here.[15]

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[12] Ibid.
[13] King's Handbook of Boston; 1878, p. 209.
[14] Woods; 1902, p. 74.
[15] Todisco; 1976, pp. 10-11.

Christ Church would be a memorable church in any event because of the many important North Enders who have worshipped here throughout its ministry; but its place in the history was assured on that eventful night when the British marched to Concord. It was from the tower of this church on the April 18, 1775, Robert Newman lighted the signal lanterns for Paul Revere who was waiting in the Charlestown. It is a 191-feet high tower, which was blown down in 1804 and reerected in 1807 under the direction of Charles Bulfinch. Forty years later it underwent extensive repairs. It was again repaired in 1912. Even today the tower stands as a symbol of courage and conviction that animated the men and women who fought for freedom from oppression. Christ Church has looked upon patriot and immigrant equally in their struggles to define and reach their dreams. Fittingly, it still stands; the only building ever erected on this site as a link between the residents of 250 years ago and the Americans of today.

Eliot School

Eliot School is the oldest grammar school in the United States. It also boasts the oldest alumni association of the country. It was founded as North Latin School in 1713 on North Bennet Street. The first building for the school was a gift of Capt. Thomas Hutchinson, father of the royal governor. The Latin School was annexed to the North Writing School in 1789. The Writing School had been founded in 1718 and stood on the Love Lane directly adjoining the Latin School. It was so successful that it finally absorbed the earlier school. The success of the Writing school was probably due to John Tileston who was its master for more than fifty years. In commemoration to his service to the community, Love Lane was renamed as the Tileston Street.[16]

Since its founding, the school had undergone several major improvements (figure 15). The original site was subsequently enlarged and new buildings replaced the old buildings, but the school continued and was known as the Eliot School after the ministers Andrew and John from the New North Church during the 1910s.[17] Presently, it is known as Christopher Columbus Catholic High School, while the Freeman School has been renamed as Eliot School.

These persistent elements — street pattern, pattern of land subdivision, "Victorian box" house type and different primary elements which constituted a part of the physical reality of the place acted as interesting mediating factors in the process of change of the North End. They had been both propelling and pathological in the process of change. Furthermore, they provided a consistent framework for the physical changes in the area.

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[16] Ibid., p. 15.
[17] Ibid.

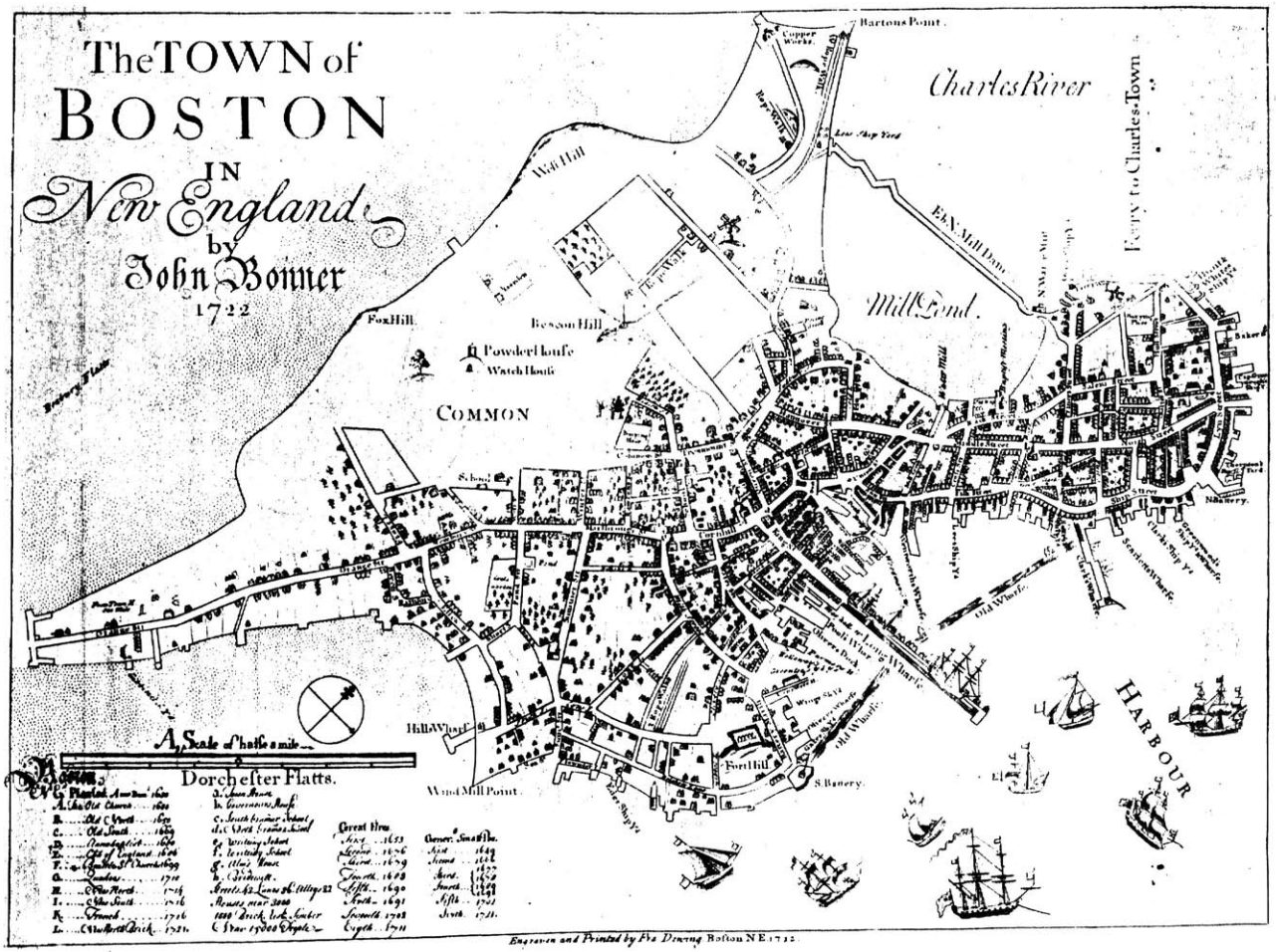

Fig 64
The Bonner map of 1722.

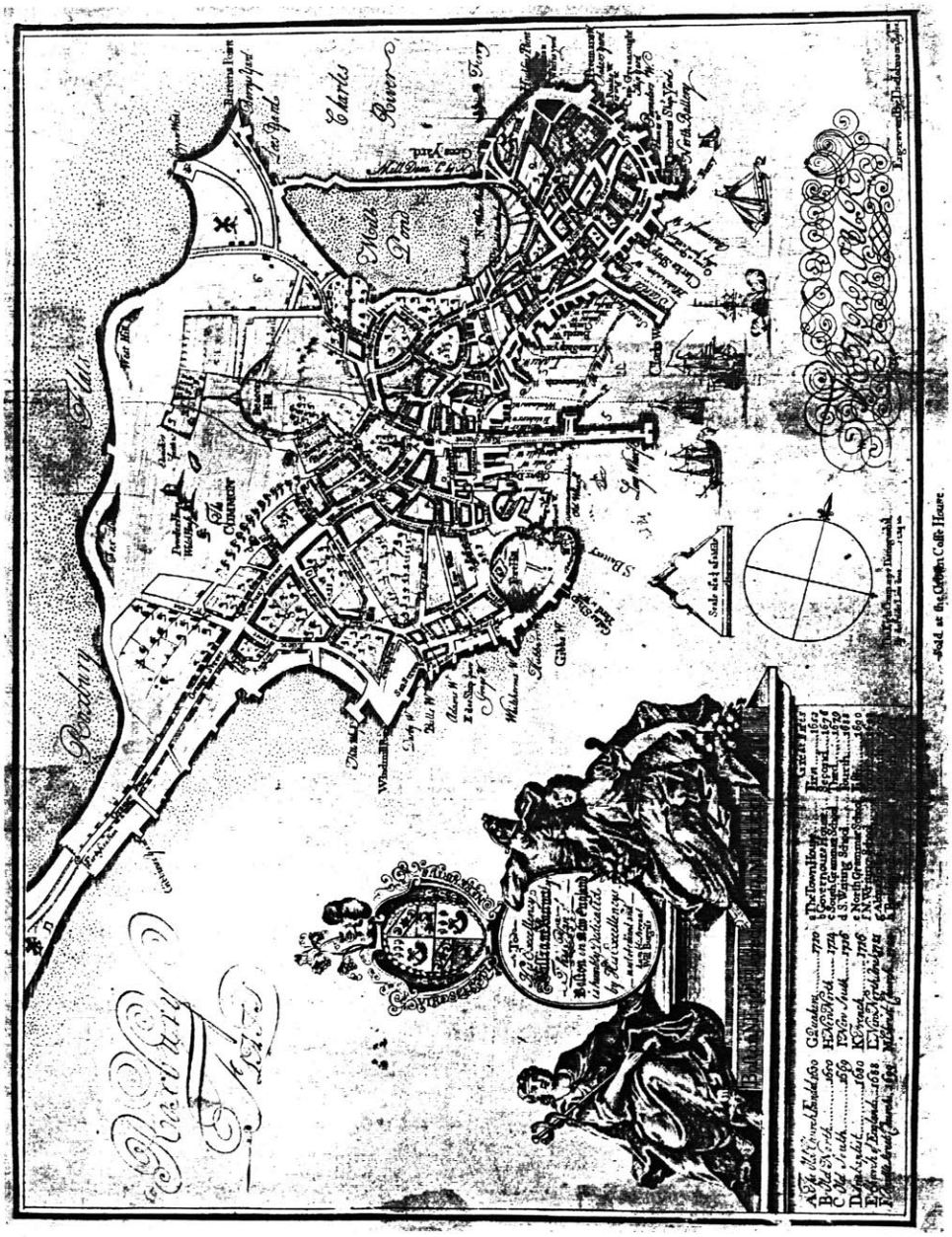

Fig 65
The Burgis map
of 1728.

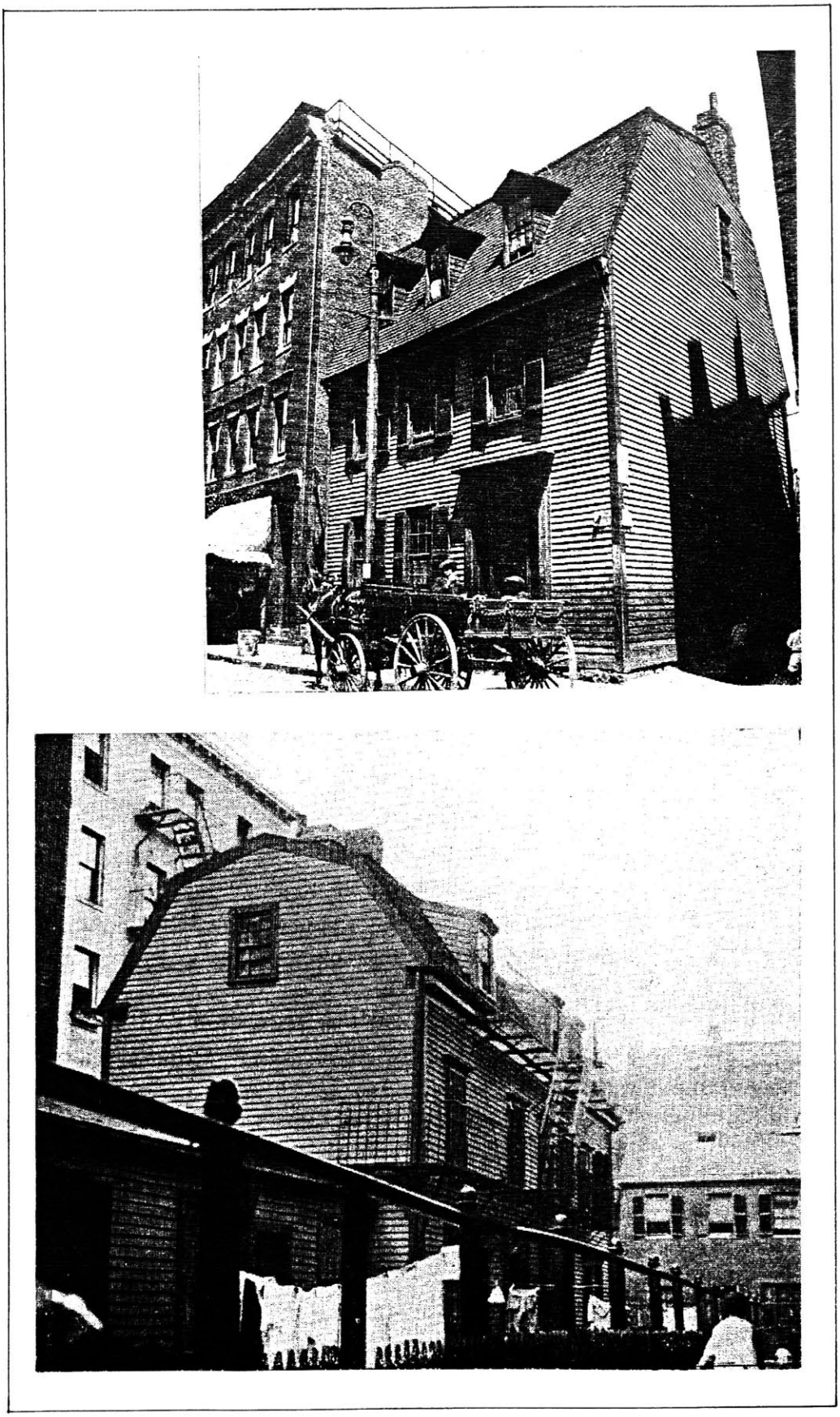

Fig 66
The nineteenth century "Victorian box" of the North End. (Source: Todisco, 1976.)

Fig 67
The persistent street pattern and some of the primary elements in the North End.
1. Copp's Hill Burial Ground.
2. The Christ Church.
3. The Eliot School (presently Christopher Columbus School).

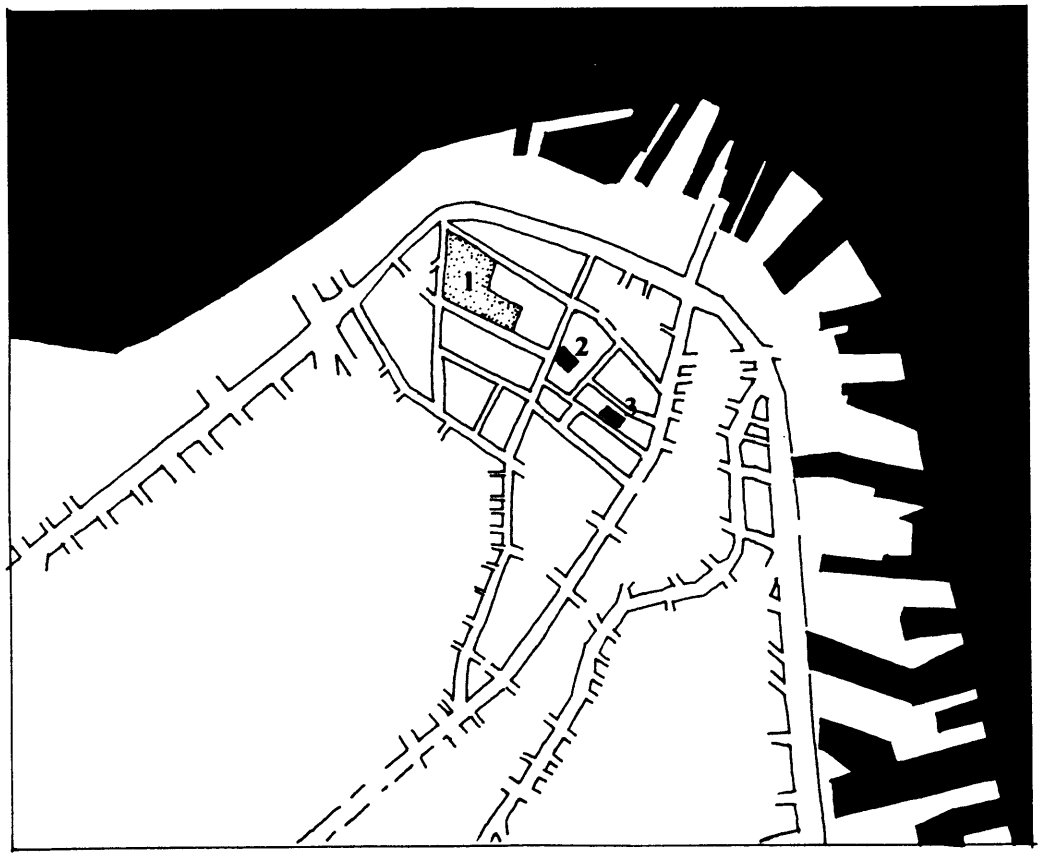

Fig 68
The Copp's Hill
Burial ground.

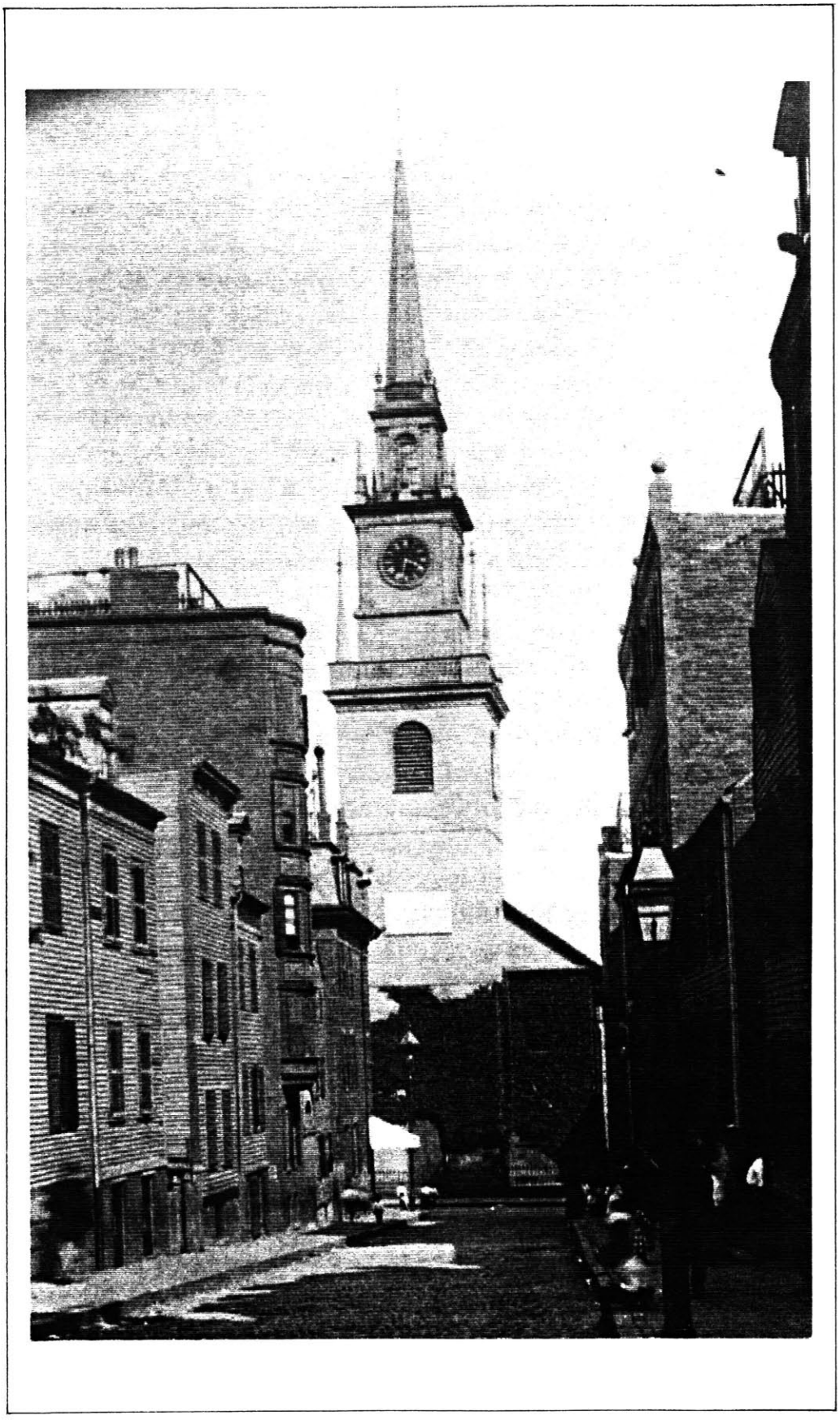

Fig 69
The Christ Church in nineteenth century. (Source: Todisco, 1976.)

Conclusion

Relationship between the changes in the physical environment and different factors of change

Following are some qualitative curves and diagrams which try to see the relationship between the changes in the physical environment and some of the factors of change in the 19th century North End:

1. *The quality of the physical environment of the North End*

The curve in figure 70 shows the changing quality of the built environment of the North End. The horizontal axis of the figure shows the acceptable level of the physical environment while deviation from that will mean improvement or deterioration from that level as indicated in the figure. According to the history, until the Revolution of 1775 the North End had a better physical environment after which it deteriorated because the wealthy and important residents of the area gradually moved out to some other places. So, the curve in the figure started slightly below the acceptable level in the year 1780 and kept declining at a constant gradient till the 1840s. In the 1840s, the rate of deterioration was aggravated by a huge number of Irish immigrants majority of whom decided to live in the North End. The curve started reversing its previous gradient in the 1890s and continued to rise since then when some improvements were made to the physical environment. But the quality was still far below the acceptable level in the 1920s.

2. *The regulatory bodies and the physical environment*

The curves in figure 71 show the probable relationship between the quality of the physical environment and the available regulatory bodies in the changing process of the North End. The curve for the deed restrictions started declining when the rich inhabitants of the North End started moving out of the North End after 1775. Overtime these deed

restrictions became weak and weaker due to multiple changes in the ownership and gradual transfers of the properties to more profit-motivated speculative owners which is represented by a constant fall in the curve. It was only in 1868 the curve stopped falling down any further due to the introduction of the tenement housing laws. The steps in the curve correspond to different amendments made to the laws in the years 1892, 1897, 1907, and 1922 during the study period. As evident in the curves though with each of these amendments the laws were more powerful than they were before, it was not until the 1890s that these laws were able to keep any positive impacts on the well-being of the area.

3. *The increase in the tax rate and the physical environment*

The curves in figure 72 show the relationship between the physical environment and the tax rate of Boston (Table-III, Appendix). In an earlier chapter I tried to make a point that the increase in the tax rate had a negative impact on the physical improvements of the area. On the basis of that argument the increase in the rate is placed in the same direction with the negative changes in the built environment of the area in the diagram. The curves show that until the 1880s there might have been some relationship with the increase in the tax rate and the deterioration of the physical environment, but after that period it was no more related to the quality of the physical environments.

4. *Population*[1] *and the physical environment*

Superimposition of the population curve on the qualitative curve for the physical environment in figure 73 reveals the similar relationship the physical environment had with the tax rate. Until the 1880s the population increase might have caused physical deterioration but after that the relationship became more indefinite. Interestingly, when the population of the North End was at its peak the physical environment of the area improved significantly.

5. *Civic expenditure and the physical environment*

According to the curves in figure 74, it seems that there existed no apparent relationship with the physical environment of the North End and the amount of civic expenditure by the city of Boston (Table-III, Appendix). Since 1822 the civic expenditure kept rising as opposed to the deteriorating physical environment of the case study. One might interpret this as negligence on the part of the city authority, or there might even be

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[1] For population in the North End, Boston see Table - V, Appedix.

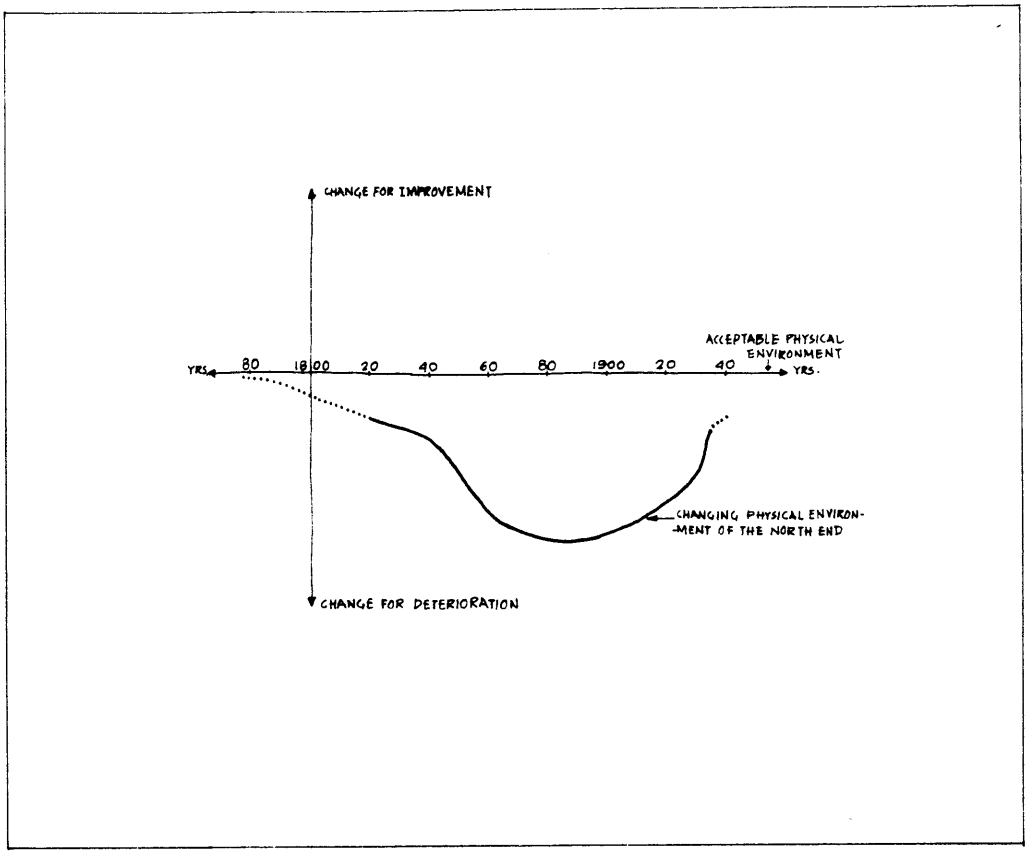
CHANGE FOR IMPROVEMENT
ACCEPTABLE PHYSICAL ENVIRONMENT
YRS.
80
1800
20
40
60
80
1900
20
40
YRS.
CHANGING PHYSICAL ENVIRONMENT OF THE NORTH END
CHANGE FOR DETERIORATION

Fig 70

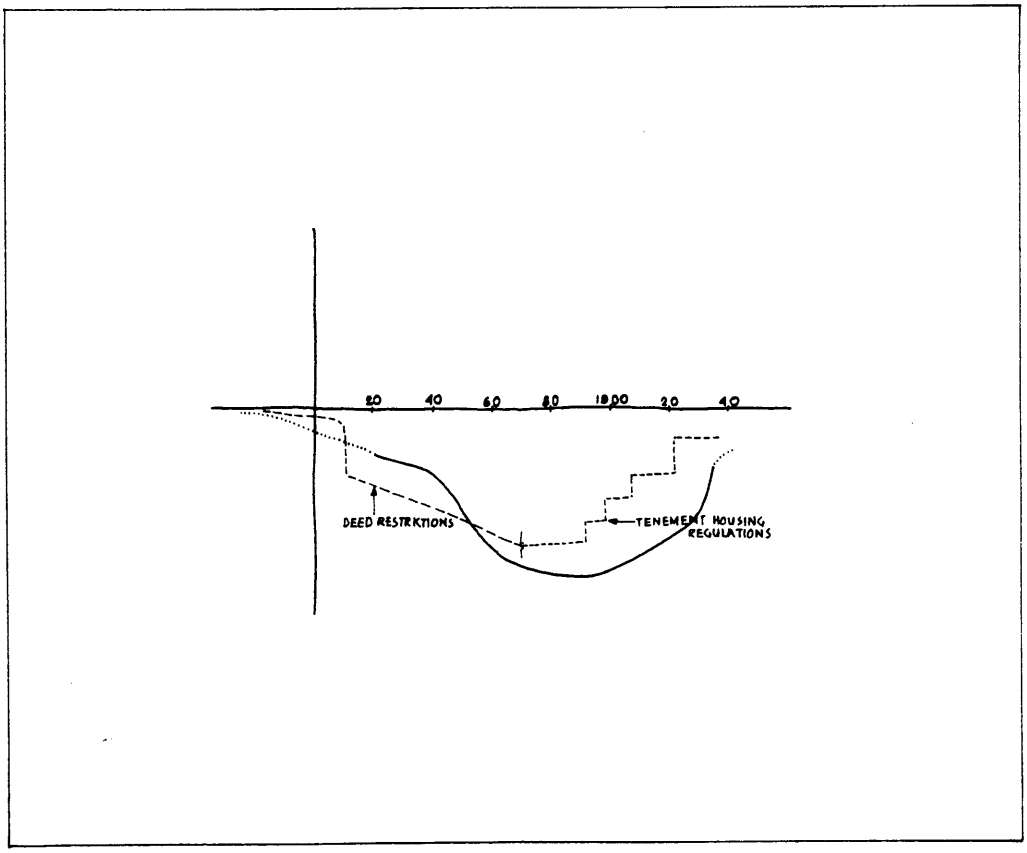
20
40
60
80
1800
20
40
DEED RESTRKTIONS
TENEMENT HOUSING REGULATIONS

Fig 71

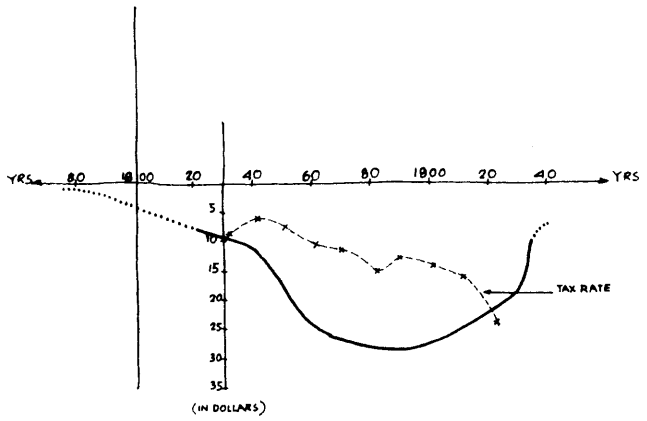

Fig 72

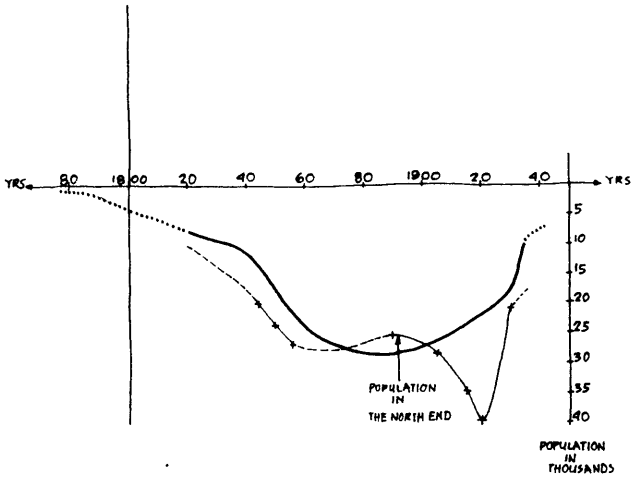

Fig 73

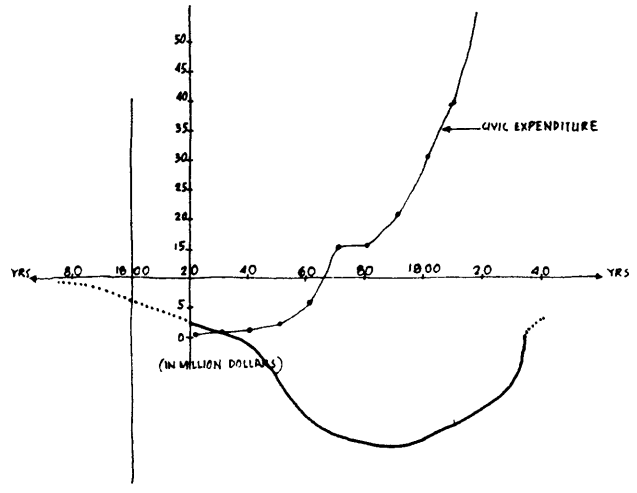

Fig 74

some other areas of greater importance for investments. On the other hand, these curves could also represent an indirect relationship between the civic expenditure and physical environment when one considers the time-lag phenomenon in the process of change (also see figure 78). For example, the investments made in the 1860s had its impact on the environment only in the 1890s. Interestingly, these curves follow the same gradient at a time-lag of thirty years.

Nature of the changing process in city form

At this point we could perhaps say that we have a more or less comprehensive idea about different processes and elements that were directly or indirectly bearing on the changes in the built environment of the North End. This thesis tried to integrate the process of physical changes into a more general interpretation of social, economic, cultural and technological changes. One thing is clear from these studies that traditional ideas of "environmental determinism" or "social determinism" are not enough to explain the process of change in the North End. There seems to exist no bi-partite cause-effect or stimulus-response relationship in the process of change in the area. If that were the case, the face of the North End would have been changed completely under the necessity and demand for change that existed in the late 19th century. The way the changing process of the built-fabric of the area responded to the demand was fairly inadequate. Throughout the study period, from 1860 to 1930, the area maintained its status as a slum. The miserable conditions of the neighborhood were described time and again in the writings of the reformers. As the studies here revealed there was always different social and physical factors — such as, accessibility, job availability, group consciousness, availability of rundown housing, different innovations — behind the stimulus-response relationship that sometimes enhanced but most of the time inhibited the process of change that a deterministic view point fails to explain. It also can not accommodate the fact that having sufficient knowledge of the area the users of the area were manipulating it for their own economic, social and cultural gains. For example, the Italians inhabitants of the area usually extended preferential renting to another Italian; they even formed different social organizations which resulted in a host of physical adjustments and development in the area. Most importantly, determinism is not capable of explaining why different groups of immigrants — such as, Irish, Italian or Jewish — with different backgrounds, and social and cultural demands were preferring the same locality, and how the same physical space could accommodate various patterns of use without undergoing a complex pattern of changes.

It seems that "possibilism" could be a good way of explaining the case of the North End, where its physical environment provided a quasi-autonomous[2] possibilist setting for the different groups of inhabitants. Then again, as far as the city processes are concerned only "possibilism" of the physical environment is unable to explain them all. Why would the Italians treat the area differently than the other groups of immigrants? Or why would they prefer to build 'French flats' rather than the traditional 'Victorian box' houses? Or why Salem Church was destroyed while Christ Church being preserved? Or can it explain the events of demolition of a large number of buildings for the sake of open spaces? Physical possibilism, perhaps, will explain part of it, not all. Within this "possibilist" philosophy lies a fairly limited view of the power of man — he chooses only between the possibilities offered to him by the physical environment. When there is more emphasis on man as the changing agent, it is still within an overall deterministic framework.[3] Further, it was not only the physical spaces but also more persistent internal processes, like the taxation system or deed restrictions, etc., and more immediate elements like different innovations always interfered with the possibilities offered at any time of the history in the North End.

Similarly, "phenomenology" is also inadequate to explain the process of change sufficiently. The problem with this kind of idealist approach is that reality (nature) is seen as molded by man's consciousness. So man becomes internally self-sufficient. And the 'whole effort of man shaping himself and his world' is seen 'as being dictated by consciousness, and an individualized consciousness at that. History becomes the manifestation of the act of thinking and nature becomes quality of that thinking'.[4] So man is removed from his social and natural context, yet it is via *society*.[5] Further, it is hard to believe that humans could develop such a complex system as city form only through intentionality and free will. In a world of intentionality and free will, then, there would be no such elements as 'organizations' or 'institutions'. Time and again, different groups of professionals like planners, geographers, economists, sociologists have shown that city is more than a random phenomenon.[6] Though none of their models or explanations are self-sufficient, there must exist an intricate pattern, yet to be discovered, which allows this

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[2] Anderson, 1978, 1981 &1987.

[3] Pepper; 1984, p 113.

[4] R. Burgess; The concept of Nature in geography and Marxism, *Antipode*, 10(2), 1978, pp. 1-11.

[5] Pepper, 1984.

[6] Kevin Lynch, in his *Good City Form*, has provided an condensed catalog of these different theories or perspectives about city. This catalog was organized by grouping different theories under metaphorical headings, that is, according to the dominant images by which these professionals conceive of the city. Some of these metaphorical headings are — *The city is an ecosystem of human groups, The city is a space for the production and distribution of material goods, The city is a field of force, The city is a system of linked decisions, The city is an arena of conflict* and, so on. (Kevin Lynch; Good City Form, The MIT Press, Cambridge, Massachusetts, 1981, pp.327-343.)

huge system to subsist. Moreover, It is also hard to believe that one could change the physical nature of the city merely through his intentionality. In a sense, phenomenological approaches limit our investigations of nature to mere descriptive appearances, and do not penetrate to the objective reality which, Marx maintained with irony, *is* there:

> Once upon a time a valiant fellow had the idea that men were drowned in water only because they were possessed with the idea of gravity. If they were to knock this notion out of their heads, say by stating it to be a superstition, a religious concept, they would be sublimely proof against any danger from water. His whole life long he fought against the illusion of gravity, of whose harmful results all statistics brought him new and manifold evidence.[7]

With this I do not intend to eliminate the significance of existential dimensions of environment as offered by phenomenology, which emphasizes that scientific explanations are not enough to understand *meanings* of environment. It has put immense importance on the presupposed existential dimensions or the *genius loci* regarding the problem of constancy and change in city form.[8] I do not disagree with the phenomenological viewpoint about the importance of *genius loci* in the process of change, but may I ask, what is this *genius loci*? How does it come into being if it is not determined by historical forces?

Contrary to the views of the phenomenologists, we will see that *genius loci* of the North End or any place is dependent on the layering of time and history, layering of the marks on the urban landscape left by its predecessors. Hence, it is constantly evolving since the city is laid down. And it is how city becomes a individual place. Hence, one cannot just disassociate *genius loci* from different historical forces to understand the true meaning of *genius loci* or existential dimensions of city. Whatever deep roots existential dimensions might have, the city begets that from history and those are manifested in history of the city and place. But what is important here is, in the end, that their meanings might transcend the historical situation. Hence, I believe my quest in city form goes much deeper than just believing that 'human identity presupposes the *genius loci*'. I hope to see how it comes into being, what role humans play in its being, how it preserves it identity under the pressure of historical forces, if there is any order in the relationship between *genius loci* and historical forces how one can explain that, and so on.

I do not know what would give satisfactory answers to these questions. Perhaps "organismic" philosophy might be a better way to understand change and persistence in city form. Christopher Alexander's ideas are somewhat similar to this philosophy. But the

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[7] Marx and Engels: *The German Ideology* , Quoted in Pepper, 1984, p.161.

[8] For details see, Norberg-Schulz, 1979, pp. 180-186.

philosophy still does not pay enough attention to human alternatives. It always establishes an ecological relationship that subsumes human will. We have already seen in the case of the North End, changes, though following the previous conservative lines, were in some cases radical to the area, like the introduction of the Paul Revere Mall in the middle of a dense fabric, which would explain significance of the role played by human will. Maybe this is not a very good example. But there are situations and changes, like Haussmann's 19th century rebuilding in Paris or the twentieth century urban renewal projects of Boston led by Edward Louge which are fairly radical and show no affinity with the previous structure of the city. "Organismic" philosophy which is an evolutionary concept, is not capable of explaining all these radical changes.

Then, how to solve the riddle presented by the complexities of changing process in city form? Or are these issues totally irrelevant? I believe, in any attempt to understand the changing process of city form one can not possibly avoid the issue of how a city preserves its identity under the pressures of historical forces, or the issue of human capacity to achieve certain objectives, to meet certain environmental needs that he intended to achieve. Are substantial improvements or changes in the human condition in some ultimate sense beyond the comprehension of humankind? Posed in this way, the question seems so extreme as to be of marginal academic interest. In this case, however, it has a practical side because it casts doubt on the ideas and purpose of the urban designers and planners who operate with the belief that they can have both the expertise and wisdom to improve the urban environment in an optimal way. This study, however, has provided a bleak answer to its urban version of this metaphysical question. It showed that because of physical, economic, cultural, and technological factors, changes and improvements in the physical environment were always held back. They also forced people to live in unsafe, unsanitary, and overcrowded conditions and caused the already rundown properties of the area to persist longer than one could have expected. But that does not mean that the environment did not change at all. Different changes occurred to different physical and social elements of the environment but, for most of the time, only to an extent limited or inspired by the same elements of the environment. How then does one conceptualize this phenomenon in city form?

Different intrinsic qualities of the changing process

In my opinion, the process of change in city form is a complicated, many-faceted phenomenon at the most abstract level that can be conceptualized as a three dimensional relationship between 1) the stimuli like economic and population growth provoking change, 2) the adaptive change required by the stimuli, and 3) a wide variety of factors

that mediate between this stimulus-response relationship, sometimes by enhancing it and at other time by retarding it.[9] Figure 75 tries to review such a complex relationship. But it must be abundantly clear that the scheme presented here is only a preliminary approach intended to help understanding the processes bearing on city form It therefore needs further research.

In the scheme for the changing process in city form, S1 represents the city sector which requires change due to different factors; S2 represents the state if the 'required change' could be made to the sector; and S3, the state of the sector due to different changes that could be finally achieved by the agents of changes. Here, the 'required change' and the 'achieved change' differs due to different mediating factors. These mediating factors can be only external (EM), or only internal (IM), or both. In the scheme, A1, A2 and A3 represent the three alternatives in the changing process of the city sector due to mediating effects of different factors.

The complex interrelationship scheme shows five different categories of factors that might cause change and/or mediate change, by enhancing or retarding it, in the city sector. They are as follows:

Factors directly involved in the changing process

1. Factors internal to the city sector, like quality and character or type of the built forms, internal demographic patterns, different social and cultural factors, different locational factors those are inherent to the area, etc.

2. Factors external to the city sector but internal to the city, like the tenement housing laws.

3. Factors external to the city and the city sector, like the 'bay windows', innovations in construction technology, etc.

Factors indirectly involved in the changing process

4. Factors internal to the city, like the development of the industrial and street car suburbs, laying down of the railroads, etc.

5. Factors external to the city, like immigration.

Hence, the mediating factors can be social, cultural, economic, political, technological and physical in characteristics. Interestingly, each of these could be determinate or indeterminate or both. And, if one likes, these could be further categorized as short-lived or long-lived. The combination of all these elements are even more complicated, but I have tried to extrapolate them as basic regularities, constraints and

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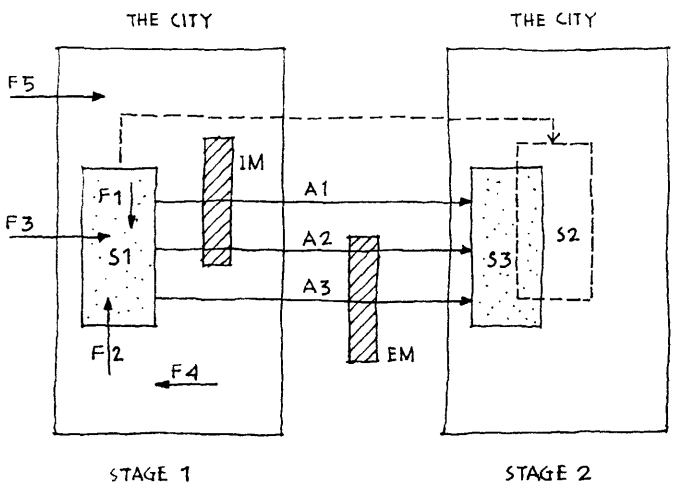
[9] This concept of three-dimensional relationship has some similarities with the concept of the process of environmental redevelopment presented by Rosen in *The limits of power* (1986, p.6). According to Rosen, the mediating factors are the frictions which always acts as barriers to improvement. This is a fairly limited view for these factors in the process of change.



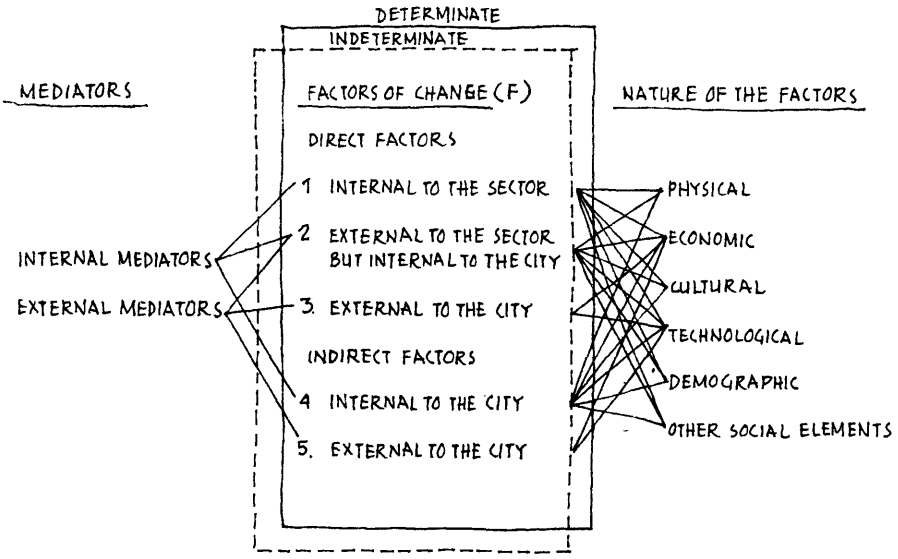
LEGENDS:

S1_CITY SECTOR REQUIRES CHANGE
S2_AMOUNT OF CHANGE REQUIRED
S3_AMOUNT OF CHANGE ACHIEVED

IM_INTERNAL MEDIATOR
EM_EXTERNAL MEDIATOR

A1_ALTERNATE ONE
A2_ALTERNATE TWO
A3_ALTERNATE THREE

A SCHEME FOR THE PROCESS OF CHANGE IN CITY FORM.



A COMPLEX INTERRELATIONSHIP SCHEME DESCRIBING THE MEDIATORS IN THE PROCESS OF CHANGE IN CITY FORM.

Fig 75

fundamental elements of the changing process. I think these elements will inform us something about persistence and change in city form and the role of the human as an agent of change in the process of change.

1. The city is never a tabula rasa. It is the product not only of the present occupants but also of their predecessors.[10]

All societies inhabit environment created in part by previous generations. Each society leaves its mark on the landscape, creating forms that reflect the aspirations and problem of its day. These forms are the part of inheritance of future societies, which they in their turn variously alter, add to, preserve or erase. In simpler terms, each is like a film sequence which is composed of series of individual still photographs edited by the societies inhabiting it. In this way, city form acquires its own *genius loci*, and it is not just the product of the present occupants but also of their predecessors. Hence, Whitehand wrote:

> Far from being just a reflection of the society currently occupying it, the city form is a cumulative, albeit incomplete, record of the succession of booms, slumps and innovations' adoption within particular locale. Sometimes a society respects that creations of its predecessors; sometimes it consciously rejects them. No society can completely detach itself from the past and the urban landscape is never a *tabula rasa*. To seek and achieve such condition is a profligate waste of past human endeavor.[11]

Similarly, Vance wrote:

> Although stages change with the passage of time, physical traits of the city tend to persist, once established, and no city ever absolutely denies its past.[12]

So urban morphogenesis[13]is always subject to constraints of its antecedent site, existing artifact, architectural and urban conventions, economic and technological constraints and so on.

The changing process of the North End was not an exception to this. Once the colonial settlers laid down streets on the empty land of the peninsular Boston the freedom

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[10] Urban Geographers, like Conzen(1960, 1962 1978), Whitehand (1981, 1987, 1992), Vance (1977) and many others have mentioned it as a significant character of city.

[11] J. W. R. Whitehand; The Changing Face of Cities, A Study of Development Cycles and Urban Form, Basil Blackwell Ltd., Oxford, 1987, p. 146.

[12] James E. Vance, Jr., This Scene of Man: The Role and Structure of the City in the Geography of the Western Civilization, Harper's College Press, New York, 1977, p. 26.

[13] *Urban morphogenesis* can be defined as the process that gives place to a new urban artifact. It serves as a momentary bridge between the abstract aspirations of an individual or a society and the urban artifact is the physical manifestation of such abstraction. The study of *urban genesis* should provide insight into the choice and modes available to externalize the abstract aspirations (Teh Joo Heng; A Theory of Persistence in City Form, S. M. Arch. S. Thesis, MIT, 1989).

to operate with a total freedom was lost forever. One might wonder if these early colonial settlers even were free from antecedent conditions. Indeed, they were not. What influenced their early settlement more than anything else were the natural setting and the topography of the Shawmut peninsula, traces of which still exist, and for a century and a half since its establishment Boston was a town that was restrained within the plain between the harbor and the trimountain of the peninsula.[14]

It seems that an unstructured beginning is almost impossible for any city at any time of its history. And the areal base on which the city rests at any time is nothing but the subsequent redivision of the initial divisions; in our case it was an irregular set of streets laid down by its early inhabitants. One could have considerable amount of latitude created either by an intervening catastrophe or by a massive artificial recreation of an empty slate through 'redevelopment,' - a reinstatement of free choice as a factor in initial division. In most of the cases the layout of the streets and the parceling of land could not be fundamentally changed even if most of the buildings that originally stood on the plots disappeared. Thus, whatever freedom might have been there when the city was first laid out, it increasingly diminishes, and the freedom to intervene and change in city form is only partial in its scope with respect to its preceding situation.

2. Changes in the functional and social elements were more frequent than in the physical form of the city. Some of these elements tended to persist longer — but not longer than the physical form.[15]

We have seen that various elements of the physical form — the street pattern, land subdivision, some of the built forms — persisted during the changing process of the North End. They persisted for several reasons.

The street pattern persisted because of economic and bureaucratic or institutional reasons. On the other hand, land subdivision pattern sustained by complicated ownership & land-holding pattern and larger site assembly problems. Site assembly required vast amount of money, willingness on the part of the owners and patience on the part of the developers that were rare for the persons involved in the changing process of the North End.

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[14] Whitehill; 1963, p. 8.

[15] Rossi, in his *The Architecture of the City*, pointed out the obvious but forgotten fact that material formations, such as cities and buildings, often persist beyond the time scale of any single regime of human interest or form of life. Even if the material of building or city is demolished, certain features of its geometry are pathologically preserved in any new construction on the site of the old. He pointed out to events such as the Roman Amphitheater at Arles being absorbed into the housing fabric of the medieval city. According to him, the geometry of the buildings and cities was not so unequivocal as the 'naive functionalists' would have us believe (1988, pp. 57-61). Thus, Rossi stressed the autonomy of the form and artifact of the city. He showed how the material form of the city had a life of its own, and seemed to persist through all the changing circumstances of the world.

Built forms persisted for several reasons. The first was the simple fact of durability of the construction materials. On the other hand, the raw material available for buildings changed very little till the last quarter of the nineteenth century. Thus the plasma of the city had changed more often since the last quarter of the nineteenth century than in all previous era.[16] Then there were obvious economic reasons. Any kind of change — construction, demolition or repair — required vast amount of money that the speculative owners were unwilling to pay. Further, there were also the locational, social and cultural reasons for the persistence of some of the physical forms. We have seen that only a few of the earlier built forms remained in the study area, while the others died over time. But their death was slow, overlapping the new construction that normally followed precedent in material and design to a degree sufficient to perpetuate the basic elements of form.

Due to the persistence of several of its physical elements, the physical character of the study area in the 1920s was close in form to that of the 1860s, even though the social, religious or cultural aspects of the inhabiting group greatly differed from the earlier ones. Thus, one of the interesting elements of the changing process was that it was most commonly an expression of the attitudes and practices by which a society shaped the preceding forms to its needs. For example, the Irish appropriated the congested living condition of the area for different social and religious reasons. On the other hand, the Jews stayed here only for the period that was necessary to improve their conditions; the question of physical improvement was never important to them. It was the Italians who, at last, seemed to show some interests about the built environment of area. We have already seen the implications of such attitude in a previous chapter.

Another aspect of change was that the structure and form of the area were to a very appreciable degree innate rather than conferred by immediate circumstantial changes. As we have seen, for most of the time changes in the uses and users did not result in corresponding changes in the built environment of the North End. The quality of the built environment remained fairly persistent. In the long run changes occurred in the physical environment, but they came in a historical rather than in a topical time-span. The physical environment and its other related conventions were the conservative forces at work in the morphogenesis of the area.

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[16] Vance; 1977, p.6,

3. Adaptation and accommodation were the most notable features of the changing process of the city. The process was more one of mutual transformation than of free rein of function over form or form over function. In this fundamental persistence of mutual adaptation could lie the basis for urban continuity.[17]

One of the more common structural processes was that of adaptation of the city form from one stage to the other and from one form-and-functional relationship to another. There were repeated instances of such transformations. The North End, once the residential district of wealthy rich merchants was transformed to an area for artisans and craftsmen. Finally, it was transformed to a place for the poor immigrants. The houses once built as single family residences were converted to multi-family residences. In other instances in the North End, though not in the areas studied, the houses were even converted to factories and warehouses and the warehouses to tenements for the poor immigrants.

Who can truly believe that form follows function, so much as adaptation follows change? The second Anglican church, that is Christ Church, also known as Old North Church, had been in continuous use, even it lost all its previous congregation; a group of residences at the corner of the North Bennet and Hanover Streets was converted to a post office in the 1890s and then again was reverted to the previous uses in the 1910s; a commercial hotel at the corner of the Tileston and Hanover Streets was converted to Bay State House in the 1880s and then to Webster House until the 1920s, when it was taken down by the city authority (figure 76).

How wonderfully flexible the built forms were! Instead of a rootlessness, it provided a significant aspect for continuity and persistence that refused to suffer the oversimplification of physical or social determinism.

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[17] In "People in the Physical Environment: the Urban Ecology of Streets", Anderson points out that an urban artifact supports a wide range of activites beyond the intention for which it was designed. He further provides a theoretical understanding of the 'loose-fit' of physical environment with reference to the concepts of *potential*, *effective* or *influential*, and *latent* environment. In his analysis of the Savannah plan, Anderson showed how the plan conventions, with its unusual combination of intricate articulation and replication, had been able to lend environmental support to a series of quite different patterns of inhabitation. It had supported synchronic patterns of use, sometimes resisting and testing, channeling but not inhabiting diachronic patterns of changing use. And for these very reasons — that is, its openness to reinterpretation and positive support of different uses — as he argued, wholesale change of the physical fabric was not necessary . This notion of multiple influential environments, that is the ability of the urban artifact to absorb changing use and meaning, without being altered significantly is essential for the continuity of the city form. Aldo Rossi further advanced this argument by introducing the concept of primary element which can accelerate or retard the growth of the cities — elements that possess a "value in themselves" along with a value dependent on their place in the city (The Architecture of the City, pp. 86-87).

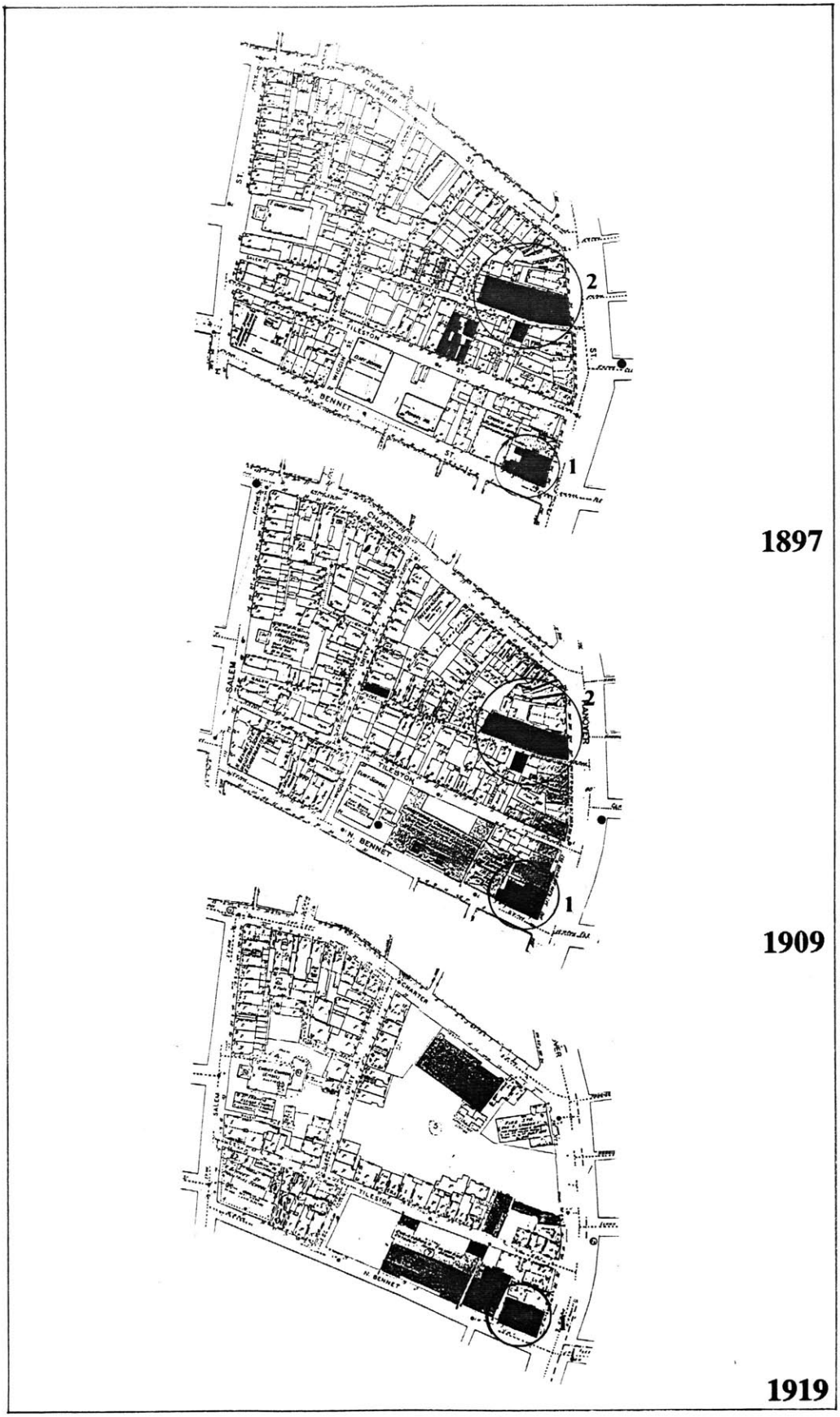

Fig 76
The adaptability of built forms:
1.
1897 - Residences
1909 - Post office
1919 - Again Residences
2.
1897 - Webster House
1909 - Bay State house.

4. Though very implicit, the process of change in city form was not without a pattern.

The study done on the Sanborn maps clearly revealed that the built environment of the North End was subject to continuous changes. These changes, whether good or bad, were taking place gradually. They were happening in a certain way, in a particular pattern for each of the eleven blocks studied. Probably with a more elaborate study it is possible to formalize different aspects of the changing process, like the relationship between the changing agents and nature of changes, relationship between various innovations and changes, etc.; but, for now, these are mostly impressionistic observations.

4.1 *A distinction can be made between the changes made at the private level and public level.*[18]

For the first two decades from 1867 to 1887 the changes were only in the nature of minor additions and only one or two cases of vertical extensions in every block. This type of small change could be attributed to the fact that in that particular period population of the North End was almost stable — the vacancies created by the Irish moving-out were taken over by the recent Italian and Irish immigrants. So, there was no need for greater degree of changes. The changes that occurred were basically made through individual interventions. Hence, they were very fragmentary in nature. There might have been cases where changes were done by developers; but these developers also operated with moderate capacities and at moderate scale that failed to make any significant impact on the physical nature of the area. Probably their intervention could be identified in the regularity of the changes and in the inclusion of particular types of tenement buildings in the area (figure 37).

For the next twenty years, from the 1890s to 1910s, there were changes in the type of the houses and access systems but these were also in the hand of the individual owners. So the scale of change was moderate, and the impact was still imperceptible. Significant changes occurred only after public interventions introducing open spaces and necessary public and institutional facilities in the area in the 1910s and '20s.

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[18] There is an enormous literature in urban geography on the relationship between change and the agents of change. Details of the sources on this aspect could be found in *The Making of the Urban Landscape* by Whitehand (Blackwell, Oxford and Cambridge, Massachusetts., 1992).

4.2 *Non-professional intervention could have had a prolonging effect on continuity in the built fabric.*

The building activity in the area was always unorganized and remained in the hands of the non-professional for the whole study period. The result was almost evident in the changes — a built environment of consistent grain was developed due to a result of the fine grained power structure of individual actors. It is logical that the owners who were responsible for the construction of these buildings would select the most popular type from a pattern book. Among others, pattern books used by these builders were Robert Morris's *Select Architecture* and James Gibbs *Book of Architecture* .[19] Local carpenters or masons would then follow these patterns as indicated, and the local mills would provide the necessary materials. Thus, even when the density of the built fabric was immense, there persisted a constancy in the built environment of the whole area.

Even in the 1900s and later, when new "French flats" were being built, the construction activity remained in the hand of the owners and the local builders. The reasons were very simple. The plans for these flats were easily available as packages, and they could be easily approved by the building inspectors. On the other hand, materials needed for them were also standardized by that time, which made the construction work lot easier for this non-professional group of people.[20] But what was interesting about this was, though every body was following the same standardized type of building there resulted a kind of individuality in every building due to individual interpretation of the same type. This was reflected in the placement of the light wells and in the treatment of the front facade and roof cornice.[21].

One of the reasons why the construction activity was too much concentrated in the residents' hands was economy. For the immigrant settlers of the North End to construct their own house was a economization of the whole construction process. In this way they did not have to pay for the contractors.[22]

4.3 *Different innovations tended to influence the changing process in the city form differently; some affected the built forms more directly than others.*[23]

Innovations affected the form of the city in two ways. Firstly, many innovations affected the area in a more direct way, requiring requiring physical changes in the

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19 Source, Richard W. Wilkie, and Jack Tager (eds.); Historical Atlas of Massachusetts, The University of Massachusetts Press, Amherst, 1991.

20 Rosen; 1986, pp. 26-32.

21 This is an observation supported by the Sanborn maps and site visits.

22 George F. Weston; Boston Ways- High, By and Folk, updated by Charlotte Cecil Raymond, Beacon Press, Boston, 1957, p. 289.

23 For further study on this aspect see, Whitehand, 1987.

elements of the physical fabric of the area. For example, the introduction of open spaces and play-grounds, the innovations like the "French flats" or "bay windows", the introduction of different legislation regarding construction activities and tenements housing, etc., all these had definite visible impacts on the area. On the other hand, there were some innovations whose effects were less observable on the physical environment but had wider consequences. These innovations were more diverse and numerous. They included innovations in transportation and manufacturing technology, innovations in the methods of trading, innovations in the planning ideas, etc. We have seen that the innovations in the manufacturing industries in the South Boston and the development of the street-car suburbs took out the earlier Irish inhabitants from the North End area; this had a negative impact on the well-being of the area. The innovation of the contract system sweatshops, and the shift from the mercantile trading to manufacturing in Boston during the mid nineteenth century, though it did not cause any immediate visible change in the area, had profound influences on the legislative measures taken by the city authority in the later decades.

4.4 *Significant changes necessiated innovations and the concentration of the power of decision-making — but this had happened only occasionally.*

According to Schaller, significant changes cannot be expected to originate from within the natural process of city growth simply because of tradition, precedent, and institutions. Any change that is in harmony with the traditional spirit will continue to work within the system. So for significant change we need significant "innovations" and concentration of power.[24]

It is fairly clear from the study that recognizable changes in the study area were caused by the introduction of the "French flat" a new type of residential building that appeared in the 1890s and the Paul Revere Mall in the 1920s. But the "French flats" didn't have the same impact on the physical environment as did the Paul Revere Mall.

The "French flat" was an innovation that was implemented at an individual level. The innovation was used in the area in only a fragmented way, presumably because of difficult site assembly problems. Site assembly was a costly matter for these Italian inhabitants of the area who have just recovered from their miserable economic conditions. As stated earlier, there might have been some developers who worked here but they had only limited capacities. Considering the context of the North End, it was highly unlikely that a developer would invest his money in this slum area. In fact, most of the financial

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[24] Lyle E. Schaller; The Change Agent: The Strategy of Innovative Leadership, Abingdon Press, Nashville, 1972, p.42.

organizations marked it as a "red-line" zone. Hence, even though a large number of flats appeared in the early twentieth century the scale of the change remained moderate and impact. Their impact was recognizable but not significant.

On the other hand, the Paul Revere Mall must be seen as a significant intervention. An major structural change like this could not happen without the power of a concentrated decision making. For a long time the city of Boston had been struggling for the necessary power to acquire the land for necessary open space, and it was only in the late 1890s, through some amendments in the charter and under the provision of the amended Tenement Housing Act of 1897, that the Board of Health secured the necessary power for such interventions. Again, it was not until the late 1920s that the city could aim to make such major intervention in a densely built fabric, even though it had the necessary power. There were several reasons for this. First, the city had to find the means to relocate the population made homeless through such intervention. Second, the city had to find the sources for the necessary funds needed for such a large improvement. Third, It had to take into account that it was going to lose a significant tax base through such mass scale demolition. Fourth, allowances had to be made for the maintenance cost for the proposed open space that the city had to bear in the future, and so on. A project like this also required other significant economic innovations. Above all, it required innovations in the planning ideologies that could not be achieved in a matter of one or two years. As explained earlier, it took decades for the reformers and political leaders to come to a consensus that open spaces were essential for the well being of the public health. Such an ideological change was definitely influenced from other examples in the United States and in different European cities that were taking such measures before and around that time. Hence, it was only with all these innovations and the concentration of the necessary decision-making power that the Paul Revere Mall could come into being.

This element of the changing process is vividly illustrated in figure 77 which is a superimposition of the curves presented earlier in the chapter. The figure shows the concurrence of different significant changes in the city during the period before the physical environment curve for the North End showed a significant change in its gradient.

4.5. *There existed a time-lag phenomenon in the process of change.*

The existence of a time lag in the changing process of the North End is summed up in figure 78. There were both social and physical reasons for such a time lag. This aspect of the changing process certainly added to its complexity, since the characteristics of the physical structure of the area in the study period not only lacked a direct relationship to contemporary development but also had origins in the technology of the

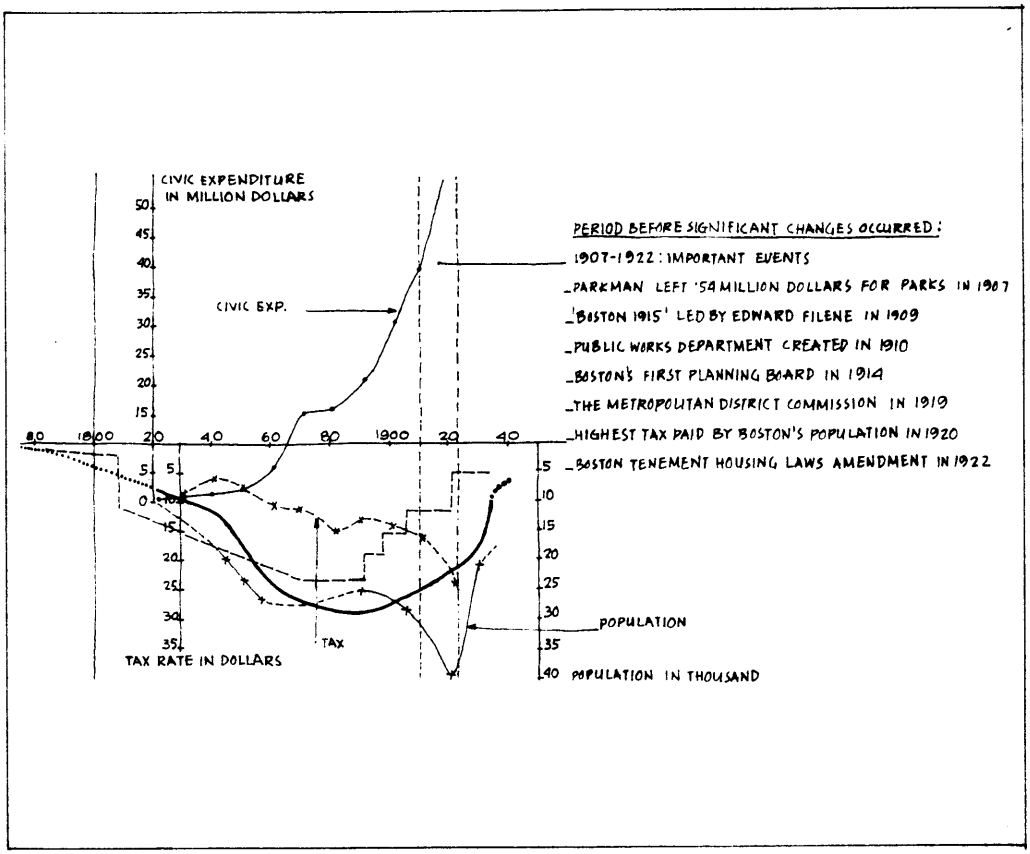
CIVIC EXPENDITURE
IN MILLION DOLLARS
CIVIC EXP.
TAX
TAX RATE IN DOLLARS
POPULATION
POPULATION IN THOUSAND
PERIOD BEFORE SIGNIFICANT CHANGES OCCURRED:
1907-1922: IMPORTANT EVENTS
_PARKMAN LEFT '54 MILLION DOLLARS FOR PARKS IN 1907
_'BOSTON 1915' LED BY EDWARD FILENE IN 1909
_PUBLIC WORKS DEPARTMENT CREATED IN 1910
_BOSTON'S FIRST PLANNING BOARD IN 1914
_THE METROPOLITAN DISTRICT COMMISSION IN 1919
_HIGHEST TAX PAID BY BOSTON'S POPULATION IN 1920
_BOSTON TENEMENT HOUSING LAWS AMENDMENT IN 1922

Fig 77

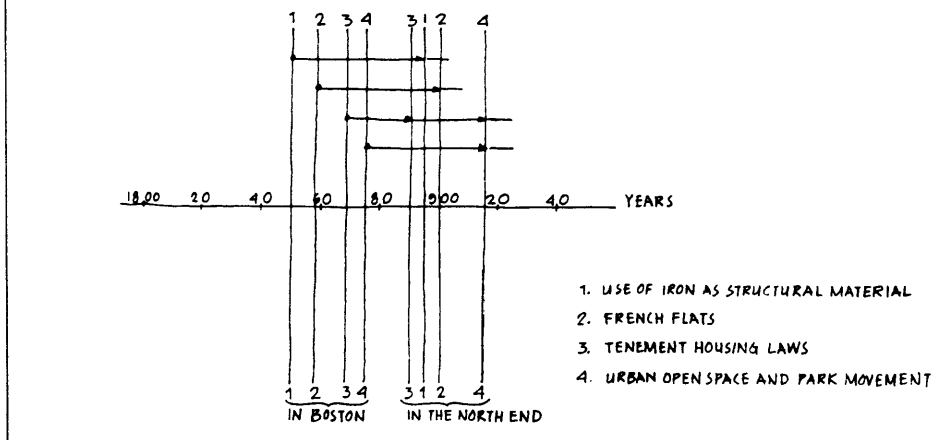
YEARS
1. USE OF IRON AS STRUCTURAL MATERIAL
2. FRENCH FLATS
3. TENEMENT HOUSING LAWS
4. URBAN OPEN SPACE AND PARK MOVEMENT
IN BOSTON
IN THE NORTH END

Fig 78

earlier period. It is also interesting to note how the innovations of the earlier periods kept influencing the patterns of changes in the later period. In this way, the time-lag phenomenon also added to the uncertainty of the changing process and made it difficult to establish a one-to-one relationship in the changing process.

5. The process of change was affected by both internal and external factors.

Except that the internal factors referred more to the artifactual reality of the area, both internal and external factors included social, economic, cultural, technological and other elements. Social elements like the demographic and ethnic quality of the area, migration out of the early immigrants, etc., were certainly internal factors, while immigration, the attitudes toward the schooling system or open spaces and play-grounds, etc., were external to the area, but they all affected the built environment in one way or the other. There were even more remote external factors, like the potato famine in Ireland, political turmoil in the east European countries, increase in the land tax in Italy which also had definite impacts on the changing process of the area. Technological factors also had more localized and external part of it. While the influence of the masons and carpenters or the standardized wooden beam produced in the local mills were very much localized phenomena, it is highly unlikely that all the technological aspects and innovations in building construction, transportation and manufacturing technology were confined to the local context.

As mentioned earlier, the only element that could be termed internal or local was the physical reality that the area inherited from its predecessors. It incorporated the architectural and urban conventions, cultural conventions and historical memories, and was reflected in the typo-morphology[25] and toponymy of the area. Even they were not free from external influences during the study period. For example, an urban convention like the Boston Tenement Housing Laws of 1897 that had a definite impact on the early twentieth century construction activity of the area was based on the New York Tenement Housing Laws of 1895. Then, too the idea of slum clearance was not at all a localized phenomenon; it was already a common element in the redevelopment of the European cities.

6. Changes in city form overtime are not always predictable.

Who could say what would happen next to a city? Unlike physical science, a city is a complex multi-faceted entity. In physical science a fairly small number of absolute,

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[25] Typo-morphology defines a morphological and structural unit characterized by a certain urban landscape — its location, its imprint on the ground, its topographical boundary and limitations, and, above all, its physical presence.

or nearly absolute, properties can be used to explain the resulting phenomena. But this is not the case in affairs of men, whose systems are multiple and far more historically relative. We have seen in the changing process of a small segment of a city, the way the early colonial settlers wanted to make their settlement was quite different from the later day settlers in the same place; similarly, the attitude regarding the quality of the physical environment of the Irish immigrants was very different from that of the Italians. In fact the very essence of the human being is his freedom to choose. He shapes and reshapes the laws of social and economic behavior that is not always explicable in rational terms.

Again, it was not only the human will that influenced everything. It wouldn't make much sense if I say that the immigrants settled in a rundown slum area only by choice. Such locational process was also the consequence of factors such as accessibility, economy, job availability, etc., which were very much inherent in this central location of the city .

There were even elements which didn't have anything to do with choice or predestination. Why would a famine in Ireland drive its population away from their land? Or why the increase in land tax would cause the Italians to land at the North End, Boston? Or, why the Jews of the east European countries would come to live in a shanty locality of Boston? Who knew that all on a sudden a small town of the thousands would become a city of millions? Not everything could be predicted nor does everything makes sense. These elements were all too out of the context but still had definite impact on the changing process of a small segment of Boston. I believe that if one tries to understand the changing process of the city form truthfully, he must acknowledge with its predictability the unpredictability that defies any simple explanation of the process.

Some directions for further research

The thesis adopted an inductive approach to unravel the complexities of city form. I must agree that the study was not an all inclusive one. Hence, in some of the cases, it was only impressionistic and tended to derive its conclusion only by implication. For example, it stated that deed restriction was an important factor among many others that affected the process of change but didn't cite any direct examples to show how they really affected the form of the city. A further investigation in such directions might have revealed something significant in such early regulatory devices and their impact on the physical environment; but that would have required examination into the earliest deeds or land transfer records, and early records of property taxes of the area. Due to the limitations of time such ambitious ventures were laid aside. It could also be helpful to

find out the early land settlement restrictions as were imposed by the town. It is important because, as the study revealed, these early settlement patterns tended to persist within the city even when everything else changed, and one cannot expect to understand the present form of the city without understanding its formative historical processes.

Similarly, the thesis discussed possible influences of different kinds of innovations, the role of different groups of agents of change, such as private or public, professional and non-professional. It also discussed the influences of concentrated as opposed to individual decisions on the form of the city. It further discussed the possibilities of internal and external factors and the limitations of such categorization. But these were all impressionistic observations and were limited only to propositions and possibilities. I believe that ignoring these limitations, what is important about the thesis is that it brings to light a number of questions that might be rewarding for the architects and urban designers who are concerned with city form to consider.

Firstly, in focusing on *the regulatory bodies or legal instruments* that shaped city form the following questions might be asked:

> What are all the possible forms of control? What are the implications of the different forms of controls? What could be the result of lack of control? What could be the probable types and nature of early regulatory devices in a city? What were the implications of those devices on city form? How effectively could these legal devices be implemented? Who were responsible for enforcing them?

Secondly, regarding *innovations* one might want to know:

> Is it possible to establish, or how does one establish, a more precise relationship between innovations and change in the city form? What is the relationship between different innovations and the architecture of the city? What is the nature of the relationship between various types of innovations and constructional activities? What is the relationship between the land use and land value with innovations?
>
> What could be the probable reason for the 'time-lag' in the process of change in city form (figure 78)? What are its implications?

Thirdly, regarding *changing agents* or *actors of change*:

> Who or what are responsible for initiating changes in city form? How important are the characteristics of the changing agents in determining their influence on the city form? Could the relationship between change and the changing agents be formalized? That is, is there any definite relationship between the quality of

changes in the city form and the changing agents? Are their motives always rational, or consistent with an economic rationale for changes? How important, relative to one another, are the roles of the various kinds of agents of change, such as property owners, architects and builders, and what are the relationships between them? Is there any difference between the individual building enterprises and speculative buildings in their effects on city form? What are the implications of concentrated decisions taken by public authorities as opposed to those taken by individuals? Related to this, what justification is there for laying stress on the roles played by influential individuals?

These are some of the few questions that require further investigation. Apart from these, the thesis also attempted to point out the inadequacy of conventional approaches such as "environmentalism," 'possibilism," "phenomenology," "organicism," etc. But most importantly it pointed out a necessity for new concept to understand the process of change in city form. The thesis showed that city form is a constantly evolving complex entity with different underlying regularities and constraints that organize the apparent randomness of history — people, time, and space. The notion of a "complex changing entity" in this case was really far-reaching.

From this viewpoint, the North End of Boston was not only a working class neighborhood with high rates of poverty, morbidity, illiteracy, etc., but was a part of a global system. Interestingly enough, it was open to the influence of the global system only to the extent limited by its internal regularities and constraints. As we have seen, even if changes occurred in the physical environment due to the global elements that occurred in a historical time-span and not in topical time-span. For most of the cases, these changes were of a marginal nature which could be explained in terms of self-regulation as claimed by organicists. In other words, in such cases the internal regularities of the physical environment could adapt to the demands without any significant or radical changes. This phenomenon of self-organization was an integral part of the North End which involved different actors and factors. For example, families made decisions to sell, buy, or rent houses. The residential real estate market was affected by each of these decisions and, in turn, affected the decisions of other families, encouraging or discouraging groups to move out or move in. Municipalities improved streets and utilities, changed their tax revenues, and adjusted the provision of services such as public schools, which again affected the decisions of the families to buy, sell, or improve their houses. Different social entities generated a host of adjustments from within the community, resulting in development in the area, and so on.

In other cases, the North End really underwent significant changes which self-regulation fails to explain. Perhaps these changes could be understood as self-organization phenomena paralleling an idea developed by scientists dealing with non-linear dynamics. In the case of self-organization, major changes take place due to the combined effects of different changes in related processes, and due to the result of such changes the original entity evolves as a more stable one. In the case of the North End, we have already seen the concentration of the decision-making power and other important changes just before the period of significant changes happened in the area (figure 77). Moreover, self-organization doesn't subsume human will within an ecological framework; rather it provides it with the conditions to operate radically that would allow substantially changes in the physical environment. Thus, it also demands further investigation —when and how they occur, their consequences, etc., — that perhaps might be able to provide a comprehensive program for understanding the process of change in city form.

Appendix

Table-I
Growth of Towns of various sizes in the United States:

	Number of Towns with population of -						
	1m	.5m	.25m	100,000	50,000	25,000	10,000
1820				1	2	2	8
1830				1	3	3	16
1840			1	2	2	7	25
1850		1	0	5	4	16	36
1860		2	1	6	7	19	58
1870		2	5	7	11	27	116
1880	1	3	4	12	15	42	146
1890	3	1	7	17	30	66	230
1900	3	3	9	23	40	82	280
1910	3	5	11	31	53	119	369
1920	3	9	13	43	76	143	465

source: U. S. Bureau of Census, Historical statistics of the United States; Colonial Times to 1957, Government Printing Office, Washington, 1960, p.14.

Table-II
Growth of the Urban Population of the United States:

Year	Amount of urban of total (%)	Growth rate of urban of urban (%)	Growth rate of urban of total (%)
1820	7	—	33
1830	9	82	34
1840	11	68	33
1850	15	99	36
1860	20	75	36
1870	25	59	23
1880	28	40	30
1890	35	61	25
1900	40	36	21
1910	46	39	21
1920	51	29	15

Source: U. S. Bureau of Census, Historical statistics of the United States; Colonial Times to 1957, Government Printing Office, Washington, 1960, p.14.

Table-III
Growth of population, civic expenditure and tax rate in Boston from 1822 to 1921:

year	Population in the Boston Proper	Population in All Boston	Total civic Expenditure in dollars	Tax rate in dollars
1822	41,407	43,295	254,467	7.30
1832	56,982	61,392	531,168	8.20
1842	76,475	84,401	680,122	5.70
1852	112,561	136,881	2,120,602	6.40
1862	133,563	177,840	5,203,706	10.50
1872	138,781	250,526	15,174,396	11.70
1882	147,075	362,839	15,576,146	15.10
1892	161,330	448,477	21,451,404	12.90
1902	167,257	560,892	31,495,962	14.80
1912	193,274	670,585	39,336,607	16.40
1921	230,134	821,907	63,066,243	24.70

Source: Koren, John, Boston, 1822-1922, The story of its Government and Principal Activities, City of Boston Printing Department, Boston, 1922, p.202.

Table - IV
Value of imports and exports of merchandise into the Port of Boston:

Years	Value of merchandise in million dollars
1864-70	49
1871-80	85
1881-90	127
1901-10	192
1911-15	218

Source: Ward, David, op. cit., p.348.

Table - V
Population and major ethnic groups in the North End:

Year	Population	% of foreign born	% of Irishmen	% of Italians
1845	20,000	25.5	—	—
1850	23,000	57	85	—
1855	26,000	53	80	—
1865	—	—	73	—
1875	—	—	64	—
1880	—	—	—	4
1895	25,259	57	25	35
1905	27,165	93	10	65
1910	—	—	—	76
1915	35,210	—	—	80
1920	40,000	—	—	90
1930	21,000	—	—	—

Source: Todisco, op. cit.; Ward, op. cit.; The North End, op. cit.

Table -VI
Number of Irish entering Boston by sea:

1821	1826	1831	1836	1841	1846	1851	1856	1861
827	549	2,361	443	10,175	65,556	63,831	22,681	6,973

Source: Handlin, Oscar, op. cit., p.242.

Table - VII
Number and percentage of buildings and lots in the North End owned by persons with Italian names:

Year	Total number of building and lots	Number owned by Italians	Percentage owned by Italians
1902	1981	378	19.08
1922	1617	836	51.70
1938	1379	810	57.98

Notes:
1. A large proportion of the Italian owners were banks and mortgage companies.
2. The progressive diminution in the total number of buildings and lots was due to the merging of some buildings, the demolition of many and the replacements of lots by street widening and extensions.
Source: Firey, W., op. cit., p. 215, tabulated from Bromley Atlas.

Deed restrictions

Let's suppose a man had originally a home set in a big garden. He then sold off part of his land for others to build on — a common occurrence as American towns grew to urban densities. Did he have to completely relinquish his control over its future use in the absence of any kind of regulatory bodies in the cities? Could he not bind successive owners to refrain from at least those disruptions he could define ahead of time? He could indeed exercise some control over the next user through deed restrictions, which was available as a legal tool throughout the nineteenth century. In legal theory, deed restrictions could be grouped into two categories; easements and covenants. Easements altered the way a particular piece of property was defined; covenants modified the bargain by which it was conveyed (Holleran, 1991, p. 76).

An easement established a relationship between two or more pieces of property. Party wall easement, for example, set rules by which owners of abutting row houses shared the common walls. Rights of way allowed access from one property across another, usually along a particular route and sometimes for a particular purpose only. An easement ran with the land — it fixed relationship not between individuals but between pieces of land, no matter who latter came to own them. Ordinarily the relationship was permanent. The problem of easement was that they were not, in theory, adaptable to the new uses These generally involved limiting for the benefit of one landowner, what another one could do with his property — a category known as negative easements.

Unlike easements, covenants were infinitely flexible, limited only by the imagination of the people writing them. A covenant, according to a contemporary definition, was an agreement, a branch of law of contracts, the object of which could be anything not specifically illegal or in violation of public policy (John Bouvier; A Law Dictionary, adapted to the Constitution and Laws of the United States of America, Philadelphia, 1859, v.1, p. 345). Massachusetts deed in the first half of the nineteenth century included, for example, covenants to build row houses with facades " uniform ,one with others,"(Codman v. Bradley, 201 Mass. 361, 1909; source, Holleran, 1991, pp. 77-78) to build only "dwelling houses... or building for religious and literary purposes,"(Hubell v. Warren, 90 Mass. 173, 1864; source, ibid.) and to put a "roof of slate or of some other equally incombustible material" on any building more than twelve feet high (Lowell Institute for Savings v. City of Lowell, 153 Mass. 530, 1839; source, ibid.).

Related to the covenants were *conditions*, a special form of agreement which if violated caused a property to revert to its original owner. *Conditions* were normally used where new owners would need time to complete their part of bargain. Donations of land to religious congregations often included conditions requiring that a church would be built by a specified time (Canal Bridge v. Methodist Religious Society, 54 Mass. 530, 1847; source, ibid.). Subdividers sometimes sold lots on conditions that buyers erect house within a certain period; the implicit bargain was that the buyer would not later speculatively resell the vacant lot and thereby compete with the developer, but rather would contribute to the subdivider's efforts to establish the neighborhood.

The main problem of covenants was how and by whom they could be enforced, questions which in turn affected how long they remained effective. There was no question that a covenant, unless limited in time, remained binding indefinitely between the original parties who signed the deed. The trouble began when the properties changed hands. A covenant was of little use if the people bound could evade its burden by selling it to others. This difficulty was overcome later by the invention of *'real covenants'*, that was inherently concerned with the piece of land, and therefore like easements would 'attach' and run with it. An early and common example was the fence, responsibility which was attached to the land so that "he who has the one is subject to the other" (Bouvier, 1859, p. 346) Because title deeds in America were publicly recorded, purchasers of land were presumed aware of any covenants concerning it, and by taking it they presumably assented to these agreements made by their predecessors.

Conditions followed their own separate logic. The burden of a condition — the risk of forfeiture— necessarily ran with the land, but its benefit (the 'right of reverter') could not, because as far as any single parcel of land was concerned the original owner had parted with his title, and existed only as a person rather than a landowner. Revisionary rights vested on him personally and descended to his heirs, rather than attaching to any other piece of land which he might happened to have owned. The example of *conditions*, together with the presumption that covenants related individuals rather than pieces of property, meant that court had great latitude in deciding who could enforce covenants, and whether they continued to run or expired with the sale of property or death of their original beneficiaries (Holleran, 1991, p. 79)

Even where covenants attached to land, the question of who could enforce them presented still further intricacies. By analogy with the idea that only the parties to a contract could enforce them, real covenants bound only people between whom there was 'privity of estate'— some direct transfer of property, or a chain of such transfers. But applying this rule technically to covenants in a subdivision produced strange results. A chain of transfers linked all the lot owners with the subdivider, but not with each other. Each of them was a stranger to the transactions by which the subdivider imposed restrictions on every lot. The subdivider however left the scene; when he sold the last lot he no longer stood in a continuing property relationship with any of them, and if he remained the personal beneficiary of the covenants, he was the one person without any direct interest in enforcing them (ibid., p. 79).

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