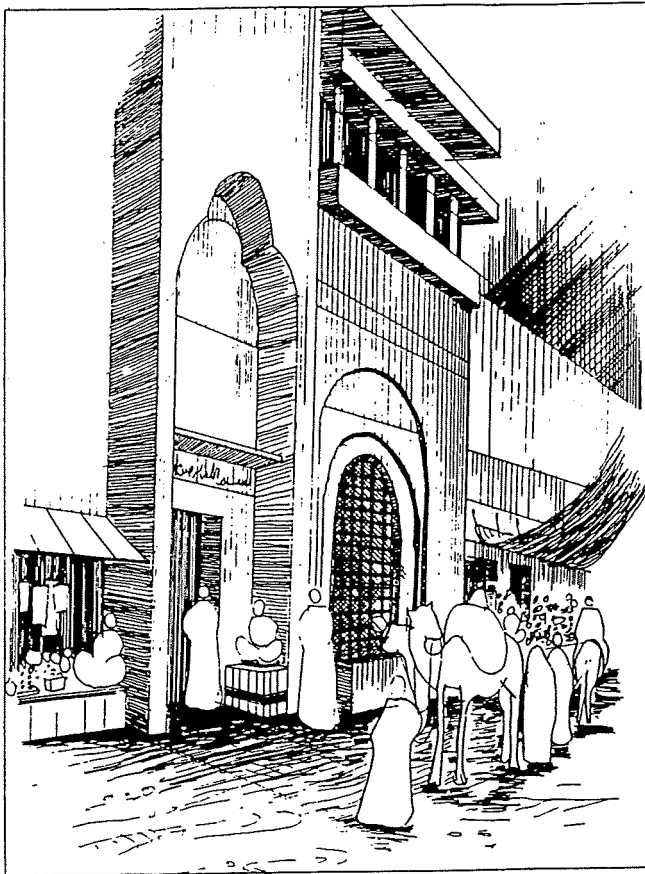# HOSHIAR NOORADDIN

AL-FINA'

A STUDY OF *"IN BETWEEN"* SPACES ALONG STREETS
AS AN URBAN DESIGN CONCEPT IN ISLAMIC CITIES
OF THE MIDDLE EAST WITH A CASE STUDY IN CAIRO

VOLUME ONE

AL-FINA'

A STUDY OF *IN BETWEEN* SPACES ALONG STREETS AS AN URBAN DESIGN CONCEPT IN ISLAMIC CITIES OF THE MIDDLE EAST WITH A CASE STUDY IN CAIRO

VOLUME ONE

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Preface

This dissertation is written to bring attention of various involved parties in urban design of Islamic cities to *al-fina'* as a "space in between". It explains its historical roots, how it is organized in the old Islamic cities by Islamic law (*shari'ah*), how it influenced the urban fabric of the city and its character, what were the benefits of its applications, and its role in the present street environments of Islamic cities.

The dissertation is divided into two volumes. Volume one contains four Parts. Part One covers the literature about outdoor space in the present, research questions and research method, Part Two is an intensive literature study of old Islamic jurisprudence about *al-fina'* in Islamic cities, Part Three shows examples of *al-fina'* in four cities in the Middle East; Arbil, Cairo, Istanbul, and Mecca, Part Four is a case study of *al-fina'* in Cairo from its origin through its development process since building *al-Fusta't* in the 7th century until the present. Volume Two contains the appendixes which contain among other things, the detailed case studies of 10 streets in Cairo.

My intention with this work is to provide useful knowledge which can improve our understanding of the Islamic city in general and street environments in particular. Certainly this knowledge can help architects, urban designers and urban policy makers to improve different aspects of street environments such as social activities, privacy, trade, common meanings, and climatical condition.

This work can also help the present Muslim societies to use an innovative way of thinking in studying Islamic law in relation to the requirements of the modern built environment and Muslims local cultural needs. I hope this work will encourage discussion between and among all who are involved in the subject.

Acknowledgements

I would like to extend my appreciation to the Norwegian University of Science and Technology (NTNU), Trondheim—Norway for granting me a Dr.Ing. scholarship and funds for field work in Turkey and Kurdistan—North Iraq.

Thanks go also to all members of the Department of Town and Regional Planning, Faculty of Architecture at NTNU for their friendliness and for generously supporting my study since 1989. My warmest thanks to my advisers Professor Bjørn Røe, Professor Staale Sinding-Larsen, and associate Professor Linn Mo for their supervising and their assistance in introducing me to important contact people. Special thanks to librarian Kjersti Lie and all members of the Library of Architecture at NTNU for their generous assistance during my study. Thanks also to the National Association of Norwegian Architects (NAL) for granting funds for my field work in Cairo.

I am grateful to Distinguished Professor Amos Rapoport at the University of Wisconsin, Milwaukee for his interest in my research and for providing me with advice and assistance during my visit to Milwaukee . My special thanks to the members of School of Architecture at University of Milwaukee in Wisconsin for friendliness and for inviting me to their school and letting me use their rich library and research environment. My special thanks to Professor Sandy Hirshen and all members of the School of Architecture, University of British Columbia, Vancouver in Canada for inviting me to their school and assisting me during my stay in Vancouver. My thanks also to Assistant Professor Vikram C. Batt at School of Architecture and librarian Salwa Ferahian at Islamic Studies library, both at McGill university in Montreal in Canada for assisting me during my visit to McGill University.

I am especially grateful to Professor Besim Hakim in Albuquerque, New Mexico for his important advice to me during my

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Definition of terms

Islamic city:
Cities populated basically by Muslims. Their traditional urban design patterns were organized by Islamic built environment judgements, including, land use regulation, building processes, and creating various settings. The characteristics of their present built environments are influenced by the continuity of traditional Islamic judgements in Muslims' minds and behaviour.

Islamic built environment judgements:
Judgements developed through everyday actions and experiences of the Muslims in their traditional built environment depending on Islamic principles and local contexts. They were not rules but adjustable decisions made according to requirements of each particular situation.

Islamic law *(shari'ah)*:
The Islamic legal system. It had been established since the emergence of Islam. In the second and third Islamic century, Muslim scholars developed a reasoning method based on analogical deduction (*usul al-shari'ah*) and general guidelines *(qawa' 'id al-shari'ah)* to be used in deriving new judgements about the built environmnent. The general guidelines *(qua'id al-shari'ah)* developed from the permanent Islamic sources and human interpretations to organize actions and creations of the Muslim society as they occured over time.

Islamic jurisprudence *(fiqh)*:
Knowledge of the Islamic legal system which is practiced by Muslim scholars (*faqih pl. Fuqaha'*). This knowledge is gained after a long learning process, giving a comprehensive understanding of the Islamic legal system, linguistics, history, and society. The scholar should also show unique ability to make reasoning and interpretations to derive judgements (*hukm*) in relation to the primary sources of Islamic law.

Islamic period:
The period which started when the city and the society were organized by Islamic law.

Islamic calendar (*al—tarikh al—hijri*):
Islamic lunar calendar started from the date when the Prophet Mohammed and his followers immigrated from Mecca to Medina in 1 AH (After *Hijrah*) or 13 September 622 AD refered to as 1/622 in this study.

Local common tradition *(urf):*
A vast domain which involves actions, creations, social norms, human behavior, interpretations, meanings and values which have been developed by each particular society through cumulative and progressive processes.

Modern Period:
The contemporary period which started by replacing the established traditional organization system and production modes such as Islamic law and traditional urban design patterns with new models often imported from the developed industrial countries in Europe.

Irregular street network:
A street network which has no common and regular dimensions or courses.

Organic street environment:
A street environment which has not been achieved by a central preconceived plan but evolves through progressive interpretations, actions and creations of the involved groups over time.

Planned cities:
Cities which are built according to preconceived planning and rules. Their street systems are straight and regular.

Cubit:

An ancient unit of length used during Islamic period and based on the length of the forearm from the elbow to the tip of the middle finger equal to about 0.46 meters or about 18 inches.

The system of transliteration:

I used Arabic terms as they are written in the Arabic countries. The transliteration system is depended on a modified version of:

Hans Weher, 1976, *A Dictionary of Modern Written Arabic*, Spoken Language Services Inc., Ithaca, New York.

ص	ش	س	ز	ر	ذ	د	خ	ح	ج	ث	ت	ب	ا
S	SH	S	Z	R	DH	D	KH	H	J	TH	T	B	A

ـو	و	ة	٠	ن	ل	ك	ق	ف	غ	ع	ظ	ط	ض
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Summary

In this dissertation I have sought to study a form of outdoor space in Islamic built environments. The term of *al-fina'* is used to identify this outdoor space as it was and is applied in Arabic societies, although the phenomenon existed and exists in other Islamic societies with different terms and applications. *Al-fina'* has strong influence on the urban fabric, particularly the street environments.

This study is concerned with the relationship between the applications of al-fina' and the character of the street environments of Islamic cities in the Middle East. I attempted to find out if and how these applications played a role in constituting the organic character of the old Islamic cities, and whether they are continuing to influence the street environments of the present Islamic cities.

The study is also concerned with the role of Islam and the local traditions in constituting the cultural schemata of the users and how it influenced their decisions for their actions and creations to meet their needs and desires in the *fina'* space, and within the local context. I also tried to find out if this cultural schemata has a developmental process, such that it influences the present environment as it did in the past.

The study is done in two major stages. The first was to identify which urban concept and processes should be studied in order to explain the outdoor space character of street environments of Islamic cities, through literature study and field work in Cairo to find this focus. The second stage started when the phenomenon of *al-fina'* was identified. Then the major research questions were developed and a detailed study designed to gather data and answer the questions. I again used a literature study and field work in four cities Arbil in Iraqi Kurdistan, Cairo in Egypt, Istanbul in Turkey, and Mecca in Saudi Arabia. I focussed in more detail on Cairo to benefit from the

data from the previous field work and literature study.

The literature study covers three topics:
1. Modern studies on street life and its relation to the physical design.
2. Old Islamic literature on *al-fina'* in Islamic cities in general.
3. Old literature on *al-fina'* of Cairo before the modernization period.

The outdoor space and street life have been studied by a large number of researchers in non-Islamic cities, yet any generalization of their findings cannot be accepted without further research in other local contexts. Thus, the role of the local culture should be taken into account.

Even though the transformation process of regular streets to irregular in old Islamic cities is explained in many present studies, little attention has been paid to aspects of *al-fina'* in relation to these processes in the past and present.

Literature study of older Islamic jurisprudence sources shows an influence of Islam on the different applications of *al-fina'* in the street environments of all Islamic cities, starting with the emergence of Islam and continuing over the whole Islamic period. The major force behind this was was that Islam influenced the local cultural schemata of the Muslims by involving Islamic principles in their everyday life. This meant that the resulting schemata of each particular society was different, varying with the local traditions and the local contexts.

Further, the literature study of Cairo provided more detailed data on how Islam influenced the local cultural schemata there and how it was applied in creating a large number of settings in the space of *al-fina'* of the residential and commercial streets. The data from these settings and the process of their development provide important explanations for the

phenomenon of creating and continuing the organic and irregular street network during the whole Islamic period.

The field work involved observation of ten streets in four different areas of Cairo. It shows that modern urban design by planners has abandoned *al-fina'* in the physical patterns and related rules. These streets have different ages, functions, social-economic classes, physical designs, and densities of the vehiaclar traffic and pedestrian. In spite of this, the users of all these streets modify the existing characteristics of the sidewalks and the related elements of the properties directly adjacent to sidewalk. As a consequence, the traditional concept of *al-fina'* has thus been recreated. The study shows a clear relation between this phenomenon and the continuity of the cultural schemata of the users which influence their present actions and creations.

The findings
The study ends with important findings such as:
1. Old Islamic built environments were organized by adjustable judgements, and not rules. I tried to show that these judgements and their methods were not holy or unchangeable law but were open for adjustment and change according to time and contexts of the situations. This finding points to the significance of the present innovative way of thinking for studying the relationship of Islamic law *(shari'ah)* and Islamic cities.

2. The different applications of *al-fina'* are created and developed according to the local contexts and played a strong role in:
    (a) supporting social and economic life in the street.
    (b) creating different social and spiritual meanings in the street space.
    (c) supporting safe street life.

3. There are similarities between the past and present dynamics

of *al–fina'* which contribute to the organic character of street environments. During this process, people use *al–fina'* space in order to create both traditional and modern settings.

4. The dynamic processes of *al–fina'* which are studied in Cairo and cover several centuries can be used as a predictive tool for future environmental development. This is not, of course, an argument to predict all details of the development. It provides guidelines about how *al–fina'* phenomena will take place in the street environment of Islamic cities.

These are answers to the basic question of this research. They can be used for two purposes, first as hypotheses to stimulate further research in other cities and societies, and second to develop better modern design strategies of urban street environments in Egypt and other Islamic countries.

As is common in most such inductive research, this study started with a basic question and ended with many answers as well as many more questions. These questions are still open issues and thus point to new areas of research.

PART ONE: INTRODUCTION

1. Outdoor space design of Islamic cities
There is little concern with local tradition to derive principles
for designing modern street environments of Islamic cities. Even
the research concerned with tradition concentrates on the study
and design of buildings and elevations, while the outdoor space
between buildings is seen as a by-product[1]. As a consequence,
many aspects of the street environments of Islamic cities, such
as the role of *al-fina'*[2] as a unique outdoor space concept of
street environments, is not thoroughly investigated.

This study aims to demonstrate that the local street design
tradition of the pre-modernization period along with the present
created streets' settings of the different Islamic cultures could
be important sources of local knowledge on Islamic urbanism. The
use and benefits of the different applications of *al-fina'* could
then be an important basis for modern planning policies and
detailed street design principles.

In this regard, the concept of *al-fina'* plays a major role
for conceptualizing the main settings of street environments. The
importance of *al-fina'* arises also from its role as a third sort
of space, connecting private indoor space and public open space.
In this space, different settings are created and developed by
people continuously to meet different functions. Because of its
location between the two spaces, the functions of *al-fina'* are
related and organized according to different private and public
demands. The applications of the *fina'* concept can be studied in
detail to explore its form-giving role, and how it can contribute

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[1]See for example:
Chadirji, Rifat, 1986, *Concepts and Influences: Towards a Regionalized International Architecture*, KPI Ltd., London.
-*Sha'ri' Ta'ha' wa Hammer Smith*, 1985, Muassasat al-Abhath al-'Arabiyyah, Beirut.
Sirageldin, Ismail (editor), 1989, *al-Tajdid wal Tasil fi 'Ima'rat al-Mujtama't al-Isla'miyyah*, The Aga Khan Award for Architecture, Geneva.
Steele, James (editor), 1992, *Architecture for a Changing World*, Academy Editions, London.

[2]In Arabic *"al"* means "the". Therefore, *fina'* is the basic form.

to the knowledge of local architecture and planning in Islamic cities.

The term *al-fina'* is an Arabic word, borrowed from the old Islamic literature, while it has existed in different Islamic cultures as other terms according to their different languages. In Arabic, the word *fina'* means spaciousness and roominess. It is used in Islamic cities to define two spaces, first the inner courtyard, and second the yard in front of or around buildings. Both had numerous applications in expressing threshold, staying, transition, and reflection.

The interface area of *al-fina'* is considered an area bordered by the passage and the buildings. But in design and use, its influences extend from the inner space of buildings adjacent with the street to the border of the passage in the street. Therefore, the *al-fina'* territory has various functions, private, public, or both.

The different applications are a consequence of the users' decisions and engagement in organizing the **physical elements** of *al-fina'*, and the peoples' **activities** and **behavior** in this territory. The decisions were made by either users or Muslim jurisprudents during old Islamic period[3]. The application of these decisions in the various environmental issues resulted in built environment judgements, which were not merely building codes as referred to in the modern literature of Islamic cities[4].

The irregular street layout influenced largely by the frequent modification of *al-fina'*. Note that the irregular character occurred from either the early stages of building a spontaneous city or from the later period as a consequence of the

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[3]See part 2, the chapter: *Al-fina'* in the old Islamic literature

[4]Hakim, Besim, 1986, *Arabic-Islamic Cities*, KPI, London.
Akbar, Jamil, 1992, '*Ima'rat al-Ard fi al-Isla'm*, Da'r al-Qiblah, Jiddah.

evolution and transformation of a planned city.

However, the two terms above need to be defined: the term of **organic or irregular physical layout** refers here to the condition where the physical layout of the streets does not follow regular and straight lines or directions.

The **organic process** refers here to the development of streets which have not originated from preconceived planning. Their design patterns are created by local people and based on learning from their everyday experiences and traditions. They are organized by everyday judgements according to general guidelines and not a system of imposed rules.

The **planned or designed** physical layout and process refers to forms and processes of the streets which have been built according to preconceived planning and rules.

The historical and the present evidence shows that organic streets can be changed to planned streets through the involvement of a central power. On the other hand, a planned street can be transformed to an organic street by the users' actions, modifications, and creations in the street environment[5].

On the other hand, it is common among scholars of urban design to characterize the traditional streets of the Islamic cities as irregular or organic, and modern designed streets as planned and regular[6]. This study aims to show that this conventional view is incorrect or only part of the story, because the designed streets are also being transformed over time to

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[5]See part 4, *al-fina'* in the present streets of Cairo.

[6]Kostof, Spiro, 1992, *The City Assembled: The elements of urban form through history*, Thames and Hudson, London. pp. 46-70
    Brown, L. Carl (editor), 1973, *From Madina to Metropolis,* The Darwin Press, Inc., New Jersey.
    Morris, A.E.J., 1994, *History of Urban Form*, Longman Scientific & Technical, Burnt Mill, Harlow. pp. 9-10.

organic and irregular patterns as a consequence of creation of a large number of settings in the space of *al-fina'* by local people. This organic character is not a product of a chaotic or disrupted environment but the result of a cumulative and progressive process of urban evolution[7]. This can be shown by a detailed historical examination of the concept of *al-fina'* of specific streets in Islamic cities, and further comparisons to the present-day development in the same area.

Taking into consideration the different applications and usages of *al-fina'* in the streets of the Islamic cities[8] in relation to the land use, design elements, behavior and meanings, we can construct a preliminary definition of *al-fina'* as following:

Al-fina' is a basic component of the urban design of the Islamic cities of the Middle East. Its extension varies from a dooryard to the area surrounding an entire building. It also mediates between the inner spaces of buildings and the outdoor space of the street. Its different settings facilitates the major functions of the street as a place of activities and reflects social and religious meanings and lifestyle. It is based on common adjustable judgements that function as time and place based guidelines for applications, use, and perception. It is not an independent design concept, but requires always outdoor and indoor space.

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[7]See also:
Wheatly, Paul, *Levels of space awareness in the traditional Islamic city.* In Ekistics 253 (December 1976), pp. 363-365.

[8]See part 2: *Al-fina'* in the old Islamic literature.

2. Outdoor space design in the modern literature[9]

Achievements of the scientific and industrial revolution in Europe during the 18th century brought the idea that scientifically based knowledge about society and new production modes should be used to change, improve, and develop social, political, and legal underpinnings of the traditional order. For this purpose, scientists offered their knowledge to create progress for the society[10].

Many descriptions of street life in European cities during the early 19th century detailed horrible, indeed uninhabitable, conditions for people in a healthy society. These problems and certain technological developments, stimulated reform of the traditional street environments indirectly by changing the traditional building patterns and directly by developing new street designs. The new modes of street design were developed to change the established order of the traditional street milieu which was considered the source of the urban development barriers. Haussmann's plan of Paris (1850–1870) was an early and important work which reflected this new direction[11]. Saalman maintained that[12]:

> "Earlier transformations of Paris had always consisted of
> additions to the already existing urban fabric. Napoleon III's
> idea of restructring the city by cutting streets through it
> represented a fundemental change of approach..)

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[9]The theoretical framework is divided into two parts, first is the modern literature discussed in this chapter, and second is the more specific literature of the old Islamic jurisprudence discussed in part 2 of the dissertation.

[10]Grow, Dennis, *Le Corbusier's Post Modern*. In Dennis, Grow (editor), 1990, Philosophical Streets, Maisonneuve Press, Washington.
Friedmann, John,1987, *Planning in the public domain: From Knowledge to Action*, Princeton University Press, Princeton, N.J. pp. 51–85.

[11]Kostof, Spiro, *The City Assembled*. pp. 266–267, 271–275.
Broadbent, Geoffrey, 1990, *Emerging Concepts in Urban Space Design*, Van Nostrand Reinhold, London. pp. 116–117

[12]Saalman, Howard, 1971, *Haussmann: Paris Transformed*, George Braziller, New York. p. 14.

This plan played a vital role among urban designers and authorities in redefining the relationship between outdoor and indoor spaces with new principles. Haussmann's plan was based on wide and straight streets designed as monumental boulevards, organized by a system of radial networks and interspersed with large squares. The land use of the street was basically divided between sidewalks and roadway.

But these principles were developed primarily to organize the built environment of a large city which was influenced by a large number of complex forces such as population growth and an increase in public activities and services. Therefore, others became concerned about how far the principles of the new streets could survive with these forces in such a large city. Howard[13] suggested the alternative of building smaller towns in the countryside outside the large cities to reduce the pressure and protect the new planning principles. He suggested also using green areas and open spaces in zoning the city and basic neighborhood design. His solution was to get the best of the country and the best of the city by providing more light, air, and contact with nature.

Howard's ideas were used as an important tool in reforming regional planning in general and detailed urban design[14]. The new street designs were based on a regular street layout in different scales, green areas in the public spaces, trees along the streets, and gardens around or in front of buildings, which also separated the houses and the street.

Parallel with the development of these urban design models,

[13]Howard, Ebenezer, 1902/1965, *Garden Cities of Tomorrow*, Faber & Faber, London.
   Broadbent, Geoffrey, 1990, *Emerging Concepts in Urban Space Design.* pp. 123–126.

[14]Mumford, L., 1961, *The City in History*, Secker and Warburg, London.
See also:
   Geddes, Patrick, 1949, *Cities in Evolution*, Ernst Benn, London.

architects were also influenced by the new scientific development movements that became manifested in new patterns of buildings and open space design. They too contributed to change the space of the street and the relationship between indoor and outdoor space. For example, CIAM played an important role in introducing the new functional design principles in the 1930s based on contemporary concepts of function, form, and standardization. Le Corbusier[15] criticized the traditional design of streets and called for new urban designs to replace them. The Athen Charter (1933) maintained that[16]:

> "The House will never again be fused to the street by a sidewalk. It will rise in its own surroundings, in which it will enjoy sunshine, clear air, and silence. Traffic will be separated by means of a network of footpaths for the slow moving pedestrian and a network of fast roads for automobiles. Together these networks will fullfill their function, coming close to housing only as occasion demands."

Le Corbusier's main ideas included the use of high buildings, opening the indoor space to the outdoor space, separation of the pedestrian from traffic, and the separation of buildings by large and straight open spaces such as locating tall buildings in large green parks where the street became the only connection between buildings.

Unfortunately, these revolutionary ideas and designs were based on a small number of variables if compared with the real conditions of the living built environment. The new urban design provided a small number of patterns which should contain and control all these forces and relationships. To solve this problem, the new design required also building and land use codes to organize the way of using the new designed spaces and to

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[15]Le Corbusier, 1967, *The Radiant City*, Faber and Faber, London. pp. 121–123.

[16]Le Corbusier, 1973, *The Athens Charter*, Grossman Publishers, New York. p. 57.

guarantee continuity of the new urban design's principles.

Since the 1950s, several studies in Western cities have shown that these principles had counter-productive results, manifested in different problems, such as crime, the reduction of outdoor activities, and the general deterioration of social interaction. Of course, these urban problems haven't resulted only from the new urban design, but also from other forces related to the urban fabric such as population growth, poverty, changing the old established norms and social relationships, changing relations between home and working places, and modern technology[17]. For example, people who move into new urban areas will lose their established social network in their new built neighbourhood community. Such social network may require several decades to be established. The loss of such social network may reduce active street life. An example of modern technology is TV at home which reduces people's desire to go out. On the other hand, the counter-productive results of the modern urban design had also relationship with design faults and required from designers and planners more and deeper understanding of the local contexts by considering more variables from other fields of study, particularly the social, psychological and ecological sciences.

Street design and street life

The new directions of studying and designing outdoor spaces are concernd basically with identifying factors that influence street use such as user density, land-use mix, pedestrian-vehicle interaction, configuration, and context[18].

For example Jacobs' ideas explained some social problems of the modern street design in North America. She suggested that

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[17]Aarsæther, Nils, 1992, *Samfunnsplanlegging: Lokalt-nasjonalt-globalt,* Kommuneforlaget, Oslo. pp. 133-135.

[18]Moughtin, Cliff, 1992, *Urban Design,* Butterworth Architecture, Oxford. p. 132.

modern design principles should be changed to solve the increasing social urban problems of the time. She emphasized the need for strong and direct relationship between indoor space and outdoor space in creating a safe city which is necessary to support other human activities[19]. She maintained that a well-used street is a safe street. To create a well-used street, she suggested various ideas such as[20]:

1. A clear demarcation between public space and private space.
2. Design should support the street watching by the inhabitants.
3. Sidewalks should have users continuously.

The ideas of Jacobs stimulated other scholars and urban designers to develop design patterns to create and support safe streets, outdoor activities, and social interaction. Newman[21] maintained that modern architecture and urban design contributed to increasing crime in the built environment as a consequence of ignoring the human need for territorial space for individuals, groups, and the larger community. He developed the theory of defensible space based on design patterns to support community control in the built environment and make a safe community, based on his claim that an increase in the direct relationship between the public sidewalk and the indoor private space is one of the basic design patterns of a defensible space.

Other studies have shown that there has been a substantial loss of public life in modern street environments and have suggested various methods to retrieve it. Alexander[22] advocated

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[19]Jacobs, Jane, 1961, *The Death and Life of Great American Cities*, Random House, New York. pp. 30-88

[20]Jacobs, Jane, *The Death and Life of Great American Cities*. pp. 34-35.

[21]Newman, Oscar, 1972, *Defensible Space*, Architectural Press, London.

[22]Alexander, Christopher, 1977, *A Pattern Language*, Oxford University Press, New York.
  - 1979, *The timeless Way of Building*, Oxford University Press, New York.
  - *A city is not a tree.* In Thakara, J., 1988, Design After Modernism,

that human behavior based designs encourage a better quality of human activities in the space of the street, and create interaction between indoor and outdoor spaces. To do this he suggested the concept of pattern language composed of basic patterns which should work as guidelines for the individual projects. His goal is to consider more variables than are commonly used in the conventional urban design. I criticize Alexander because these patterns are abstracted in order to make them general and not time or place related. These patterns are only new forms of general standards to be used by designers in any local context. I agree with Alexander[23] that the number of the elements and their relationships in patterns created by people are larger and have more overlapping order than in formal designed patterns, but creating a set of general abstracted patterns of urban design makes it too simple again and does not support creating a natural built environment.

More recently, street environment studies[24] have maintained that public life can be created by design solutions which stimulate the type, nature, duration, and number of activities in the street. Examples of such solutions are front gardens, low buildings, limiting the number of public open spaces, providing street furniture, and light traffic. Varming[25] studied front yards of buildings in some small towns in Denmark and found that

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Thames and Hudson, London.
See also:
     Alexander, Christopher & Chermayeff, Serge, 1965, *Community and Privacy*, Anchor Books, New York.

[23]Alexander, C., *A City is not a Tree*. In Design, No. 6. 1966.

[24]Gehl, Jan, *Life between Buildings,* First published in Danish in 1980 and translated to English by: Koch, Jo, 1987, Van Nostrand Reinhold, New York.
     Appleyard, Donald, 1981, *Livable Streets*, University of California Press, Berkeley.
     Moudon, Anne Vernez (editor), 1987, *Public Streets for Public Use*, Van Nostrand Reinhold Company, New York.
     Kent, Suzan (editor), 1990, *Domestic Architecture and The Use of Space,* Cambridge University Press, Cambridge.

[25]Varming, Michael, *De danske forarealer*. A paper in Arkitekten No. 22, 1972, Statens Byggeforskningsinstititut, København. pp. 1-3.

such spaces supported social and private activities in outdoor space. Other studies done by Gehl maintained that physical design can be used to create social life in the streets. He developed his ideas from studies in some Western cities. He maintained that Western societies have several problems which reduced the social life in their city streets such as decline the number of persons per household, and decline the proportion of children in the population. He maintained that[26]:

> "If quality is too low, no one will use the public spaces unless they have to."

Gehl suggested several ideas to solve these problems such as creating physical elements for supporting life in the streets, for example, front gardens and sitting facilities[27].

Further, the traffic–pedestrian relationship has also been studied to explain its influence on social and economic activities of the street[28]. A study done by Appleyard maintained that the social activities of the street and social interaction can be increased by reducing the speed and amount of motor traffic. His case study showed also that people changed the function of the indoor spaces adjacent to the street to avoid noise from heavy traffic. Another study done by Hass–Klau shows that *traffic claiming*, which is a policy used by planning and transport authorities in many Western European countries, can support creating street–safety by reducing motor vehicle speeds in urban areas[29]. He maintained further that such reduction can

[26]Gehl, Jan, *Soft Edges in Residential Streets*. Arkitekten No. 21 (1982). See also: Hertzberger, Herman, 1991, Lessons for Students in Architecture, Uitgeverij 010 Publishers, Roterdam. pp.48–50.

[27]See also: Balgård, Sture, 1994, *Den Goda Stadsgaten*, Carlssons Bokforlag, Stockholm. pp. 29–37, 103–110.

[28]Brambilla, Roberto & Longo, Gianni, 1977, *For Pedestrians Only*, Whitney Library of Design, New York.

[29]Hass–Klau, Carmen, 1990, *The Pedestrian and City Traffic,* Belhaven Press, London. pp. 3–6.

support social activities in residential areas and attract trade
in commercial areas particularly some areas of the city center[30].

Moughtin maintained that total separation of vehicles and
pedestrians may harm active street life[31]. But he supported
separation of high—speed traffic from pedestrian traffic. He
suggested also that development of active street life will
require good access for both private and public transport and
creating attractions so that large numbers of people remain in
the street. To create such attractions he suggested reducing
street length, appropriate street proportion, and unity in street
design[32]. He maintained further that active street life cannot
be created just by one factor but by a proper balance in the
design of the streets between privacy, defensible space, access
for the car and safety for the pedestrian.

There are many missing issues in the previous ideas and
design solutions which need consideration. They neglect how
people in some regions may create street life although the
quality of their street is too low. In other words, these ideas
neglect people's ability to reform the designed spaces and bring
about safe and active street life despite the design barriers of
the street environments. I propose that these modern ideas are
developed in the context of the rational thinking of the modern
movevement which sprang out in some Western societies. Their
critiques are also based on testing the theories similar settings
of in Western cities. As a consequence, the knowledge is highly
influenced by the "Western" world view, value system, problems,
desires, and possibilities which all are dependent on culture and

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[30]See also traffic planning policies of a number cities in OECD countries:
    Organization for Economic Co-Operation and Development, 1974, Streets
for People, Paris.

[31]Moughtin, Cliff, *Urban Design*. pp. 133.

[32]See also:
    Alexander, Christopher, *A Pattern language*. pp. 590-591.
    Ellis, William C., Structure of Streets. In Anderson, Stanford, 1978,
On Streets, The MIT Press, Cambridge, Massachuseets. pp. 123-130.

local contexts. Studying similar aspects in non-Western cultures may show quite different situations and may require reconsidering such ideas. For example, Jacobs criticized architects because they consider privacy purely as a problem of window design. She maintained that a user can create privacy by using a curtain, where the design of the window may fail to create privacy. This example may be correct in the West, but in an Islamic society, this solution means that the window has to be constantly closed by a curtain because privacy must be continuous. Thus, women in such a house would have to live as if they were in a prison. To avoid this condition, the traditional Islamic architecture used a different window design to protect privacy while allowing interaction with the environment in other ways. In these Islamic societies a window is not an opening to be merely mediated by curtains. Therefore, observing human activities to make street design patterns or justify their generality cannot be done without understanding the local context of these activities.

Street design and culture

Still other recent studies bring up the importance of culture in the study of the street environment[33]. The term of culture can be defined in three ways, all valid together[34]:

1 "....culture as a way of life typical of a group, a particular way of doing things,.."

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[33]Rapoport, Amos, 1990, *History and Precedent in Environmental Design*, Plenum Press, New York.
About the relationship between culture and architecture see:
  Rapoport, Amos, 1969, *House Form and Culture*, Prentice-Hall Inc. Englewood Cliffs, N.J.
  -On the Attributes of Tradition. In Bourdier, Jean Paul & Alsayyad, Nezar, 1989, *Dwellings, Settlements, and Tradition*, University Press of America, Lanham, MD. pp. 77–105.
  Oliver, Paul & Hayward, Richard, 1990, *Architecture, an Invitation*, Basil Blackwell, Cambridge, Massachusetts.
  -Handed Down Architecture: Tradition and Transmission. In Boudier, Jean Paul & Alssayad Nezar, Dwellings, Settlements, and Tradition. pp. 53–75.
  Turan, Mete (editor), 1990, *Vernacular Architecture,* Avebury, Vermont. pp. 3–19.

[34]Rapoport, Amos, *Culture and the urban order*. In Agnew, John, et. al., 1984, The City In Cultural Context, Allen & Unwin Inc.Winchester, Mass. pp. 50–51.

2."... as container of symbols, meanings, and cognitive schemata transmitted through symbolic order,.."
3."... as a set of adaptive strategies for survival related to the ecological setting and its resources."

These definitions suggest that the relation between culture and built form should not be studied in the sense that they are equal entities since built form is only part of the culture[35]. Rapoport maintained that studying the built environment in relation to culture will require identifying lower orders of that culture and understanding the cultural schemata of its users.

Indeed, involving culture in studying patterns and acts of a particular society helps to understand the natural urban process and means understanding the contents and dynamics of a large number of the urban design concepts as they are being created by people over time. Kostof[36] maintained that urban process has a natural way of incremental changes based on largely autonomous acts which are not subject to formal city planning devices[37].

Because the culture and built environment have a complex structure and process, researchers should develop different methods to gather data and present results.

Rapoport has suggested breaking down the complex structure of the culture's order and beginning with studying (lower order) concepts such as activity systems and life style to know how they are reflected in the built form, but one has also to note that

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[35]Rapoport, Amos, *Systems of activities and systems of settings*. in Kent, Suzan, 1990, Domestic Architecture and The Use of Space, Cambridge University Press, Cambridge. pp. 9–19.

[36]Kostof, Spiro, *The City Assembled*, Thames and Hudson Ltd, London. P. 279.

[37]About the built environment as an open process see:
   Habraken, N.J., 1972, *Supports, an alternative to mass housing*, The Architectural Press, London.

the built form itself must be divided into lower orders. I will return to this point shortly.

This way of studying the culture–built environment relationship should be developed further by extending the definition of culture. The culture should not be studied only as one large domain but it should be subdivided into subcultures because particular cultures pertain to different groups. Each group uses its particular culture to build its own cultural schemata according to the local contexts of that group. This understanding suggests that we should study the relationships between lower orders of culture and lower orders of the built environment at the local cultural level of each human settlement as they are manifested in the built environment settings.

The term of environment setting is derived from the concept of behavior setting developed by Barker[38] as a genotype concept to study the human environment. The human environment is a container of systems of settings which should be identified by investigators as they exist in the environment. This concept is used by others, such as Wicker[39], and Rapoport[40] to indicate *the milieu composed of a situation and its rules of guidance appropriate to the setting*. According to this theory, design of the environment setting is not imposed by others but created by the users themselves. Thus it has a natural growth (informal creation) rather than being the result of a designed process (formal plan).

This theory of Barker has been criticized for neglecting

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[38]Barker, R. G., 1968, *Ecological Psychology: Concepts and methods for studying the environment of human behavior*, Stanford University Press, California.

[39]Wicker, A. W., 1981, *Behavior Settings Reconsidered: Recent contribution from the ecological perspective*. In McReynolds, P., (editor), Advances In Psychological Assessment, San Francisco, Jossey-Bass, Vol 5.

[40]Rapoport, Amos, *System of activities and systems of settings*.

aspects of other cultures[41]. I also suggest replacing the term of rules with judgements. Indeed, any rule is an attempt to impose and/or control something in the built environment. If by definition the environment settings are not imposed on people, then they are not rules but decisions and judgements which are used by the involved parties through actions and creations of the everyday life.

On the other hand, although an environment setting might be created and organized by judgements by one person or one group, it might in turn be imposed on another group of users or settings. It also might be created and accepted at a particular time but thereafter imposed on the next generation. It seems remarkable that other users and later generations accept these settings and continue applying them. I propose that this situation often occurs because judgements are influenced by the cultural schemata which organizes actions and creations within each particular environment setting. These judgements have common guidelines and consist of a mutual agreed upon process between the design and function of the setting, facilitating their natural adjustment over time when that becomes required. This process provides the judgement with a natural way of emergence, application, and transformation.

Street design and street life of Islamic cities

If we relate these above mentioned ideas to each other in relation to outdoor space of Islamic cities, the following questions emerge:

1. How, in Islamic cultures, does the religion and local tradition influence the formation of the cultural schemata and the cultural orders?
2. How are these schemata and orders used by people to make

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[41]About neglecting cultural forces in Barker's theory see:
Liu, Chi-Wen, 1994, *From Old Town To New City*. Unpublished Ph.D., University of Wisconsin-Milwaukee.

judgements and create the system of environment settings in the space of *al-fina'*?

3. How do these settings form the organic character and process of the street environments?

More recently, some scholars have maintained that the process of Islamic urban design was organized by Islamic law *(shari'ah)*[42], and suggest studying how and why Islamic law influenced the Muslim's built environments. For example, Hakim[43] maintained that Islamic law and local traditions *(urf)* were the central source of organizing the various relationships in *al-fina'* of the traditional Islamic built environment. He suggests studying the concepts of the traditional built environment in relation to Islamic law and local tradition[44]. Another study done by Akbar[45] is based on a conceptual model to study the role of Islamic law and local tradition in the various design concepts and processes of Islamic cities. This model is based on studying each particular object according to three issues, use, ownership, and control. I criticize this study because it used this conceptual model to identify the relevant data and explain their relationships, which made all conclusions heavily influenced by the choice of the model itself rather than the reality of the cases which have been studied. It is limited in its ability to take account of those cultural orders, principles, and values important to Islamic societies. For example, the *waqf* system is an important Islamic social-economic system with social and

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[42]Serjeant, R.B., 1980, *The Islamic City*, Educational, Scientific and Cultural Organization, UN, Paris.
    -1991, *Customary and Shari'ah Law in Arabian Society*, Variorum, London.

[43]Hakim, Besim, *Arabic Islamic Cities*, KPI, London.
    - *The Urf and Its Role In Diversifying The Architecture of Traditional Islamic Cities*. In Journal of Architecture and Planning Research. 11:2 (Summer, 1994), pp. 108-127.

[44]Hakim, Besim, *Urban design in traditional Islamic culture: Recycling its successes*. In Cities (November 1991), pp. 274-277.

[45]Akbar, Jamil, 1988, *Crisis in the Built Environment: The Case of the Muslim City*, Concept Media, Singapore.

spiritual meanings, such as a consensual charity endowment for the common good, yet these characteristics could not be identified by Akbar's model. It also contributed to an advocacy of abandonment of central urban planning and modern planning theories in the Islamic cities. This conclusion can also be criticized because, first it doesn't consider how the cultural schemata played a role as the central source of people's decisions, and second it neglects the fact that Islamic jurisprudence demanded innovative ways of thinking for achieving knowledge. This fact encourages using new theories and methods in urban research and design where they do not contradict basic Islamic principles.

Such a limitation eliminates concern with many important components of the Islamic built environment judgements, such as the meanings and their qualities as they were manifested in the different settings, which naturally play an important role in the human experience of the built environment of Muslim societies, especially the Islamic urban environment.

This limitation has also misled other studies into concentrating their criticism of Hakim and Akbar on the juridical aspects of the early Islamic building rules. For example, AlSayyad maintains that Islamic rules were only one of the forces in formation and development process of Islamic cities[46]. This conclusion is too simple because there is not any built environment in the history of mankind shaped by only one force, however, one must explain how Islam was a dominant system in the urban context, and how it influenced other environmentally relevant forces. Indeed, it is incorrect to consider Islam merely as a force because Islam is a comprehensive system used as a vehicle for moral and aesthetic judgement which dominated the dynamics of Islamic urbanism for some 12 centuries.

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[46]AlSayyad, Nezar, 1991. *Cities and Caliphs*, Greenwood Press, Westport, CT.

I suggest that the role of Islam and local traditions in the Islamic built environments should be studied with a wider perspective, not limited only to building codes or decision making based on juridical explanations as it is done by Besim, Akbar and others[47], but as an **innovative and dynamic system of built environment judgements** developed in relation to various local contexts.

This role of Islam was supported by the establishment of the Islamic law system *(shari'ah)* which provided people with common methods and guidelines for acting and thinking necessary for orientation in the built environment and creating the different settings. One may easily miss these characteristics of the Islamic system when it is considered as rules or building codes rather than adjustable judgements developed through users' creative actions. I will return to these aspects in part 2.

Studying the concept of al—fina'

Let us now turn to the aspect of dividing culture and built environment into lower orders in order to study the outdoor space of *al—fina'* in the local contexts of Islamic cities. This suggests studying of *al—fina'* by its environment settings and considering the role of the local cultural schemata in making judgements.

As a consequence, *each particular setting of al-fina' can be studied in terms of its associated judgements, design, and use in relation to its local contexts.* To do this, a set of characteristics related to these three issues can be used as in the following[48]:

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[47]Germeraad, Pieter W., *Islamic traditions and contemporary open space design in Arab-Muslim settlements in the Middle East.* In Landscape and Urban Planning, 23 (1993), pp. 97–106.
   Costa, Frank, and Moustapha, Ahmed, *Suggested elements of a building code for Islamic communities.* In Ekistics 298 (January/February 1983) pp. 24–29.

[48]Rapoport, Amos, *Culture and the urban order.* p. 54.

"(a) its location,

(b) its relation to landscape,

(c) having certain elements,

(d) having certain settings,

(e) having spaces of a certain type,

(f) being named in particular ways,

(g) using certain orientational systems,

(h) having certain colors, textures, etc.,

(i) having certain sounds, smells, temperatures, air movements,

(j) having certain people engaging in certain activities, and so on."

An important characteristic which also needs to be considered is the meaning[49]. The settings of *al-fina'* often serve and manifest different meanings, religious and social. They can be experienced through different senses, such as seeing and hearing. The term meaning has been studied in different ways. I am here concerned with two of these methods: first by understanding the sensory qualities as an experimental order which should be abstracted[50]. This method demands a distinction between the perceptual reaction of the designers or the critics, and the common meanings of the public users which is again a cultural variable and requires understanding rather than overdesign[51]. The second way is through the awareness of the human senses without analyzing them into abstract physical elements, in order to protect the natural quality of these objects[52].

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[49]Rapoport, Amos, *Systems of activities and systems of settings*. p. 12.
  −1982, *The Meanings of the Built Environment*, SAGE, Beverly, Hills, California. pp. 13−15.

[50]Rapoport, Amos, 1982, *The Meanings of The Built Environment*.
  −*Culture and the urban order*. p. 54.

[51]Rapoport, Amos, *The Meanings of the Built Environment*. pp. 19−22.

[52]Norbeg−Schulz, Christian, 1966, *Intentions in Architecture*, Universitetsforlaget, Oslo.
  −1988, *Architecture: Meaning and Place*, Electa Rizzoli, New York.

The dialectical nature of meanings requires a reform of both sorts of analyses and descriptions of meanings. The understanding of some sorts of meanings, particularly spiritual and social ones, by the researcher, could be oversimplified or distorted if one does not have a thoroughly local knowledge which can control the perceptual reactions[53]. On the other hand, the research should not only explain what is already known but also the hidden meanings in the present settings and the old meanings which have disappeared or have been changed in the present and have not been known by the users.

In some cases, the user may imitate design elements with particular meanings from other settings or places and during this process the user may transform the original meaning and create different sensory qualities. Chadirji maintained that when Europeans introduced particular furniture called "style" from Europe into Egypt, the Egyptian furniture workers reproduced copies and replaced their design with other symbols which have no relation with the original copies[54]. Therefore, the research should also explain how the cultural schemata influences users' decisions in imitation of meanings from other settings or other environments and their application in their particular environment settings.

Another example is neglecting aspects of local tradition *(urf)* in judgements of Islamic law *(shari'ah)* when the social norms conflicted with Islamic principles[55]. *In these cases, people's meanings and researcher's individual meanings cannot be used to judge such issues because they should be considered as holy principles and may have no explanations.*

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[53]Geertz, Clifford, 1983, *Local Knowledge: Further Essays in Interpretive Anthropology*, Basic Books.

[54]Chadirji, Rif'at,1991, *al-Ukhaider and Crystal Palace*, Riad el-Rayyes Books Ltd., London.

[55]These will be discussed in part 4: The case of *al-fina'* in Cairo.

Given this dialectical nature of meaning, we need to put meanings into three categories: first is the interpretation of the individual person, second is interpretation of the users in common, and third the holy meanings of their religion. This point requires showing to what degree people's present interpretations, creations, and actions are influenced by their old tradition, and to what degree these things are systematized at all in a particular local culture.

Grabar maintains that new creations can only come about when we forget the past[56]. When the change is made then the next generations will no longer be aware of the past tradition. He based these ideas on dividing tradition into two categories[57]:

1. Tradition is the product of the culture of the past, and dies when the change takes place. These products then become monuments and are replaced by new creations.
2. Tradition is the group of systems used in the process of thinking, cogitating and influencing the minds and souls of people as they are manifested in their beliefs, behavior and norms. These systems have the ability to continue over time because they are integrated in human thinking and used in **making judgements** and interpretations for any aspect of everyday life that occurs in the built environment. Therefore, tradition will provide people with a common schemata to choose what will be and will not be kept of the past, and how these objects will be evaluated.

Although this classification is useful it should be changed to involve the aspects of forming, using, and changing local knowledge in the local contexts. One has to know whether the

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[56]Grabar, Oleg, *Why History: The Meanings and Uses of Tradition.* In Traditional Dwellings and Settlements Review. Vol. IV No. II Spring 1993. pp. 19–26.

[57]See also:
Clifford, Geertz, *Local Knowledge.* p. 147.

change has been as a consequence of a natural development process in the society or has been imposed. Further, what is the people's response to this change in the present? On the other hand, replacing a present cultural product with a new one may be a result of imposing a decision from a higher power than the local community. In such cases people have little or no influence in making judgements about what will be kept from the past. Once such change is made, then people will respond to it by accepting, or changing it partly or totally.

3. Research objectives

The aim of this dissertation is to build local knowledge about Islamic urbanism. It will be concerned basically with the applications of *al-fina'* along residential and commercial streets. The different applications of *al-fina'* make it a dynamic territory with strong influences on the character of street environments both as a product and process. The study will show how it contributed to form the organic character of street environments in old Islamic cities.

This knowledge can also contribute to lessons (theoretical and practical) which can be used by architects and planners for the present and future urban design in the Middle East. These objectives will be met by studying the following major question:

What is the relationship between the applications of *al-fina'* concept and the characteristics of the street environments of Islamic cities?

To answer this major question, I will try in the next chapters to answer the following questions through a historical discussion showing the development processes over time:

A. Traditional built environment:
1. How did Muslims use Islamic law *(shari'a)* and local tradition (*urf*) to define and organize the different settings of *al-fina'*

in the street environment?

2. What were the settings of *al-fina'*, which applied in the commercial and residential streets of traditional cities?

3. What were their uses and benefits?

4. How did the different settings of *al-fina'* contribute to form the organic character of street environments and the organic form of traditional Islamic cities?

B. The contemporary environment:

1. How has modern urban design and its related rules influenced and structured the character of the outdoor space of the street directly adjacent to properties in the present?

2. How do people respond to the structured space of the present streets, and how does their response affect the designed character of street environments?

3. What are the actual settings, character, and organic development processes of contemporary street environments?

4. What are their uses and benefits?

5. How are they experienced by people?

6. What are the lessons of *al-fina'* for theory and the practical improvements to urban society, and urban design?

4. Organization of the research

I tried to reflect the inductive approach of my research in the design of the dissertation to help the reader through a logical process of gradual understanding of the discussed issues. The dissertation is divided into four parts. Each part starts with basic questions and ends with a conclusion which again raises new questions for discussion in the next Part. In this way, each particular chapter can be read alone or combined with one or more chapters without losing the point or the meaning.

This introductory chapter in Part One has discussed aspects of outdoor space in the modern literature, what they mean for Islamic cities and what is missing in their analysis. At the end of this discussion, the research problem and its major questions

have been developed.

Part Two continues with the literature study of Part One by focussing on old Islamic jurisprudence concerning outdoor space of *al-fina'*. It will also discuss *al-fina'* in detail to explore its origin, development process, uses, and judgements.

Part Three studies *al-fina'* in four cities in the Middle East (Arbil, Cairo, Istanbul, and Mecca). This Part will show how the physical layout of the outdoor space is transformed over time and how it is used in the present for various activities and functions. This chapter will show how general the aspects of the outdoor space organization in these cities are. Al-fina' of each city is described in a similar way to make easy comparison between these cities.

Part Four discusses *al-fina'* in detail in Cairo. It will follow development of the physical layout of the city from its establishment until the present. It will also explain its settings, functions, meanings and the way of their organization. This Part will discuss these issues in three periods: The Islamic period during the Ottoman control, the transition period starting from the early 19th century, and the present.

Discussion of *al-fina'* in the present is based on case studies in 10 streets. All these streets are described in a similar way and presented by plans, sections, photos, and diagrams. The complete drawings of these case studies are in Appendix 11.

At the end of Part four, is the final conclusions and findings.

Explanations of indirect issues raised during the research are in the appendices.

An important part of my work is the figures, drawings, diagrams, and tables. Through them, I try to explain much of the text in each chapter. I try also to be analytical in my drawings to give more understanding about issues which were difficult to describe in the text.

On the other hand, local terms in the local language are necessary in achieving any local knowledge. This is an important issue which often is neglected by researchers who write the research in another language. Therefore, I used the local terms in my work when it was required.

5. Research method
5.1.Research philosophies

Any research achieves its results by a particular method or methods according to the field of the study and the issue to be focused on. The method can be described as a logically ordered plan used to go after knowledge[58]. Any method should have a particular system of inquiry which aims at achieving reliable data in relation to the research questions and providing deeper insight into the research topic. Different research methods are developed in accordance with different philosophies.

Early science strove towards absolutely certain knowledge. The viewpoint was that there is only one truth which is independent of the peoples' subjective knowledge such as belief or disposition to act[59]. Achieving general and valid results from scientific research is one of basic goals of objectivists. They maintain that this is necessary in order that other studies, programs, and policies can rely on the achieved results[60]. The

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[58]Polkinghorne, Donald, 1983, *Methodology for The Human Science*, Suny Press, Albany, NY. p.5.

[59]Popper, K.R.,1979, *Objective Knowledge*, Oxford University Press, Oxford.

[60]Maxwell, Joseph A., *Understanding and Validity in Qualitative Research*. In Harvard Educational Review. Vol. 62, No. 3, Fall 1992. p. 279.
Lincoln, Y.S., & Guba, E.G., 1984, *Naturalistic Inquiry*, Sage, Beverly

positivists demanded objective methods with preconceived standards and measurements free from social construction and human values. Therefore, it considered the deductive nomological explanation as a general method in any scientific research and judged other methods which involved human interpretation or subjective judgements as nonscientific. It was maintained that one cannot do any scientific inquiry without having a hypothesis, or a problem, or a prejudice to guide the observations[61]. However, one of course uses subjective judgements in choosing the hypotheses and inquiry indicators in any research[62]. The role of judgement is in deciding what is important, but not in deciding what is true.

Applying this positivist way of investigation in the field of human-built environment science showed its limits in explaining fact/value relationships. As a consequence the positivist definition of knowledge was changed in a dramatic shift in the conception of science, from searching for absolutely certain knowledge to finding the best explanation available[63]. This *postpositivism* was developed by different movements such as linguistic approach[64], and Hermeneutic philosophy[65]. It proposes also that knowledge is not cumulative but it is progressive. The truth in postposistivism is not one thing but an increasing

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Hills.

[61]Popper, Karl, 1986, *The Poverty of Historicism*, ARK, London. pp. 130-143.

[62]Mo, Linn, *Is Field Work Scientific*. In The Journal of Mind and Behavior, Winter 1981, Vol. 2, No. 4. p. 407.

[63]Lather, Patti, *Research as Praxis*. In Harvard Educational Review, Vol. 56, No. 3 August 1986. p. 259.

[64]Kuhn, T.S., 1962, *The Structure of Scientific Revolution*, University of Chicago Press, Chicago.
    Hesse, M., 1980, *Revolution and Reconstruction in the Philosophy of Science*, Indiana University Press, Bloomington.

[65]Heidegger, Martin, 1968, *Brev om Humanismen*, J.W. Cappelens Forlag, Oslo.
    -1975, *Poetry, Language, Thought*, Harper & Row Publishers, New York.

complexity[66].

This shift contributed to changing the understanding of scientific inquiry. It denies the existence of one correct method that gurantees achieving knowledge. **Postpositivism** encourages developing methods which are responsive to the spesific research questions and the realm under investigation. Therefore, it is the researcher's responsibility to use or develop methods to achieve the best possible answers to the research questions, and convince the community that the new answers from the research give deeper understanding than the previous ones[67].

Such understanding of knowledge, science, and inquiry can help researchers in two ways, first it makes it possible to select between any existing methods, and second it stimulates developing new methods according to the research topic. This means that methods should not be considered as given or as the recipe for doing research, but their usefulness should be tested empiricaly if we aim for deeper understanding.

Many scholars try to improve the empirical method by establishing a general plan or schemata[68]. They propose that data and findings must be reliable if one is to produce valid results. Such schemata can only give some few and general rules or guidelines for how to do empirical research because the empirical studies have different steps and complicated leaps between these steps. The steps and their leaps change from one situation to another and from one researcher to another.

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[66]Rich, A., 1979, *On lies, secrets, and silence*: Selected prose, 1966–1978, Norton, New York. p. 187.

[67]Polkinghorne, Donald, *Methodology for the Human science*. pp.3-4.

[68]MaGrath, Joseph, E. & Brinberg, David, *External Validity and the Research Process*. In Journal of Consumer Research, Vol. 10, June 1983, pp. 115–122.

The third view of research method criticizes the failure of methodologies of science to provide rules to guide scientists. Feyerabend maintains that the history of science provides evidence against the universal validity of any rule[69]. He maintained that there is not a universal scientific method which can conform to all forms of knowledge. This argument of Feyerabend is criticized because it advocates that anything goes[70]. This critique is indeed not correct, because what Feyerabend claims is that researchers shall free themselves from the rules of the claimed universal methodology and redefine the definition of "method". He maintains that researchers should use or develop any method and any tool during the research process when it is required. He attempted to stimulate researchers to make order out of chaos and develop the inquiry system of each particular research by progressive actions. In this way, research method itself will be developed and improved through an inductive process.

5.2. Choice of research method

To develop my research method I did not use a deductive approach because it could not match the way in which I wanted to explore the reality. Deductive method depends on defining a research problem or hypothesis in relation to a theoretical model, or theory. The hypothesis makes predictions that its theoretical model has some relationship with some aspect of the real world[71]. The researcher's responsibility is to gather data from the real world and see whether the data support or falsify the prediction of the hypotheis and thus of the theoretical

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[69]Feyerabend, Paul, 1975, *Against Method: Outline of an Anarchistic Theory of Knowledge*, New Left Books, London.
     -1991, *Three Dialogues on Knowledge*, Basil Blackwell, Cambridge, Massachusetts.

[70]Chalmers, A.F., 1992, *What is this thing called Science*? Open University Press, Buckingham. p. 135.

[71]Geire, Ronald N., 1992, *Understanding Scientific Reasoning*. Saunders College Publishing, Orlando, Florida. p. 27.

model[72].

But in my research, I wanted to observe the development of
the whole situation of the street environment, in order to define
what aspect is central in constituting the character of the
street environment of Islamic cities, how it functions, and the
relevant data. Therefore, I had to work from the specific
phenomenon of the *fina'* up to hypotheses. I chose this method
because the aspects of Man–built environment reality are
complicated and given theories cannot identify many of these
aspects. Therefore, I proposed that observing the situation of
my research case by an inductive approach could help to identify
and study such aspects. This method also made it possible to
adjust the process of the research, making the observations
progressive rather than cumulative. As a consequence the research
method developed also according to the improvement of my
understanding of the reality and emerging new questions from my
observations. The observations are made **directly** in field work
in the present streets of Cairo and other cities of the Middle
East, and **indirectly** by constructing the past traditional
situation from old documents and literature. Such combination is
necessary in this developmental research to show how the focused
aspect continues or changes over long period.

I also based my observations on the understanding that the
fina' concept has two integrated realities, first is the physical
reality of the object or the spaces concerned, and second is the
human experience of the physical reality. The physical reality
is composed of elements, forces, and relationships which compose
the object as a thing–in–itself. On the other hand, the human
experience of the object as it is interpreted by users provides
knowledge which gives the object its identity, meanings, and
values in its local, cultural, and historic context.

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[72]Geire, Ronald N., *Understanding Scientific Reasoning.*

One of the greatest advantages of our nature and senses is that we experience the objects in everyday life as human experience and not just physical reality. One cannot imagine what kind of life we could have if we experienced Man as blood, water, meat, and bones and not as people with unique natural and personal characteristics. In the same way the urban street can be studied as an object by identifying and analysing people, elevations, gardens, cars, wind, light, and written rules as concrete elements according to standards and measurements, but we also must study meanings and values of these elements, relationships, and creations which compose the human experience of the street environments and their events[73]. For example, people's behavior and creations in the street environment can be studied by analyzing in relation to the system of official rules using only logic in the process of the analyzing. On the other hand, users' interpretations of this physical reality can explain their actions and creations in the street in relation to these rules. This explanation can never be captured by physical measuring and labeling. To achieve such an explanation one must **understand** users' actions by understanding their codes, symbol systems, languages, culture, and communicative connections which are influenced or used in their interpretation.

Any research has its strengths and weaknesses. This fact plays a major role in the knowledge acquired by each particular research method. The case study method has advantages in studying the Man—built environment events and processes by studying a set of decisions to know why they were taken, how they were applied, and what were the outcomes[74]. The case study method also has

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[73]Rapoport, Amos, *The Meaning of the Built Environment*.

[74]Schramm, W., *Notes on Case Studies of Instructional media projects*. Working paper for Educational Development (December 1971), Washington. DC.
      Yin, Robert K., 1984, *Case Study Research*, SAGE Paublications, Inc., Beverly Hills, California. pp. 22-25.

weaknesses[75]. Among these weaknesses are that the data is often time and place limited, the observations may not lead to any important finding or could be influenced by biased views. I tried to solve the first problem by using a developmental study to observe and explain aspects of the *fina'* over a long historical period. As for the second problem, the data from the literature study and the case studies provide some conclusions. I tried to compare these conclusions with some existing hypotheses and findings of other related research. I found that my conclusions are indeed new findings and give new explanations of the realtionship between the *fina'* concept and urban fabric which make the conclusions more than a summary of the observed data.

5.3. Research design
5.3.1. Identifying the major field of the research

In general a research design is an action plan to guide the research process from identifying research questions and collecting data to analyzing and interpreting observations[76]. There is not a single textbook of research design covering aspects of my research and its design considerations. My research design includes elements of both historical and case study method. The historical method deals with the past events and creations and builds on primary and secondary documents, physical and cultural creations as the main sources of data and evidences. The case study method is used to study aspects in the contemporary events, physical and cultural creations. I chose the street environments of Islamic cities of the Middle East as a way to acquire knowledge about Islamic urbanism. In the early stage, I did a literature study on the street environments of Western and non Islamic cities. I was looking for the meaning, which is historical, cultural, intellectual, and local.

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[75]Flyveberg, Bent, 1991, *Rationalitet og magt: Det Konkretes vitenskap*, Akademisk Forlag, Danmark.
Chalmers, A.F., *What is this thing called science*.
Mo, Linn, 1981, *Is field work scientific?*

[76]Nachmias, D., & Nachmias, C., 1976, *Research Methods in the Social Science*, St. Martin's, New York. pp. 77-78.

5.3.2. Identifying the focused issue of the research

I started from observing and studying why people of Islamic cities use the street in a particular way and how it influences the physical character of the street environment. I made two field trips between 1992 and 1993 to gather data related to three questions:

1. How do people use the street?
2. Why do they act in this way?
3. What is the effect of their actions on the physical character of the street and vice versa?

Along with the case study I did a literature study in Norway about this topic. I also spent much time and effort traveling and staying in many countries to do better literature research. I visited and used the libraries in the following places:

1. University of Manchester, and Oxford Polytechnic in England.
2. Aga Khan Award of Architecture in Geneva.
3. Cairo University, 'Ainshams University, and Azhar University in Egypt.
4. University of Wisconsin in Milwaukee, University of Wisconsin in Madison in USA.
5. University of British Colombia, and University of McGill in Canada.

I also had several discussions with Besim Hakim in Albuquerque, New Mexico and Amos Rapoport in Milwaukee, Wisconsin about my work. The gathered data and the literature study showed me that the questions I had been asking have a strong relation with a local urban concept called *al-fina'*. Increasing my understanding from these observations encouraged me to focus my research further on *al-fina'* to find the relationship between applications of *al-fina'* and the character of the street environments of Cairo.

5.3.3. Data collection

To explore the developmental process of *al-fina'* in its local cultural and historical context, it was necessary to study the roots of this concept and the related old literature. The most important sources are the Holy Qura'n , Prophet's Sayings, old Islamic jurisprudence, historians, travellers, and old court documents.

The basic sources which were used in this stage were writings of the old Islamic jurisprudents, particularly al-Tahawi, Abu Yusuf and al-Shaybani. They were among the earliest scholars of the 9th and 10th century who discussed *al-fina'* and its related elements and concepts in Islamic cities. Al-Tahawi was especially important to my work. The oldest complete document on building codes which has been used by other contemporary scholars of Islamic cities is from the 14th century, while al-Tahawi's book is from the early tenth century. The judgements are organized in a way that makes them general guidelines, which could be used in any Islamic city.

Finding this book played a crucial role in guiding the next steps of my research to find more writings of jurisprudents and to identify the relationship between them in order to understand the sophisticated juridical system which developed the judgements related to *al-fina'*.

I also depended on writings of later jurisprudents to show the development of the concept and its organization in the street environments. The writings showed large disagreement in the late Islamic period about the concept as a product and a process. It was natural to find this disagreement because the writings belonged to different historical periods and places. The nature of Islamic law was another important reason for this diversity. But I tried to find unwritten systems which influenced the reasoning method used. This system was the local tradition *(urf)*.

This literature study showed that the concept of *al-fina'* had some characteristics common to the old Islamic cities. I also found that this concept is important in explaining why all Islamic cities grew in an organic way which is one of the mysteries related to old Islamic urbanism.

During my work many people wondered how general the phenomenon of *al-fina'* is in the Islamic cities. For me, the generality was clear because I had visited and lived in many Islamic cities and also had studied about it directly and indirectly through many books, media, and people. But it was clear that for readers, I had to document its generality. Therefore, I did short case studies in three other cities, Mecca, Arbil, and Istanbul.

I put these case studies in one chapter and present them before the main case study of Cairo. I also put in a short description of the concept in Cairo to make the four cities comparable and logical for the reader.

Three issues are raised from the literature study.
1. Islamic law bounded all Islamic nations. Therefore, it was necessary to know how Islam influenced the concept and its process.
2. Each Islamic city has its particular characteristics of *al-fina'*. Therefore, it was necessary to identify the contribution of the local forces.
3. One city had to be chosen to study the root of the concept, its process, its characteristics, its role in urbanism, the role of Islam, and local tradition.

I chose Cairo as the main case study for several reasons:
1. I had collected data in the previous field works in the city.
2. It is built by muslims and its site witnessed an active urbanism process.
3. It experienced Islamic influences until the start of the

modernization process in the 19th century.

4. It experienced modernization for two centuries which gives the possibility of studying transformation of the designed streets.

5. There are easily available and good documents about the different historical periods of the city.

To study *al-fina'* in Cairo I chose the term **environment setting** to describe the contents of *al-fina'* and study issues related to the character and process of the street environments. This term is developed by Barker and others in western culture. I had found in my literature study that old Islamic jurisprudence had used a similar way of organizing contents and cases of *al-fina'* but the jurisprudents were more sensitive to the local culture and situation.

I divided the development process of Cairo into two stages:

1. The Islamic period started from the Islamic conquest in 7th century until the French invasion in 1789. I used two capital towns (*Fustat and Qahira*) which were built on the site of Cairo in different periods to show how the city always grew in an organic way.

The two cities have lost their early character of urban fabric in the present. Therefore, I depended basically on old Islamic travellers, historians and writers particularly Ibn Abd al-Hakam, al-Baghdadi, al-Maqrizi, Ibn Hauqal, Khusraw, and Abu al-Maha'sin. I also used the present excavations and archeological research to aid my study. But it was difficult to draw the complete and detailed shape of the early Fustat and Qahira and their street environments.

I made a detailed study to show how the settings of *al-fina'* contributed to this organic growth and the character of the streets. I chose the Ottoman period between the 16th-18th century to study this part. The reason was the existence of enormous documents developed by Muslim historians, local writers,

jurisprudent, court registrations, western and eastern writers and scientists such as al-Jabarty, Jomard, and Lane. These sources helped me to draw the detailed shape of the urban fabric and the street environments, and to study the concept of *al-fina'* and its process during this period.

2. The modern period started from the middle of the 19th century. I tried to find out how the initial modern planned streets were applied in the city and how their character changed over time until the contemporary period. To describe the modernization process and the changing urban fabric, I depended on local and western writers, travellers, people who had participated in or witnessed modernization process such as Mubarak, Shafiq, Lane, and the documents of the Heliopolis Company.

Then I did a new case study in Cairo to complete the collection of data in relation to the concept of *al-fina'*. I chose 10 streets from the four areas which I had studied in the early stage, where each area belonged to a particular historical period. The goal was to know if and how the concept of *al-fina'* had been applied in these streets in the contemporary period in general, although they had different histories, designs, styles, and population. The selection aimed also to show the development process of the *fina'* concept in the city.

The case study is based on:
1. Repeated observations in the city and collected data according to specific and detailed questions.
2. Informal interviews with users and other involved groups. I depended on talking with both common people and key persons from different professions such as Muslim jurisprudents, architects, doctors, engineers, teachers, sociologists, jurists, doorkeeper, shop owners, policemen, and taxi drivers.
3. Documents, maps and studies of different official authorities, private organizations, and researchers.
4. Measures and drawings of the existing situation of *al-fina'*

in the present streets to document the physical reality of *al-fina'*.

Each street in the case study is drawn showing the created settings in *al-fina'* and their created activities, the pedestrians' area and their density, the vehicle traffic (their size and parking places), the relation between outdoor and indoor spaces through *al-fina'* solutions, and the size of the settings' areas in relation to the areas of the sidewalks and front gardens.

Data was collected on the following questions:

Data on the streets studied (The physical reality):

Dimensions of the street
Functions of the street
Social-economic class of the inhabitants
Density of the traffic
Density of the pedestrians
Modifying *al-fina'* elements: (1).Sidewalk   (2).Elevation (3).Related indoor spaces.
Created settings in *al-fina'*: (1).Name of the setting, (2).Its location,   (3).Its relationships in the space of *al-fina'*, (4)Its functions (economic, social, religious, climatic, and lifestyle), (6).Its rules.
Size of the created settings in relation to the area of the sidewalk.

Basic interview questions:
(The people's experience of the physical reality)

1.Who created this setting in *al-fina'* and why? 2.Who use this setting and why? 3.Who allowed this setting and why? 4.Who made this modification in *al-fina'* and why? 5.Who allowed this modification, and why? 6.Does the setting or the modification cause harm, to whom, and what is it? 7.How are the settings experienced: 7.1. Their character as smell, sound, color, and texture. 7.2.Their spiritual and social meanings.

5.3.4. Analyzing the gathered data

To organize and analyze the gathered evidence of the case study, I depended on a descriptive framework to make a time series analysis[77]. It depended on comparing evidence in relation to five variables mentioned in the previous table.

The outcome data have been used to trace changes of the *fina'* over time. *Over time* may be defined here both as the actual present events occurred during the case study and carefully observed and documented, and past events which took place over a long time period before my case study.

To make my observations, I depended on key setting analysis[78] which depends on identifying some basic settings expected to occur in the *fina'* space. I made a list of key behaviors, characteristics, and judgements which I expected to occur for any *fina'* setting. To make this list, I depended on developing a set of characteristics which have been mentioned in the table in the field: *Created settings in al-fina* in the section: *4.2.3. Data collection*[79]. I tried also to know the people's actual motive in the key settings by comparing information taken from the interviews with my observation of these settings.

5.3.5. Coming to a conclusion

The findings which resulted from the data provided answers to the main questions. I also developed some theoretical models which I claim have relation to aspects of using the space of *al-*

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[77]Yin, Robert K, *Case Study Research*. pp. 109-114.

[78]This strategy has been developed from a study done by Winkel who suggested using key behavior analysis in urban design research:
    Winkel, Gary H, *Some Human Dimensions of Urban Design*. In Anderson, Stanford, 1978, On Streets, The MIT Press, Cambridge, Massachusetts. pp. 245-247.

[79]This sett of characteristics is mentioned in the literature study: *Studying the concept of al-fina'*. See also:
    Rapoport, Amos, *Culture and the Urban Order*. p. 54.

fina', of creating organic street characteristics and their meanings in Islamic cities. These are hypotheses open for further research. I also used these findings in discussion to support or criticize existing hypotheses about the relation between street design and everyday life.

I also raised some questions for further research. These are placed after the final conclusions in Part 4.

5.4. The field work experience

To do the case study in Cairo, I had established relationships with many contacts to help me with work. They had important roles, particularly in the early stage.

The four cities of my case study had different languages, Kurdish, Turkish, Turkmanish, and Arabic. Fortunately, I can speak these languages, and this was important for communicating with people during their everyday life and understanding their culture.

Doing inductive based research in Middle East was not an easy process or without problems. During my field work I experienced large problems because of the political unrest, and religious and ethnic conflicts in the Middle East. I also had problems with many offices of the local authorities because of their restrictions on the use of official data and documents. For example, to get maps I first had to make an application and then go to different persons to get their signatures and permision to copy the required maps. Sometimes one has to spend a whole day or several days in processing the application. The quality of the old original maps was not good enough. The custodian explained that they have no budget to redraw and improve these maps.

The common people in the street were another source of problems. They stopped me at each step and discussed with me what I was doing in their neighbourhood and why.

But a short time later, I learned an important lesson. To work in different society one has to work, think, talk, behave, and dress as one of the society. It is the shortest way to local knowledge and the most secure. This changed things which I had considered as problems to advantages. It was easier to interview people in their normal environment without using paper and pen. I learned also that residents' behaviour with me at the early stage of my work indicates that social control functions well in their streets. This observation was important in explaining some aspects of *al-fina'*.

I always had in my mind what I would ask people before going out. When I did the interviews, I explained first to them what I was doing and why I interviewed them. Sometimes I used normal conversations and put in my questions as part of the discussion. I wrote the key answers while I was at the site and their details later when I came home. My problem was to remember all this information after a long day. In many cases, I went to coffee shops or restaurants to record data immediately.

In the later period I had acquired many friends in most of the streets of my case study. I had more social relationships with poor and middle income classes. This had an important role in my work because they trusted me and I could ask them whatever I wanted to about my study and could get detailed answers and more interesting information than before.

Inductive research is an interesting and innovative method. When each particular step is finished, one needs go back and rework the previous step. Therefore, it is necessary that a researcher be aware of the time needed as well as possibilities of such a method.

An inductive approach in doing literature study in different universities is also a problem because I run the risk of spending

a lot of time without finding the knowledge necessary for the next steps. Therefore, I had to know what I was looking for and where to search. In doing this, I felt like a hunter who moves by car, plane, walking, and running from one place to another, hunting and bagging knowledge.

Indeed, my method is not a new one. It is one of the oldest methods in Man's history. We know that early researchers travelled from place to another to collect knowledge. Modern life with all its technological equipment makes it possible to do some types of research from one computer. I feel that research in our field should never lose its direct, strong, and continuous contact with the target environment. Important meanings of the living built environment can be neglected in our research by depending too much on electronic knowledge.

PART TWO: *AL-FINA'* IN THE OLD ISLAMIC CITIES

1. The Architectural History of *Al-fina' in the Middle East*

Dividing the indoor space from the outdoor space has been done since people first started to make shelter. As a consequence, differentiation of the two spaces increased gradually by developing different patterns in the buildings for human activities moving outdoor activities into indoor spaces (figure 2.1). This process indicates changing life style and production mode.

On the other hand, the relation between the indoor space of buildings and outdoor public open space has concerned humankind in order to keep the contact with nature and the community. The wall which divided the two spaces served also as a mediator with entrances and windows. The area in front of each particular shelter was used as a gathering place and for several different activities. This relationship is an unavoidable and inevitable fact since without it the whole function of the shelter would not have existed.

Each particular region and culture developed its unique design solutions and uses reflecting the society's habits, customs, beliefs, climate, and available technology. As a consequence, a large number of settings came gradually to be created as satisfying these demands and led to established local traditions of outdoor space design and life, such as the concept of *al-fina'* in the Middle East.

During the early period of settlement of the Middle East, people used particular routes or roads between shelters and other places. They also used the land near the shelters as places for different activities such as relaxing, cooking, and working, which trained them to experience the space and the larger community. Since then, these two basic functions, the **path** and the **place**, were established in the streets of human settlements.

OUTDOOR ACTIVITIES

INDOOR ACTIVITIES

Kurdish tent.

OUTDOOR ACTIVITIES
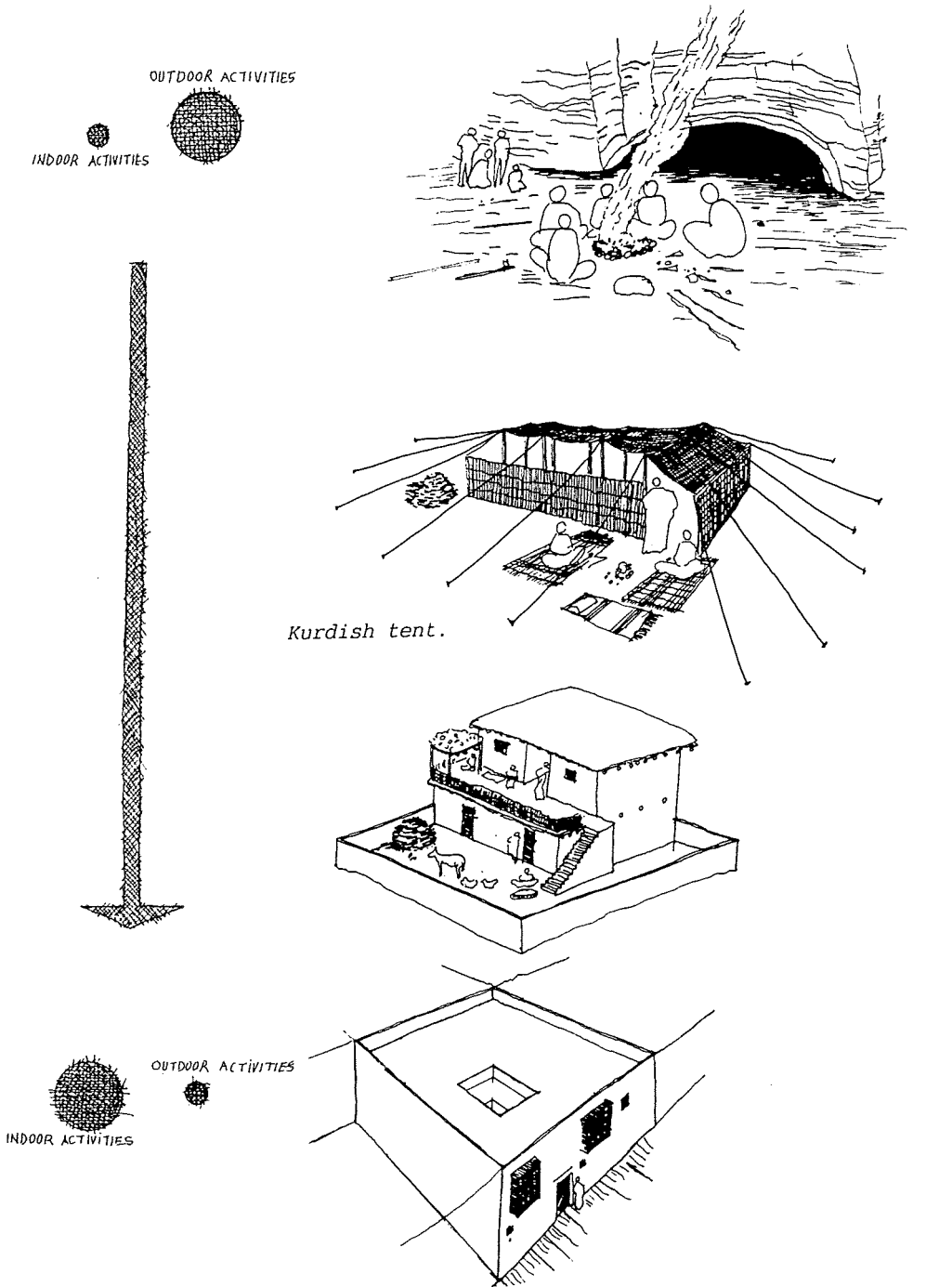
INDOOR ACTIVITIES

Fig. 2.1   *Transforming outdoor space activities into
indoor   space   activities   from   ancient   to   urban
settlements.*

Excavations and documents from the ancient Middle East show that these cities were initially established with different types of street design which played a vital factor in shaping their forms as organic and planned[80].

Among the basic architectural characteristics in these cities was the use of the overlapping area or the interface between the street and buildings, consciously as the place of staying activities and to mediate between public and the private spaces. This last factor contributed to the development of various design patterns in the elevations of the buildings, the inner spaces directly adjacent with the street, and in the open land in front of the buildings (figure 2.2)[81].

After the emergence of Islam, the functions of staying and passage in Islamic cities were also organized by the recently made Islamic law _(shari'ah)_. _Al-fina'_ was the basic concept adopted to define the territory of the staying functions in the streets. The roots originaly came from the pre-Islamic patterns of land use.

Among these traditions was classification of the land use into two categories:
(a)   dead land _(mawa't)_ or land which had no owner or was not used for a particular benefit.
(b)   living land (_'a'mir_) or land which was owned and was used by people.

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[80]Kostof, Spiro, _The City Assembled_.
-1991, _The City Shaped_, Thames and Hudson, London.
        Rapoport, Amos, 1990, _History and precedent in Environmental Design_, Plenum Press, New York.
        Morris, A:E.J., 1994, _History of Urban Form_, Longman Scientific & Technical, Burnt Mill, Harlow.

[81]Rapoport, Amos, _History and Precedent in Environmental design_.
        Saggs, H.W.F., 1965, _Early life in Babylonia and Assyria_,   B . T . Batsford Ltd, London.
        The Journal of Egyptian Archeology, Vol.XV. Parts III & IV, (November 1929), and Vol.XVII. Parts III & IV, (November 1931).

EUFRAT

Plan of the city

0   500   1000

ISHTAR GATE   HOUSES & GARDENS

CANAL

ZIGGURAT

NEW CITY   CANAL

OLD CITY

A typical house plan

STREET

STREET

Ishtar gate

Residential street

A house window
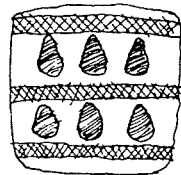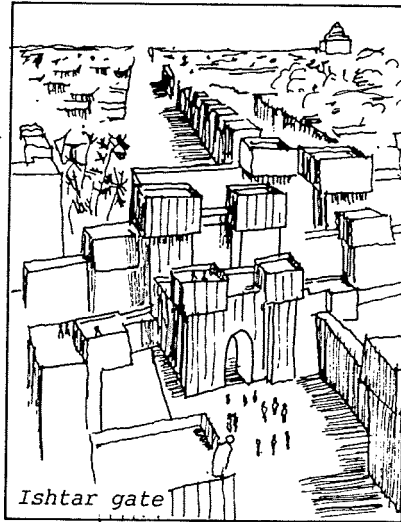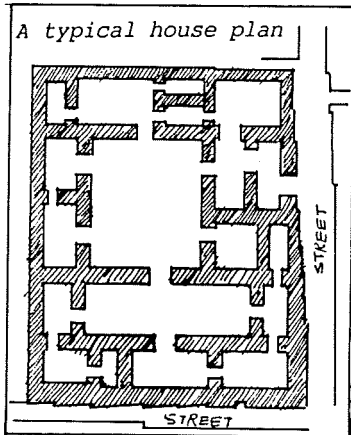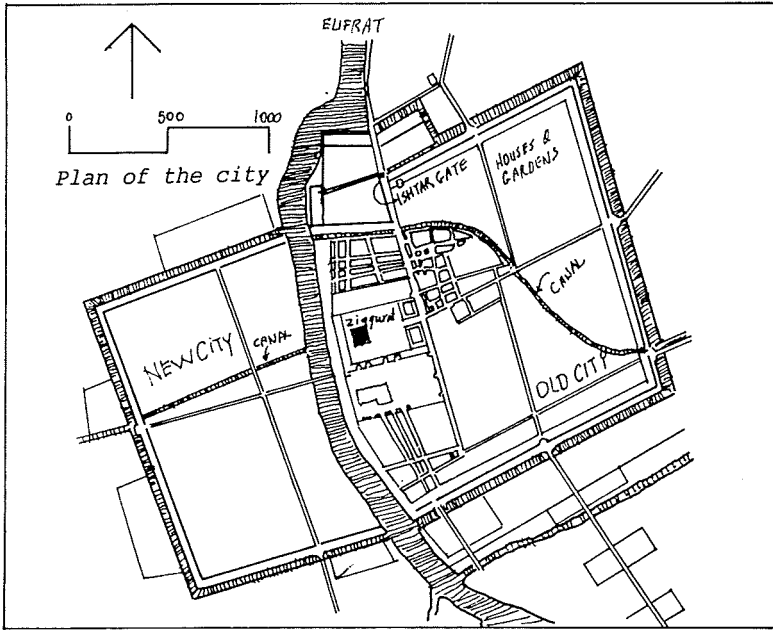
Fig. 2.2   Babylon–Iraq (Redrawn from Saggs, H.W.F., 1965).

Each clan owned particular territory. Within this territory, the dead land *(mawa't)* was offered for free to any member of the clan who wanted to settle or use it for a particular purpose. This division was necessary to facilitate the nomads' way of life which was based on continuous movement from a place to another[82].

Another tradition of land use was the land under the tent and the land surrounding it called *harim* (protected land). This land was considered private until the tent was removed from that location. The surrounding area was the staying territory of the tent. It was used for different purposes such as storage, a place for sitting, cooking, relaxing, and animals (figure 2.3). *Harim al-khaymah* (the protected land of the tent) should be respected and not interfered with without permission from the tent owners. This term can be linked with the women of a particular family. The Arabs used the same term of *harim* to define the women and avoid using their names publicly. Women were considered strictly private members of the family and were to be protected by the men of the family and the design concepts of the environment. Observations of contemporary nomadic settlements show that when a person visits a tent, he should stop few steps away from the tent and ask for permission before approaching or entering the tent reflecting its private and protected identity[83].

Ibn Khaldun[84] assumed that the original settlers of urban settlements were nomads. He reasoned that in the change from pastoralism to agriculture, the main production mode for the

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[82]al-Asyuti, Tharwat Anis, 1985, *al-Isla'm wal-milkiyyah*, al-Kita'b wal-Tawzi', Tripoli. p. 13.

[83]My own observations were made over several years in Iraq, Egypt, and Syria.
See also:
    Abarkan, Abdellah, 1995, *Bebyggelsemønster i medelhavsområdet*, A Ph.D. reseach at Chalmers Tekniska Högskola, Göteborg. P. 242.
    Faegre, Thorvald, 1979, *Tents*, John Murray Ltd, London.
    Mauger, Thierry, 1991, The Ark of the Desert, Souffless, Paris.

[84]Ibn Khaldun (1332-1406), (no date), *Muqaddimat Ibn Khaldun*, Da'r al-Fikr, Cairo. p. 122.

community was an encouragement to establish permanent settlements by building dwellings and other structures. This older opinion of Ibn Khaldun has been supported by different contemporary studies[85] show that when the nomads settled, they transformed their social tradition into their new villages and towns.

The early settled people of the towns and villages of Arabia continued to consider the nomadic way of life *(bada'wah)* as their pure source for learning and practicing their everyday life. It contributed to the continuity of some nomadic life style in the caravan towns of Arabia. For example, in towns of Yemen, the land surrounding the buildings was also called *haram* (protected) and *hawtah* (surrounding land). In the caravan city Mecca, the land surrounding Holy *Ka'bah* was also called *haram* meaning sacred land and had many injunctions to protect its territory from fighting, hostility or other taboo behavior.

When Islam emerged in Arabia in the 7th century, it did not abolish all the old traditional arrangements. Among the traditions that continued was dividing the land into dead land and living land, and using the tradition of *harim or haram* (protected land). For example the *haram* of *Ka'bah*–Mecca continued as a protected territory (figure 2.4)[86]. The concept of *haram* found its way into the design and use of the mosques and was called *haram al-masjid* in all the Islamic cities.

On the other hand, the Islamic expansion out of Arabia was associated with wide-spread sedentarization of the nomadic tribes who formed the bulk of the Islamic army[87].

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[85]Salzman, Philip Carl (editor), 1980, *When Nomads Settle*, Praeger, New York.

[86]The territory of *al-haram* involves Mekka city and the land surrounding it. Any person within this territory is safe.

[87]Bulliet, Richard, *Sedentarization of Nomads in the Seventh Century: The Arabs in Basra and Kufa*. In Salzman, Philip Carl, 1980, When Nomads Settle, Praeger, New York. p.36

HARIM OF THE TENT
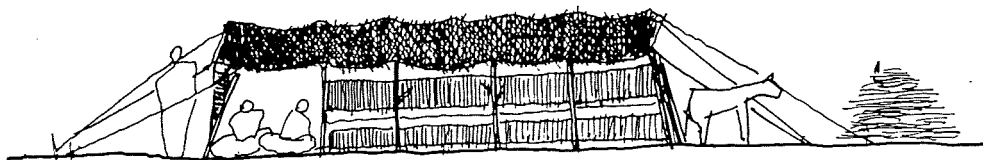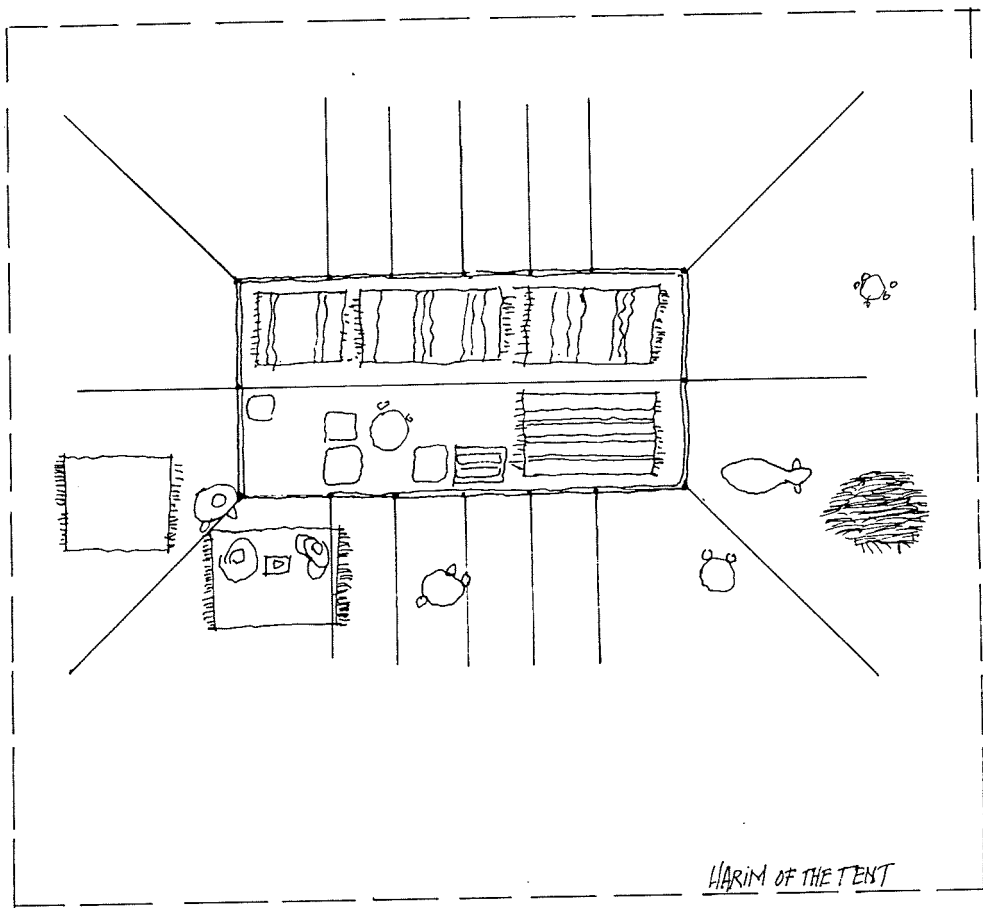
Fig. 2.3   A tent and its protected land (harim).

AL KA'BAH

AL-HARAM AREA
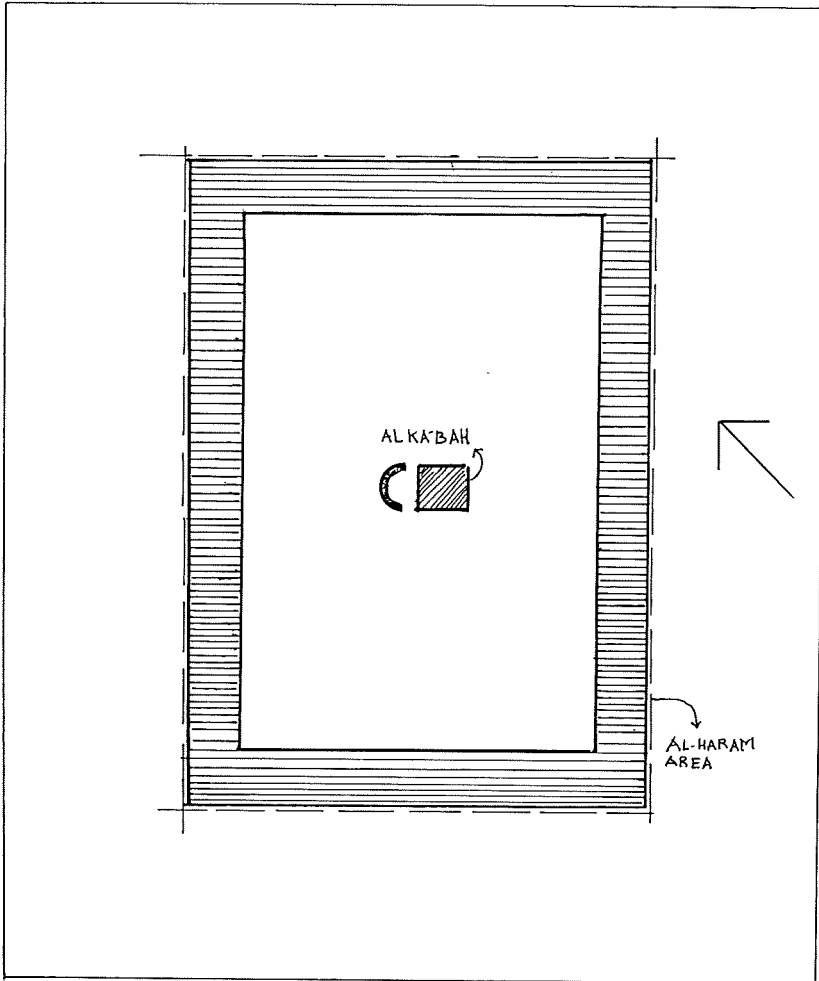
Fig. 2.4   *A schematic plan of the haram of Ka'bah—Mecca.*

Therefore, the newcomers from Arabia transfered their nomadic and urban traditions such as *al-fina' and al-harim* from Arabia to the new cities. These traditions were involved in both the design concepts and the way of using them. But application of these traditions depended on Islamic guideline rules to organize their process and define their physical character.

However, we must not conclude that these design traditions remained unchanged in the new Islamic built environment. New interpretations were made for the concept of *al-fina'* which responded to the needs, desires, and culture of each particular Islamic society.

The examples which could be listed in connection with the implications of *al-fina'* in the different Islamic cities display many common denominators. For example, the *baza'r*, trading halls, quarters, religious structures, city edges, squares, and buildings along the water edges are all examples of this wider context which were found in nearly every Islamic city (figures 2.5-2.8)[88].

Continuity of the *fina'* tradition in Islamic cities of the Middle East had a vital role to support organic growth and organic urban form. It influenced three different sorts of Islamic built environment processes: First the cities which existed before the Islamic conquest, second cities built by the Islamic army, and third, cities built during the flourishing of the Islamic civilization in the second Islamic century.

The existing pre-Islamic cities had either planned or organic origins. The Islamic built environment judgements influenced the street layout of the planned cities by transforming them from regular to more organic patterns, as in

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[88]Geist, Johann Friedrich, 1983, *Arcades*, The MIT Press, Cambridge, Massachusets. pp. 3-12.

the case of Aleppo and Damascus (figure 2.9, 2.10)[89].

The streets of the organic cities such as Arbil continued with their organic character but their content was organized and reformed by new forms of built environment relationships[90].

The second type of cities were military camps which developed later into cities, and some of them as capital towns, such as *al-Kufah* in Iraq and *al-Fusta't* in Egypt. There are different theories about the layout of the streets of these cities at the early stage. Some argue that they had a regular and planned layout[91]. Others argue that they were established from the beginning with an organic layout[92].

It is known that the builders of these early Islamic cities had no tradition to build planned cities with straight and regular streets from their home land. Therefore, it is unlikely that in early Islamic era they suddenly built planned cities in the newly conquered lands.

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[89]Sauvaget, Jean., 1941, *Alep*, Libraire Orientaliste Paul Geuthner, Paris.
Elisseeff, N., *Damas a la lumiere des theories de Jean Sauvaget*. In Hourani, A.H. & Stern, S.M.,1969, *The Islamic City*, Bruno Cassirer Ltd., London. pp. 157-179.
Wulzinger, Karl & Watzinger, Carl, 1924, *Damaskus Die Islamische Stadt*. Tanslated into Arabic by Toueir, Kassem, 1984, *al-A'tha'r al-Isla'miyyah fi Madinat Dimashq*, Matba'at Suria, Damascus.
al-Tamimi, Hamzah Bin Asad Bin 'Ali Bin Mohammed (died 555/1160), *Ta'rikh Dimashq*, Dar Ihsa'an lil-Tiba'ah, Damascus.

[90]Arbil (ancient Arbela) located in south Kurdistan about 350 km north of Baghdad. It may be the oldest populated city in world. Its site has been continuously occupied for more than 6,000 years. Yet, its site has not been systematically excavated. Such excavation may provide us with important information covering the whole process of ancient and Islamic urbanism.
Morris, A.E.J., *The History of Urban Form*. pp. 8-10, 380-381.
See also Part 2: Example of *al-Fina'* in Arbil.

[91]al-Jana'bi, Kadm, 1966, *Takhtit Madinat al-Kufah 'an al-Masa'dir al-Tarikhiyyah wal-Athariyyah*, Baghdad.
al-Sayyad, Nezar, *Cities and Caliphs*.

[92]Akbar, Jamil, *'Ima'rat al-Ard fi al-Isla'm*, p178
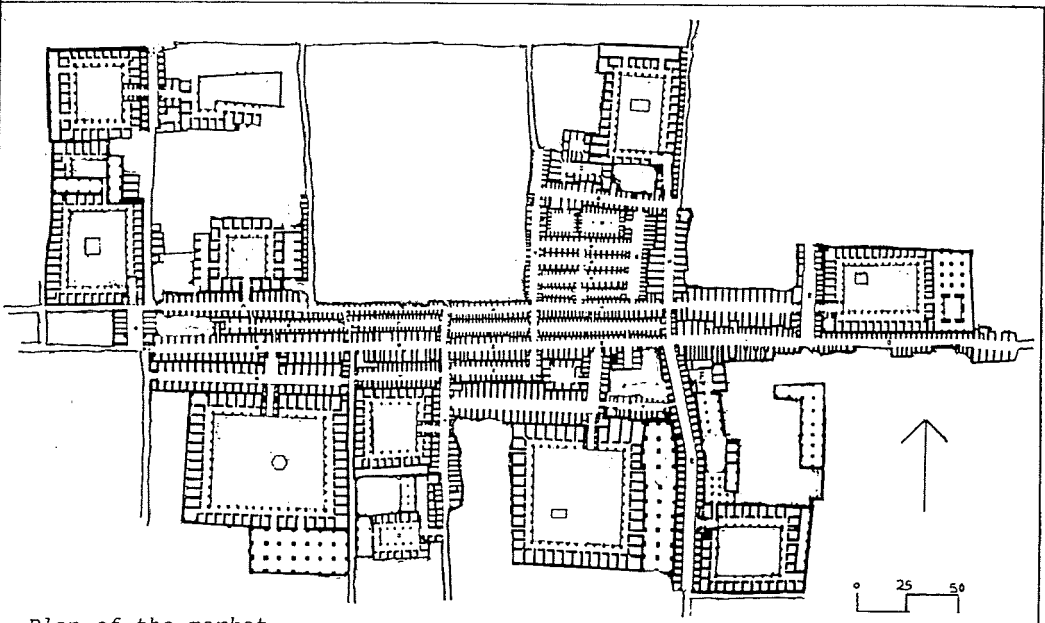
Plan of the market
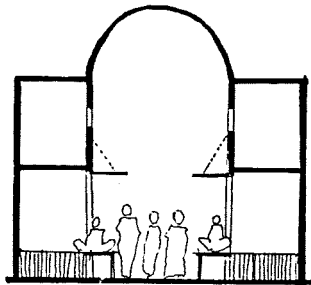
Section of a street
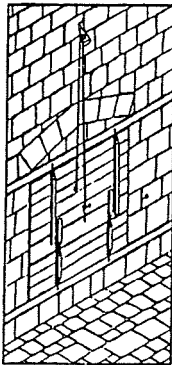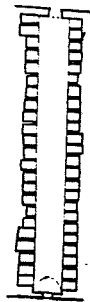
A shop.

Plan of a street

0   25   50

0   5   10
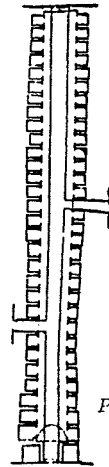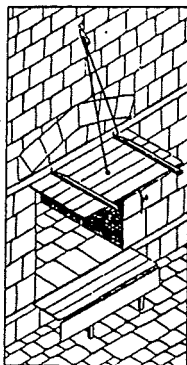
Fig. 2.5   Al-fina' in the baza'r of Aleppo.(Redrawn from Sauvaget, J., 1941)
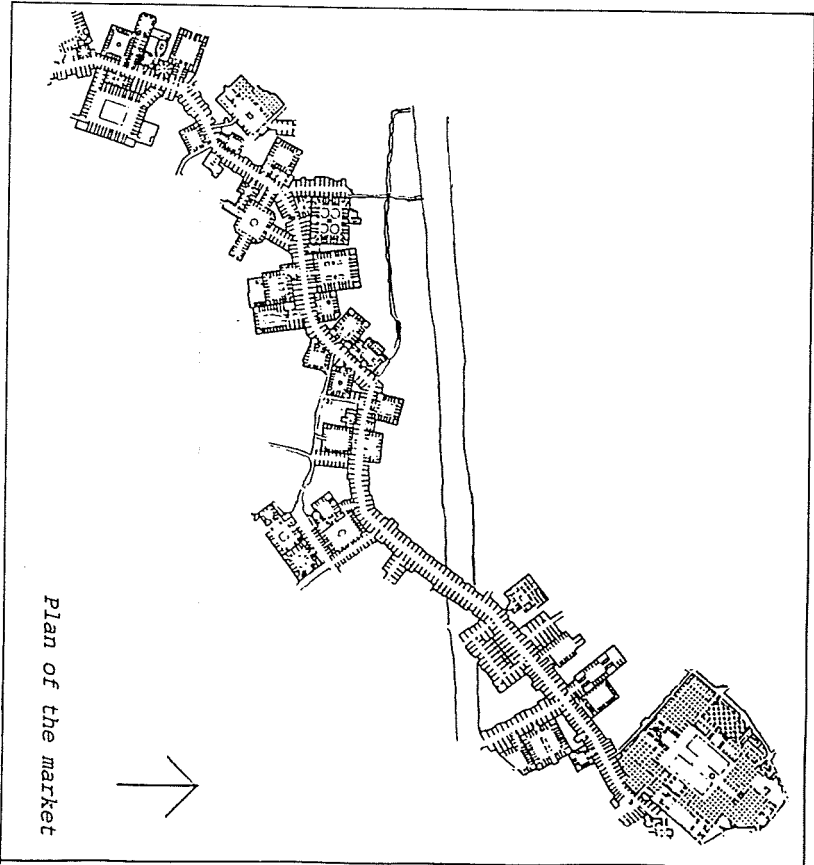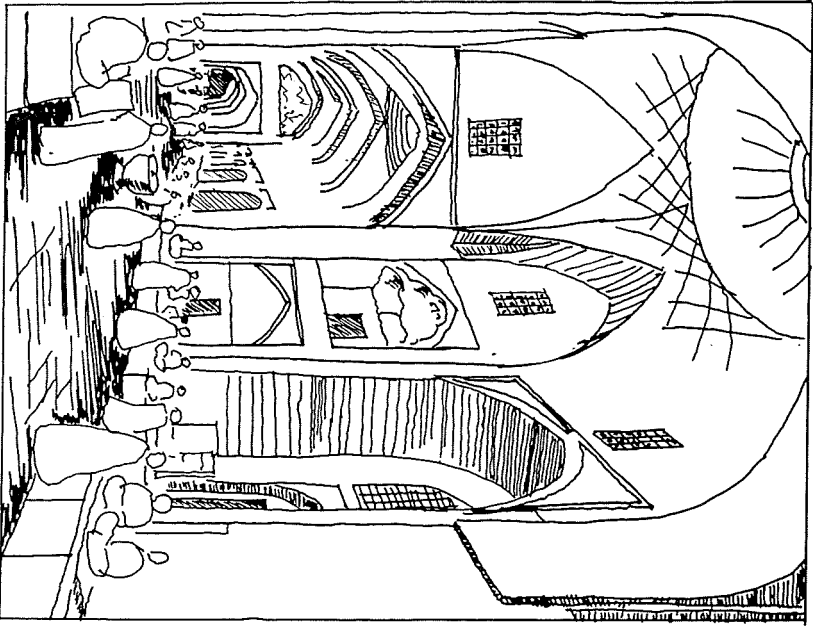
Fig. 2.6   Al-fina' of Asfahan. (Redrawn from Geist, Johann Fredrich, 1983)

Plan of the market

Plan of a qaissariya
(trade center)

Section in the qaissariya

Plan of a commercial
street

Section in the street.
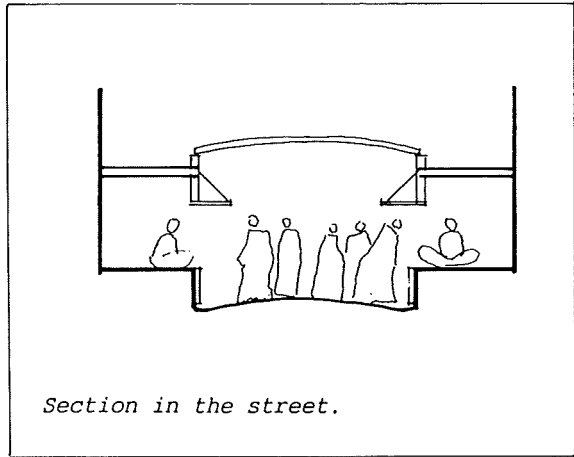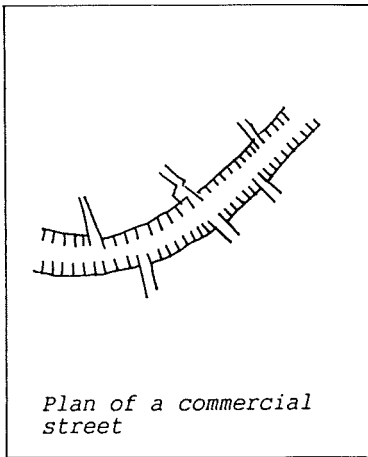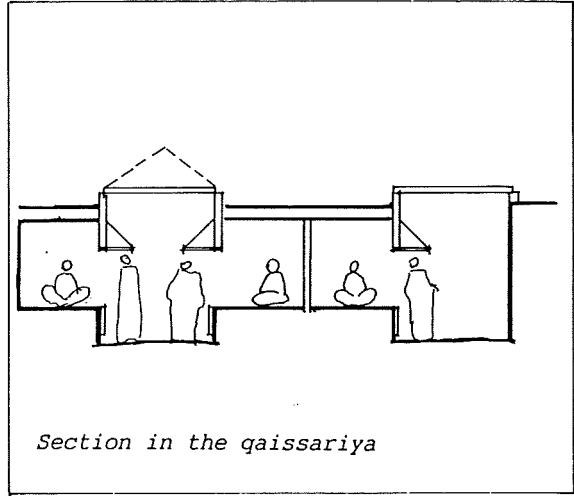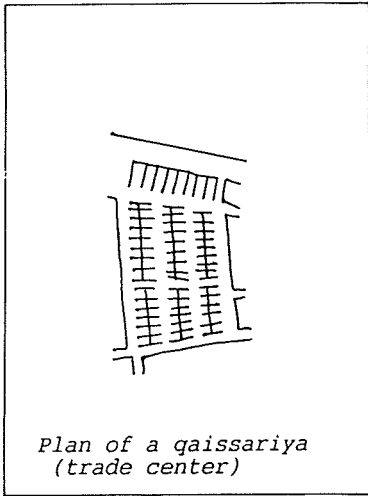
Fig. 2.7   Al-fina' of Fez. (After Le Tourneau, Roger, 1949).
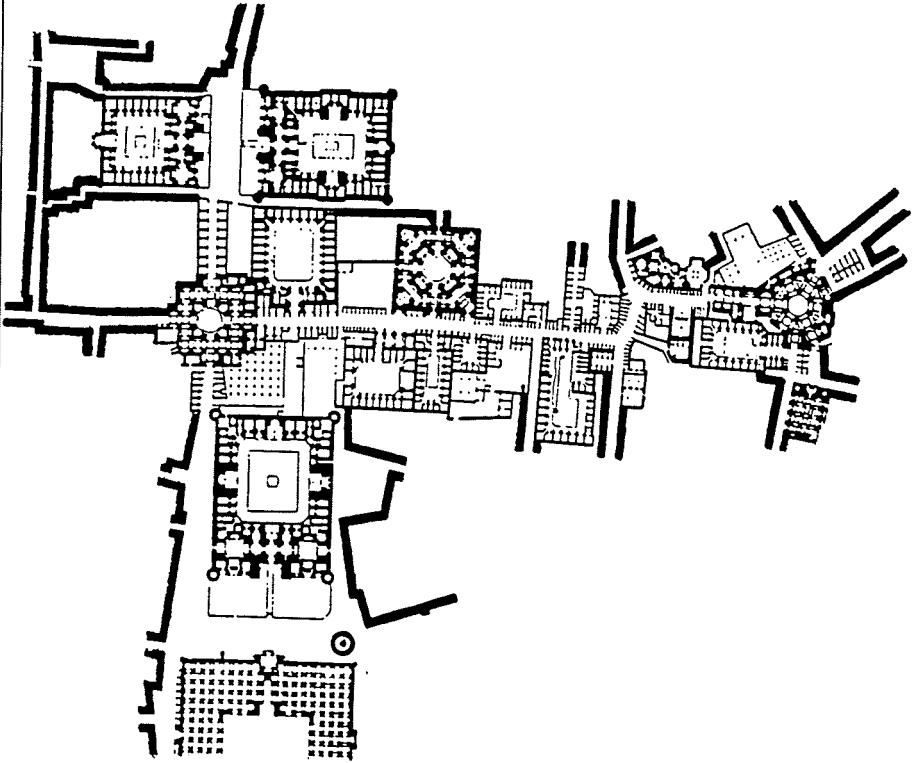
Plan of the market (Redrawn from Geist, Johann Fredrich, 1983)

Shops

Fig. 2.8   Al-fina of Bukhara.
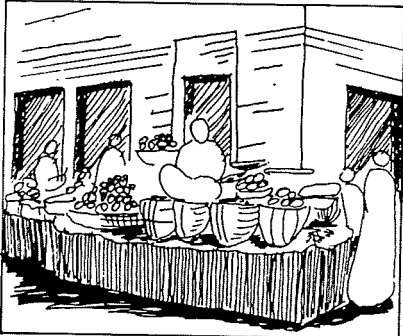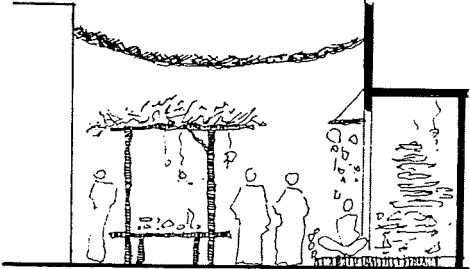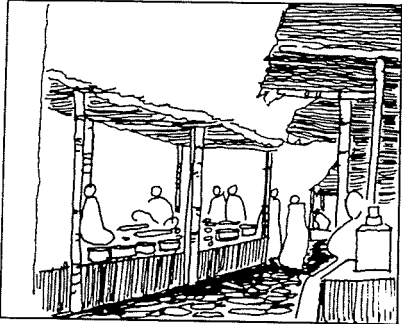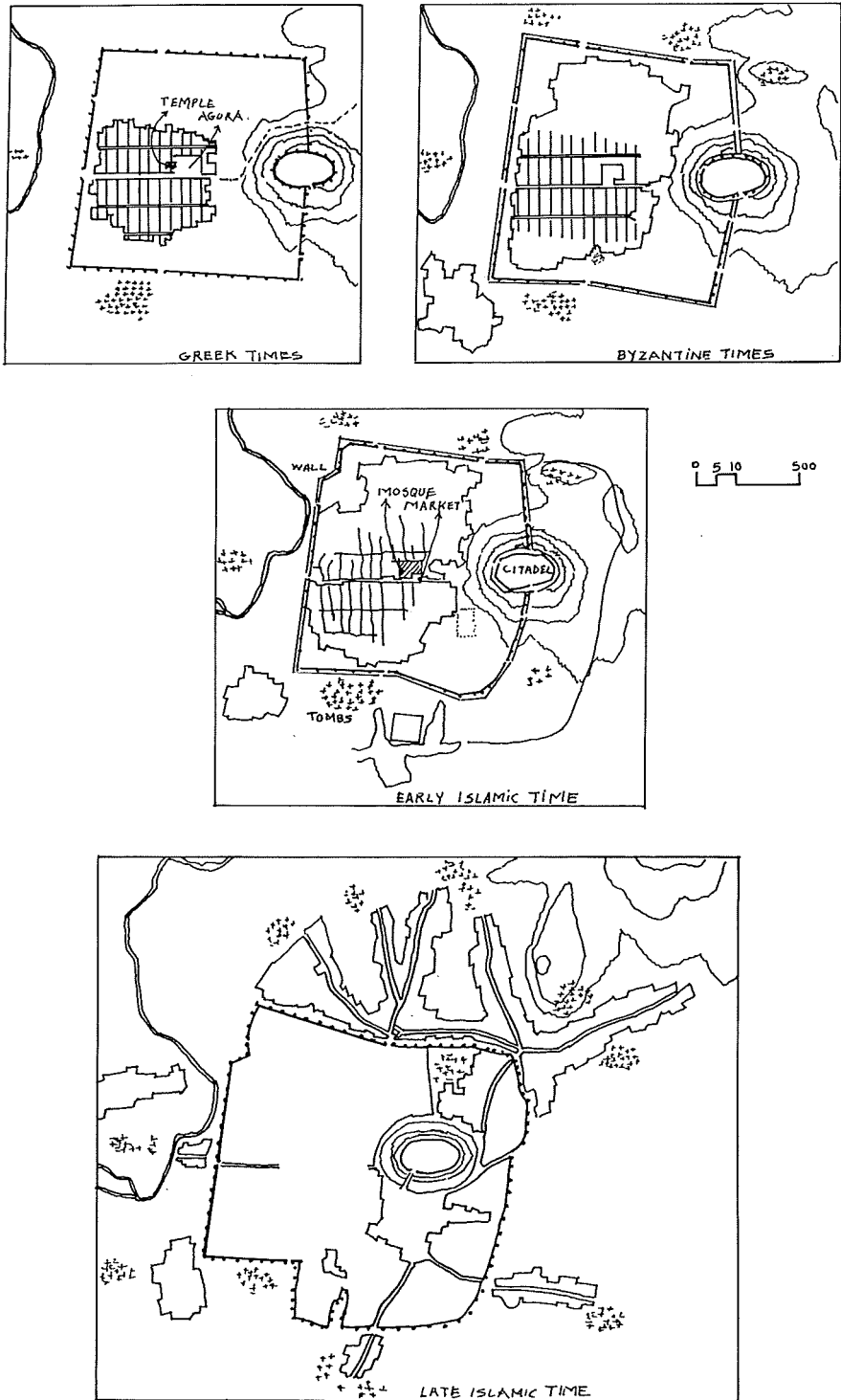
Fig. 2.9   *Transformation of the planned street layout*
                  of Aleppo. (Redrawn from Sauvaget, J., 1941)
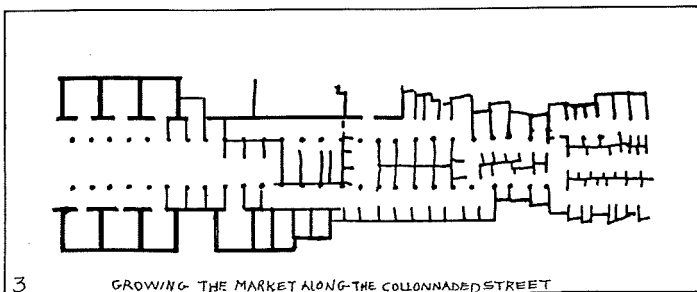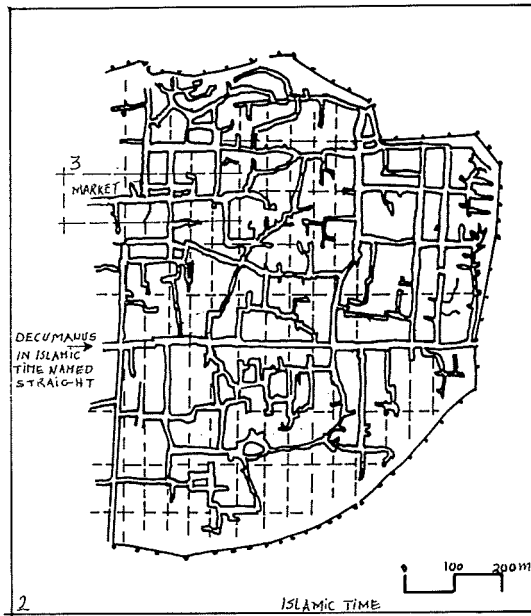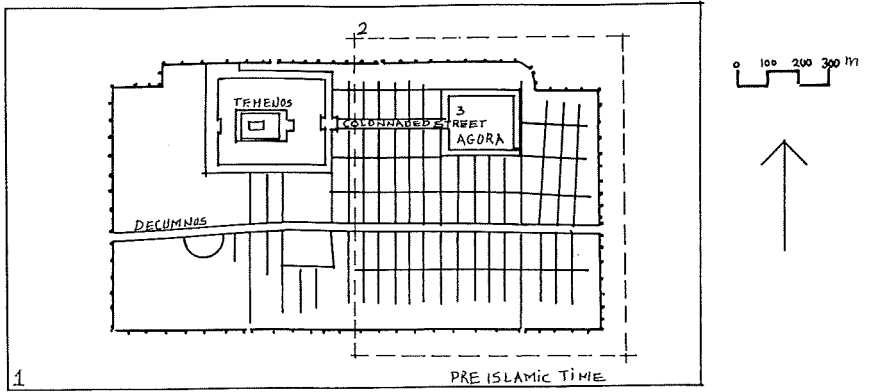
Fig. 2.10   *Transformation of the planned street layout of Damascus. (Redrawn from Elisseef, Nikita, 1970)*

On the other hand, it is documented that these cities had well developed organic street layout only a few decades after their initial building. So even if these cities had planned streets at the beginning, they were shortly transformed to an organic layout[93](figure 2.11).

In these cities, the Islamic built environment judgements influenced the street environments in two ways: first, they brought in the traditional concepts of land use from Arabia, and second, these cities provided the opportunity to reapply these traditional concepts by using Islamic built environment judgements. The interaction of the traditional concept with the new judgements played a central role in forming the organic street layout of these cities.

In each particular Islamic society, the Islamic built environment judgements influenced the content and process of developing the streets according to the local requirements. This was a consequence of the decentralized decision making process as it had been applied by the Islamic authority. But this decentralized decision making also had a central source (the Islamic guideline judgements and local tradition) to derive the different judgements and applications.

An example of the central decision-making during the early Islamic era was during the period of Caliph *'Umar bin al-Khatta'b* who refused to distribute the newly conquered lands of Iraq and Egypt between the Muslims, although most of his associates were in favor of distribution[94]. He also ordered his army to build new towns in the conquered lands, but their location should not be

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[93]Al-Baladhuri (d279/892), *Kita'b Futuh al-Bulda'n*, pp434-449.
    Ibn 'Abd al-Hakam (d257/871), *Futuh Masr wal-Magrib*, Edited by 'Amr, 'abdl-Mun'im, 1961, Lujnat al-baya'n al-'Arabi, Cairo. pp133-189.

[94]Abu Yusuf, Ya'qub bin Ebra'him (d182/798), *Kita'b al-Khara'j*. Translated to English by Ben Shemesh, A., 1969, Taxation In Islam, E. J. Brill, Leiden. pp1-120
    Al-Baladhuri, *Kita'b Futuh al-Bulda'n*, pp335-345
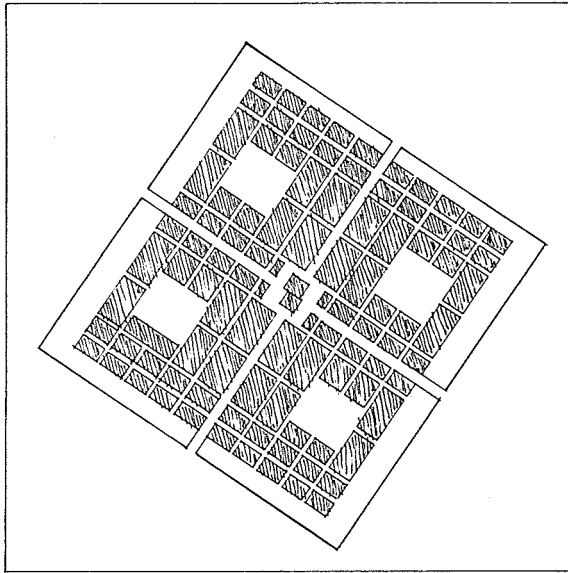
al-Janabi's reconstruction
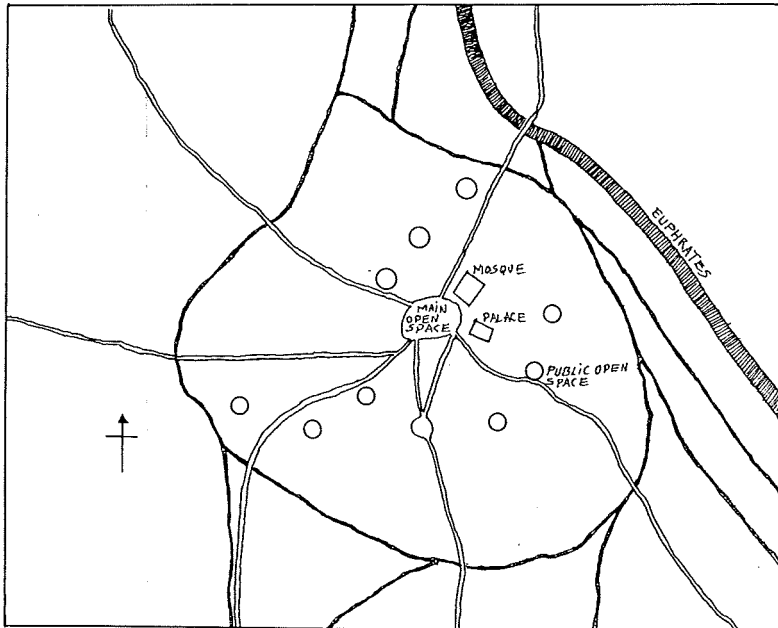
Massignon's reconstruction.

Fig. 2.11   Two different reconstructions of the early
                    street system of Kufah in the 7th century.

divided from Arabia by a river. Further, he made decisions on a micro level. For example, he ordered that the new dwellings of the new towns should be only one storey in height to protect the privacy of the dwellings[95].

The third type of cities were the planned cities which represent the end product of a strong cultural productivity during the Abbasid period. Baghdad, which was built to be the Capitol town of the Abbasid empire, stands above all these cities because of its designed physical character. The historical documents show that Baghdad was built on the west bank of the Tigris in 145/762[96] as a circular city with a regular street layout. Then, why were the Islamic rules which supported the irregular street layout used in these planned cities?

The reasons are twofold: First, the general socio-economic development, and second, the centralized control which dominated the decision-making process and made planning and building the city a consequence of power and political decision. This may explain why some jurists of this period supported the authority's dominant role in the built environment to decide how to make use of the dead land *(mawa't)*. The rules proposed by Abu Yusuf to reserve land *(harim)* between the city and the new occupied lands might also reflect the desire of the authority to guard against uncontrolled urban expansion.

In this process, the streets of Baghdad were also gradually influenced by the organic transformation of *al-fina'*. About two centuries after establishing the Round City (Baghdad), most of the designed physical character of the original city disappeared and the streets may have been transformed into organic patterns

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[95]Ibn 'Abd al-Hakam, 1961, *Futuh Masr Wal-Magrib*, Lujnat al-Baya'n al-'Arabi, Cairo. p134

[96]Lasner, Jacob, 1970, *The Topography of Baghdad in Early Middle Ages-Texts and Studies,* Wayne State University Press, Detroit. p.27
Note that Islamic calendar started in 622 AD when the Muslims settled in Medina and referred in this dissertation as 1 AH/622 AD.

(figure 2.12). This might have to do with the population growth and decline of the central power of the Abbasids. This transformation should not be considered a symptom of deterioration of the physical environment but a reflection of the peoples desire to recreate particular form of urban life in the street environment.

The organic growth of the urban form of these three types of cities shows increasing influences of *al-fina'* in the life of urban society by the inhabitants. This was associated with common desire to protect some aspects of pre-Islamic life style (*'urf)*[97]. But it was subject to modification by the new Islamic built environment judgements to facilitate old and new urban functions and reshape the territory of *al-fina'*.

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[97]Hakim, Besim, *The 'Urf And Its Role In Diversifying The Architecture of Traditional Islamic Cities*.

Bin 'Arnus, Mohammed, 1984, *Ta'rikh al-Qada' fil-Islam*, Maktabat al-Kuliyya't al-Azhariyyah. pp.164-165.

Badran, Badran Abu al-'Ainain, 1982, *Ta'rikh al-fiqh al-Islami*, Da'r al-Nahdah al-'Arabiyyah. Bairut. pp. 213-215

Serjeant, R.B., 1991, *Customary and Shari'ah law in Arabian Society*, Variorum.

Serjeant, R.B. & Ronal Lewcock, 1984, *San'a'*, World of Islamic Festival Trust. p. 145.
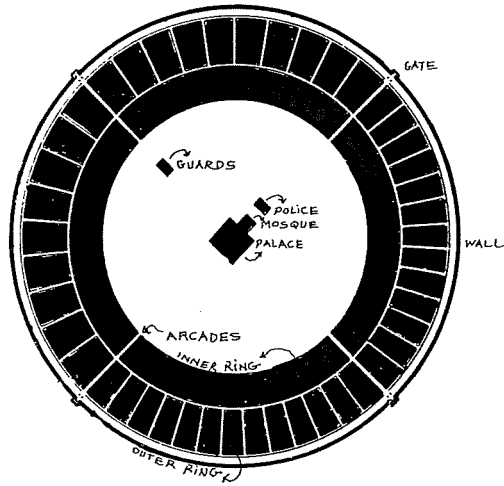
Fig.   2.12   *Transformation the regular streets of Baghdad*
                     to organic. (Redrawn from Lassner, Jacob, 1970)

                     Early town plan of Baghdad (The Round City) in the 8th
                     century
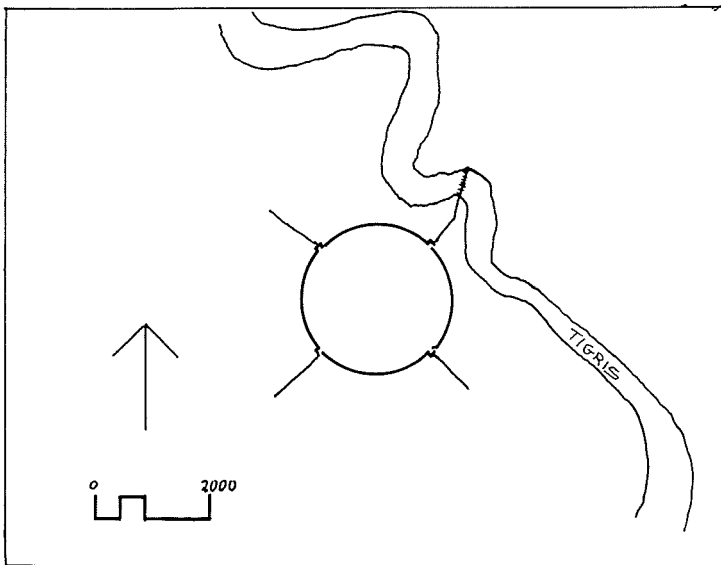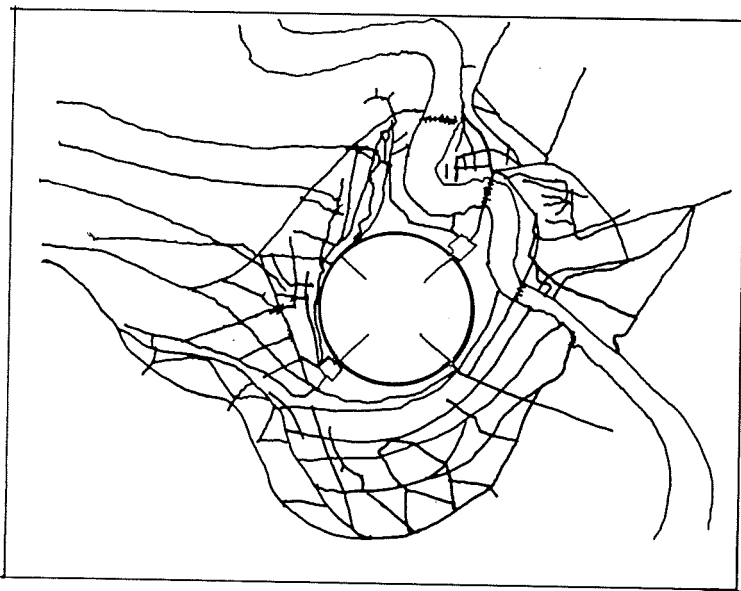
Baghdad in the 10th century
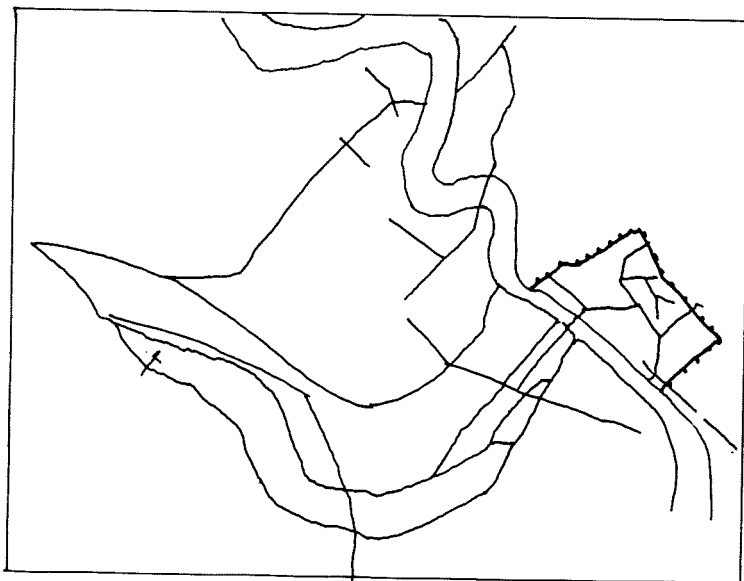
Baghdad in the 13th century

TIGRIS
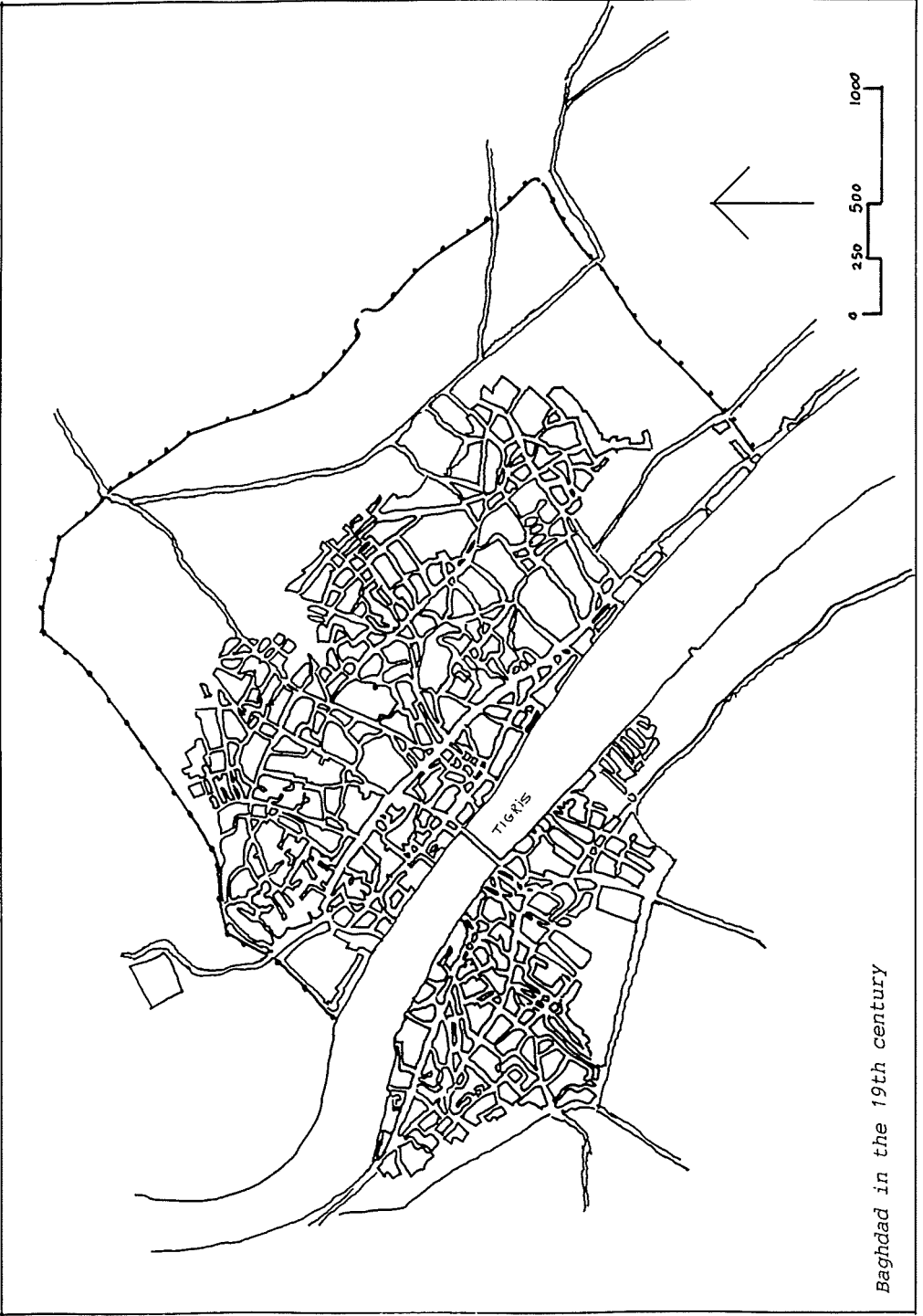
Baghdad in the 19th century

0   250   500   1000

2. Al-fina' in the old Islamic Jurisprudence literature

Having explored the historical roots of the concept of *al-fina'* and *al-harim* in the cities of the Middle East, it is important to know the role of Islamic built environment judgements in their implications during the Islamic period. The most important Islamic literature concerning this issue, was developed by the Islamic jurisprudence.

The emergence of Islam in the seventh century forced life-ways associated with Islam's practical plan of life[98]. By the second and third century of the Islamic period (8th-9th century AD), Islamic civilization had attained a high level of cultural productivity. This was supported by the expansion of Islam to large areas with diverse rich cultures, while stabilizing the condition of the new emerging Islamic society. The built environment was one of the important fields which was stimulated by this cultural productivity as reflected in the building of new cities and the expansion of the existing built up areas[99]. This required systems of decision making to organize building process and the urban physical character.

An important achievement to meet this need was the establishment of Islamic jurisprudence (*fiqh*) which contributed to the development of the domain of Islamic law *(shari'ah)*. Islamic jurisprudence is the knowledge of derivation of rules related to two issues:

1. *'Iba'da't* or the ritual observances.
2. *Mu''amala't* or practical issues of the community such as land use, taxation, buildings, family life, and human behavior. In

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[98]Badran, Badran Abu al-'Ainain, *Ta'rikh al-Fiqh al-Islami*.
Wigmore, John Henry, 1928, *A Panorama of the World's Legal Systems*, West Publishing Company, Saint Paul. Vol.2, p. 537.
Morris, A.E.J., *History of Urban Form*. p. 374.

[99]Raymond, Andre, 1984, *The Great Arab Cities in The 16th-18th Centuries An Introduction*, New York University Press, New York.

this way, issues of urban life were influenced or modified by Islamic principles.

Islamic jurisprudence implied the exercise of intelligence to derive the required judgements from two sources: First from the basic sources, _Qura'n_, the Prophet's Sayings, and the opinion of the Prophet's Companions. Second, if the required judgement was not found in these sources, then it would be open for analogical deduction _(qia's)_. _Therefore, analogical deduction (al—qia's) aimed to apply the exercise of intellegence in deriving a judgement (hukm) in the absence of a specific binding judgement from the primary sources._ This method and its theory was first developed by Imam Hanafi (d150/767) in Iraq. His doctrine was used to establish the tradition of Hanafi and its school of law[100]. Several other traditions and schools of law were developed later by other scholars, each with a particular method and process to derive the judgements such as _Maliki, Shaf'i_, and _Hanbali_ (table 2.1)[101].

In a broader sense, these early scholars attempted, first to connect the ideal theory of Islam to practice and to create moral and legal obligations according to the main principles, and secondly to keep the practice of the legal system under control

---

[100]In some studies Imam Shafi'i is presented as the founder of Islamic law _(shari'ah)_ and not Imam Hanafi. This can simply be refuted because Imam Hanafi established the foundation of Islamic science of law when Imam Shafi'i was not yet born. Note that Imam Hanafi was born in AH 80/699 AD and died in AH 150, while Imam Shafi'i born in AH 150. But Imam Sha'fi'i is reported to have written the first book on the science of law _(usul al-fiqh)_ where he developed his own method.

    See:
    Ima'm Abu Zahrah, _Ta'rikh al—Madhahib al—Islamiyyah._ pp. 354—366.
    Abdur Rahim, 1911, The Principles of Mohammadan Jurisprudence, All Pakistan Legal Decisions, Lahore. pp. 23—27

[101]The basic factor which was characterized each particular tradition arose from the number of the basic sources, which should be used first to find a binding command before using the analogical deduction.

    See also: Calder, Norman, 1993, _Studies in Early Muslim jurisprudence_, Clarendon Press, Oxford.

within the tenets of Islam[102].

```
┌──────────────────────────────────────────────────────────────────┐
│                          The Prophet                               │
│                                                                    │
│              Sunni                        Shi'ah                    │
│   Hanafi-Maliki-Shafi'i-Hanbali   Athna'Ashari-Ismaili-Zaidi       │
│                                                                    │
│    The two basic Muslims' sects are Sunni and Shi'a. They were     │
│   established immediately on the death of the Prophet. The main    │
│   reason for division was the dispute concerning the question of   │
│   Imamat in the spiritual leadership of Muslims. The Sunnis        │
│   proposed that the leadership should be elected by means of votes │
│   of all Muslims (ijma''), while the Shi'ahs proposed the          │
│   leadership be confined to the Prophet's family or his nominees,  │
│   by succession or appointment.                                    │
└──────────────────────────────────────────────────────────────────┘
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Table 2.1: *The main Muslim sects, sub sects, and their school of law.*

Imam Hanafi advocated the use of the analogical deduction to avoid rigid application of previous solutions, that no new judgement should be advised before testing the case against some basic questions[103]. This was also to show that *only the guideline judgements and principles of the basic sources of Islam should continue, while the new judgements of jurisprudence should be considered as time, place, and case related*[104]. This innovative way of thinking continued during the first seven centuries of Islamic civilization, welcoming invention and renewal. Conquest of the Abbasid Empire and Baghdad by the Tarter invasions in the 13th century contributed to *decline in the quality of the cultural productivity. As a consequence, jurisprudence lost its innovative nature and became confined to judgements and analogical deduction methods of the already established*

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[102]Each tradition was spread out and more or less dominated by a particular region. The Hanafi flourished in Iraq, Turkey, Bosnia, India, Pakistan, and Central Asia, Maliki in Egypt, north Africa and Spain, Shafi'i in Egypt and Syria, while Hanbali was followed by a small population mostly in Arabia, Egypt, and Syria.

[103]See the questions of *al-fina'*.

[104]Ima'm Abu Zahra, Mohammed, no date, *Ta'rikh al-Madhahib al-Islamiyyah*, Da'r al-Fikr al-'Arabi, Cairo. p.288.

traditions[105]. As a concequence, *in the late period of Islamic civilization, old judgements were considered as rules.*

An example of the innovative way of thinking of the early generation of jurisprudence scholars is the use of analogical deduction to develop specialized and detailed standard judgements *(shart pl. shurut)* for each particular field of urban society, such as the built environment.

Among them was al–Tahawi (an Egyptian Hanafi jurisprudent[106]), who wrote at the end of third Islamic century (or early tenth century) a handbook called *al–shurut* (The Conditions). It contained the **standard judgements** of the Hanafi tradition which should be used in any contract concerning buildings and land use[107]. This early work is a vital document and has not been mentioned before by contemporary studies of Islamic built environment.

The standard judgements of *al–shurut* were used as a basic document to teach and guide any judge before he could function as a jurist (*qa'di*). Because the Hanafi tradition was spread over large areas and continued to be for several centuries the official tradition of different Islamic empires, such as the Abbasids, the Ottoman, and the Mamalik, the Hanafi tradition and its standard judgements (*shurut*) played an important role (directly or indirectly) in most Islamic countries. At the same time it stimulated jurists of other traditions to develop their

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[105]Zaida'n, 'Abd al–Karim, 1992, *al–Madkhal li–Dirasat al–Shari'ah al–Islamiyyah*, Maktabat al–Quds, Baghdad. pp. 89–130.
Hakim, Besim, *Arabic–Islamic Cities*. pp. 16–17.
al–Ima'm Abu Zahrah, Mohammed, *T'arikh al–Madha'hib al–Islamiyyah*. pp. 227–261.

[106]al–Tamimi, Abi Sa'd 'Abd al–Karim (d1166 AD), *al–Ansa'b*. Edited by al–Yamany, Abur Rahman, 1962, Dairatul–Ma'arifil–Osmania–Osmania University, Hayderabad. Vol. 1, p. 181.

[107]al–Tahawi, Abu Ja'far Ahmed bin Muhammed bin Salamah, *Kita'b al–Shurut al–Kabir*. Edited by: Wakin, Jeanette A., 1972, The Foundation of Documents in Islamic Law, State University of New York Press, Alabany.

particular standard judgements *(shurut)*. This trend has continued during the whole Islamic period.

Besides the standard judgements of *al-shurut* literature, the jurisprudents also produced another practical literature called *al-hiyal* (devices). It was aimed to assist people to achieve their interests, even though they might be different from the letter of the law[108].

The *hiyal* (devices) did not oppose the standard judgements of *al-shurut* literature, but it helped to diversify the ways of applying these rules as practical and flexible rules applied under different conditions.

The Muslim jurisprudents were divided into two groups:
1. The jurisprudents *(faqih pl. fuqaha')* who produced formal legal opinions *(fatwa', pl fata'wi)*, and written literature that contained standard judgements of different issues of the living built environment such as buildings *(bunia'n)*, roads *(turuqa't)*, pious endowments *(waqf)*, and ownership *(al-amla'k)*. Note that all these rules were connected to moral and spiritual meaning (directly or indirectly), to support their value among the people.

2. The jurists, or judges *(qa'di)* who produced judgements based on the cases presented to the court. The decisions were collected in the archives *(sijilla't)* of the court.

Thus, the judgements of the jurisprudents *(faqih)* were more general than those of the judges which were to solve spesific cases in a particular built environment.

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[108]al-Shaybani, Abi Bakr Ahmed, *Kita'b al-Hiyal wal-Makha'rij*. Edited by Schacht, Joseph, 1968, Gorg Olms Verlagsbuchhandlung, Hildesheim.

The judge (*qa'di*) had assistants who also had a role in the application of the judgements, such as *'udul* and *ha'sib*[109]. *'Udul* was a representative agent authorized by the court to judge between people in areas far from the court. Office of the *'udul* was simply a shop located in the market. He often sat on a bench in front of the shop where people could go to him in order to solve problems and make contracts.

Al-ha'sib was a person who assisted the judge by walking through the streets to supervise the every day life in the street environments and protect the peoples' rights[110]. *Al-hasib* would base his decisions on the guideline rules of the Islamic law and standard judgements to make immediate judgments between people in the street when the events occurred.

Decision Making Structure

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                    ┌─────────────────────┐
                    │     Shari'ah        │
                    └─────────────────────┘
                              │
          ┌───────────────────┴───────────────────┐
┌──────────────────────┐      ┌──────────────────────┐
│  General Guidelines   │      │ Standard Judgements  │
│                       │      │    (Shurut)          │
└──────────────────────┘      └──────────────────────┘
          │                              │
   ┌──────┴──────┐              ┌─────────┴─────────┐
┌──────────────────┐          ┌──────────────────────┐
│  The Community   │          │    The Authority     │
└──────────────────┘          └──────────────────────┘
          │                              │
          └──────────────┬───────────────┘
                ┌──────────────────────────┐
                │  The Built Environment   │
                └──────────────────────────┘
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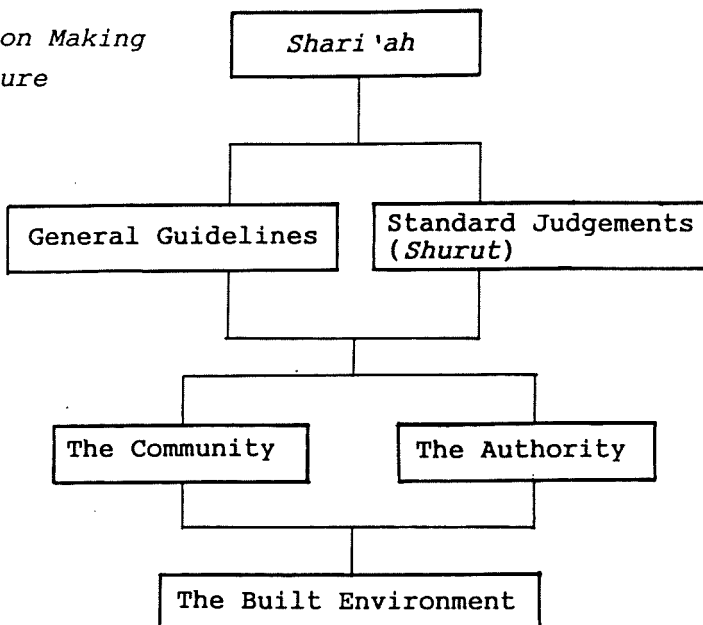
[109]Bin 'Arnus, Mohammed, *Ta'rikh al-Qada' Fi al-Islam.* p. 164-165.

[110]Ibn Khaldun, *al-Muqaddimah*, p. 225.
  al-Fa'si, 'Abd al-Rahma'n, 1984, *Khuttat al-Hisbah fil-nadar wal-tatbiq wal- tadwin*, Da'r al-Thaqafah, al-Da'r al-Bayda'.
  al-Mubarak, Mohammed, 1967, *al-Dawlah wa Niza'm al-hisbah 'Inda Ibn Taimiyyah*, Da'r al-Fikr, Damascus.
  See also Part Four, Chapter 1.4. *Users interpretations and judgements in al-fina'.*

The cases of *al-fina'* which were solved by the courts' interventions, played an important role in training and teaching people according to the basic guidelines of the standard judgements *(shurut)* of the Islamic schools. This was also supported by the mosques, which offered continuous Friday sermons for all Muslims who attended the Friday prayers. In this sermon, the muslim jurisprudent explained to the worshippers different practical issues of their built environment. This provided people with easy access to know their obligations and rights, and how to practice their purposes according to their rights and at the same time to avoid harm. As a consequence, the involved people in the Islamic legal system had close relationships with society and public life. It contributed to making their judgements products of everyday actions and creations and integrated them into the common social knowledge.

Indeed, this knowledge aided people to organize the applications of *al-fina'* in the built environment. This process had binding judgements originating from religion or old tradition. They guided the people and their craftsmen to create different applications of *al-fina'* in the street environments. This sort of decision-making cannot be defined as centralized or decentralized, because it had been influenced by the guideline judgements of Islamic law in deriving the standard judgements *(shurut)*, jurists judgements *(ahka'm)*, and peoples interpretations. The central authorities had also influenced the people's decosion making but it varied from strong involvement such as in the early period of Baghdad and less involvement in the later period. But in both levels, the authorities and the people were influenced largely by the same central sources of the guideline judgements and local tradition.

Therefore, organic form and growth of Islamic cities had order although they had no pre-conceived central plan. The order was created by common guidelines originated from Islam and local tradition and used in various judgements. The organic

characteristics originated from the flexibility of these built environment judgements and their mechanism for adjustments frequently as it was demanded by new actions, creations, interpretations, and new generations of the urban society. The various judgements which were created by common people and jurists to organize the space of *al-fina'* can demonstrate how this order-organic characteristics was achieved. The foundations of this mechanism will be discussed in the next chapters of this part with referring to more concrete examples in Part 4.

3. Built Environment judgements of *al-Fina'* and *al-Harim*

3.1. Ownership *(al-mulk)*

The backbone of the Islamic built environment judgements concerned with *al-fina'* is based on the type of **ownership** *(mulk)*. Each type of ownership provided people with particular **rights** *(huquq)* to **benefit** *(intifa'')* from elements of living built environment. These elements could be house, wall, window, street, *fina'*, land, air, sun light, water, people, and so forth.

Muslim jurisprudents *(faqih, pl. fuqaha')* divided rights of benefits into two basic types:

(a) rights to benefit from ownership of the element.

(b) rights to benefit from functions of the element.

As a consequence, ownership *(al-mulk)* could be classified into two categories: [111]:

```
                        ┌─────────────┐
                        │  Ownership  │
                        └──────┬──────┘
              ┌────────────────┴──────────────────┐
       ┌──────┴──────────┐              ┌──────────┴──────┐
       │ Partial Ownership│              │ Total Ownership │
       └──────┬──────────┘              └─────────────────┘
      ┌───────┴────────┐
┌─────┴────────┐  ┌────┴──────────┐
│ Ownership of │  │ Ownership of  │
│ the Benefits │  │ the Property  │
└──────────────┘  └───────────────┘
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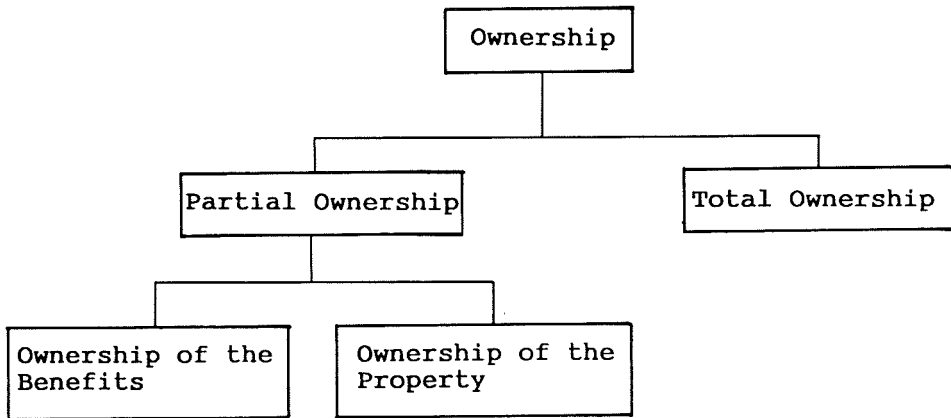
[111]al-Tahawi, *Kita'b al-Shurut al-Kabir.*
    Ibn Rajab (d795/1392), *al-Qawa''id*. Edited by Sa'd, Taha Abd al-Rauf, 1972, Maktabat al-Kuliyyat al-Azhariyyah, Cairo. pp.208-210.
    Ibn Abi al-Dam (d642/1244), *Kita'b A'da'b al-Quda't*. Edited by Al-Zheli, Muhammed Mustafa, University of Damascus, Damascus. pp 563-570, 604-622.

3.1.1. Total or complete ownership (*mulk ta'm*). It provided people with rights to benefit both from ownership of the element and its functions. According to Islamic law, any element of the living environment belongs to Alla'h. Therefore, Man can only have this right when he has complete ownership. The judgements of this right allowed him to benefit from this ownership. They guaranteed the owners continuity of their rights over time, and also protected these rights from harm by any other persons. The owner was free to choose the way to benefit from his property but should avoid harm to others. He was also subject to sanctions of the law. For example, buildings were removed to open a public street when this was the best solution.

3.1.2. Partial ownership (*mulk na'qs*): If a person had only one type of rights, then he would have partial ownership (*mulk n'aqs*). This was of two types:

    3.1.2.1. Ownership of the property only (*mulk al-'ain* or *al-raqabah*). It provided people with rights to benefit from ownership only and not its functions. For example, a person had a complete ownership (*mulk ta'm*) of a house and benefited from it by renting it to another person for a limited period. When the period was over, then the ownership reverted back to a total ownership again.

    3.1.2.2. Ownership of the benefits only (*al-irtifa'q*). It provided people with rights to benefit from functions of the element. This kind of right (*haq al-irtifa'q*) was also necessary to protect the right of properties to benefit from services such as street and water. For example, it enabled the people to cross the land of other properties to meet particular needs which could not otherwise be met[112].

According to the different types of ownership , *al-fina'* could exist as a total ownership or partial ownership depending on the condition of the property and the peoples interpretation.

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[112]Ahmed, Idris, 1986, *Fiqh al-Sha'fi'yyah*, Karaya Indah, Jakarta Timur. p. 147.

For example a house located along a river has a *fina'* adjacent
to the river and another *fina'* on other side along the street.
In this case, the *fina'* along the river is total ownership of the
house, while the *fina'* along the street is partial ownership
(figure 2.13).
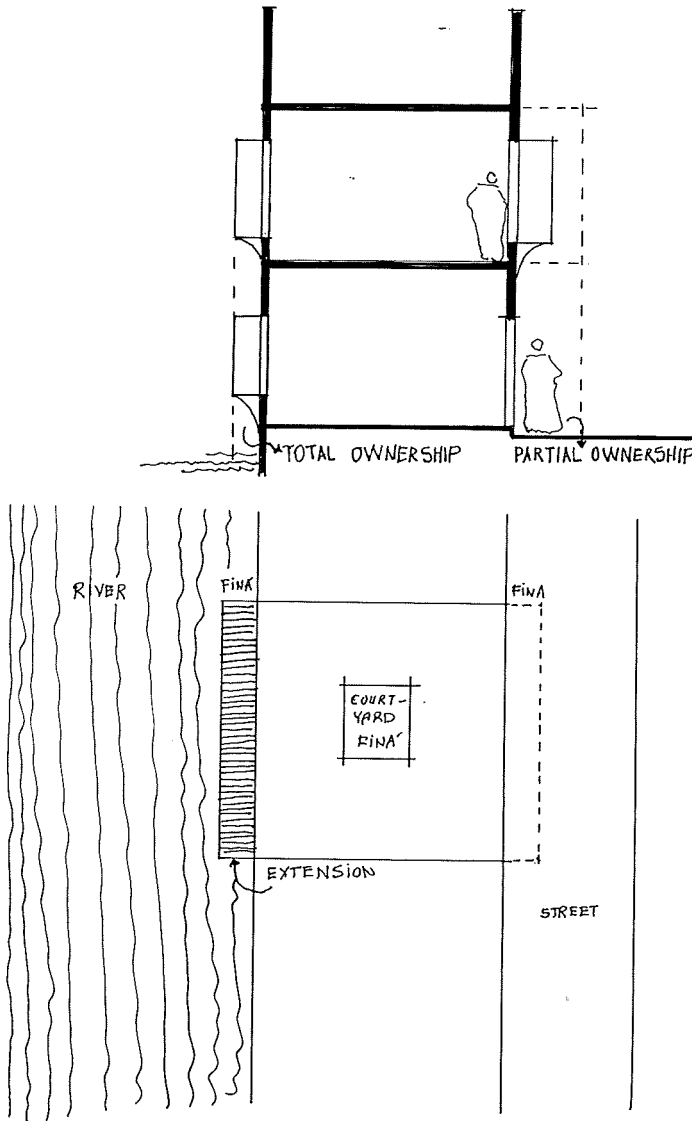
Fig. 2.13   *A house with two fina's (1)Total ownership*
                 (2)Partial ownership.

3.2.The land use

The different types of ownership also divided the land use into three categories: according to the pattern of ownership and right of benefit:

Land Use System

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                        ┌──────────────┐
                        │   Land Use   │
                        └──────┬───────┘
          ┌────────────────────┼────────────────────┐
┌──────────────────┐   ┌──────────────┐   ┌──────────────┐
│ Protected Land   │   │  Dead Land   │   │ Living Land  │
└──────────────────┘   └──────────────┘   └──────┬───────┘
                             ┌──────────────────────┼──────────────┐
                    ┌────────────────────┐   ┌──────────────────┐
                    │ The conveniences   │   │ The properties   │
                    └─────────┬──────────┘   └──────────────────┘
        ┌───────────────────┼─────────────────────────┐
┌──────────────┐   ┌──────────────────────────┐   ┌──────────────────┐
│  Al-fina'    │   │ Water Canals:            │   │ Roads:           │
└──────────────┘   │ 1.Canals to provide water│   │ 1.Private Roads  │
                   │ 2.Canals for disposing   │   │ 2.Public Roads   │
                   │   waste water.           │   │                  │
                   └──────────────────────────┘   └──────────────────┘
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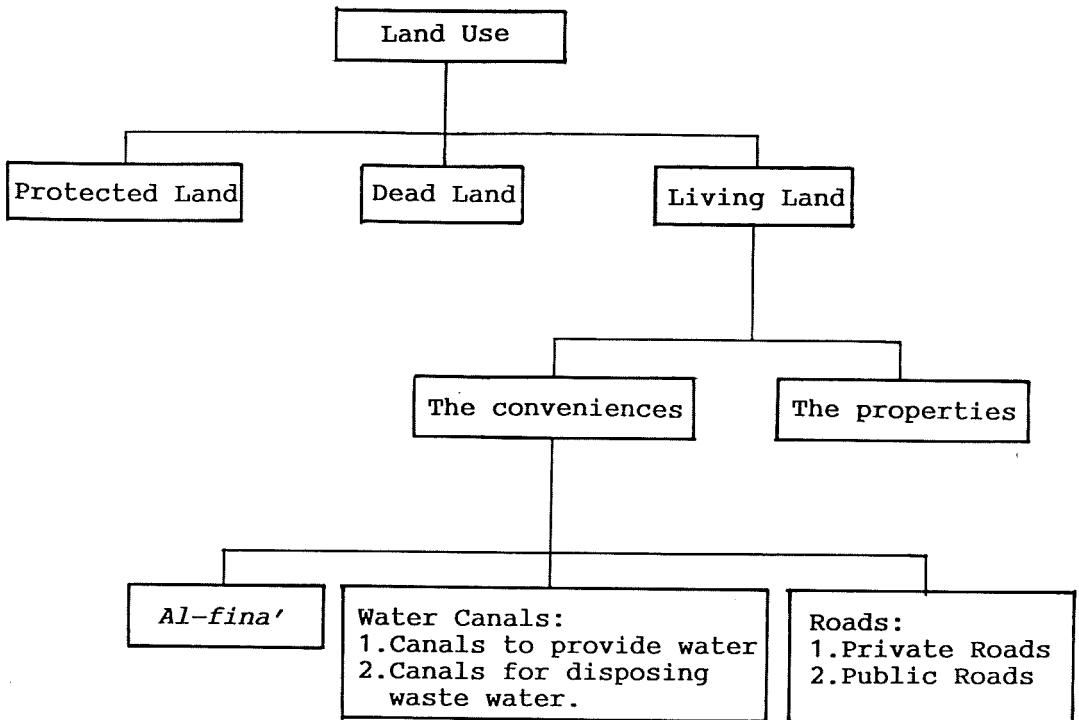
3.2.1. *Ard 'a'mir* **or the living land.** A piece of land was considered living when it was used for a particular benefit, such as houses, farms, and wells. Thus, owner of such property had either a total or partial ownership. Living land (*'a'mir*) was also used to identify the built up area of a city and a village. It was constituted by two categories of physical elements:

Al-amla'k **or the properties.** Public and private properties such as houses, shops, and farms.

Al-mara'fiq **or the conveniences of the properties.** They were necessary elements to enable the property (*al-mulk*) to function properly. al-Tahawi identified these conveniences as following:

Tariq **or road** for human and goods circulation. They were of two types:

Tariq kha's **(private road or path).** A dead end street used by one or several houses. It was also the access of a particular house to the main road through the land of another house beside it. Such a path was called *dahliz*, or a corridor[113].

Tariq 'A'm **(public road).** An open road provided access for the pedestrians and the properties located along its sides[114]. In the market area this type involved both the open and the dead end streets.

Water canals to provide houses with water having two types:

Qana't (pl. qanawa't). Those canals that branched from rivers and provided water for irrigation and houses in the city[115].

Musil (pl. masayil). The smaller canals that were used for disposing waste water from the different household activities

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[113]al-Tahawi, *Kita'b al-Shurut al-Kabir.* pp. 14, 51-55.

[114]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p. 13.

[115]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p. 105

except for human excrement[116].

Al-fina' (pl *afnya*): The inner courtyards and open places outside the building, adjacent to its walls, and its related elements such as windows, entrances, and benches[117].

3.2.2. *Ard al-mawa't* (the dead land): The land was considered dead when it did not belong to a particular owner and was not in anyone's possession[118]. It was offered for free to anyone who wanted to retrieve it for a particular benefit[119]. This right was called *haq al-ihya'* (or revivification the land) and organized by a large number of rules called *ihya' al-mawa't* (revivification of the dead land)[120]. Some of the early Hanafi jurisprudents demanded that the central authority should control the process of *ihya'* (revivification). Then, any person would have to obtain permission from the authority to revive a *mawa't* (dead land).

Abu Yusuf maintained that the dead land could be revived by the owner of the adjacent property without permission from authorities if this did not cause harm[121]. If it caused harm, then he was prevented from reviving it without permission from the authorities.

Most of the Shafi'i jurists advocated that the people could occupy a *mawa't* land (dead land) without getting permission from

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[116]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p. 13-14

[117]Al-Tahawi, *Kita'b al-Shurut al-Kabir.* a p.14, 50

[118]Ibn Quddamah (d630/1232), 1983, *Al-Mugni,* Da'r al-Kita'b al-'Arabi, Bairut. Vol. 6. pp. 147-190.

[119]See Prophet's Sayings number 9 appendix 2.

[120]The *mawa't* land could also be allocated to people by the government. This was called *iqt'a '*.

[121]Abu Yusuf, *Kita'b al-Khara'j.* p. 118.

the authority[122]. The Maliki jurists, on the other hand required the authority's permission if the target land was close to the built up area (*'a'mir*)[123].

3.2.3. *Ard al-harim* (the reserved land).

The Hanafi jurisprudents such as Abu Yusuf[124] defined *al-harim* as reserved protected areas around watercourses. It always resulted from *ihya'* (revivification) of a *mawa't* (dead) land. In addition, an additional part of the *mawa't* (dead) land along or surrounding the new cultivated or constructed area was also considered within these same rights. The owner had total ownership and no party could enter, cultivate, or construct in this area without permission from the owner.

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[122]al-Tahawi, *Kita'b al-Shurut al-Kabir*. p. 103.

[123]al-Ba'li, Badraddin (d777/1375), 1977, *al-Fata'wi al-Misriyyah*, Da'r al-Kutub al-Islamiyyah, Gujranwala. p. 414

[124]Abu Yusuf (d182/), *Kita'b al-Khara'j*. p124

4. Al-Harim

The preceding sections show that *al-fina'* and *al-harim* were two design and plan concepts. They contributed to organic growth of urban streets by micro and macro influences. The difference between them was that *harim* often resulted from the *ihya'* (the revivification) of *mawa't* (dead) land out of the city area, and *fina'* was within the built up area *('a'mir)* of the city[125]. Yet, *harim* (reserved land) could be found in the built up area, when the cities were expanded and involved the surrounding areas such as rivers and wells.

The Muslim jurisprudents used the term of *harim* for three types of the land use (figure 2.14):

(a). the plot of the property[126].

(b). the reserved land of the revived land[127].

(c). the reserved land adjacent to a city or a village[128].
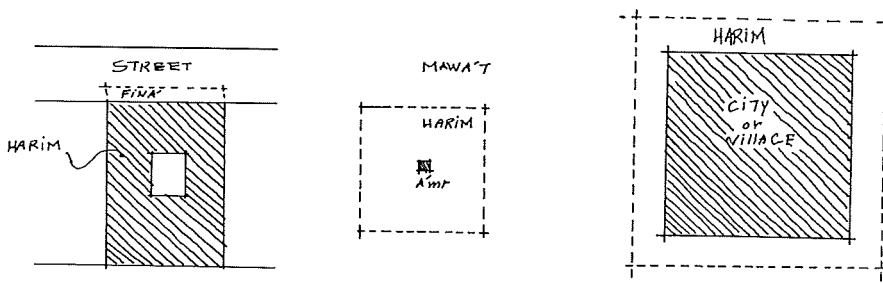
Fig.   2.14   *Levels of al-harim (1)Harim of a house (2)Harim of a revived land (3)Harim of a settlement.*

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[125]al-Asyuti, Shamsaddin Mohammed, 1955, *Jawa'hir al-'Uqud.* Matba'at al-Sunnah al-Nabawiyyah, Cairo. Vol. 1, pp. 302-303.

[126]Accordin to Ibn Mandur, al-harim is the built up area of a property and al-fina' is the area out of this territory.
    Ibn Mandur, Jama'laddin Mohammed (d630/1232), *Lisa'n al-'Arab*, Da'r Bairut, Bairut. Vol. 1, p. 617.

[127]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p. 103.

[128]Abu Yusuf, *Kita'b al-Khara'j.* p. 123.

al-Tahawi[129] maintained that only a property which resulted from the revivification of *mawa't* (dead) land has a piece of land as *harim* (reserved land). Its major role was to enable the revived land to perform its functions. In the early period of revivification process of a particular piece of land, some standard dimensions of land use were applied such as[130]:

4.1. *Harim al-nahr* (*harim* of the river): Referred to the land along the riverside where the river sweeps up pebbles, sand, and mud. Al-Shaybani demanded that there be left 500 cubits on each side where no one else was allowed to use it[131]. Al-Tahawi left the decision of this width to the particular situation and the decision of the people (figure 2.15).

PROTECTED LAND

RIVER

PROTECTED LAND
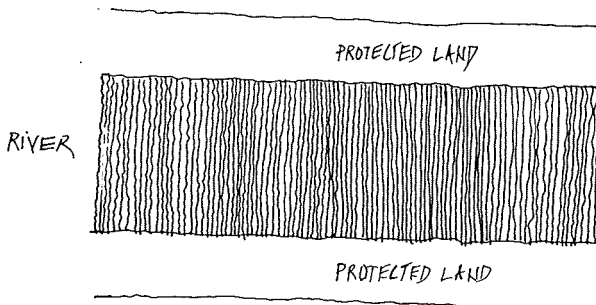
Fig. 2.15   *Harim of the river (nahr).*

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[129]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p.103.

[130]al-Tahawi, *Kita'b al-Shurut al-Kabir.* pp. 103-104

[131]Al-Shaybani, *Shaybani's Siyar.* Edited by Khadduri, Majid, 1966, The Johns Hopkins Press, Baltimore, Maryland. p. 284.

4.2. *Harim al—qana't* (*harim* of the canal). Is the reserved land along the two sides of a canal and was used for digging and cleaning purposes. It width was decided by the users in each particular case.

4.3. *Harim al—bir* (*harim* of a well): If a person had dug a well in the dead land (*mawa't*), then a belt of land surrounding the well was given over to the owner of the well. The *harim* (protected) area should be 60 cubits wide on each side of the well if it was for irrigation *(bir nadh)*, and 40 cubits if it was for cattle (*bir 'atn*)[132]. Some jurists used 25 cubits as a standard dimension, and Ibn Junaid recommended that this dimension be equal to the depth of the well[133] (figure 2.16).
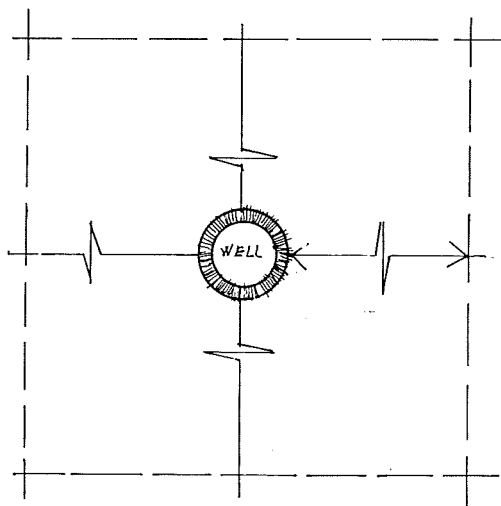
Fig. 2.16   *Harim of the well (bir).*

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[132]Abu Yusuf, *Kita'b al—Khara'j*, p123.
Al—Shaybani, *Shaybani's Siyar.* pp.284—285

[133]al—Hilli, al—Siuri Jamaladdin (d826/1422), *al—Tanqih al—Ra'i' li—Mukhtasar al—Shari'ah.* Edited by Kohkmary, Abd al—Latif, 1984, Maktabat A'iat Allah al—Mar'ashi, Qum. p. 100
    al—Asyuti, Shamsaddin Mohammad bin Ahmed, *Jawahir al—'Uqud.* Vol. 1., p. 307.

These dimensions were reduced or increased according to the condition of each particular well. For example, it could be increased to avoid harm from building another well near to the original well which might reduce the water level in the well. It could also be reduced if there was no harm from the new well.

4.4. *Harim al-'ain* (reserved land of a spring): Was the land surrounding the spring. The jurists used different dimensions for this land, Abu Yusuf recomended 500 cubits[134], and al-Tahawi recomended 100 cubits, while Al-Hilli recommended 1000 cubits[135].

On the other hand, the jurists disagreed about the demarcation of land use between the living land (*'a'mir*) and dead land (*mawa't*). The salient question was, should people reserve a measure of open land between their own and other properties or not?

The Hanafi tradition called for the use of such buffer lands. Sound was used to measure and decide the required width of this land. Abu Yusuf[136] maintained that the living land (*ard al-mawa't*) starts from a point where one stands nearest to the living land (*'a'mir*), and his shout should not be heard by a another person standing on the boundary of the living land (*'a'mir*). Here, reserved land (*harim*) was called for because it could benefit the properties near to it. Some jurists of the Shafi' and Hanbali did not require such an area. Other jurists left the decision of the distance between the two areas to the tradition of the local people (*'urf*)[137]. On the other hand, Imam Malik required permission from the local authority when the

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[134]Abu Yusuf, *Kita'b al-Khara'j*, p123

[135]al-Hilli, al-Siuri Jama'laddin, *al-Tanqih al-Ra'i' li-Mukhtasar al-Shari'ah.* p100

[136]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p.103

[137]Zaida'n, 'Abd al-Karim, 1992, *Al-madkhal li-Dirasat al-Shari'ah al-Islamiyyah*, Maktabat al-Quds. p.218.

occupied land of *mawa't* was close to the living area[138].

Regarding buffer lands between a city and dead land (*mawa't*) around it as it was required by the Hanafi jurists, it was considered as a protected land (*harim*) for the city, while its ownership belonged to the properties adjacent to it (figure 2.17).
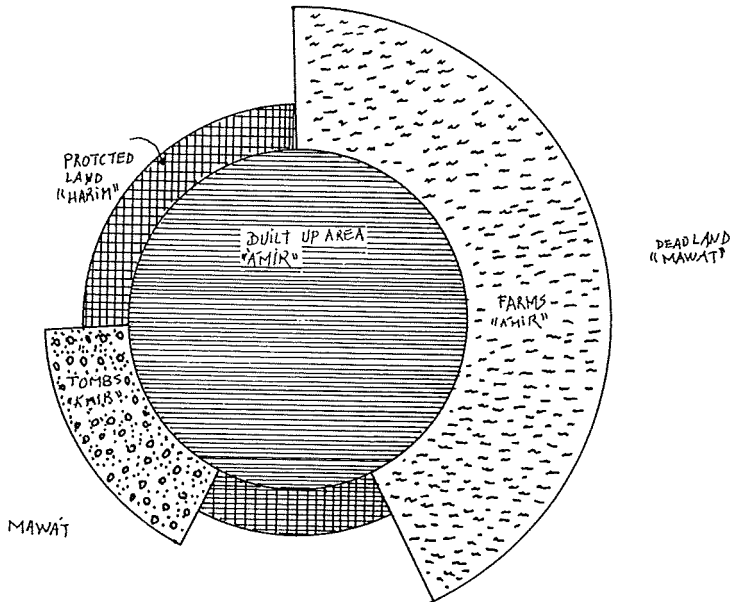
Fig. 2.17   *Levels of demarcation of the land.*

al-Hilli and al-Asyuti[139] advocated that for one to make revivification (*ihya'*), the occupied land should not be A reserved land (*harim*) of another property (*'amir*). It is also explained in the preceding section that any property (*'amir*) adjacent directly with dead land (*mawa't*), should have its reserved land (*harim*). Thus, the properties along the edges of the city had reserved land (*harim*) so that it could be considered the reserved land *harim* of the city.

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[138]al-Ba'li, Badraddin, *al-Fata'wi al-Misriyyah.* p. 414.

[139]al-Hilli al-Siuri, Jama'laddin, *Al-Tanqih al-Ra'i' li-Mukhtasar al-shari'ah.* pp.79-96.
al-Asyuti, Shamsaddin Mohammed, *Jawa'hir al-'Uqud.* Vol. 1, pp. 303.

Some jurisprudents such as al—Mawardi[140] denied the existence of this reserved land (*harim*) because the physical structure of the traditional city was compact. This opinion can easily be criticized since the formation of the reserved land (*harim*) of the city was only the first stage, whereas later it would be occupied, either by properties along it or by others.

Because the occupation of the reserved land (*harim*) was not permitted in general, the process of revivification (*ihya'*) should take place outside of the harim of the city[141]. If the city expanded and involved the harim areas, then these dimensions could be changed according to the condition of the properties and the users' decision[142]. In the same way, the *harim* of the city could be occupied in particular cases such as increasing the density of population, after the occupants got permission from the owners or from the local authorities. In all cases, the occupants had to leave enough space for public passage. If the parties involved disagreed, then there should be 5—7 cubits open space for the new streets [143]. This process may have contributed the disappearence of the reserved land *harim* from the city gradually and forming new reserved land (*harim*) around the city[144]. This can support what Ibn Yusuf recomended in proposing to leave a buffer land between the city and the new, occupied land.

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[140]al—Ma'wardi (d450/1058), 1960, *al—Ahka'm al—Sultaniyyah wal—Wila'ia't al—Diniyyah*, Matba'at al—Halabi, Cairo. p.177.
See also: Akbar, Jamil, *'Ima'rat al—Ard fil—Islam*. pp. 164—169.

[141]A'iat Allah al—Shira'zi, Mohammed al—Husaini, 1988, *al—Fiqh: Kita'b Ihy'a al—Mawa't*, Da'r al—'Ulum, Bairut. pp 119—122.

[142]Ibn Qudda'mah, 1983, *al—Mugni*. Vol. 6. pp. 172—182.

[143]The Prophet via Imam al—Sa'diq. In al—Hilli, p99

[144]Note that there were about three centuries between Imam Abu Yusif and al—Mawardi. That was enough time to occupy and transform the *harim* in cities which may have applied the standard distance.

5. *Al—fina'*

As with the case of the reserved (*al—harim*), the jurisprudents had also developed different opinions concerning the definition of the territorial boundaries of *al—fina'* and regulations of the different claims for land (private and public). These differences basically resulted from the particular method of jurisprudence of each tradition.

All cases of *al—fina'* along the streets which were resolved by the jurisprudents or discussed in the old literature show that they *depended on identifying the application, then its components. Each particular application was divided into four basic components*[145]:

1. The design solution of the implication. It involved its elements, their design, and the relationship between these elements.
2. Its function. It involved type of use, type of users, and their effect on the surrounding environment.
3. Its involved people, their type and behaviour.
4. Its organizational order. Its judgements which organize the relationship between design solution, function, and involved people. The jurists role was to intervene if a disagreement rised about one of these components.

On the other hand, studying the juridical literature shows also that, in any particular case, *the jurists of all traditions used some standard questions to make their judgement (hukm) to allow or not allow a particular setting to benefit from al-fina'*. The backbone of these questions was related to the nature of the benefit and the harm of the setting. The basic questions

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[145]Al—Tahawi, *Kita'b al—Shurut al—Kabir*.
Ibn, Rajab, al—Qawa''id.
al—Asyuti, Shamsaddin Mohammed Bin Ahmed, *Jawa'hir al—'Uqud*

Note that in the modern period this way of studying the space of the built environment is also being used. See the term of environment setting as developed by Barker in the theoretical framework.

were related to eight issues (table 2.2):

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1. The type of benefit
   a. private
   b. public

2. The period of the benefit
   a. temporary
   b. permanent

3. The width of the street
   a. wide: wider than 5-7 cubits
   b. narrow: narrower than 5-7 cubits

4. Does it cause harm?
   a. to the neighbors
   b. to the pedestrian

5. The period of the harm
   a. it will cause harm now
   b. it will cause harm in future
   c. the harm is temporary
   d. the harm is permanent

6. The type of harm
   a. passage
   b. services
   c. privacy
   d. sound
   e. smell
   f. construction
   g. water
   h. others

7. The importance of the benefit to the person who claims it
   a. necessary
   b. not necessary

8. Has the person other alternatives (choices)?
   a. yes
   b. no

Table 2.2: *Questions of al-fina'.*

The answer for each particular question should be tested against the basic sources of Islamic law to know if they had a binding guideline judgement concerning that answer[146]. If not, then the jurist could use analogical deduction to find a new judgement to meet the case. We can suggest an example which

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[146]See for example:
    al-Wansharisi, Ahmed Bin Yahia (d914/1508), *al-Mi'yar al-Mu'arrab.* Edited by Hajji, Mohammed, 1981, Dar al-Garb al-Islami, Bairut. Vol. 8, pp. 40-43, 398-456.
    Ibn Rajab, *al-Qawa'id.* pp. 214-218.

demonstrates how the different points of a particular case could be subject to these questions:

—An owner of a house wanted to open one of the rooms toward *al-fina'* (act). He wanted to make it a bakery for the neighbourhood (type), and permanently (period). The street was wide (dimension), the new shop could cause harm to one neighbor permanently (harm, and its period), because of the sound and heat (type of harm), while the street was residential (type of street), the shop was necessary for him because he was poor and the community needed this shop (importance of the act), and the owner had no other alternative (choice)(figure 2.18).

A ROOM TURNED INTO A SHOP   STREET
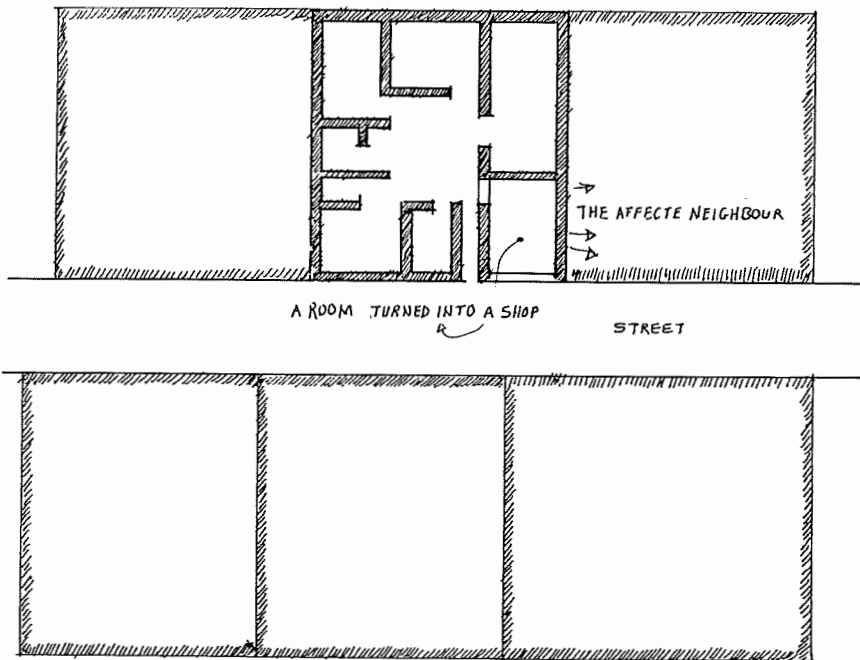
Fig. 2.18   *A neighbour wanted to open a shop in a residential street.*

Each particular point of this example should be judged according to four different levels of injunctions:

1. _Hara'm_: acts which are strictly forbidden.
2. _Makruh_: acts not advised.
3. _Ja'iz_: acts about which the law is indifferent.
4. _Wa'jib_: acts which are advised or demanded.

If the act was _hara'm_ (forbidden), it would not be permitted, while if the act was _j'aiz_ (indifferent), it would be allowed. Yet similar cases, which occurred in different places, may have received different judgements. This resulted from, first, the jurists making different interpretations for similar points and their injunctions. Second, the rules of _hyal_ (devices) provided the people with possibilities to apply their claims although they were different from the injunction. For example, in the previous case, the harm of the shop might show that the owner should not be permitted to open the shop. Yet by using a device _(hyal)_, such as relocating the baking oven to another side, the owner may have been able to get the permission.

Islamic judgements considered _al-fina'_ as part of the conveniences of the properties. But, its ownership was of different types, private, public, and semi-public, according to the type of the street (dead-end, or thoroughfares) and its location in the city (residential, or commercial area). Consequently, the neighbors' and pedestrians' rights to benefit from _al-fina'_ were also different.

The jurists disagreed also on the physical character of _al-fina'_ such as dimensions, and whether it was an open courtyard in front of a house, or also the perimeter of land around it[147].

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[147]al-Tahawi, _Kita'b al-Shurut al-Kabir_. pp. 2-108
    Ibn al-Ra'mi (d735/1334 AD), _Kita'b al-I'lan bi-Ahka'm al-Bunya'n_. Handwritten and printed lithographically in Fes, 1913. Edited by Osman, Mohammed, 1989, Dar al-Ma'rif al- Jamahiriyyah, Alexandria.
    Ibn Taimiyyah (d729/1328 AD), (no date), _Fata'wi Ibn Taimiyyah_, Da'r al-Fikr al-'Arabi, Cairo, vol.30 pp.6-10.

They either permitted or did not permit changing its physical character depending on the particular situation of the cases and the jurists' interpretation.

The flexibility of all Islamic traditions to derive judgements for the different settings of the *al-fina'* as they emerge in everyday life, and using different standard judgements in each particular tradition contributed to produce contradictory judgemnets on territorial boundaries, and which claims could be applicable in the space of *al-fina'*[148]. Note that the disagreement was not only between the jurists of the different traditions but also within each particular tradition. *Therefore, there were no particular judgements of al-fina' that characterized one tradition from other traditions which continued over time and place.* The following examples from Hanafi and Hanbali tradition may demonstrate some of the contradicting opinions which can be found in all other traditions (table 2.3)[149]

About use and definition of *al-fina'* see:
Ibn Mandur, *Lisa'n al-'Arab*. Vol. 1, p. 617, Vol. 15, p. 165.
al-Hanafi, Muhibaddin Abi Fayd al-Sayyid Mohammed Murtada' al-Husaini al-Wasity al-Zubaidi, no date, *Ta'j al-'Arus min Jawa'hir al-Qa'mus*, Da'r al-Fikr, Bairut. Vol. 20, p. 59.
Dozy, R, 1881, *Dictionnaires Arabes*, Leyde E. J. Brill, London. Vol. 2, p. 285.
Majma' al-Luga al-'Arabiyyah, 1960, *al-Mu'jam al-Wasit*, Matba't Misr, Cairo. p. 711.
al-Jarr, Khalil, 1973, *al-Mu'jam al-'Arabi al-Hadith*, Larousse, Paris, p. 875.

[148]al-Tahawi, *Kita'b al-Shurut al-Kabir*. pp. 13-14.
al-Shaybany (d189/804), *al-Jami' al-Sagir*. Edidet by A-laknuti abi al-Hasanat, 1987, Idarat ul Qura'n, Karachi. p. 29-83.
Ibn Rajab (d 795/1392), *al-Qawa'id*. Edited by sa'd, Taha, 1972, Maktabat al-Kuliyyat al-Azhariyyah, Cairo. pp.200-218.
al-Ba'li, Badraddin, *al-Fata'wi al-Misriyyah*. pp. 346-347.
Ibn Quddamah, 1983, *al-Mugni*. Vol. 6., p. 162.
al-Wansharisi, Ahmed Bin Yahia, *al-Mi'yar al-Mu'arrab*. Vol. 8, pp. 398-456.

[149]Note that these contradictory opinions did not come about only because the ownership patterns of these cases were different as argued by Akbar but because of the flexibility of all schools of Islamic law and changing time and contexts of these cases.
See: Akbar, Jamil, *'Imarat al-Ard fil-Islam*. p. 240.

Hanafi tradition[150]:
1. _Al-fina'_ should not be occupied whether the street was wide or narrow, dead end or thoroughfare.

2._Al-fina'_ of the dead end street can be occupied permanently by any property along it by permission of the neighbours.

3._Al-fina'_ of the thoroughfares can be occupied permanently by any property along it without permission of the others if that does not cause harm.

4._Al-fina'_ can be occupied temporarily without permission of the authority.

Hanbali Tradition[151]:
1.The properties have no right to occupy any part of the street under any condition.

2.The properties along a street have no right to occupy the street if it is narrow or their act cause harm to others.

3.If the street is wide and occupying the street for common benefit does not cause harm, then:
    (a) Some jurists allowed that if it was for a common benefit with permission of the authority.
    (b) Some jurists allowed that without demanding permission of the authority.

4.If the street is wide and occupying the street for private benefit does not cause harm then:
    (a) Some jurists did not allow that if it was for private and permanent benefits even with permission of the authority.
    (b) Some jurists allowed that if it was for private and permanent benefits by permission of the authority.
    (c) Some jurists did not allow that if it was for private and temporary benefit even by permission of the authority.
    (d) Some jurists allowed that if it was for private and temporary benefit by permission of the authority.

Table 2.3: _Examples of al-fina' judgements_

In spite of this variations in the derived judgements, the jurists divided the space of the street into two areas. _Tariq_ was defined as the space of the street which should function basically as a **path way.** _Al-fina'_ was defined as a **place** with a design concept to contain different functions. Some basic rights

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[150]al-Tahawi, _Kita'b al-Shurut al-Kabir._ pp. 13–14.
al-Marginani, Burha'naddin 'Ali Bin Abu Bakr (d593/1196), no date, _Fath al-Qadir_, Da'r al-Fikr, Bairut. p. 307.

[151]Ibn Rajab, _al-Qawa''id._ pp. 214–218.

and benefits were developed to organize the space of the street. All these rights emerged as a benefit from the partial ownership of the space of the street environments (*haq al-irtifa'q*)[152].

6. Using the right of *al-irtifa'q* (utilization) to benefit from *al-fina'*

As has been stated, partial ownership *(mulk na'qs)* of the *irtifa'q* provided people with rights to reach particular benefits directly or through the land of another property. These rights could not be affected by changing the owners or rebuilding the properties. It was protected by the law to guarantee the flow of pedestrians and services for all of the people in the city.

al-Tahawi demanded that if a person sold a piece of land with no access to a street, then the seller has to open a passage between the land and a street. If it was possible, the location of the passage should be as the buyer demanded[153]. On the other hand, Abu Yusuf maintained that if a person revived isolated dead land, then the neighbors should allow him to run a canal through their property to cultivate this land[154].

Different rights could be practiced in the streets using the right of *irtifa'q* (utilization) with a justification such as the following:

6.1. The right of passage *(haq al-murur)*.

Any person should be guaranteed to have access from his property to the street, and to pass through the streets of the city freely, although the private streets had different standard judgements from the public streets. If it was a private dead-end street, then the whole street area was considered as private ownership belonging to one property or several properties. The

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[152]See the partial ownership

[153]al-Tahawi, *Kita'b al-Shurut al-Kabir.* p. 71

[154]Abu Yusuf, *Kita'b al-Kara'j.* p. 129.

owners of these properties shared the benefits, but were not allowed to close the street, especially if it caused harm to the pedestrians or a neighbor. An owner could sell his share in the street or give to his neighbor. The closest neighbor had the first option to buy this share according to the right of pre-emption (*shafa'ah*)[155]. If it was the pathway of only one house and was located in another property, then the road was considered as a part of the private property for the house.

Because the built up area of the Islamic cities had a compact structure, not all the plots had access to services or the streets. This resulted from subdivision of properties, or isolated lands remaining from building the quarters or cultivation of the land. In both cases, the standard judges demanded that a passage or a service access be opened from the surrounding land to the street through a second property. This was done either by the owner if he owned both properties, or bought from the owner of the second property. With this private passage of a house through another property, the new owner of the house will own this passage too.

If the street was public, then every person had the right to move through it. The properties along it could not close this street or cause harm to the pedestrian. The ownership of the public road was public and the authority had no right to give away a part of it to any party[156].

There were two basic types of judgements to define the width of the streets: (a) standard judgements without recommending any dimension but binding the people to the function of the passage. It mandated that enough space for people and animals be left to

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[155]Al-Shaybani, *Kita'b al-Hijjah*. p. 67, 76
        -al-Ja'mi' al-Sagir. p. 293
  Ibn Abi al-Dam, *Kita'b Adab al-Qada'*. p. 564
  Ibn Rajab, *al-Qawa'id*. pp. 211–213

[156]Abu Yusuf, *Kita'b al-Khara'j*. p. 123.

pass through the street without harm.

(b) a more specific judgements was recomended for the width of the street when people disagreed. Most of the jurists recomended a width of 7 cubits while some reccomended 5 cubits.

In the formulation of the standard judgements, it was important that they provided guidelines valid for different places and over time, yet adjustable according to the local contexts. Therefore, we can find that old Islamic literature contains different interpretations developed over time by jurists and other people.

According to the Prophet's Saying[157], if the people disagree, then the minimum width of the street should be 7 cubits. Based on this, some jurists recomended that people be allowed to occupy their *fina'* and reduce the width of the street until it reached 7 cubits[158]. Others denied the use of this criteria to allow people to occupy the *fina'* and thus reduce the width of the streets.

If this had become the common standard, then the width of all streets of Islamic cities would be 7 cubits or wider. But the truth is that the streets of Islamic cities had different dimensions and often less than 7 cubits. Therefore the 7 cubits was not a general criterium for defining the width of the street as has been proposed in the contemporary literature, but an exception.

6.2. The right of sitting *(haq al-julus)*

The right of sitting was defined by the Islamic law as a synonym for the term staying and its related activities. The Prophet advised people to avoid sitting in the street, except for social or economic activities. They were mandated to avoid

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[157]See Saying number 3 in appendix 2.

[158]Ibn Rajab, *al-Qawa'id*. p. 215.

staring, and not cause harm to the pedestrians or the neighbors[159].

Some jurists considered that the right of sitting should be equal to the right of the passage in the street because it does not stop the right of passage[160].

Thus, the jurists permitted any person to stay and do different activities in *al-fina'*, or even in the pathway when there was enough space for that[161]. This was often used in the market area where the shopkeepers sat in front of their shops. It was also used by mobile vendors. Their sitting area was defined by the Islamic law as the seats of the market (*maqa'id al-aswa'q*) and had standard judgements to identify and protect the right of their users. For example, if the street of the market was wide, then people could benefit from it by sitting in order to sell or shop. The people who benefited from this right had temporary ownership of their sitting places.

6.3. The right to protect privacy (*sitr al-'awrah*)

The family life in the house was considered strictly private[162]. Therefore, all openings (such as windows and entrances) should be designed to protect this right.

The neighbourhood right (*haq al-jiwa'r*) obligated the people not to open windows or build higher than their neighbors if this would cause harm to the privacy of other houses. In many cities, people used the roof for sleeping at night during the summer. It was required to build high walls surrounding the roof to prevent

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[159]See Saying number 2 and 4 in appendix 2.

[160]Ibn Rajab, *al-Qawa'id.* pp. 211-212, 214.

[161]al-Asyuti, Shamsaddin Mohammed, *Jawa'hir al-'Uqud.* Vol. 1, p. 304.

[162]See:
1. Verses number 1, 2, and 3 in appendix 1.
2. Sayings number 4, 10, 11, 12, and 13 in appendix 2.

people from seeing each other. The pedestrian should avoid staring into the others' houses from high places or from *al—fina'* in the street. The same was also demanded from the neighbors[163].

6.4. Right of buildings (*al—bunia'n*).

Any person could build his property or benefit from it in any way he desired. His rights were protected by different standard judgements related to ownership, pre—emption, neighbourhood, passage, water, and privacy[164]. For example, a dweller could benefit from his *fina'* to make doors, windows, build new floors, and discharge the rainwater from the house by a pipe or a down spout without causing harm to pedestrians or the neighbours.

In the market place, the open design of the shops, the location of benches in *al—fina'*, and the seats of the sellers in the street contributed to make the spaces of the buildings along *al—fina'* interrelated directly and indirectly with the public space of the street in general.

An important function which was made possible by the different design elements of *al—fina'* and their applications was its role as a container of the peoples' **meanings**. The people and the rulers used this area (through design and use) to reflect various meanings (religious and social) into the street environment in order to be experienced by the general public. They were the hidden forces of the Islamic built environment judgements. The traditional meanings can still be seen in their purest form as they are manifested in the old parts of some Islamic cities. This issue needs more study to explore how the meanings influenced the built environment judgements and their applications, particularly in the domain of *al—fina'*.

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[163]See Prophet's Sayings.

[164]See Sayings number 2, 7, 8, 11, 12, and 13 in appendix 2.

7. Conclusion

Relationships between outdoor space and indoor space concerned people of all cultures during the human history. The cultural schemata of Muslim societies were influenced by Islamic principles in making judgements for organizing that relationships. The flexibility of Islamic decision making system stimulated each particular Islamic cultural group to create judgements within its local contexts.

The Arabic society developed this relationship basically by two groups of judgements: first group was related to *al-fina'* and second group was related to *al-harim*. Both had pre–Islamic roots but were reformed during the Islamic period according to the new body of Islamic belief, morals, and values which were used by people to identify which past aspects of the *fina'* and *harim* should be accepted, which should be abandoned, and which new aspects should be considered. Expansion of Islam out of Arabia by Muslim Arabs transferred these reformed traditions into built environments of other cultures and became interrelated with their established local traditions of outdoor and indoor space relationships. Since then Islamic decision making of *al-fina'* and *al-harim* have been among the dynamics which played important roles in the process of the organic growth of Islamic urban form.

Judgements *(hukm pl. ahka'm)* of *al-harim* were on guidelines and standard judgements of *ihya'* (revivification) which organized the relationships between *al-mawa't* (dead land or not owned land) and *'a'mir* (living land or owned property), while *al-fina'* was organized by judgements *(hukm)* based on guideline judgements and standard judgements of *irtifa'q* (utilization) which organized the relationships of the *'a'mir* (owned properties) with each other and private and public spaces within built environment contexts. These judgements were derived by Islamic jurisprudence to secure and organize rights of benefits in different applications of *al-fina'* and *al-harim*. For this purpose, a set of standard questions

was used to allow or not allow a particular application, setting, or modification in the space of *al-fina'* and *al-harim*.

The early jurisprudents strongly stated that Islamic built environment judgements were never developed to function as holy codes. It was only in the late Islamic period that imitation of old judgements became common as a consequence of a decline in their cultural productivity.

On the other hand, making these judgements by Islamic jurisprudence indicates a desire to establish a certain measure to control and/or plan present and future growth of the city.

These judgements were developed from the four following sources:
1. Binding guidelines of the Qura'n and the Prophet's Sayings.
2. Standard judgements *(shart)*. They were of two types:

    2.1. Standard judgements were developed and collected in books to function as guidelines without having relation to place or time. Some writings of al-Tahawi, Ibn Rajab, Ibn Quddamah, al-Shaibani are of this type.

    2.2. Official standard judgements had been developed by some jurisprudents as demanded by the central authorities and functioned as formal city planning devices to organize the built environment such as some writings of Abu Yusuf. They contained the central judgements of the authorities used for pre-conceived town plan and its growth. For example, Abu Yusuf assisted the Abbasid government with developing judgements used by the government and imposed on people to protect *al-harim* (reserved land) of Baghdad at the early stage to avoid uncontrolled urban growth which could harm the established plan of the city, people or natural resources of the city. The effects of the central, authority were reduced when its power declined.

3. Judgements (*hukm*) had been developed according to real cases in the built environment as they occurred in the everyday life. Some writings of Ibn al-Rami and al-Wansharisi are of this type.

Documents of the courts are also within this category.

These types of judgements were practiced and continued by written and established methods and sources of Islamic law. But the local groups had also developed their particular judgements for their actions and creations in *al-fina'*.

4. They were *unwritten systems of judgements of the users* inherited from one generation to another by a learning process. Although most of these judgements were unwritten, they were more numerous and more quickly made than the other types.

All these types of the built environment judgements had one common and central ground constituted by Islam and *'urf* (local tradition) which provided certain alternative interpretations for each particular setting. This adjustable decsion making system supported organic growth influenced by central sources of knowledge in creating, modifying, using, and organizing settings of *al-fina'* in streets of Islamic city.

These two findings disprove the idea that the Islamic city was only decentralized and unplanned. They also oppose the idea that Islam was only one force among many which contributed to character of Islamic city. The study shows that Islam was a comprehensive system that influenced all other forces of urban society.

This suggests that we should study these judgements not merely as juridical rules but as adjustable built environment judgements emerged from actions and events of the different environment settings. Judgements of *al-fina'* should be studied in each particular setting to reveal their relation to design and different functions (social, economic, and spiritual) of the setting which may give an explanation of the organic nature of the street environments of the old and the present Islamic city. This will be discussed in the next chapters.

PART THREE: EXAMPLES OF *AL-FINA'* IN ISLAMIC CITIES

1. Introduction

The preceding chapter has illustrated the concept of *al-fina'* and how Islamic law organized its process and influenced its characteristics.

This Part discusses the transformation process of *al-fina'* in four cities in the Middle East and how in each historical period, the settings of *al-fina'* constituted local characteristics of the street environment. The observations involved the following four cities:

. Arbil in Iraqi Kurdistan.
. Cairo in Egypt.
. Istanbul in Turkey.
. Mecca in Saudi Arabia.

Each city has a different origin and history, built-up size and density, population, patterns of economy, political system, social relationships and their related rules, values, and meanings. In spite of this, all share the Islamic religion as a significant force that has both direct and indirect influences on the culture, moral, thinking, behavior, and the daily life of people, reflected in their interpretations of urban spaces in general, and the concept of *al-fina'* in particular.

The goal of this chapter is to show how these cities adapted in common the concept of *al-fina'* in the street environments and what are the basic settings which have been created for local human purposes.

The examples are brief illustrations followed by a detailed case in Cairo.

2. Arbil[165]

Arbil (ancient Arbela) is located in southern Kurdistan, about 360 kilometers north of Baghdad, in Iraq. It is one of the oldest urban sites in the world continuously settled for some 6,000 years and has been witness to the rise and fall of major ancient and Islamic cultures[166]. An important stage of the towns history during the Islamic period was in the 12th century when it became part of the Ayyubids Empire which extended from Kurdistan to Egypt[167]. Yaqut al-Hamawi[168] described the city during this period as a strong and large city built on the top of a hill and containing houses, markets, and a mosque. Down in the valley beside the hill another large settlement was built during the 12th century.

The settlement on the hill was divided into three residential areas, *Sara'y* at the east, *Tup Khanah* at the south, and *Takiyyah* at the north and north west. The rich people settled around the edge of the city forming a ring. This position was popular because it provided views toward the surrounding valley and better ventilation possibilities. The middle and poor social class quarters were located in the interior of this settlement.

The streets were narrow, about 0.7-3 meters and irregular. The main streets were branched out from one major gate at the

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[165]Kurdistan is a large plateau and mountain region, located in the Middle East divided between north Iraq, south east Turkey, north west Iran and north east Syria. the area is mainly populated by 30 million Kurds, their language is kurdish, and Islam is the basic religion. This land has been divided by the English and French colonists following World War 1 and since then the Kurds have struggled for their independence with great sacrifice.

Struggle of the Kurds, National Geographic, Vol. 182, No.2 August 1992.

[166]Morris, AEJ, 1994, *History of Urban Form*, Before the Industrial Revolution, Longman Scientific & Technical, Burnt Mill, Harlow. p. 9.

[167]al-Sha''ir, Mohammed Fathy, 1991, '*Ila'qa't Sala'h al-Din bi Ima'ratay al-Mausul wa Arbl*, Bur Sa'id.

[168]al-Baghda'di, Shiha'baddin, *Mu'jam al-Buldan*. vol. 1, p. 173.

south. These streets again branched out to smaller streets and dead-end streets forming a tree form.

The dwellings have until the present retained the following characteristics. They are often two to three floors high and built as a cluster arranged around a narrow pathway. Most of the dwellings have only one main entrance. The entrance leads to a small lobby and then to a courtyard *(ha'wsh)*. Rooms beside the pathway have either no windows toward the street or small windows (40x100)cm located at a height of 200cm to isolate the inner room from the pedestrian. Upper rooms have bigger windows and often extend into the street space and are called *'arusa*. These upper windows are covered with a flexible screen to isolate the inner room from the outside and reduce glare from the sun.

The old commercial area is called *baza'r* which contains a covered area like arcades, called *qaysari*. The *qaysari* was introduced to the city by the Ottomans from Turkey and composes 2-3 meters wide, regular, and straight streets. Along the streets, small shops are built on the ground floor with storage on the upper floor. The streets are covered by arcades to prevent rain in winter, hinder sun light and reduce the temperature in summer. The shops are small, often 2 meters wide and 2 to 3 metres deep. The ground level of the shops was 0.5 meter higher than the street and extended 0.5 meter into the street space forming a bench called *setchu*. The shopkeepers sat on this bench in the space of *al-fina'*. Most of these benches have been gradually removed in the last decades but the space of *al-fina'* is still used for sitting and displaying goods. The shops of the *baza'r* grew up around trade in one product.

Note, the people in this city who are Kurds and Turkmans do not use the Arabic term of *al-fina'* for that part of the street adjacent with the property or building. They often use the term for the front (in Turkmani *oj* and in Kurdish *pesh*). For example: *pesh ma'l* (font of the house, Kurdish), *yeo oj* (front the house

in Turkmani), *Pesh duka'n* (front of the shop, in Kurdish), *doka'n oj* (front of the shop in Turkmani). The area of *al-fina'* contained similar elements and uses to other Islamic cities, while they had their particular local characteristics.

After the first World War, Arbil became part of the new established republic of Iraq and the city's urban growth has been directly influenced by the economic conditions and the political processes of Iraq since then. The transformation of the urban fabric started after the 2nd World War (figure 3.1). This involved :

1. Constructing new straight streets in the old section. This was associated with removing the buildings along these streets and rebuilding with new buildings. For example a straight street was opened to cross the settlement from the southern gate to the northern side, and new streets opened in the old commercial area and new buildings were constructed along them.
2. Planning new areas around the old settlement.

The new streets and buildings were organized according to the central building and street legislation. On the other hand, each plan proposal introduced new codes.

The contemporary built up area of the city has expanded into the valley surrounding the old settlement. Most of the old area still contains the same traditional physical character of buildings and street networks. The early stage of transformation of the character of the street environments has been caused by two major groups:

1. **The government** which depended on the European experts such as Doxiadis in the 1950s. Doxiadis used a grid concept with wide, regular and straight streets. This system divided the streets into drive way, sidewalk, and the buildings adjacent to the

street space[169].

At the same time some few young Iraqi architects who were educated in Europe, the USA, and Turkey returned to Iraq and began to practice architecture particularly in Baghdad. As a consequence, Baghdad became the first test area which thus witnessed the application of different design solutions copied directly or indirectly from these countries[170]. This contributed also to make Baghdad the source which influenced all other cities in Iraq such as Arbil.

2. The people who moved from the old settlement on the hill down to the surrounding valley. My interviews with some old inhabitants shows that people's actions were stimulated by an increasing population density in the old area, an improving economy, changes in traditional social relationships and life style, and demands for healthy houses and settlements[171].

The first car was introduced to the city in about 1935 by a rich landlord called Mulla Afandi. At that time there were no paved streets in the city except the main roads paved in 1930s and connected Arbil with other cities such as Kirkuk and Mosul. In the late 1940s there were only some 10 cars which belonged only to the rich families.

Most of the people who moved to the new areas during this era built their houses by using new designs and new building materials, which were copied from other new houses in Baghdad. These new designs were in turn copies from European countries,

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[169]Hiwaish, Akeel N. Mulla, 1988, *al-'Ima'rah al-Hadithah fi al-'Ira'q* (Modern Architecture in Iraq), Dar al-Shun al-Thaqafiyyah al-'Ammah, Baghdad. pp. 47-72.

[170]Chadirji, Rifat, 1991, *al-Ukhaider and the Crystal Palace*, Riad El-Rayyes Books Ltd, London. pp. 26-115.

[171]The interviews were done in 1995 and involved some 15 old people.

and Egypt[172]. On the other hand, some new local design elements were created by people to match the new design with the local needs such as building high walls to divide the private indoor space from the public outdoor space of the street.

With these new design patterns, most of the traditional settings of *al-fina'* have been neglected, which contributed to emergence of a new character in the street environment.

This change to modern architecture and urban design has continued to the present. On the other hand, the inhabitants have modified the character of the street environment and created new settings in the street spaces to meet their local need and desires (figure 3.2). Among them are:

1. Occupying the sidewalk in front of the shops by the shop owners to display goods, and to sit.
2. Paving the sidewalk by the owners of the properties. Each owner uses a different type and material of pavement.
3. Most of the shop owners use large awnings which may cover the whole sidewalk in front of the shop.
4. The mobile vendors occupy parts of the sidewalk in the commercial streets.
5. All house owners built high walls around the house to separate the private indoor space and the front garden from the public outdoor space of the street and other houses.
6. All households use the roof as a sleeping space during the summer. Therefore, people built walls around each roof to preserve the private life of the families.
7. The balconies are never used for sitting. They are either abandoned or used only for storage.
8. Most of the open spaces which may exist in the residential areas are left unused and not used as social gathering places intended by the initial design. The people use the sidewalk and

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[172]Egypt introduced the new European architecture and urban design since 19th century. See part 4: The case of *al-fina'* in Cairo.

the street for play and as social gathering place.

9. Some houses which are located along main streets built up part or all of their front garden as shops and offices.

10. The pedestrian uses both the driveway and the sidewalk for walking. Therefore the street is mixed between people and cars.
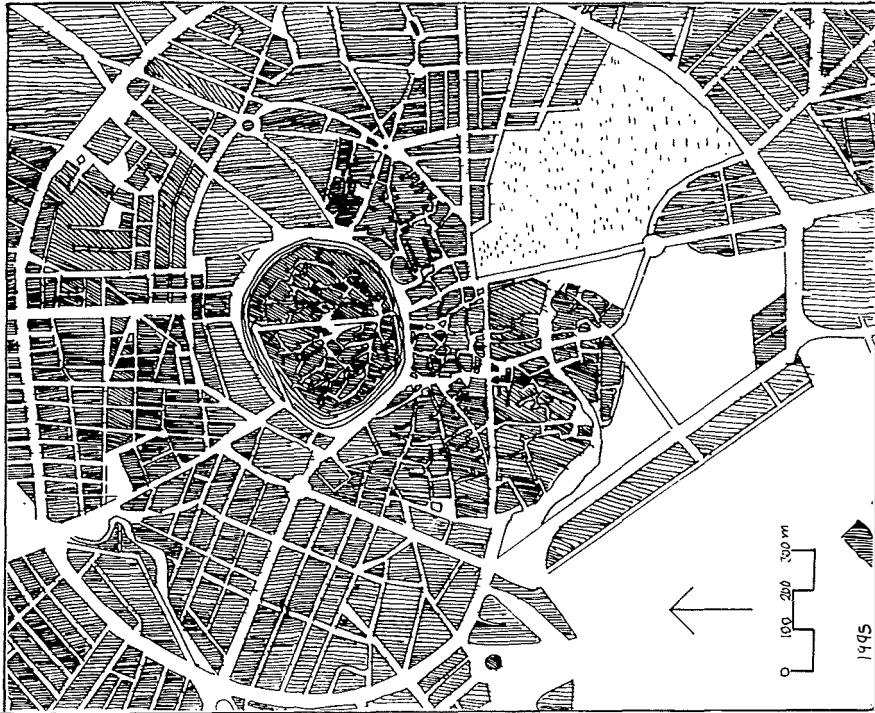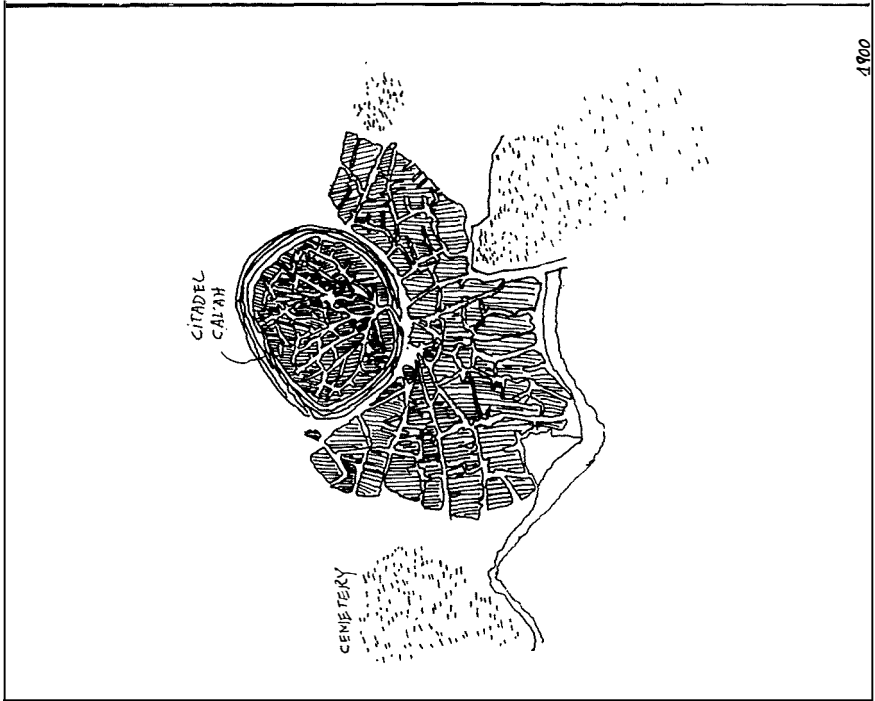
Fig. 3.1 Transformation of the built up area and the street system of Arbil.
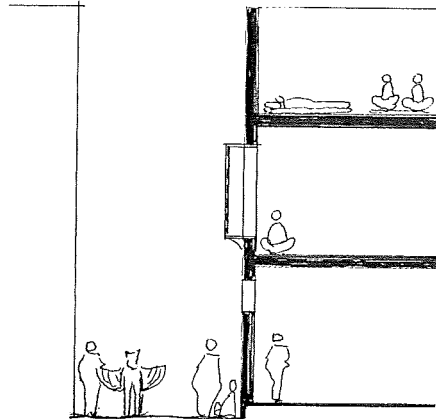
Fig. 3.2   *Traditional residential fina'.*
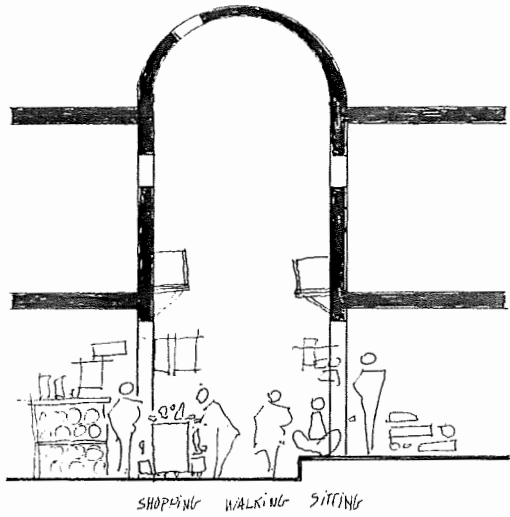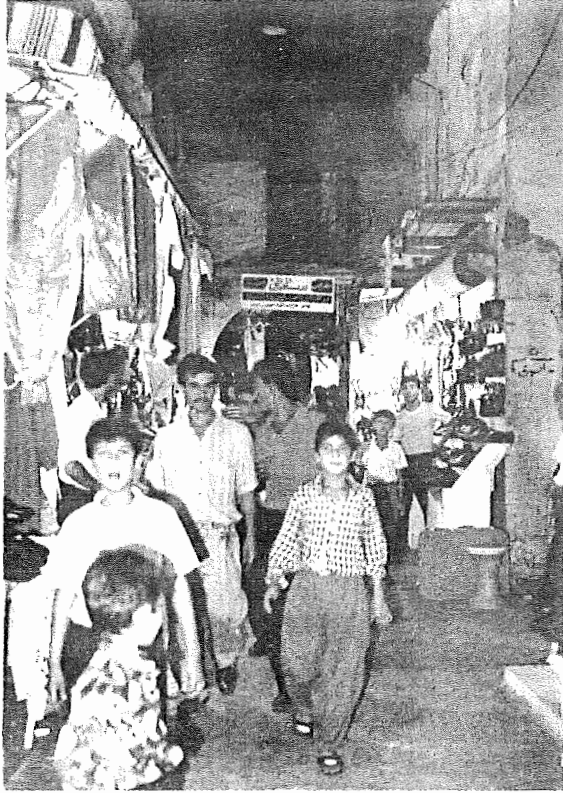
SHOPPING   WALKING   SITTING

Fig.   3.4   *Traditional commercial fina'.*
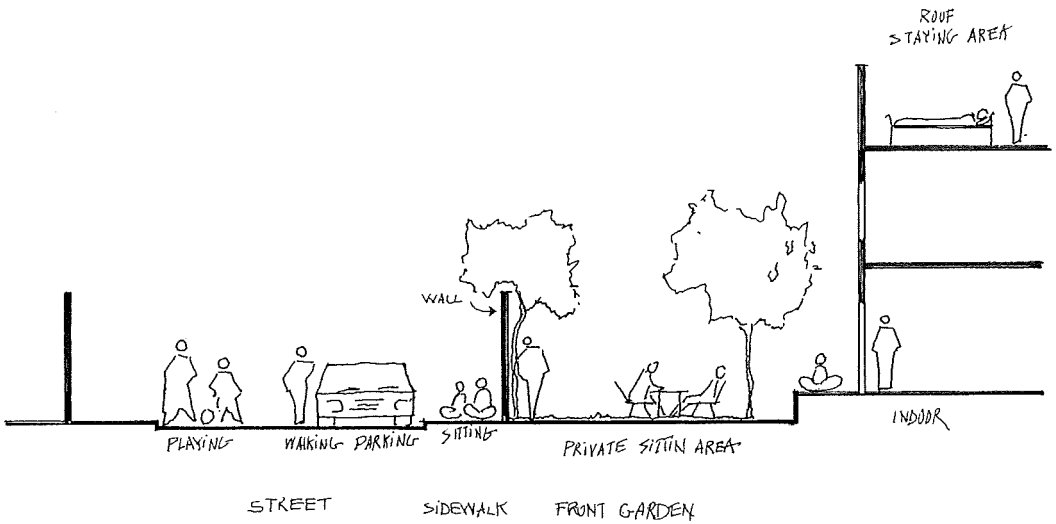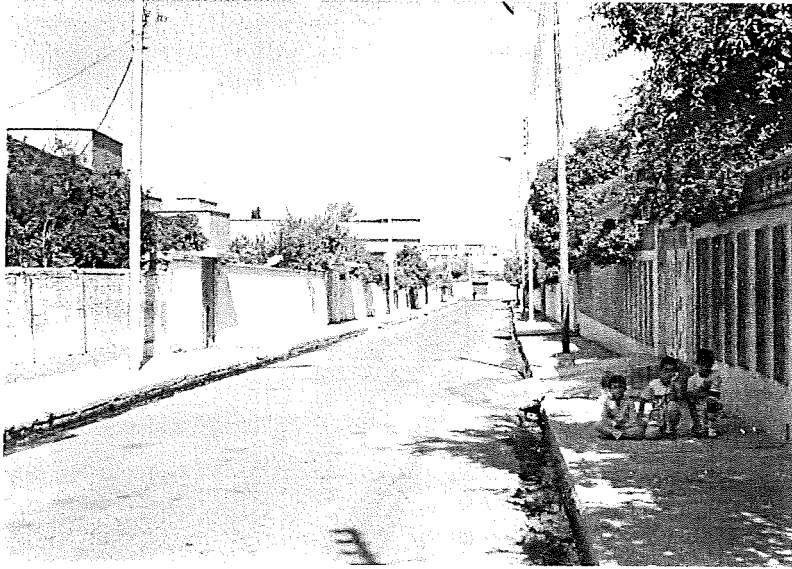
Fig.   3.3   *Modern residential fina'.*
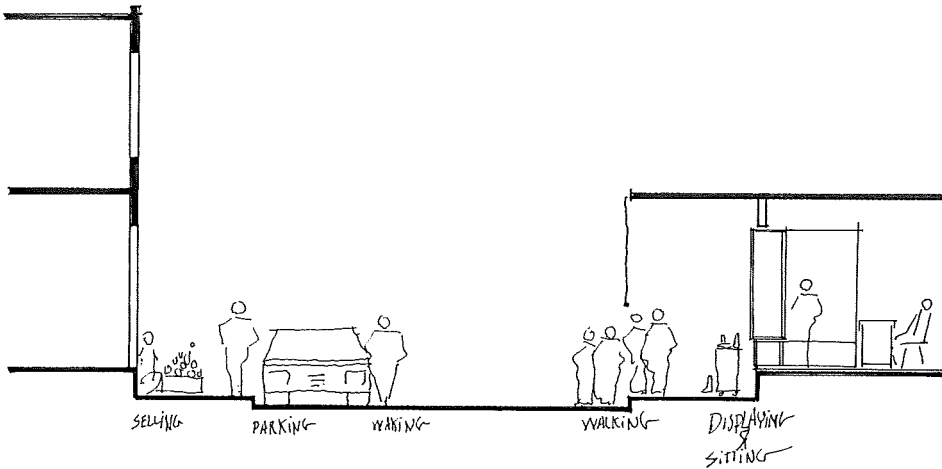
Fig.   3.5   *Modern commercial fina'.*

3. Cairo

Cairo is the capital of Egypt and is located in north east Egypt on the Nile River near the delta. It is a major administrative and economic center where some 18 million people live in its greater metropolitan region.

The city was built by the Fatimids in the 10th century. Its site had been chosen near to the former capital cities built by the earlier Islamic powers who controlled Egypt since the 7th century. The fatimids were one branch of the Shia' Muslims that succeeded in establishing their power in Tunis and throughout North Africa and the Middle East.

When Egypt fell to the Fatimids, the Fatimids Caliph ordered a new capital built for the Empire. The city was built according to a preconceived plan and based on regular streets, monumental buildings, large open places, and walls, while the settings of *al-fina'* were used to demonstrate the traditional everyday life and the new meanings of the Fatimids. The city was a Royal city, Common people could not live there or perform an activity in the city without permission.

Most of the city's physical characteristics changed over time as a consequence of power struggles and population growth. The built up area expanded beyond the city walls and the size of the inner public open spaces were reduced or they disappeared while street shapes and dimensions were altered.

During the 18th century, the urban fabric of the city was composed of a citadel at the south east corner that housed the ruling class, several cemeteries outside of the main living built up area, and the major areas of the population, composed of houses and market areas *(suq)* organized along the main central street. Each particular trade and product was concentrated mainly in one area of the market, and also named according to that trade. The shops were small and opened toward the street space.

The residential area was composed of clustered ethnic and religious quarters. The street system was composed of dead-end streets and thoroughfares. The dwellings were often 2-3 floors high with a courtyard, where the interior of the dwelling was walled off from the street for privacy. This was achieved with small ground floor windows and screened window in upper floors. The upper windows were often extended out into the street space and called *mashrabiyyah*.

During the 19th century, Egypt started a modernization process based on copying models and systems from some of the developed European countries. This modernization process involved all sectors of the government and society such as administration, military, education, agriculture, industrialization, law system, urban development, and architecture.

The new legislation, architecture, and urban design patterns neglected the traditional settings of the *fina'* in the different street environments, which was natural since these new design patterns were developed in different environments with different histories. This trend was followed by the government, commercial companies, and the people.

The new streets and buildings were built within the old areas and in the new areas outside of the old city, based on a central planning imperative for the whole city. The contemporary population growth contributed to the expansion of the built up area and the increases in its density. This general rapid growth created a rapidly changing process within the urban fabric. Therefore, it is possible to observe two conditions:

1. Over time, a large number of settings are continuously created by people in the streets.
2. A large number of the existing physical elements of the street environment involving their design, use, and rules, are

continusuouly modified[173].

For example:

1. The occupation of the sidewalk in front of the shops by the shopkeepers for the display of goods and staying activities.

2. Paving the sidewalk by owners of the respective properties, each owner using a different type of material.

3. The shop owners often use large awnings in front of their shops.

4. The mobile vendors occupy parts of the sidewalk or may block the whole sidewalk.

5. Some buildings may have a high wall around the property for privacy and security. Although most buildings have a low fence, or no fence at all.

6. The shopowners occupy the sidewalk in order to construct flowerbeds, gardens, and parking places.

7. The roof is not used only for sleeping but used also as a dwelling by informal squatters, allowed by the building owner.

8. The balconies are sometimes used for sitting in the evening but more often are left unused, as storage, or built enclosed as a rooms.

9. The front garden of older low houses are often built up with new buildings, while the low buildings themselves are also often partially rebuilt or completely replaced by new, higher buildings.

10. Because the sidewalk is occupied by other users than pedestrians, pedestrians often use the roadway for walking.

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[173]The street systems and settings of *al-fina'* are illustrated in the next part: The case of al-fina' in Cairo.

4. Istanbul

The present Istanbul is the capital of Istanbul province, the largest city of Turkey and an important seaport. It is located in north west Turkey on both sides of Bosphorus where it meets the sea of Marmara.

The original name of Istanbul was Constantinopolis. The city was established by the Roman Emperor Constantine about 330 AD who enlarged an existing Greek settlement on this site to become the capital of the Byzantine Empire. Although the city was initiated to be called the New or Second Rome, Constaninopolis became the common name of the city[174].

The urban design of the city was in the form of a central plan which reflected a typical Roman city and its monumental building types, composed basically of the Wall, the Hippodrome, the Forum Tetraston, the Embolos, and the baths of Zeuxippus. However, the new city had a different design character from that of Rome, reflected in the spred-out street network, the scattering of the forums in the city and the use of avenues to connect them with one another.

Early population growth contributed to expand the city outside of Constantine's original walls which also increased the built up density, and reduced the width of the back streets, transforming them into irregular shapes. However, most of the main arteries between the large squares retained their original shape and orientation.

In 1453, the city was conquered from the Byzantine by the Ottomans and became the capital town of a vast Islamic empire, encompassing large tracts in Europe, Asia, and Africa.

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[174]For the history and architecture of the city see:
    Celik, Zeynep, 1993, *The Remaking of Istanbul*, University of California Press, Berkeley.
    Unsal, Behcet, 1970, *Turkish Islamic Architecture*, Alec Tiranti, London.

The increasing economic and political power of the Ottomans contributed to increase this society's cultural productivity reflected in the developing urban design of Istanbul, and an increase in construction generally. The new urban design and architecture which was applied by the Ottomans in Istanbul had two roles: first to Islamize the design patterns of the existing buildings and open spaces of the city, and second to use Islamic design elements for the construction of new buildings and spaces based on judgements as interpreted from Islamic law.

This was natural since the Ottomans generally used the Islamic law *(shari'ah)* as the basic canon to organize their society. In spite of this, the Ottoman administration was based on a decentralized system to run the city. Therefore, most of the buildings projects, were designed, built, and administrated by local administrators, community leaders, and common people.

A large number of new buildings types such as mosques, fountains, baza'rs, and shrines were introduced by the new Islamic architecture, which had developed in the other Islamic countries since 7th century.

An increase in the general level of construction activity by the rulers and the common people between the 15th–16th centuries had an important impact on the physical character of the city, reflected in an emerging Islamic–Turkish architectural style and urban design. In the central area the Hagia Sophia[175] was transformed from an orthodox church into the central mosque with a central market near to the mosque and connected to it by the main existing thoroughfare.

Over time, streets generally became more irregular and most of the wide, straight, and regular avenues gradually disappeared.

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[175]About the history of the Hagia Sophia see: Mark, Robert & Cekmak, Ahmet S., 1992, *Hagia Sophia from the age of Justinian to the present*, Cambridge University Press, Cambridge.

Al-fina' of the streets aquired new different characters in the
markets, residential areas, religious centers, and near the
shore.

The market *(baza'r)* streets were either covered or opened
streets. The market area contained different types of buildings
and open spaces such as shops, *carava'n sarays* and *kha'ns*
(commercial and guest houses), *sabils* (fountains), *jami's*
(mosques), and *madrasahs* (school).

In the covered markets, the streets were covered with
vaulted roofs forming domed halls, supported by pillars and with
small windows in the roof for lighting. The shops were generally
small, often 3-5 meters wide and of a similar depth. They had
vaulted roofs and were arranged along both sides of the street.
The shopkeepers used to sit in front of their shops where their
goods were also placed. The space of the street between the shops
was used by for walking, transportation, and sitting. The shops
of each particular product and trade had its own specific
location in the market.

The residential areas were divided into quarters according
to the ethnic and religious origin of the settlers. The dwellings
were of different types such as palaces, large villas, houses for
common families, and single person's rooms, with various types
of plan and material. They could have courtyards, backyards or
no courtyard, and were located along or across from streets, in
gardens, or by the seashore.

The common dwellings were 2 to 3 storeys high. The ground
floor had a small entrance and small windows. The upper windows
were larger and projected into the space of *al-fina'* with curved
wooden struts called *cumba* for privacy, protection from the sun
and rain, and increase in the living space of the dwelling.

Although Turkey is a fertile land, in many of the

traditional streets the trees were not noticable since they were
located in the courtyards behind high walls.

The presence of hills and running water influenced the
character of *al-fina'* by changing the course of streets, the
relative levels in elevations, and by providing the seashore
houses with a particular sort of *fina'* along the water for
private uses and controlled by the owners[176].

Color and sound are two other important characters of *al-
fina'* in the traditional Istanbul, influenced basically by the
presence of religious buildings, markets, local life style, and
the natural characteristics of the city. All these factors
contributed to diversify the character of *al-fina'* in each
particular area of the city.

These specific urban design characteristics continued until
the 19th century. In 1839, the government started a new process
to modernize the state according to the contemporary European
models. This included all parts of the state and society, such
as the law system, administration, military, education, economy,
architecture and town planning. The reforms aimed also to replace
the old decentralized system with a central one.

The new architecture and town planning was borrowed from
Western Europe. This involved changing all related codes such as
regulations, street regulations, and construction regulations.

The new streets were designed as straight, wide, regular,
and classified according to width such as main avenues of 7.6
meters wide, ordinary avenues of 6 meters wide, and other streets
of 4.5 meters wide[177].

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[176]See also chapter: *al-Fina'* in part 2.

[177]The authority changed the dimensions of the different types over time
according to new regulations. On these regulations see street regulations of
1858, street and building regulations of 1863, street regulations of 1882.

Further, the land use of the streets was divided into roadway and sidewalk along the properties. Dead end streets were abandoned and projections from buildings into the space of *al-fina'* were not allowed (figure 3.3).

This trend has continued until the present which contributed to create a new character of *al-fina'* along the streets. On the other hand, the users contributed to this character by modifying the design and use of the applied elements and creating different settings in the space of *al-fina'* to match their desire and needs (figure 3.4). For example:

1. Owners occupy the sidewalks in front of the shops to display goods and sit particularly in the traditional areas and the crowded commercial streets.
2. Owners pave the sidewalk in front of the properties. Each owner uses different types of pavement from their neighbors.
3. The mobile vendors occupy a part or all of sidewalk areas in some crowded commercial streets.
4. The high buildings and dwellings do not use high walls to divide the property from the sidewalk space.
5. The balconies are used for sitting, storage, or built out as a room.
6. The open public spaces are used as social gathering places.
7. In some residential streets, the households build gardens or flowerbeds in the sidewalk in front of their properties.
8. large numbers of fountains *(sabils)* are constructed in the streets to provide water for the households.
9. Some mosques use the front yard along the sidewalk as praying places.
10. The elevation of buildings in the commercial streets are crowded with signs which have a different design, size, and color. Each one reflects individual choice.
11. The buildings along the seashore use *al-fina'* adjacent with the water as their private space. They construct boat docks, sitting areas, flowerbeds, etc.

The 4TH CENTURY A.D.

GOLDEN HORN

BOSPORUS

WALL OF THEODOSIUS

WALL OF CONSTANTINE

FORUM TAURI

FORUM BOVIS

FORUM OF CONSTANTINE

FORUM ARCADIUS

MILION

SEA OF MARMARA

0 500 1000 m

1857
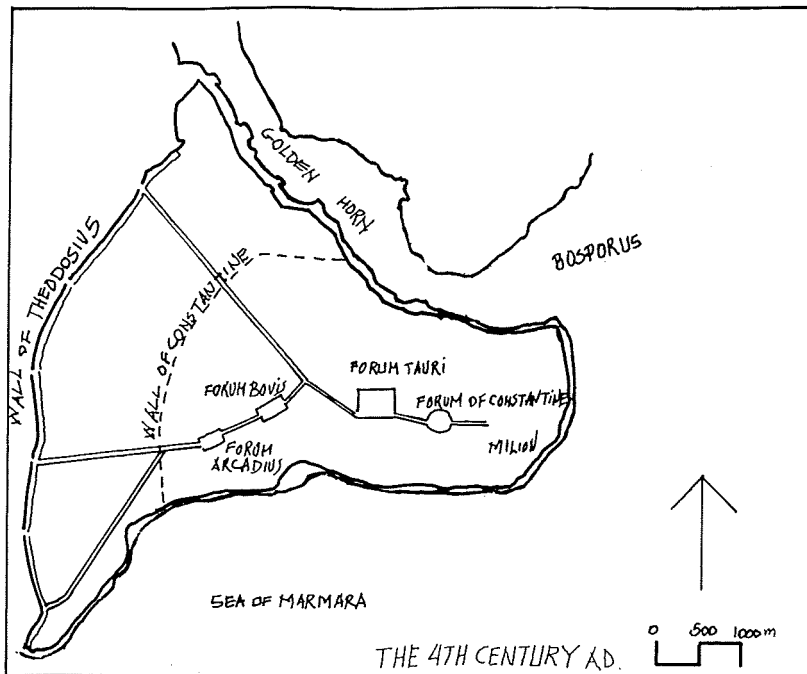
Fig. 3.6   Transformation of the built up area and the street system
                 of Istanbul between the 4th-19th century. (Redrawn from
                 Celik, Zeyneb, 1993).
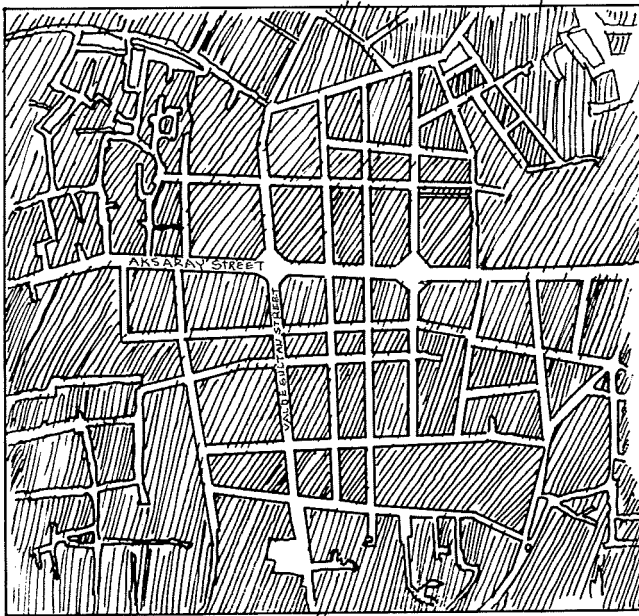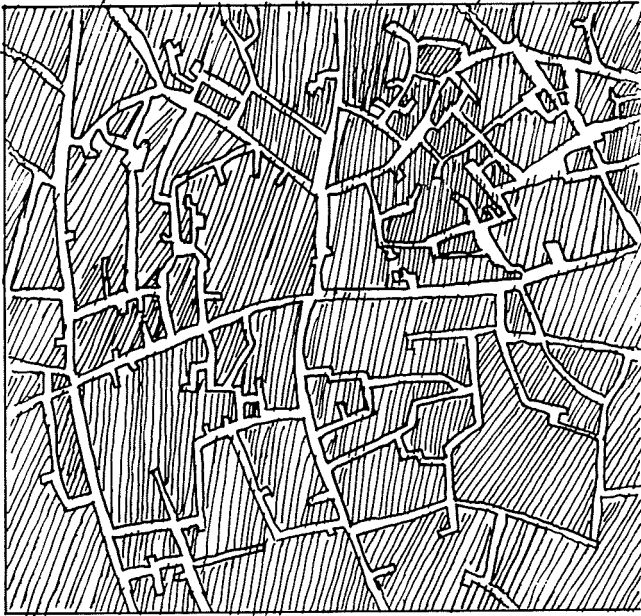
Fig. 3.7   *Transformation of the traditional streets in Aksaray area
to the modern regular streets*

SITTING   WALKING   SITTING
STANDING
DISPLAYING

Fig.   3.8   *Traditional commercial fina'.*

SHOP   TRAIN   WALKING←   SITTING←   PRAYING←
FOUNTAIN
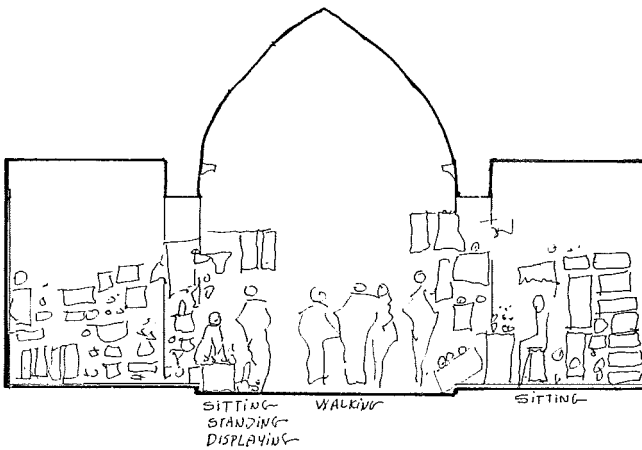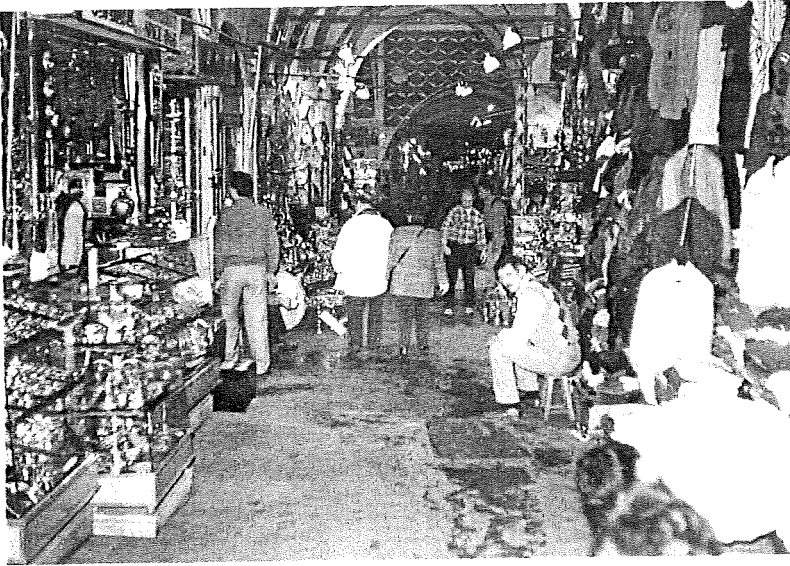
Fig.   3.9   *Modern Commercial fina'.*

Fig. 3.10   *Residental fina'.*
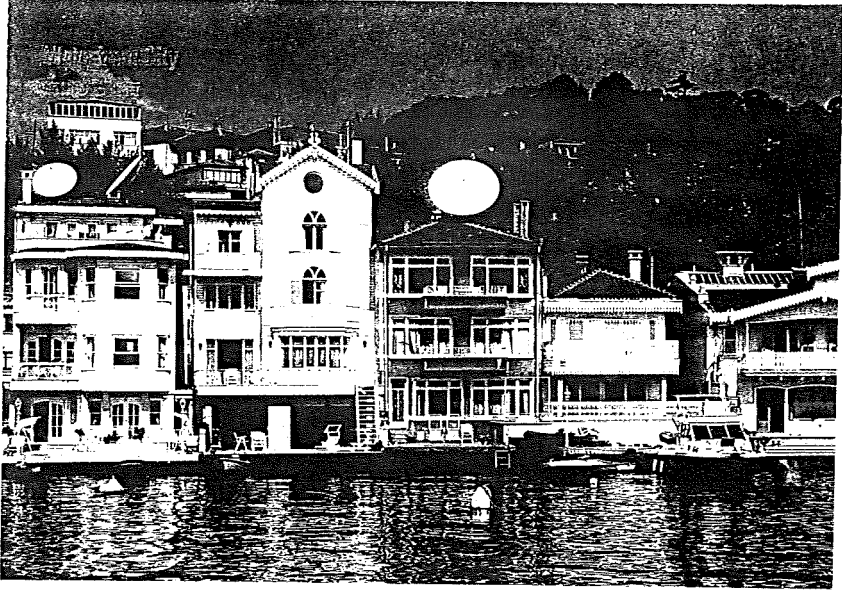
Fig. 3.11 *Al-fina' along the seashore .*

5. Mecca

Mecca is an inland city located at the western side of Saudi Arabia, and is the holiest city of Islam. It is the birthplace of the Prophet Mohammed (570 AD) and Islam. At the central point of the city is the *Haram* which encloses the *Ka'bah* . All muslims turn towards the *ka'bah* five times a day when they pray. Each year, Muslim pilgrims from around the world come to this center. This pilgrimage *(hajj)* is one of five basic pillars of Islam[178]. Every sane and financially able Muslim is obligated to pilgrim *(hajj)* to Mecca at least once in a lifetime.
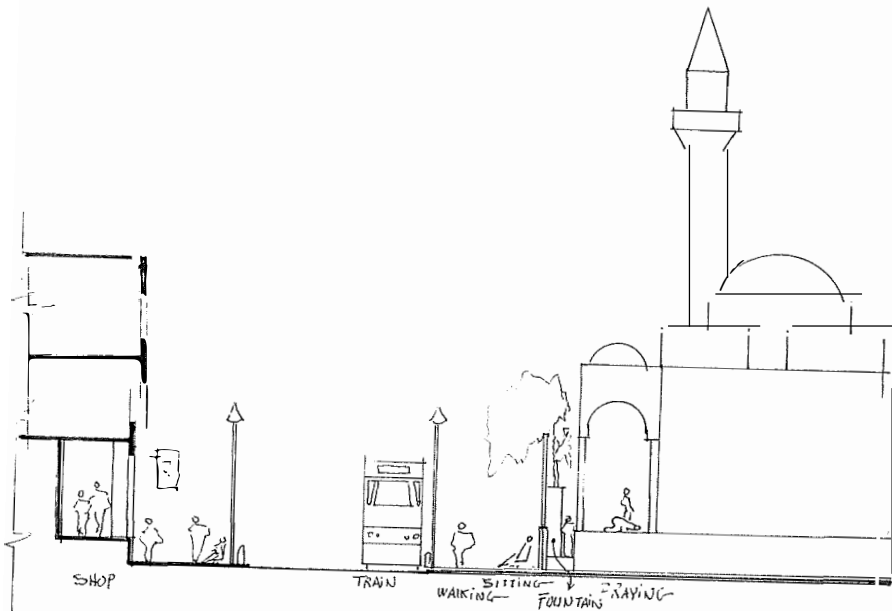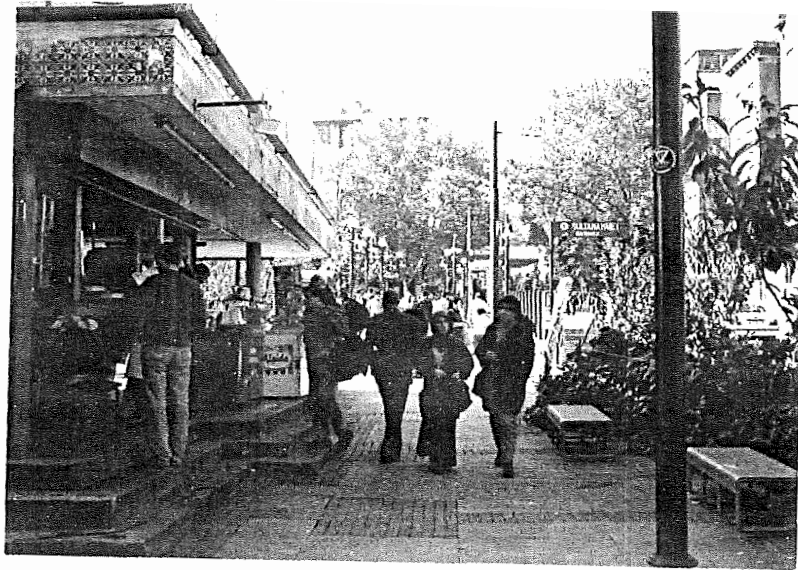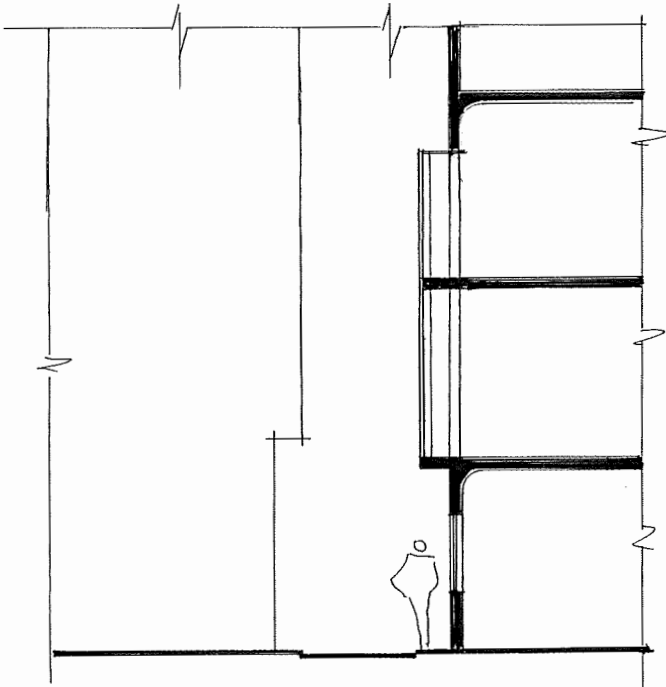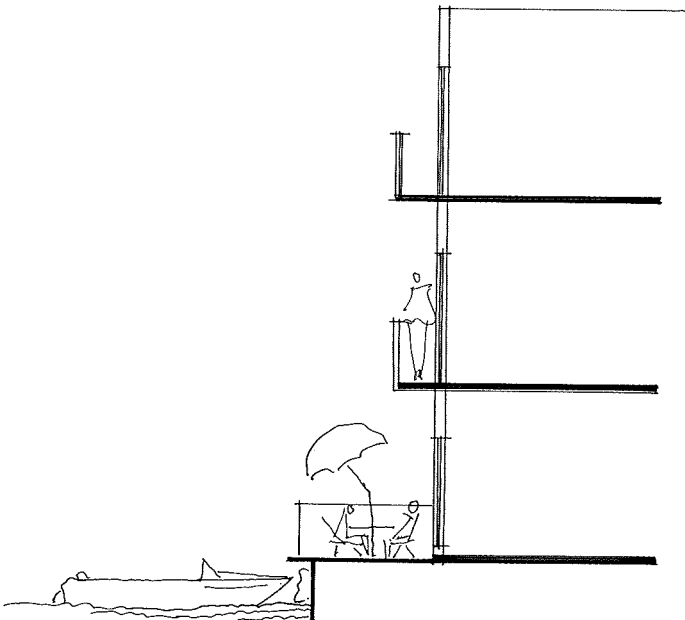
The *Qura'n* records that the Prophet Ibra'him (Abraham) was the builder of the *ka'bah*[179]. With his wife Hagar and child Isma'il he established the first settlement of this city[180]2. The religious, political and economic position of Mecca increased when Islam emerged in the 7th century but it never became capital of any Islamic empire during the Islamic period[181]. Since then, the city has grown up around the holy *ka'bah* as a clustered settlement.

In the early 19th century, Mecca was still a small clustered city. The *Ka'bah* was located in the center with a nearby commercial area. The residential quarters were populated

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[178]The other pillars are:
1. *Shaha'dah* (a statement which should be used by any muslim that Allah is the only God and Mohammed is Gods messenger,
2. *Saum* (fasting).
3. *Sala't*(praying).
4. *Zaka't* (tax).

[179]The Prophet Abraham was born in Babylonia and moved to Mecca.

[180]In the Qur'an Mecca is called *umm al-qura* or the mother of Agglomerations which means that Mecca is the core of the earth. On the history of the city, see Esin, Emel, 1963, *Mecca the Blessed, Medina the Radiant*, Paul Elek Productions Ltd., London.

[181]On the 13th of September 622 Prophet Mohammad moved from Mecca northwards to Yathreb (a town later called *Medina* or the Prophet's city) because of increasing tensions between the prophet and Quraish, the strongest clan of Mecca who refused Islam and planned to kill the Prophet. But Mecca and particularly *Ka'bah* continued as the most sacred Islamic sanctuary. The Prophet and the Muslims conquered Mecca without a fight in 630.

according to social relationships. The dwellings were built of mud and designed with a courtyard. The restrictive social system contributed to the demand for a separation between the inner space of the dwelling and the street space. The connection between the private indoor space of the house and the public outdoor spaces was only through a small door and screened windows, where some of the windows at the upper floors might extend into the space of *al-fina'*.

The commercial areas were composed of permanent markets and seasonal markets. The shops of the permanent markets were small and had awnings, while the space of *al-fina'* in front of the shop was used to place goods and for sitting.

The city had two main thoroughfares running parallel to one another through the city to facilitate movement to the holy mosque *Ka'bah*. The main streets branched into smaller streets and dead-end streets. The street systems continued with organic and irregular character until the 20th century.

The rapid increase of population generally in all Islamic countries during 20th century contributed to increase the number of pilgrims to Mecca. This pressure demanded the development of a transportation network and of the services in the city such as providing for rooms and flats for several million pilgrims each year.

The discovery of petroleum has provided the authority and people with wealth to modernize the urban built up area. A lack of local experts to design the desired modernization programs, particularly in the early stages has contributed to the use of Western experts who have introduced the modern international style of architecture and urban design.

All these forces have together brought about the following:

1. Expansion of the city into new areas.
2. Demolition of the old low buildings in the traditional areas
and replacement with new high buildings.
3. The opening of new street systems in the old and new areas.
The streets are wide, straight, and regular, designed within grid
system and supplemented with drive ways and sidewalks (figure
3.5).

The houses are built according to modern designs belonging
to different international schools. Their patterns are often
demanded by the owners or the designers in order to display
wealth and a modern European lifestyle. However, these designs
and their uses are bound by the social and religious rules of
this society:

1. Protecting the women in the urban spaces in general and the
indoor spaces of the dwellings in particular.
2. Preventing the use of human or animal figures in the design,
in general.

The contemporary city fabric reflects two different types
of urban design concepts: the first is the traditional design
patterns which have started here and grew since the city was
established. The second is the new patterns which have been
introduced during the last thirty years.

In the traditional areas, the street network is irregular
and constituted by dead-end streets and open thoroughfares. The
houses are clustered. Each house has often only one elevation
along the street and built with courtyards to provide more space
for ventilation and to create privacy. The entrance of each house
is small and may contain some Qura'nic verses. Along *al-fina'* of
the streets, windows of the ground floor are screened and located
above head height. On the upper floors, the windows are screened,
larger and often extend about 1 meter into *al-fina'* space and are
called *rusha'n*.

The hot climate during the entire year and the body of social rules restrict people from using the space of street as a social gathering place. Therefore, the major function of the street is to facilitate movement, ventilation, and provide an indirect street view from the windows.

The traditional commercial streets are narrow, irregular and the shops are often small. All shops hang awnings (*madallah*) against the sun to reduce temperature and make it possible for the shopkeepers and pedestrians to sit or stand in front of the shop. The shopkeepers use the space of *al-fina'* for sitting and to display their goods. Along *al-fina'*, there are often benches (*merka'z*) about 1 meter wide and 1 meter high. These are used by the shopkeepers and their visitors.

The residential buildings are of two types, first high buildings, and second, low houses 2-3 floors and of varying ground floor size. Both have in principal an open design towards the space of the street. The houses are often located in a large plot surrounded by a garden. The garden is surrounded by a high wall.

The modern commercial streets are divided into two types, first, shops at the ground floors of the buildings along the street, and second, shops in large covered supermarkets. These are large shops and their inner spaces are divided from the street space by windows and kept closed to retain the cool air from the airconditioning inside the store.

The inhabitants' desires and the local social rules (*'urf*) have stimulated the people to creative uses for some new elements to facilitate an acceptable lifestyle in this environment which influenced the concrete character of the street environments (figure 3.6).

For example:

1. Occupying the sidewalk by the shopkeepers to display goods and placing a bench or benches in *al-fina'* for sitting.
2. Paving the sidewalk by the owners of the properties. Each owner uses different material types for the pavement.
3. All balconies are abandoned or rebuilt as rooms.
4. All windows of houses are often covered by curtains to prevent sun and protect privacy.
5. The mobile vendors occupy parts of the sidewalks in the commercial streets.
6. All residential buildings use high walls around the building to separate the indoor space of the dwellings from the outdoor space of the street.
7. The roof is not used as sleeping space.
8. The open playing areas are not used according to the original design's intentions because of the extremely hot climate.
9. People place fountains *(sabil)* along the street to provide drinking water for the pedestrian.
10. The houses may hang Qura'nic verses on the wall and entrances.
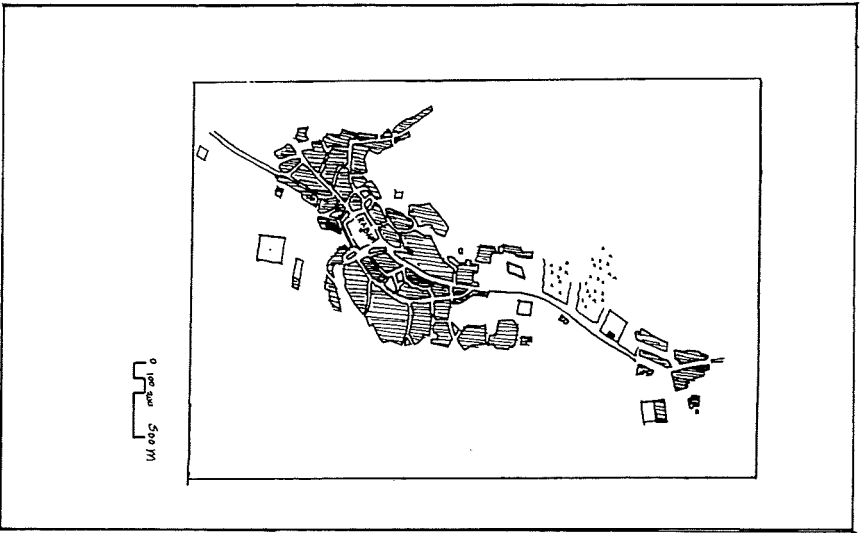
1814 AD (After Burckhardt, John L., 1829)
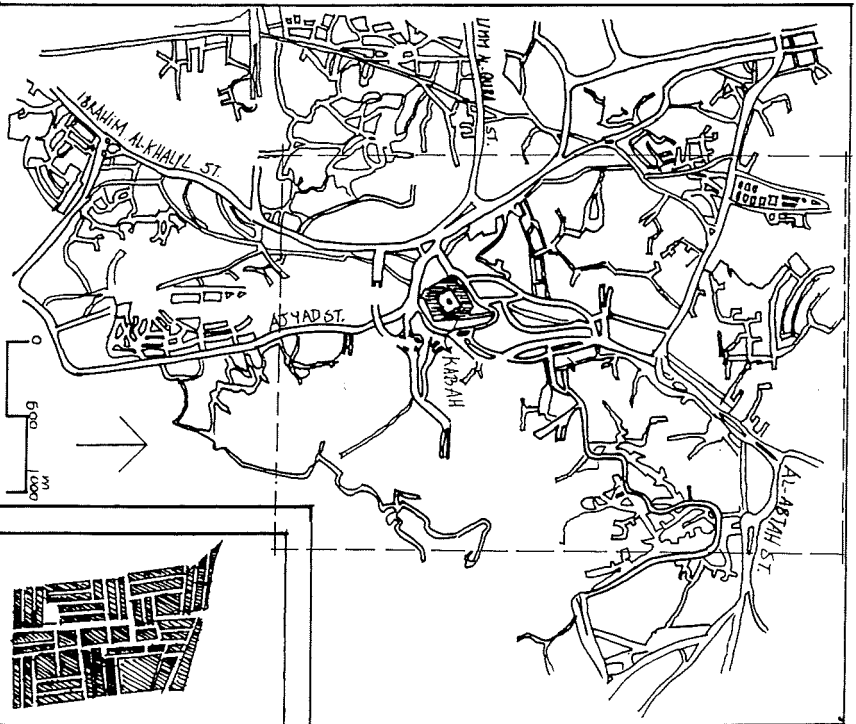
Same area in the present

Iskan project
SW Mecca

Fig. 3.12   Transformation of the built up area of Mecca.

DISPLAYING WALKING STAYING

STREET LIFE

FINA ACTIVITIES

INDOOR

OUTDOOR
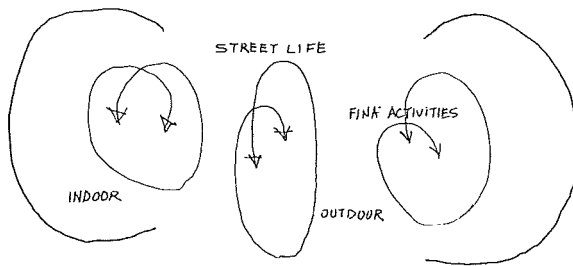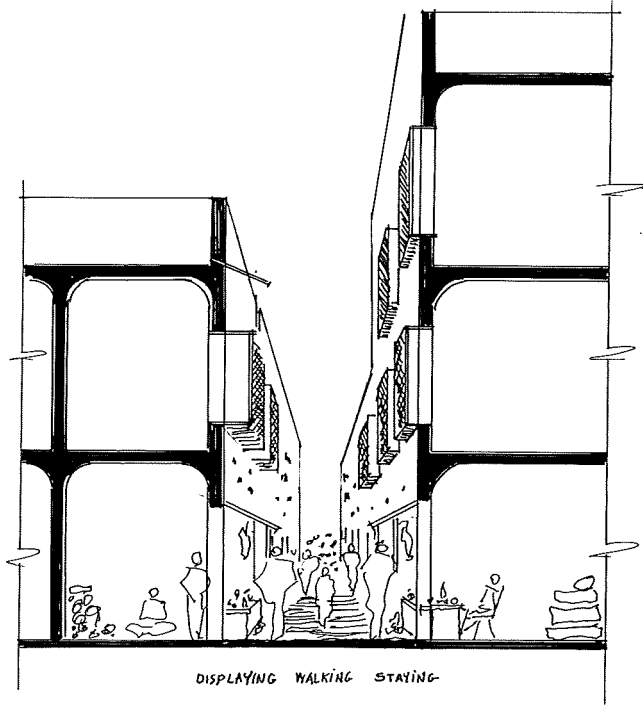
Fig. 3.13   *Traditional commercial fina'.*
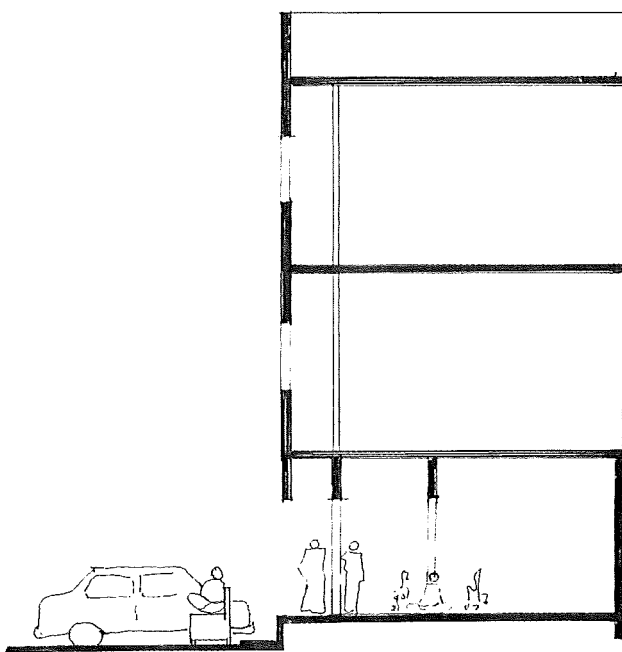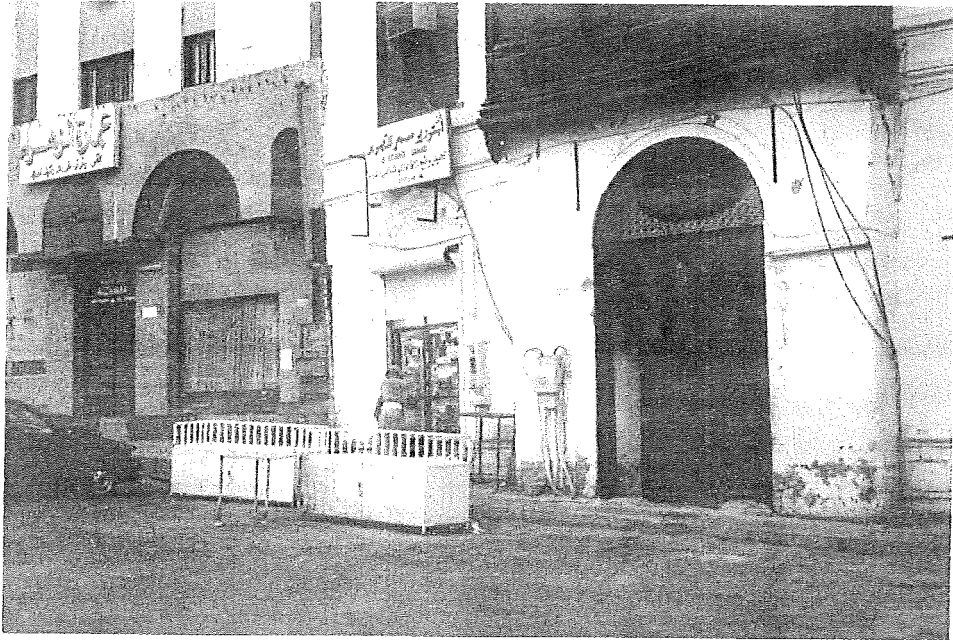
Fig. 3.14   *Modern commercial fina'.*
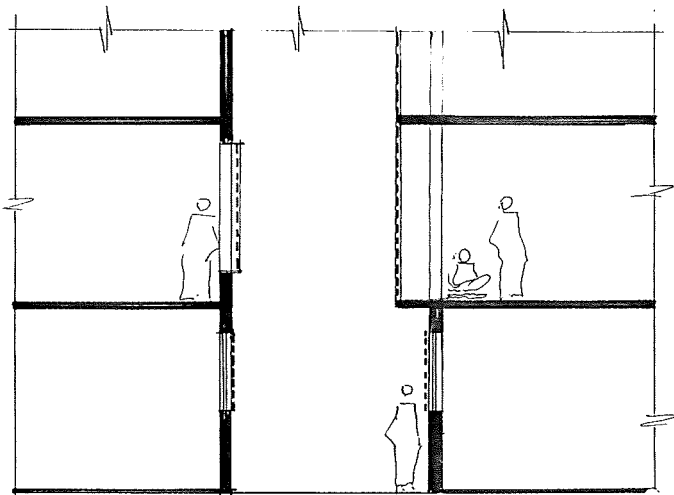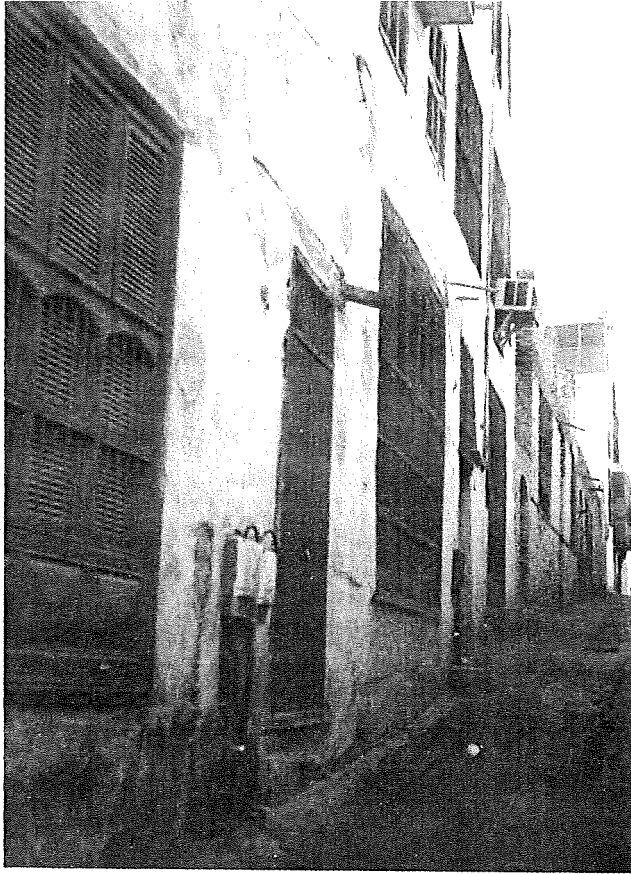
Fig.   3.15   *Traditional residential fina'.*
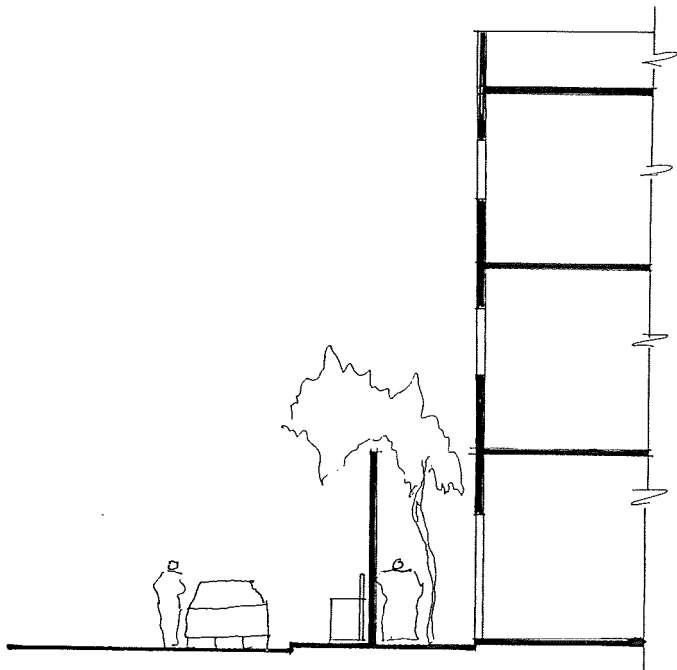
Fig.   3.16   *Modern residential fina'.*

6. Conclusion

The four cities of this study have different economies, languages, cultures, histories, climates, political systems, and local traditions, yet all of them share Islam which has influenced their built environment and provided them with means to exchange and circulate their respective culture and knowledge.

The four examples show a strong influence of *al-fina'* settings in the characteristics of the street environments. Their streets contain large number of settings in their *fina'*, created by the users over time and stimulated by or created for economic, social, climatological, religious, lifestyle, and traditional demands.

Therefore,
(a) similar settings existed in the different cities, and had the same design, use, and decision mechanism.
(b) settings of similar function were created with different designs in the different cities.
(c) some settings were created only in one particular city with a specific design, use and judgements.

There were two important characteristics of the traditional *al-fina'*:

1. **Separating** private indoor space of the dwellings from public outdoor space to protect the private life of the Muslim families. At the same time to create a possibility for the people to watch the street life and events from their home.

2. **Connecting** the indoor space of the shops and often commercial and public buildings with the public space of the street to explore different meanings, stimulate economic activities, meet climatic demands, and support community life in the street.

Modern street design has generally abandoned most of these

factors in the Islamic World. As a consequence, most of the traditional settings have disappeared or are re-introduced in new and different patterns.

On the other hand, the four examples show a common phenomenon which is now dominating the traditional concept of *al-fina'* in the process of the street environment. People modify the design, use, or rules of these patterns and create new settings to meet their old and new demands according to their perception and interpretation of the urban space use, character, and identity. This process of modifying the street character and creating new settings is often done at a small scale, but numerous and at high speed.

Having explored the generality of this phenomenon, the next chapters will discuss in detail the major questions of this study in relation to, first the role of *al-fina'* to constitute the physical characteristics of the street environments, its process, and development, and second, how the local tradition and Islam organized the use of these settings and influenced their physical characteristics.

Even though Cairo is chosen as the case study in this dissertation[182], other cities also require detailed study by researchers to explore their particular local knowledge of streets.

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[182]About reasons of this choice see Part One, 4.2.3. *Data collection.*

PART FOUR: THE CASE OF *AL-FINA'* IN CAIRO

1. Islamic Period
1.1. Introduction

In 10,000 BC, the people of Egypt were nomads who depended of food gathering. In the Neolithic Period (ca. 5000–3000 BC), a local culture emerged which invented such important things as farming, the domestication of animals, the smelting of copper and the building of primitive settlements. During this period the people were divided into small groups under local chiefs. The earliest settlement dates from about 5000–4000 BC and is located at Merimde on the south east of the Delta[183].

Already in 3100 BC, the culture of the pharaohs began to develop as a consequence of unification of Egypt under one ruler. Memphis was built as a capital town 24 km south of the contemporary site of Cairo. During the history of the pharaohs, a total of thirty dynasties wielded power[184]. Among their achievements were hieroglyphic writing, religion, administrative systems, astronomy, astrology, chemistry, art, town planning and architecture[185]. The old Egyptian religion was based on life after death. The lifetime was seen as a transitional stage where the soul of Man uses the body to transform itself toward the eternal life. The Pharaoh was seen as the incarnation of the god Horus. These religious ideas were reflected in the patterns and nature of ancient Egyptian architecture such as the monumental tombs and the temples.

Between 341 and 332 BC), Egypt was invaded and controlled by the Persians. Their reign ended in 330 BC when Egypt was again invaded by the Romans who established the Ptolematic Empire. Alexandria was established as the new capital town which

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[183]Badawi, Alexander, 1966, *A History of Egyptian Architecture*, University of California Press, Berkeley.

[184]Speake, Graham, 1980, *Atlas Of Ancient Egypt*, Phaidon Press Ltd, Oxford.

[185]See also: The Journal of Egyptian Archaeology, The Egypt Exploration Society, London.

introduced Roman architecture into Egypt and was developed as a
cultural and commercial center. In 30 BC, Egypt became a province
ruled from Rome. In 324 AD, it was ruled from Constantinople
(Byzantium) after the break-up of the Roman Empire. During this
period Christianity was made the state religion (figure 4.1).
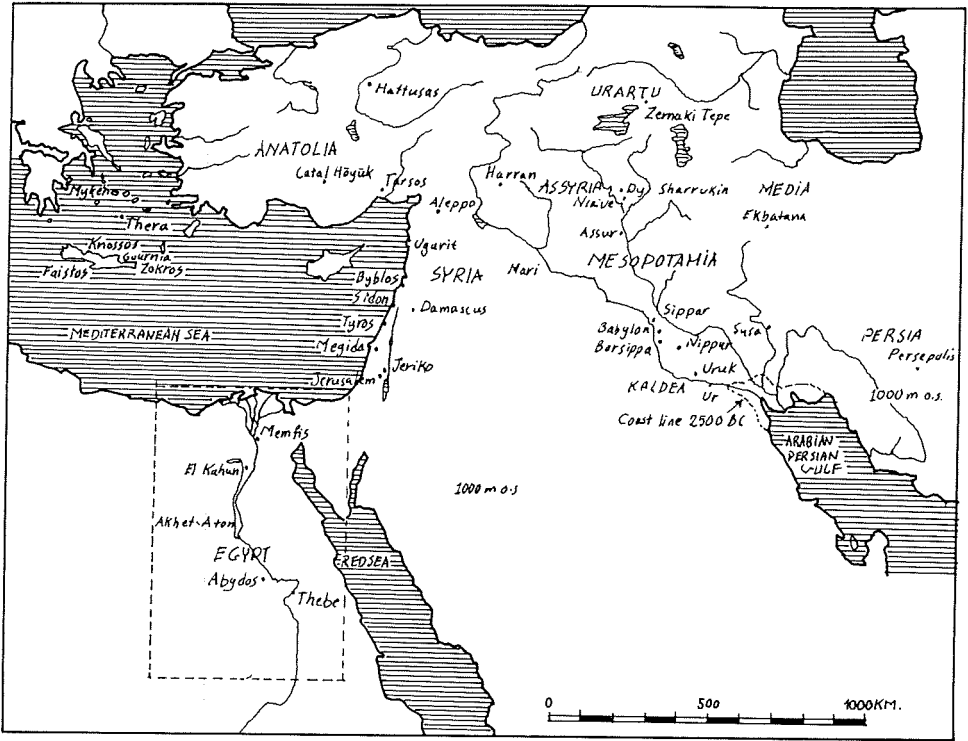
Fig. 4.1   *The ancient settlements of Egypt. (Redrawn from
Lorange, Erik, 1990)*

Egypt was conquered in 640 AD by the Muslims of Arabia during the reign of Caliph Umar[186]. Fustat was chosen to be the army camp and became the first Islamic settlement in Egypt and its Capital town.

Since then, there was a shifting of the location of the capital town in that a series of royal towns were built beside each other as a response to shifting ruling power (figure 4.2). This phenomenon continued through out the Islamic period and the early stage of modern period (table 4.1) [187].

Stage	Period	Government area	Power
I. Islamic period 640-1789 AD	641 AD 756 AD 868 AD 969 AD 1183	al-Fusta't al-'Askar al-Qata'i' al-Qa'hirah al-Qal'ah (The Citadel)	The Caliphs and Ommayades The abbasids Tolonids The fatimids The ayyubids The mamluks The Ottomans
II. European influence period 1789-1952.	1874	Isma''iliyyah	Family of Mohammed Ali

Table 4.1: *The development process of Cairo*

This phenomenon of administrative migration reflected tremendous changes of administration, urban society, and urban design, altering the established order. Under the impact of these changes, the character of the street enviroments was also transformed. But the process of making street environments was dominated by the transformation inherent in organic street environments. *al-Fusta't* and *al-Qa'hirah* are the best examples of this process.

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[186]The people of the countries outside of Arabia could choose between converting their religion to Islam, or continue with their own religion, but paying tax *(jezyah)* and accepting the Islamic administration. But in Arabia, the Arabs had only the choice of converting to Islam.

[187]For detail see appendix 3.
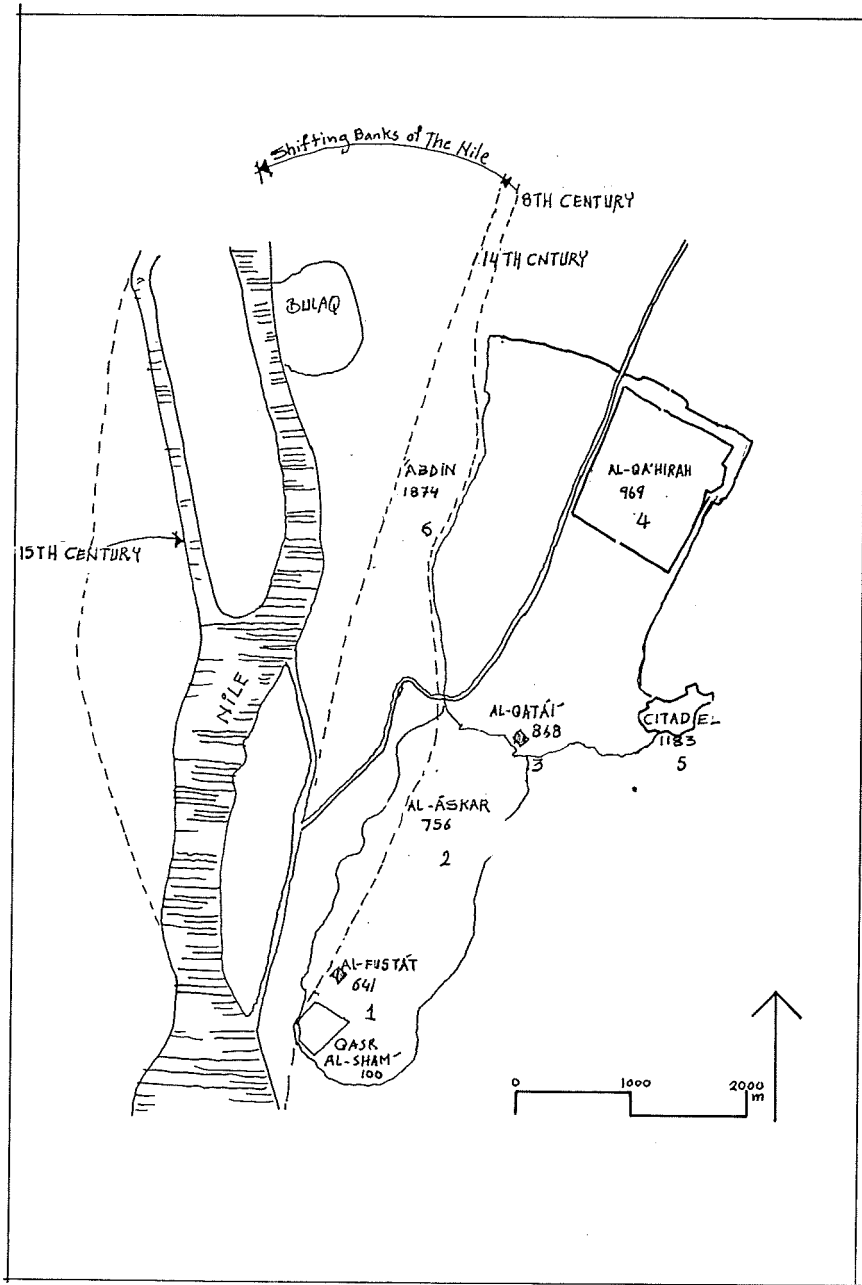
Fig. 4.2   *Royal settlements of Cairo.*

1.2 Emergence and growth of the street design

1.2.1. FUSTA'T: Esablishing the City and its Street System

The construction of *al-Fusta't* was based on both central and decentralized decision-making[188]. The central decision making was an inevitable fact since the whole population of the early city was the army troops and without central control the whole function of this army would not have existed. Most of the historical documents show that this central decision making had a hierarchical order:

Level	Involved Party	Decision types
National	Caliph 'Umar	–guidelines to choose the location of the city. –control distribution of the new conquered land within the army. –decide number of the storeys. –advice to locate a mosque in the settlement's center.
Regional	The Leader 'Amr	–choose site of the city. –choose site of his dwelling and the mosque which functioned as a governmnet area. –establish a group of the distinguished to organize distribution of land.
The city	Leaders of the army and the clans	–organize distribution of land between the clans.
Khitta, or clan site	Members of the clan	–distribute land among memebers of the clan. –organize building process.

Table 4.2: *Dynamics of decision making*

When the site of *al-Fusta't* was decided to settle the Islamic army, the leader of the army, 'Amr, established a group

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[188]This opposes Akbar who believes that Islamic urbanism was based on decentralized process and that the Muslims never planned their cities.
See Akbar, Jamil, *'Ima'rat al-Ard fil-Isla'm*. p. 186.

of the distinguished (*hukama'*) to organize the distribution of land among the different groups and clans according to the tradition of (*iqta''*) which gave the leader (*ima'm*) right to allocate *mawa't* land (unowned or uncultivated land) to people[189]. This step was necessary to avoid disagreements between the groups of the army. Each group distributed its land among its members[190]. The land of each particular clan was called *khittah* which also used to mean the quarter of the clan. The description of Ibn Abd al—Hakam shows that the location of each particular clan reflected the position of the clan among the other clans[191].

Al—Maqrizi[192] pointed out that the clans were settled on particular sites depending on their fixed places in the divisions of the army (the centre, vanguard, rearguards, and two wings). Note that the location of the clans in the army reflected the power of the clan in the new Islamic society. The center of the Islamic army which conquered Egypt was composed of people from different clans who converted early to Islam and were called *ahl al—r'ayah*, and this central area symbolized the higher position in the pyramid of the social structure. Therefore, the place of *ahl al—ra'yah* in the Islamic army was the center. As a consequence, their land was also located in the central area of the settlement, and their quarter was composed of people from different clans.

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[189]al-Baghda'di, Shiha'baddin Abi 'Abd Alla'h Ya'qut Bin 'Abd 'Alla'h al-Hamawi al-Rumi (d257/871), 1961, *Mu'jam al-Bulda'n*, Da'r Bairut, Bairut. Vol. 4, p. 263.
Ibn Daqma'q, Ebra'him Bin Hohammed Bin Aidamar al-'Alai (d809/1406), 1893, *al-Intisa'r liwa'sitat 'Aqd al-Amsa'r,* al-Matba'ah al-Kubra', Bula'q. Cairo. pp. 3-5.
See also chapter 2.

[190]Al-Maqrizi, Taqiaddin Ahmed, 1853, *al-Khitat al-Maqriziyyah,* Bulaq Press, Cairo. Vol. 1, p. 297.

[191]Ibn 'Abd al-Hakam, *Futuh Masr wal-Magrib*. pp. 132-175. See also: al-Baghda'di, *Mu'jam al-Bulda'n*. Vol. 4, p.263.

[192]Al-Maqrizi, *al-khitat al-Maqriziyyah*. Vol. 1, pp. 296-304.

There is not enough reliable data to explain the city form, its planning, and the character of its street design during the early period of *al-Fusta't*. The excavations of Kubiak[193] show that the site of each clan was separated from the surrounding quarters by large expanses of unoccupied land which might be considered protected areas *(harim)*[194] (figure 4.3). This contributed to distributing the built up area on a large site (5-6 kilometers long and 1.5-2 kilometers wide).

Each particular clan also had its social organization with a leader. Therefore, this organization was next lower level of the decision making process which had the central role in the process of each particular quarter. The members of the clan built their houses toward north, east, south, and west until all members had built their houses. The area of each particular quarter was 20-40 hectares. In this early period, the land size of the particular clan was not limited but depended on the number of the clan and its power. The street network inside each quarter was established as a result of the loose pattern of clustering of the dwellings which had irregular plots (figure 4.3). There were also unpaved roads to connect each quarter with each other.

Separation of quarters by open spaces or buffer lands reflected the military organization of the army troops and the social organization of the clans which had both centralized and decentralized orders. The members of each clan shared strong relationships which unified them under the clan's head. On the other hand, each group of members who were close relatives had the ability to decide many issues of their settlement patterns. These decentralized social traditions did not support establishing regular lines and straight streets which required central and unified rules for the whole built environment.

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[193]Kubiak, Wladyalaw B., 1987, *Al-Fustat Its Foundation and Early Urban Development*, The American University In Cairo Press, Cairo.

[194]See part 2, chapter: *Al-harim.*

Separation of the quarters by open space may also have had military purposes in this camp/town, such as to facilitate the movement of the troops. But when the military situation was peaceful for the Muslims, each clan allowed its relatives from Arabia to build on its protected land *(harim)*, which existed around its quarter *(khittah)*. The expansion was not stopped until the quarters met each other. As a result each quarter aquired an irregular shape and some quarters expanded into the other quarters. By this process the quarters became clustered[195].

When the urban structure of al-Fustat was established, it could be described as the following: a central mosque *(al masjid)*, market place *(suq)*, and ethnic quarters *(khittah)* to house one clan or members of several clans. The mosque of 'Amr built at the central location to represent *al-masjid al-ja'mi'* *(The mosque which provides Friday sermon)* functioned as the center of worship and seat of power and administration. The *suqs* (the markets) were located near the center of the town and another market place was located beside the banks of the Nile. The conquerors settled around the central mosque *(al-masjid al-ja'mi')*. By increasing the size of the town, each quarter *(khittah)* got a *masjid* (a local mosque where the Friday sermon did not take place) which was used by the residents of the khitta to participate in the daily prayers, while *al-masjid al-ja'mi'* (the main mosque) was used by a larger population and provided the friday sermon.

The systems of the street network were of two types:[196] First, **thoroughfares** were used as the main circulation spaces in the city, and second **dead-end streets** were used to facilitate the

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[195]For example, Ibn 'Abd al-Hakam noated that the clan of the *Gha'fiq* occupied land between lands of two clans *Mahrah* and *Lakhm*. Then, they continued building their land until they reached the desert. Their number was large, therefore their quarter also became large.
    Ibn 'Abd al-Hakam, *Futuh Masr Wal-Magrib*. p. 166.

[196]Kubiak, Wladyslaw B., *Al-Fustat Its Foundation and Urban Development*, The American University in Cairo Press, Cairo. pp. 188-195.

circulation within the quarters. Most of them were not paved, but some streets could be paved with bedrock by the local users. The unpaved streets probably did not affect the function of walking in the streets because of the dry and hot climate of Egypt. They were winding and narrow. Their average width ranged between 1 and 3 meters, while there were few arteries which continued from one end of the city to the other.

The streets were called *khitt, tariq, darb,* and *zuqa'q.* The name (*shari*') was not used in the early period to denote the main streets but the inside passage. Other terms were also used such as *'aqabah* to indicate a street mounting a hill, a covered street could be called *saqifah*, and *khaukhah* was used to indicate a passageway or perhaps a corridor inside a building complex. Kubiak maintained that *archeological evidence shows that most of the streets, once established, rarely changed their course.*

The public open spaces (*rahbah, pl. riha'b)* were small, irregular, and often located at the crossroads. The town became a center for Islamic rule and developed into an urban center, which attracted to itself people seeking work and success such as tradesmen, builders, scholars, and craftsmen. New buildings with new public functions were built in the town and the suburbs as the pcsition of the town grew to be an important regional center of political and economic activities[197]. During this expansion, the city continued with the organic evolution of its street system.

Expansion of the existing buildings and constructing the new buildings were done basically in the following ways:
1. Building the vacant lands within the built up area of the city.
2. Subdividing or connecting the plots or the houses.

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[197]Lapidus, Ira P., *Traditional Muslim Cities*. In Brown, L. Carl (editor), 1969, From Madina To Metropolis, The Darwin Press, Princeton, New Jersey. pp. 51–73.

3. Occupying *al-fina'* of the streets.
4. Building out the existing built up area.

The development process of *'Amr* mosque is an example of these processes. The mosque was built as a simple structure during the early period. It was low about 3 meters high covering some 29x17 meters[198], and without a courtyard but surrounded by open space. It was constructed of palm trunks used as columns and beams, and mud brick laid in mud.

This plan and structure were similar to the prophet's mosque in Medina-Arabia. Twenty years later, its northern side was extended, and minarets were added to the mosque. In 711 AD, the whole structure was removed and rebuilt as a stronger structure and with a new design on extended land. The extensions which applied during its history were always done by occupying the open spaces of *al-fina'* of the street, and the houses near this mosque[199].

The historical documents show that many jurists were against occupying the spaces of the street around the mosque even for religious purposes. But this opposition could not stop the process[200].

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[198]In this area, only 500-600 person could join the prayer while the town was populated by 10.000-12.000 persons in the early period. They increased in a few decades to 40.000 persons. Therfore, we can argue that in the early stage this mosque was not built to collect all the population in the Friday sermon.

[199]Ibn 'Abd al-Hakam, *Futuh Masr wal-Magrib*. pp. 178-181.
Al-Baghda'di, *Mu'jam al-Bulda'n*. Vol. 4, pp. 262-264.

[200]al-Maqrizi, *al-Khitat al-Maqriziyah*, vol.2 p248.
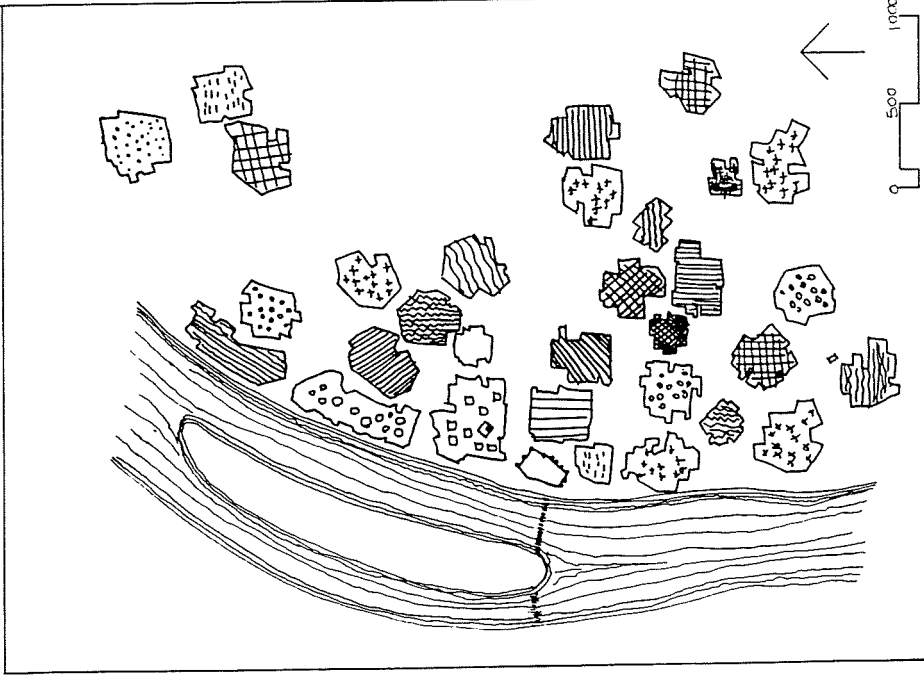
Quarters of the early settlement in the 7th century
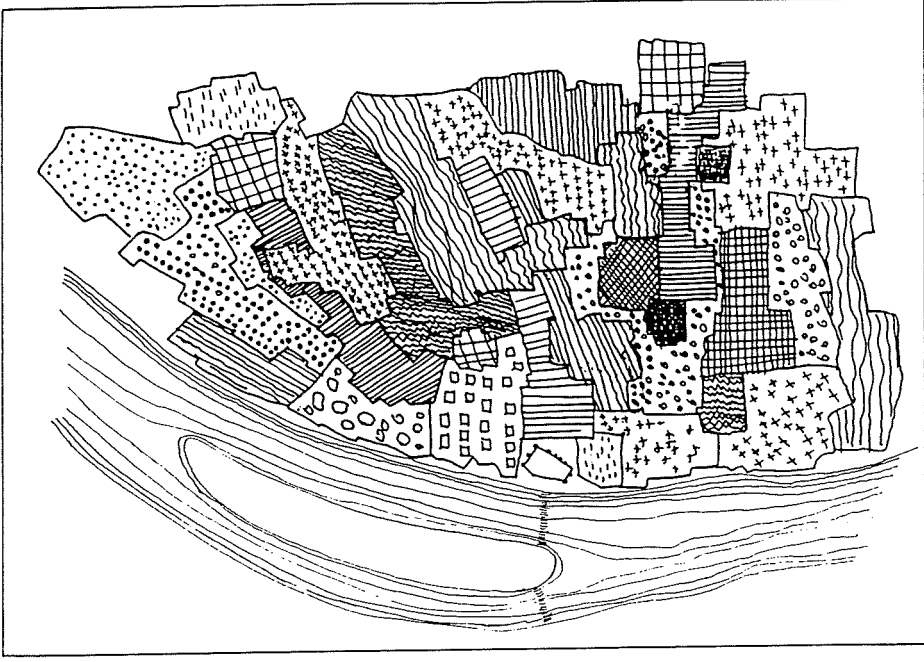
Expansion of the quarters

Fig. 4.3   al-Fusta't. (Reconstructed from Kubiak, Wladyslaw, 1982 & Ibn 'Abd al-Hakam, 1961)
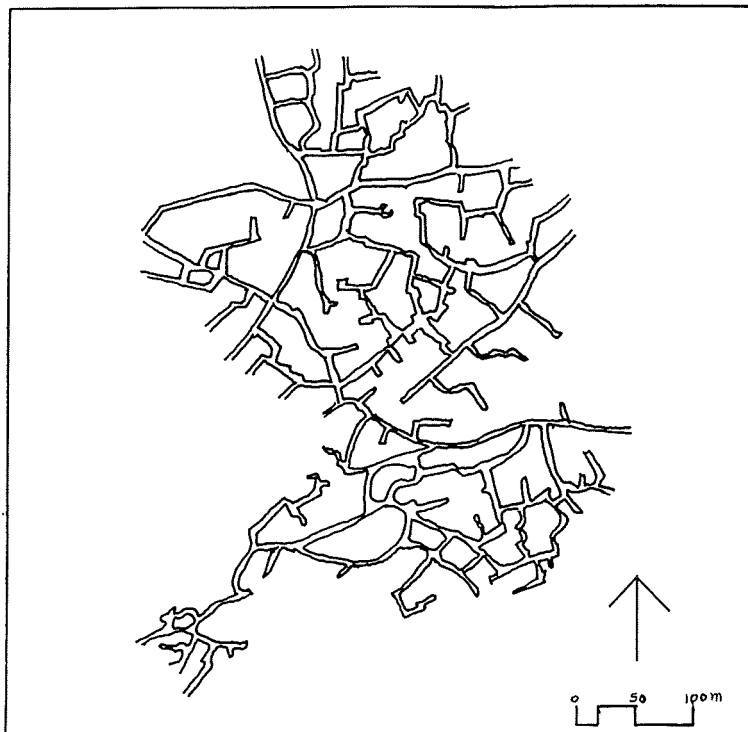
The street network.
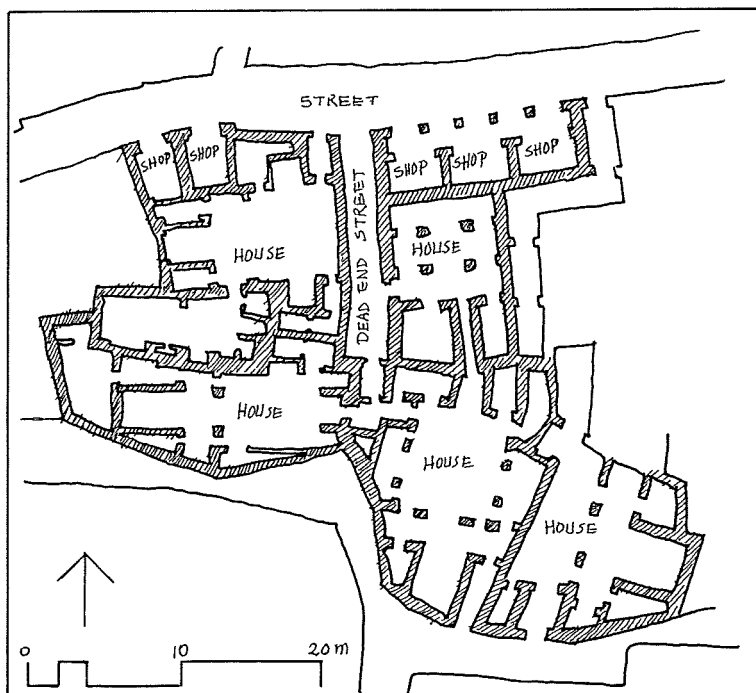
A Neighbourhood plan. (After Creswell, K.A.C., 1978)

1.2.2. *al—Qa'hirah*: Establishing the City and its Street System.
When Jawhar and his Fatimid troops managed to control Egypt
in 967 AD, he started to build a new Royal city outside of *al—
Fusta't* to house the new rulers and their troops[201]. *The design
patterns of this new royal city were intended to reflect the
wealth and power of the Fatimids as the new rulers of the Muslims*
(figure 4.4). Jawhar depended on some basic planning principles
to define the shape and contents of the new city[202].

1. The site of the new Fatimid town was chosen between *Fusta't*
and *'Ain Shams* (The Heliopolis that was the holy city of ancient
Egypt). The site is bounded by the Nile and its Canal on the
west, *Muqattam* mountains on the east, *al—Ahmar* mountain on the
north, and *al—Qata'i'* on the south. Al—Maqrizi maintained that
some structures existed on the site, such as a farm, a church,
and a well. Separation of *al—Qa'hirah* from the existing city by
buffer land indicates that the Fatimids avoided building on the
land directly adjacent to the other city, respecting its
protected land *(harim)*[203].

2. The shape of the city was to be a square which should cover
340 acres.

3. A wall was built around the city and the location of the gates
were determined. The wall was used as a defensive element and to

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[201]al—Maqrizi, *al—Khitat al—Maqriziyyah*. Vol. 1, pp. 361—365.

[202]Al—Maqrizi, *al—Khitat al—Maqriziyyah*. Vol. 1, pp. 348—372.
Ibn Hauqal, (no date), *Kita'b Surat al—Ard*, Da'r Maktabat al—Haya't,
Bairut. pp. 144—145.
Abu al—Mahasin Jama'laddin (d874/1469),(no date), *al—Nujum al—Za'hirah*,
Dar al—kutub, Cairo. Vol. 4, pp. 34—42.

See also new studies on Qahirah:
AlSayyad, Nezar, 1991, *Cities and Caliphs*, GreenWood Press, Westport,
CT. pp. 139—151.
Raymond, Andre, *Le Caire*. Translated to Arabic by Garaj, Latif, 1993,
al—Qahirah, Dar al—Fikr lil—Dirasa,t wal—Nashr, Cairo. pp. 34—41.

[203]See part 2, chapter: *Al—harim*.

define the boundary of the royal town. It contained 8 gates, two on each side. The main gates were connected by the main streets of the town. The gates were called by descriptive names such as *Ba'b al-Futuh* (conquest) and *Ba'b al-Nasr* (victorious) in the north,. The town was called *al-Qa'hirah* or the City Victorious[204].

4. The main wide street grew as a continuous axis out of the main historical street, extended between *al-Fusta't, al-'Askar, and al-Qata'i'*. The physical structure of the town was organized along this main central street that ran from the south to the north, dividing the town into two main parts, the eastern side and the western side. Several side streets with different dimensions and forms branched from this main street, connecting the two sides in a network.

5. The caliph's palace was located in the central part of the city, yet separated from other parts of the city by open spaces. It covered over a fifth of the city's total area, and its height dominated all other buildings in the city. On the eastern side a large garden (*Bustan al-Kafouri*), which existed at the site before building *al-Qa'hirah*, was integrated into the new city to be the royal garden. A large central open space (*maida'n*) at the western side of the palace was used for military shows and religious sermons. The mosque of *al-Azhar*, to be the main mosque (*al-masjid al-ja'mi'*), was built on the southern side of the palace. At the period of al-Maqrizi there were 49 open spaces inside *al-Qa'hirah* which were reduced to ten at the end of the Fatimids period.

6. Each group of people had received a piece of land on which to plan and build their residential quarters (*Khuttah, or Khittah*) in the city. Their locations formed a defensive belt around the palace.

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[204] The term *q'ahir* means forcible, cogent, overpowering, and conqueror.

The decision making process shows similar order as was in *al-Fustat* but the army groups had limited space since they were bounded by the city plan and its wall.

The observations of some writers of that period such as Ibn Hawqal[205] show that the built up area in **978 AD** covered only one third of the enclosed land. The other remaining area was open land. Khusraw[206], who visited the city in 1045-1052 gave the same description as Ibn Hawqal. Further, he mentioned that houses were separated by open spaces. He estimated that there were some 20,000 shops in *al-Qahirah*. These shops were owned by the Caliph and rented to the people, while most of their tenants lived in *al-Fusta't*. Although *al-Qa'hirah* was a royal town, it was less populated than *al-Fusta't* in the early period. Yet this balance changed gradually. In the 12th century, the population of *al-Qa'hirah* was estimated at 100,000 and *al-Fusta't* at 50,000[207]. Although these numbers can not be supported and may be overestimated, they do indicate the growing population of *al-Qa'hirah* and its built up area.

Different buildings were built or rebuilt in the city during Fatimids period, such as rebuilding and extending the wall of the city and the gates in 1087 AD by Badr al-Jamali.

AlSayyad [208] maintained that *the early urban structure of al-Qa'hirah was a planned city with regular, straight, and wide*

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[205]Ibn Hawqal, *Kita'b Surat al-Ard*. pp. 144-145.

[206]Khusraw, Na'siri, *Sefer Nameh*. Arabic translation by al-Khasha'b Yahia', 1945, Cairo University, Cairo. pp. 149-156.

[207]Clerget, Marcel, 1934, *Le Caire*. Vol. 1, p. 141, 239. in Raymond, Andre, Le Caire. Arabic Translation. p. 77.

[208]Abd el-Kader, Ahmed Monir, 1965, *al-Kahera al-Fatimia*, The Catholic University of America Press, Washington, D.C. p. 15.
   AlSayyad, Nezar, 1991, *Cities and Caliphs*, Greenwood Press, Westport, CT.

streets and large open spaces[209]. But al-Sayyad depended only on the macro or general physical layout of the street systems to make his arguments. He omitted the fact that once the city was populated in the early period, large number of settings of *al-fina'* occured which formed an organic character.

However, if such regular planned streets were built in the early stage, the description of al-Maqrizi shows that even the macro physical layout of these streets began to disappear gradually from the 11th century[210](figure 4.4). This was a response to the decline of power of the Fatimids. People moved to settle in the Royal city or built quarters beside it. The number of the created settings in the streets increased and modifications of the existing physical elements of these streets were made[211].

This transformation was continued by the Ayyubids who removed the Fatimids. The first steps of Ayyubids leader Salahaddin was remove the Fatimids princes from their palaces and properties. He destroyed some of the palaces and distributed them among his relatives and other people[212]. These demolition and construction activities contributed to remove the urban features of the Fatimids *Qa'hirah*.

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[209]AlSayyad, Nezar, *Cities and Caliphs*.

[210]See also other similar examples of transformation in part 2 the chapter:The architectural history of *al-fina'*.

[211]Al-Baghda'di described the clustered structure of the built up area of Qahira:
"One notices in the buildings of Egyptians a marvellous art and a very wise disposition of all the parts; it is very rare to leave any place unused and which has no purpose"
Al-Baghda'di 'Abd al-Latif (d629/1231), 1931, *Kita'b al-Ifa'dah Wal-I'tiba'r*. Matba'at al-Mujallah al-Jadidah, Cairo. Translated into English by Zand, Kamal Hafuth and A., John and Videan, E., George Allen And Unwin Ltd, London. p. 177.

[212]Muba'rak, 'Ali, 1980, *al-Kitat al-Tawfiqiyyah.* Vol. 1, p. 71.

(1) The early Fatimid Qa'hirah

MOSQUE

CANAL

GARDEN

PALACE

QUARTER

0   100   200   400 m

(2) At the 11th century

CANAL
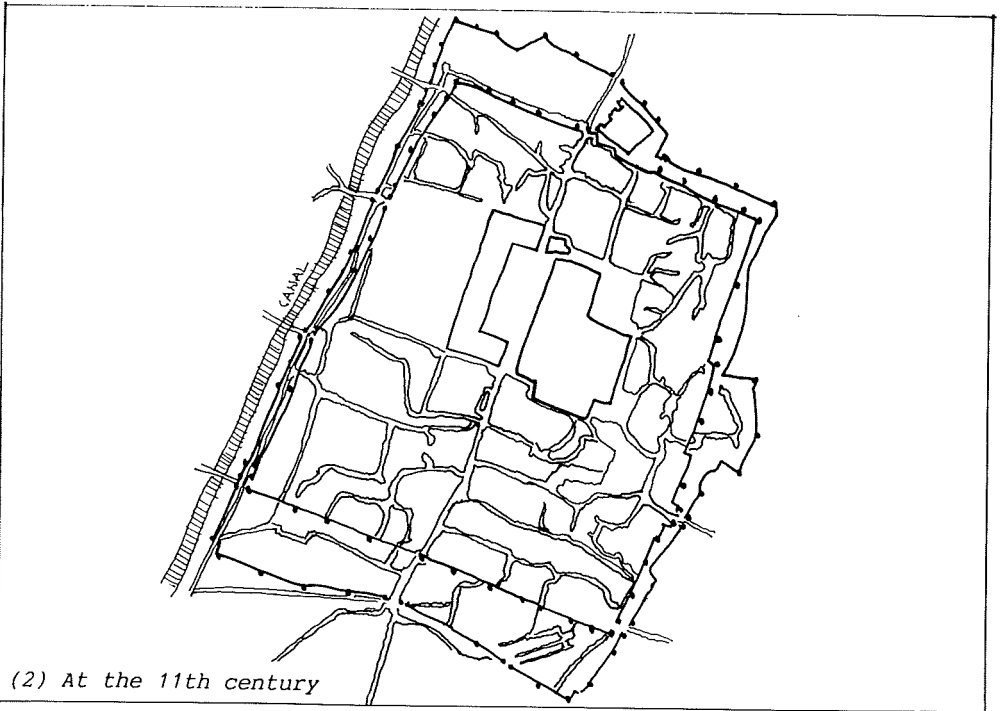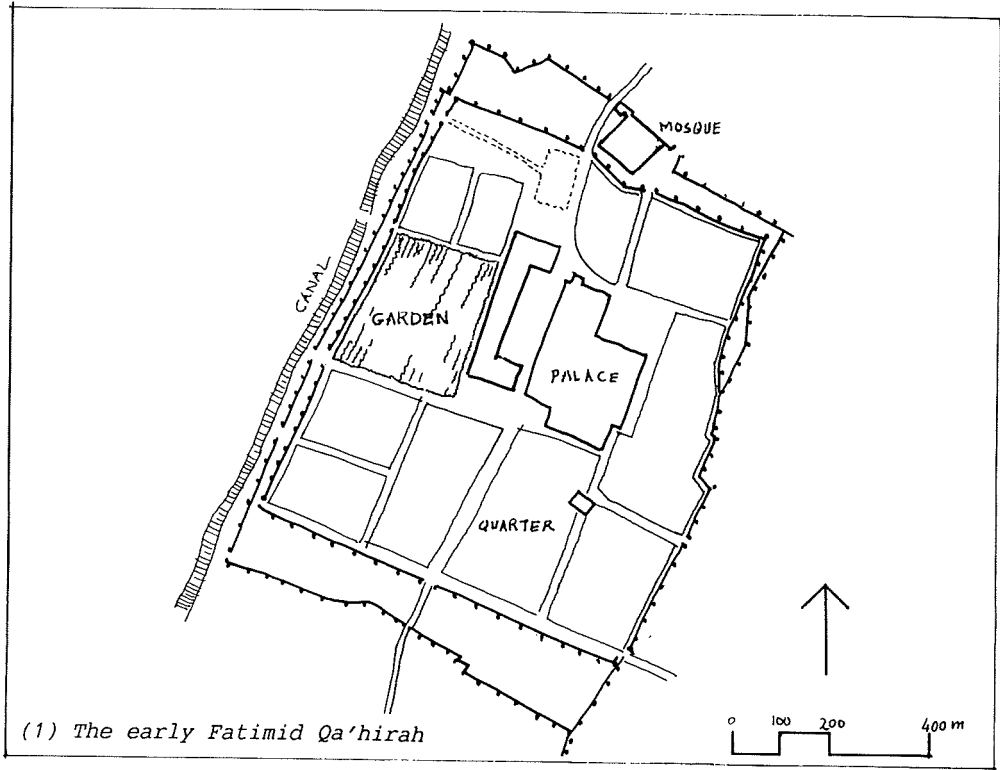
Fig. 4.4   al-Qa'hirah between the 10th–11th century.
                (Drawn from Musilhi, Fathy Mohammed, 1988)

Al—Maqrizi maintained that from this period *al—Qa'hirah* became an open city and the people could move and live inside it. Increasing the population in the city required building on all available land in the built up area. It contributed also to the practice of occupying parts of *al—fina'* to extend the living spaces of existing houses and public buildings. *It contributed to change the courses of the existing streets, narrow their width, and form an irregular physical layout.* Therefore, it was the buildings and the people's activities which defined the organic character of the streets of *al—Qa'hirah.*

The process of changing the street layout shows that the argument of Kubiak about the streets of *al—Fusta't,* once established, rarely changing their courses, can not be generalized in the case of al—Qa'hirah.

Bearing in mind this tradition of forming the organic character of streets of *al—Fusta't* and *al—Qa'hirah,* it will be possible to study why the streets of Islamic Cairo had irregular form and an organic development process, what was the role of *al—fina'* in this process, how it was organized.

These aspects will be discussed in the chapters which follow.

1.3. Al-fina' during the Ottoman period (16th-18th century)

1.3.1. Introduction

At the end of the 18th century, Cairo had grown as a clustered urban structure with a semirectangular form[213]. This area developed through the expansion of the Fatimid *Qa'hirah* by shifting its edges mainly toward south and west. It covered about 730 hectare[214] and housed some 250,000-300,000 persons. Therefore, the average density of the living environment was about 300-400 person/hectare. 91% of the population were Muslims and the other 9% were Copts, Greeks, Jews, and others[215].

The built up area was developed into three different major parts. Each part was dominated by a particular function and character of the built environment (appendix 4):

1. The Citadel *(Qal'at al-Jabal)*. Located on the height of *Muqattam* at the south east corner of the city. It housed most of the government people and the army.

2. The Cemeteries *(Qara'fah)*: They were clustered in some large graveyards out of the city[216].

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[213]The best documented data which have detailed description of *al-fina'* in Cairo are from the 18th and early 19th centuries. They were produced basically by various travellers, scientists, and writers. Among them, the works of the orientalists are the most important, although their works were influenced by political interests and cultural conflicts.
    See also:
    Said, Edward, 1991, *Orientalism*, Penguin Books, London. Translated to Arabic by Abu Dib, Kamal, 1984, Muassasat al-Abhath al-'Arabiyyah, Bairut.

[214]This area included also some 90 hectare of ponds, farms, and open spaces.

[215]Note that these numbers were not based on official census. For example see:
    Jomard, Edme Francois, 1822, *Description of Cairo*. Translated to Arabic By Sayyid, Aiman Fua'd, Maktabat al-Khanchi, Cairo. pp. 90-91.
    Lane, Edward William, *Modern Egyptians* (written in Cairo between 1833-1835).Translated into Arabic by Dassom, Suhir, 1991, Maktabat Madbuli, Cairo. pp. 34-37.
    Staffa, Susan Jane, 1977, *Conquest and Fusion*, E. J. Brill, Leiden. P. 245.

[216]Some cemeteries could also be found in the city.

3. The main living area which evolved from expansion of Fatimid *Qa'hirah*. It was the largest part of the city where the people lived and most of the urban life and activities were concentrated. It had some landscape elements which strongly influenced the city life and its physical character. The most important were: The Nile, the ponds, the farms, the dry, hot climate, and its semidesert topography (Appendix 5).

The city was surrounded by five landmarks which defined its physical edges *(dawa'her)*, the wall *(sur)*, the farms *(busta'n)*, the citadel *(qal'ah)*, the cemeteries *(qara'fah)*, and the mounds *(kima'n)* (appendix 4)(figure 4.5).

The city had some settlements in the suburban area with strong economic relationships such as *al-Fusta't, Bula'q, Rawda, and Gizah* (figure 4.5).

This chapter is concerned only with *al-fina'* of the main living built up area of Cairo.

CANAL

FARMS

BULA'Q

POND

TOWN

NILE

CITADEL

GIZAH

THE MAIN STREET   TOMBS

AL-FUSTA'T

100 200   600m
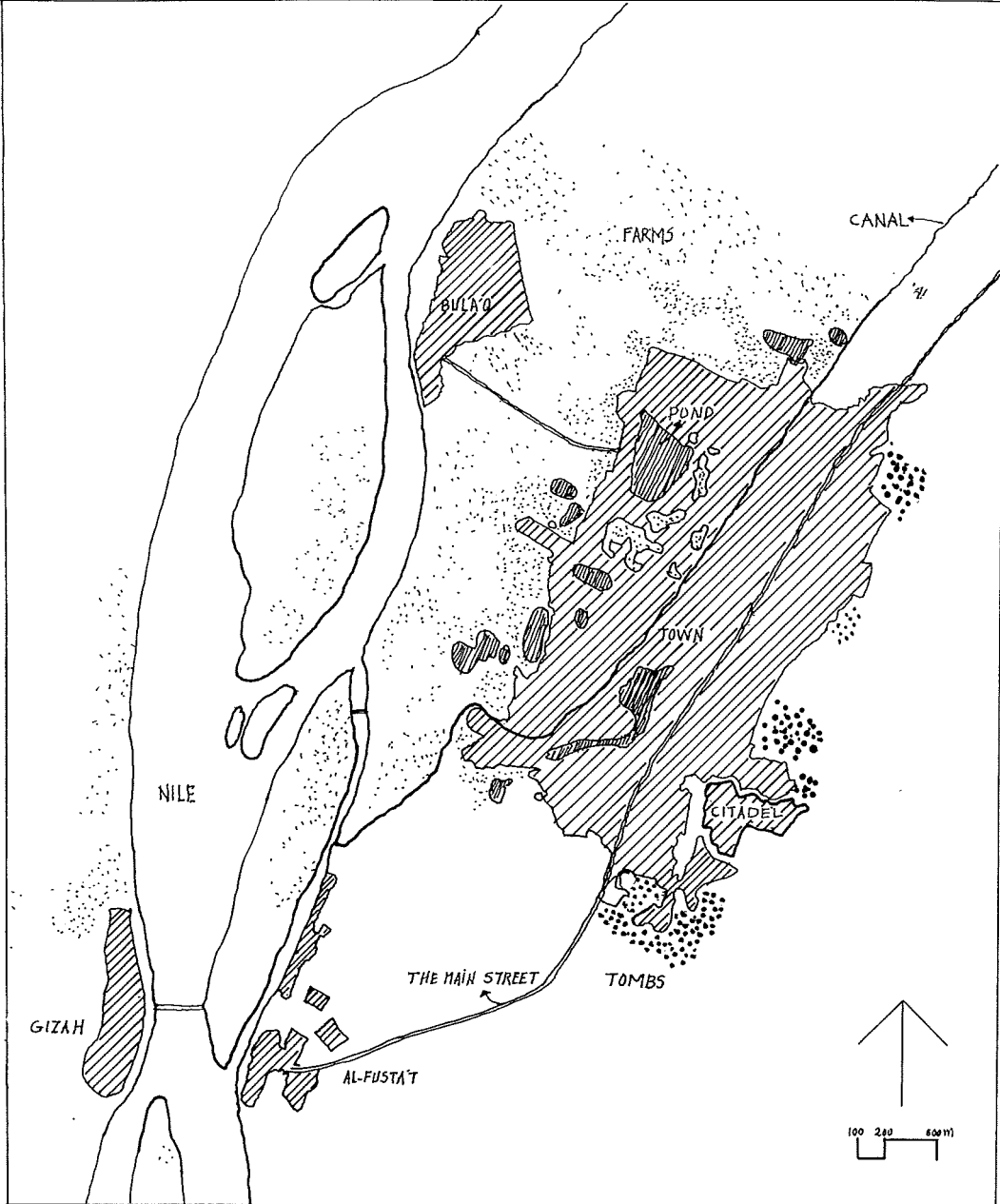
Fig. 4.5   *Major landmark elements of Cairo in 1800 AD.*

1.3.2. THE ORDER OF THE STREETS AND THE OPEN SPACES

The urban structure of the living area of the city was developed into two main areas. Each area was basically dominated by a particular function:

1. The public commercial area *(suq)*.
2. The private residential quarters *(ha'rah)*

Each area reflected a particular relationship between socio-economic organization and spatial pattern. The two areas were connected by a system of **street networks** which was organized in a hierarchical order.

The maps provided by *Description of Egypt* show that the streets could be classified into three categories, according to their function, dimension (length, width) and their access to other streets (figure 4.6). These three categories existed in the residential and the commercial areas:

1. **First order of streets**, the main thoroughfares or arteries Called (*Sha'ri'*, or *Qasabah*): These were long and had large buildings along them, their ends were open and connected with all major gates, and they functioned as main arteries of connection and distribution in the city, which also involved smaller thoroughfares. The most important artery was the central axis (*sha'ri' al-'Ida'm or Qasabat al-Qa'hirah*) which ran through the city from the southern side to the northern side and had 20 areas. Each area was called by a particular name according to the type of business at that part. Its length from south to north was 4624 meters. Along it the major buildings, and activities (commercial, religious, and cultural) were located[217].

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[217]Mubarak, 'Ali (d1311/1893), 1982, *Al-Kkitat al-Tawfiqiyyah*, al-Hayah al-Misriyyah lil-Kita'b, Cairo.

2. Second order of streets, the connectors: They were often local thoroughfares of a particular quarter or divided between different quarters, had smaller dimension than the (*sha'ri* '), and had open ends.

3. Third order of streets, the cul-de-sacs: Most of the streets in Cairo were of this type. They had different dimensions, but but were in general narrow. They could be divided into two types: First, a single dead-end street, and second, multi dead-end streets composed of several dead-end streets branched from the first or the second order of streets.

It is common among scholars to call the streets of each particular order by a name such as *zuka'k, darb, and shari* ' [218]. But these terms were used in mixed order[219] and *there was not a common or an agreed term for each particular type of a street.* The exception was the *sha'ri* ' or *qasabah* which was often used to denote the main artery. Other terms such as *tariq, sikkah, zanqah, darb, and 'atfah* were often used to name both the thoroughfares and dead end streets[220]. On the other hand, the type, the name and the function could change over time.

The public open spaces could be divided into five major types[221]:

1. *Rahbah, (pl. riha'b)* were the open squares and had different sizes, were located along the streets, and surrounded by buildings. They were among the basic design elements of the open

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[218]Raymond, Andre, *Le Caire*. Translated to Arabic by Faraj, Latif, 1993, Al-Qahirah, Dar al-Fikr lil-Dirasa't, Cairo.   p. 236.
Jomard, E. F. *Description of Cairo*. pp. 161-163. See also its footnote by Sayyid.

[219]Mubara'k, 'Ali, *al-Khitat al-Tawfiqiyyah*. Vol. 2.

[220]This is an old phenomenon which occurred since building Fustat. See Al-Maqrizi, *al-Khitta't al-Maqriziyyah*. Vol. 2. pp. 37-47.

[221]Jomard, E, F, *Description of Cairo*. pp. 161-163.

spaces when Qahira was built in 967 AD. But most of these open
spaces eventually disappeared, or their size and shape changed
gradually. Such open spaces could also appear in the city when
a structure was demolished and its plot stood as open land.

2. *Maidan, (pl. maya'din)* were large open places, most of them
were located around the city outside the clustered areas. They
were used for playgrounds, training, and recreation.

3. *Al-Fina'* was the interface area along the street, and the
courtyard of the public buildings such as the mosque, wakala, and
school.

4. *Wis'ah:* small squares formed as small open spaces along the
narrow street. They functioned as the neighbourhood open space.

5.*Hush*: An isolated left over open space surrounded by buildings
and normally used as place for garbage.

Schematic plan of the different street types.
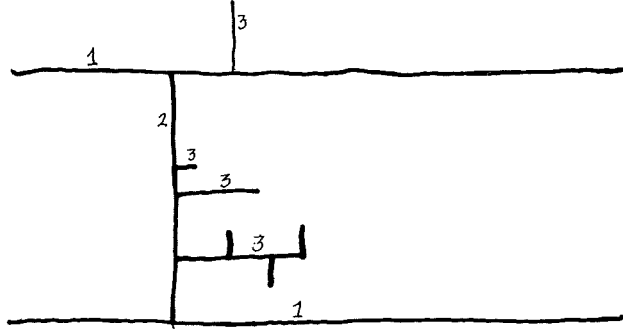
Street system in Jama'liyyah–Islamic Cairo in 1800 AD.

MOSGUE AL-HAKAM
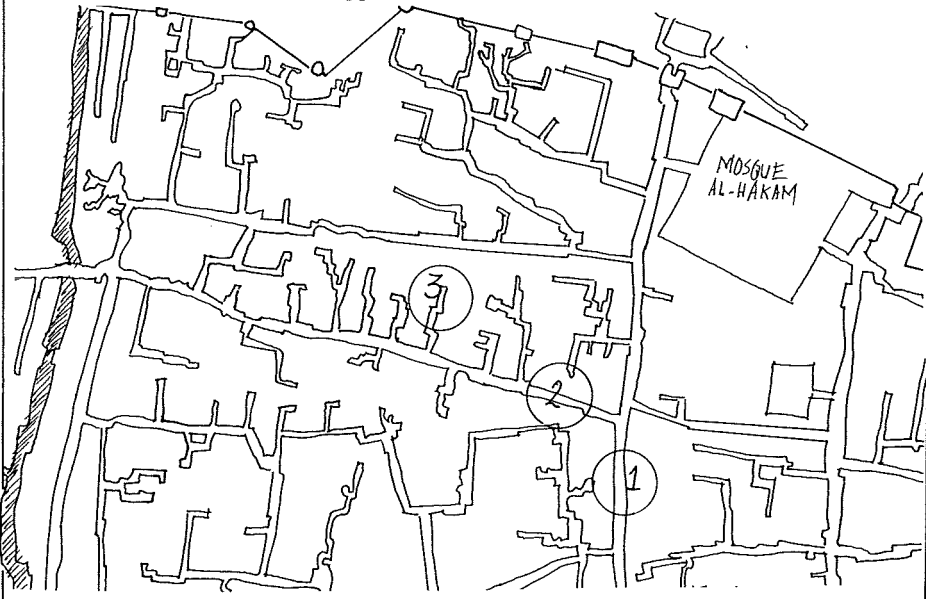
Types of the dead end streets.
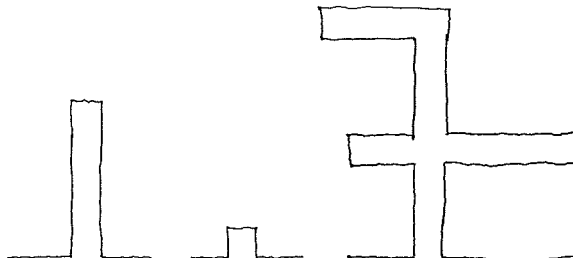
Fig. 4.6   *Levels of the street systems.*

1.3.3. The physical layout of the streets and the public open spaces.

The streets of Cairo had two basic characteristics, narrow, and a winding, or irregular layout. These two characteristics had developed in different ways. Occupying *al-fina'* and the development of different settings in its spaces by the people were among the more important factors to shape the organic patterns of the streets (figure 4.7).

However, scholars have described and judged these two characteristics in different ways. For example, Jomard noted that [222]:

> "The interior arrangement of the city has hardly any resemblance to European cities; not only are its streets and public squares extremely irregular, but the city is almost entirely composed, with the exception of a few very long avenues, of extremely short, broken, zig-zag streets with innumerable dead ends. Each of these off-shoots is closed by a door that the inhabitants open when they wish; the result is that the interior of Cairo is very difficult to know as a whole."

Most travel-writings have documented the narrow streets of Cairo and the variation of their widths. For example, St. John[223] maintained that:

> "..all of (the quarters are) traversed by innumerable streets, or rather, lanes courts, or alleys, so narrow for the most part (some not exceeding two feet and a half in width), that they exclude at all hours the rays of the sun; to effect which more completely, a succession of palm-mats is thrown across on poles, with narrow apertures here and there, to admit a certain supply of light."

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[222]Jomard, E. F., *Description of Cairo*. pp. 580-581. This section is translated from French by Abu-Lughud, J., 1971, *Cairo-1001 Years of The City Victorious*, Princeton University Press, New Jersey. p. 65.

[223]St. John, James Augustus, 1845, *Egypt and Nubia*, Chapman and Hall, London. p. 105.

Fig. 4.7   *Cairo in the late 18th century (Redrawn from Jomard, E.F.*
                  In: Description of Egypt).

Many European travelers criticized the narrow streets as indicating the lack of public sense or value in Cairo. Thevenot[224] described the street condition in the 17th century as following:

> "There is no handsome street in Cairo, but a great many little ones that are round about; it is well known that all the houses of Cairo have been built without any plan for the town; each one takes all the space that he wants to build, without considering whether he blocks the street or not."

AlSayyad[225] based on this description to argue that there was little or no sense of the public domain in Islamic Cairo. Indeed, to understand the public domain in Cairo one has to know its local contexts. This will require explaining the relationship between outdoor space and indoor space by *al-fina'* concept. Such understanding will show that these irregular and organic characteristics had many reasons which were often ignored and misunderstood by Thevenot and others[226]. The local codes of land use, the climate, the social life, the local tradition, the travelling pattern, and the religion were among the major forces which should be considered to understand the character of these streets. It was also Islam and the local traditions *('urf)* which facilitated understanding of the different settings in the street environments with their particular character[227].

For example, the narrow street had the same functions as the courtyard space in the houses because they played a role as a temperature regulator. The narrow streets contributed to create shadow that reduced the temperature and blocked the hot desert

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[224]Thevenot, Jean, 1686, *The Travels of Monsieur de Thevenot into the Levant.* Translated by A. Lovell, Clark, H, London. Vol. 2. p. 129.

[225]AlSayyad, Nezar, 1981, *Streets of Islamic Cairo*, Master Thesis at MIT. p. 62.

[226]See for example: Irby, Charles Leonard & Mangles, James, 1844, *Egypt And Nubia, Syria, And The Holy Land*, John Murray, London. p. 50.

[227]See the chapter *Al-fina'* in part two.

winds during the summer[228]. St. John[229] maintained that:

> ".. when, after a long ride in the suburbs or surrounding country, I
> have returned to Cairo about the middle of the day nothing used to
> appear to me more delightful than to plunge out of the scorching
> sunshine into the cool and dusky passages, where a brisk current of air
> is generally felt.

Although the narrow and winding streets contributed to
reduce the hot temperature, this was not the main reason to
occupy *al-fina'* and form the irregular streets.

An explanation of occupying *al-fina'* can be related to the
strong social structure which encouraged the people to live in
the same quarter (*ha'rah*). Building new areas out of the built
up area was restricted also because of the existing protected
areas *(harim)* of the farms and buildings located on the edges of
the city[230]. These factors increased the demand for new building
sites in the quarters. *As a consequence, people built on any
available vacant land in the quarter (ha'rah), subdivided the
existing houses (vertically and horizontally), subdivided the
plots of the exising properties, and occupied the fina' of the
houses to house the new people and functions.* It is also evident
that the physical expansion out of the city often occurred when
the existing built up area reached a high density and most of the
available open lands were built up. At this stage, the new
building development took place on the land adjacent to the
existing built up area. This was the protected land *(harim)* of
the city and its farms. Therefore, in the Ottoman's period, the
living built up area of Cairo was formed as a continuous compact
and clustered structure.

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[228]Fathy, Hassan, Constancy, *Transposition and Change in the Arab City.*
Edited by Brown, L. Carl, 1973, From Medina to Metropolis, The Darwin Press,
Inc., Princeton, New Jersey. p. 322.

[229]St. John, James Augustus, 1845, *Egypt and Nubia*. p. 105.

[230]See the chapters, the land use, and *al-harim,* in part 2.

The nature of Islamic law (*shari'ah*) itself also
contributed to this character of the streets. The minimum width
of the street was decided by leaving enough space for the public
passage. This general rule of Islamic law *(shari'ah)* was open to
different interpretations by the users and contributed to
variation in the width of the street along its access[231].

On the other hand, the winding and narrow character of the
streets was supported by *the travelling method, which was people
and animals which had small dimensions and was flexible in moving
and did not require straight and wide streets*. It is a common
observation among scholars that street dimensions of Islamic
cities was influenced basically by dimensions of a fully loaded
camel.

The donkey was the most used animal for transportation in
the inner streets of Cairo. Camels were also used, but often in
commercial transportation in the main street of the city and for
long distances between cities. Therefore, the streets dimensions
of most of the built up area of Cairo were influenced basically
by dimensions of a fully loaded donkey.

The streets of the quarter *(ha'rah)* were 2-3 meters wide.
The widths of the residential streets were often less than the
commercial streets because they were used by fewer number of
people, (some streets were only 100 cm wide).

The main streets of the commercial area and those which
connected the quarters were 3 to 8 meters wide. If we compare
this with the dimensions of a fully loaded camel or donkey[232],
we find that most of the main streets had enough space for moving

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[231]See: The right of passage *(irtifa'q)*, in chapter part 2.
Organizing of *al-fina'* in this chapter.

[232]Note that a donkey needs less space to move than the camels. This might
support further the possibility of reducing the width of the streets.

the animals and pedestrians (figure 4.8)[233].
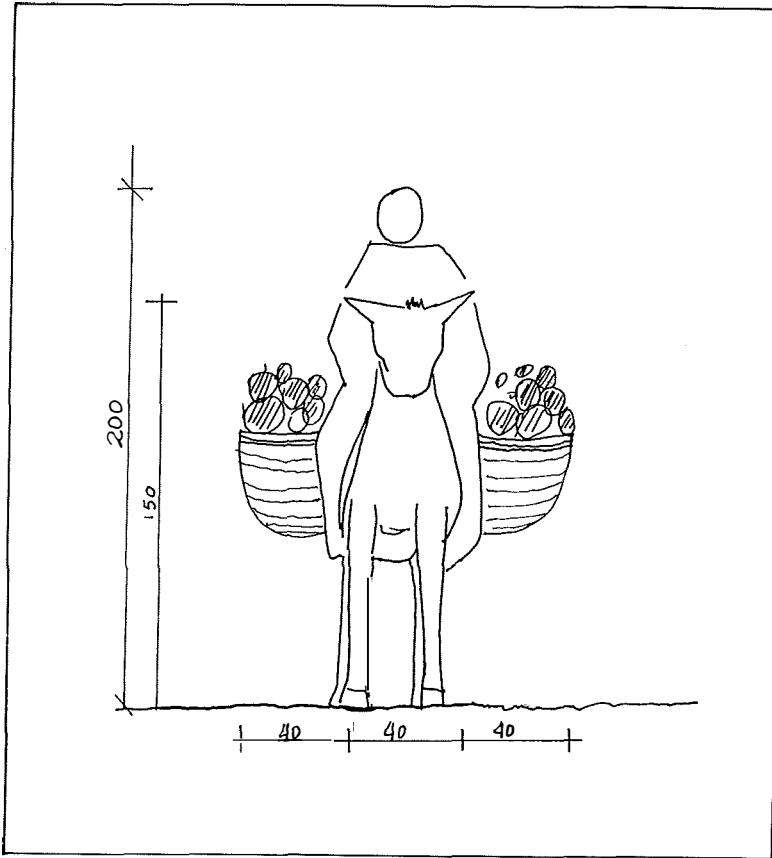
Fig. 4.8   *Dimensions of a fully loaded donkey.*

An important characteristic of most types of streets in Islamic Cairo was that they often had no green areas. This was a result of:

[233]Jomard, E. F., *Description of Cairo*. p.219
    de Chabrol, G., 1829, *Description of Egypt*. Translated to Arabic By al-Shayib, Zuhir, 1992, A'mon, Cairo. pp.131–134.
        Lane, Edward William, *Modern Egyptians*. pp. 146–148.

1. The intensive use of the street space by the various types of users which contributed to lack of free land for green area.
2. The courtyard solution which isolated the green areas of the buildings from the street.
3. There was no common tradition to plant along the streets.
4. Because the streets were narrow, planting was not advised by the Islamic rules because it could cause harm to the pedestrians or the neighbours[234].

Thus, the impact of these forces contributed to create the unique landscape character of *al-fina'* in the different types of sreet environments (commercial and residential).

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[234]See the chapters *The Islamic Jurisprudence*, and *Al-fina'* in Part 2.

1.3.3.1. The commercial streets

The commercial area was the focal point which attracted the major public activities in its streets. It was composed of different types of commercial and public buildings, and open spaces (religious, educational, residential apartments, and public services). Its commercial buildings functioned as local, regional, and international centers.(table 4.3).

Suq	Market
Dukkan or Hanut	Shop
Maqha	Coffee house
Bab	Gate
Wakala or khan	A commercial building with shops to sell goods, and rooms to accomodate traveling merchants.
Jami'	Mosque which provides the friday sermon
Masjid	Mosque
Madrasa	School
Zawiya	A small religious school
Maristan	Hospital
Khanakah	A monastery
Sabil	Public fountain
Kuttab	A small children's school which often was located over the sabil
Hawd	Basin which was supplied with drinking water for animals and was located beside the sabil
Torbeh	Private cemetery
Hammam	The Turkish bath

Table 4.3: *The basic elements of the commercial area*

Most of the commercial and other public structures were agglomerated over time along the major street especially along the main central street of the city (*al-Qasabah, or al-Sha'ri' al-Kabir*). The central area of the main street around *Kha'n al-*

Khalili was the area where the largest and most important activities and structures were located. Other commercial areas were developed in several locations within Cairo: *Ba'b al-Sha'riyyah*, *Ibn Tulun* area, *Ba'b Zwailah*, and near the citadel. Although the commercial and other activities were concentrated in the town center, these activities developed by radiating outward from the central area. The major part was located along the central main street and its arms expanded through the built up area producing an octopus form.

On the other hand, the houses were concentrated in the quarters (*ha'rah*). The commercial area also had one type of buildings containing shops in the ground floor and residential accomodation, or units called *(rub'ah)* in the upper floors[235] which housed families with limited finances[236].

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[235]Lane, Edward William, *Modern Egyptians*. p. 31.

[236]Jomard documented some 80 *suq*, and 200 *wakala* during the French period (1798-1801 AD). Jomard, E.F., *Description of Cairo*. pp. 101-154.)
    Raymond maintained in his study that there were 348 *wakala* and 144 *suq* at the same period. Raymond, A., *Cairo*. p. 224.
    Note that he mentioned in p. 195 that number of the wakala was 360.

1.3.3.1.1. Settings of *al-fina'*

Each particular part of the commercial area was specialized in one type of goods or business branch such as tents, jewels, cloth, fish, wood, and weapons. They were further divided into seasonal and permanent *suq*, and some of them were named according to the nationality of the merchants who used the *suq*.

The different types of structures, spaces, and use which existed along the commercial streets (table 4.3), contributed to develop different types of settings in *al-fina'. It is essential to explore the role of these settings to understand the characteristics of al-fina' in the commercial street and how did they influence the user with their meanings.*

Each setting contributed to the total character of *al-fina'* by its **design, use,** and **judgements** which created the setting's identity and its relationships with the other settings of the commercial streets. These settings were created, modified and developed over time by the common people and the ruling class:

The shop (*hanut, pl. hawanit or dukkan, pl. dakakin*) was the basic element of the commercial area[237]. The shops were assembled in the streets of the market (*suq*), and the wholesale *(waka'lah or khan)*.

The markets (*suq*) could be classified into three major types.
1. Covered *suqs*. The space of the street between the shops was covered by a wooden roof or mat to shadow the street and reduce temperature. The roof could be constructed at the same time as building the shops or added later by the shop owners.
2. Open *suqs*. The street was not covered.
3. The *suq* without constructed shops and the goods simply placed on the ground.

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[237]Lane, Edward William, *Modern Egyptians*. p. 326-328.
Lane-Pool, Stanley, 1973, *Cairo*, Arno Press, New York. p. 12.

The width of the streets in the suq changed from one area to another. They were often narrow but wider than the residential streets, due to the higher number of users, and the need for wider space for animals used for transporting the goods and people. The main street *(al-qasabah)* was the broadest commercial street in Cairo but its width was different in the different areas (figure 4.7). According to the maps of Description of Egypt[238], the width varied between 2 meters and 10 meters.

The shops were small and close to each other. The small shops encouraged the people to sit outside (figure 4.9). This may also have been encouraged by the hot climate. The benches (*mastabah*) were used to sit, pray, place the goods, and facilitate the conduct of business with clients. The bench (*mastabah*) was also useful to benefit from the air circulation along the street. The visitors could also sit near to the shopkeeper on the benches (*mastabah).*

Because the shops were close to each other, they provided the shopkeepers with the opportunity to talk and observe each other and the street community during the day. At the same time, these small dimensions strengthened the direct contact between the shopkeepers and the pedestrians. These factors made the street space an open social space where the different events could be experienced and controlled by the users (figure 4.10).

For example, when the shopkeeper needed to leave his shop for a short time he did not close the shutters of his shop. He often relied upon his neighbors to protect it or hung a net in front of the shop. *Thus al-fina' was used for commercial, social and climatic benefits*.

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[238]Jomard, E.F., *Description of Cairo.*
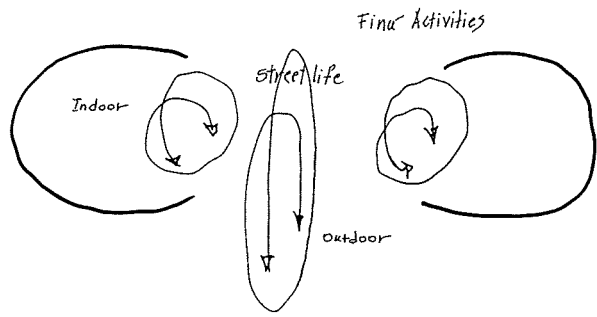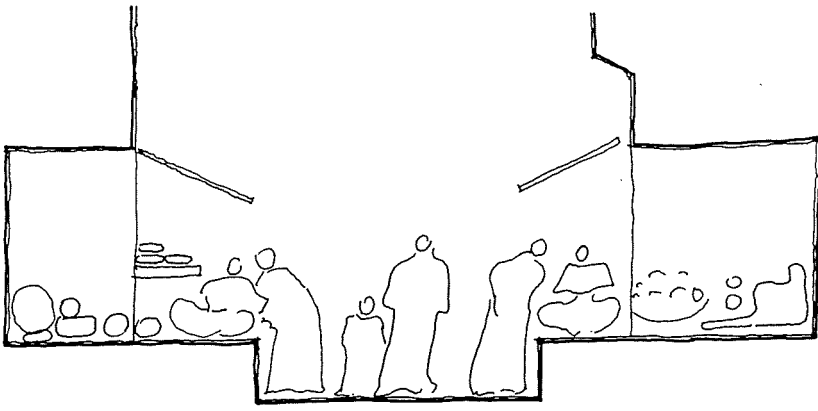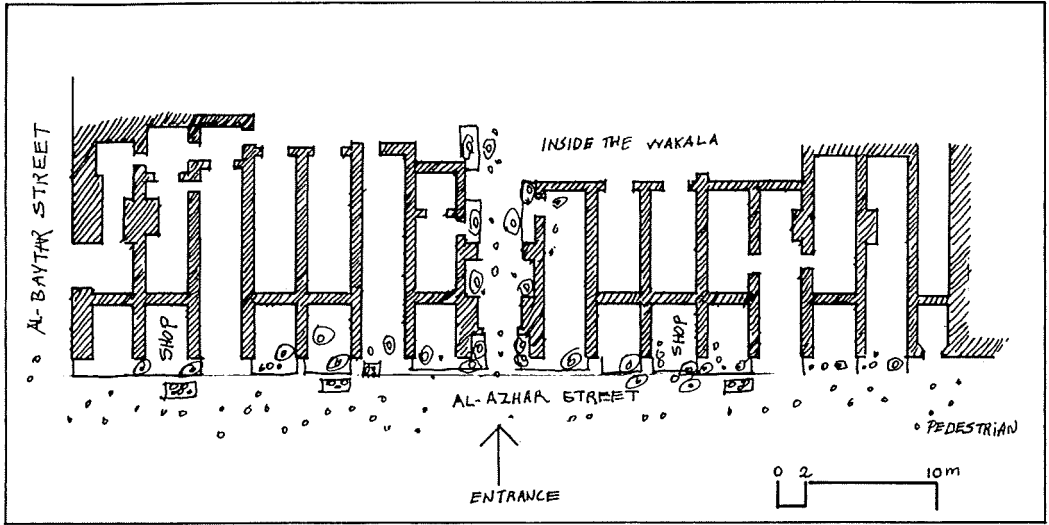
Fig. 4.9-1   *Indoor and outdoor space of a commercial street along waka'lah of Sulta'n Qaytaba'y: Plan and section of the street.*
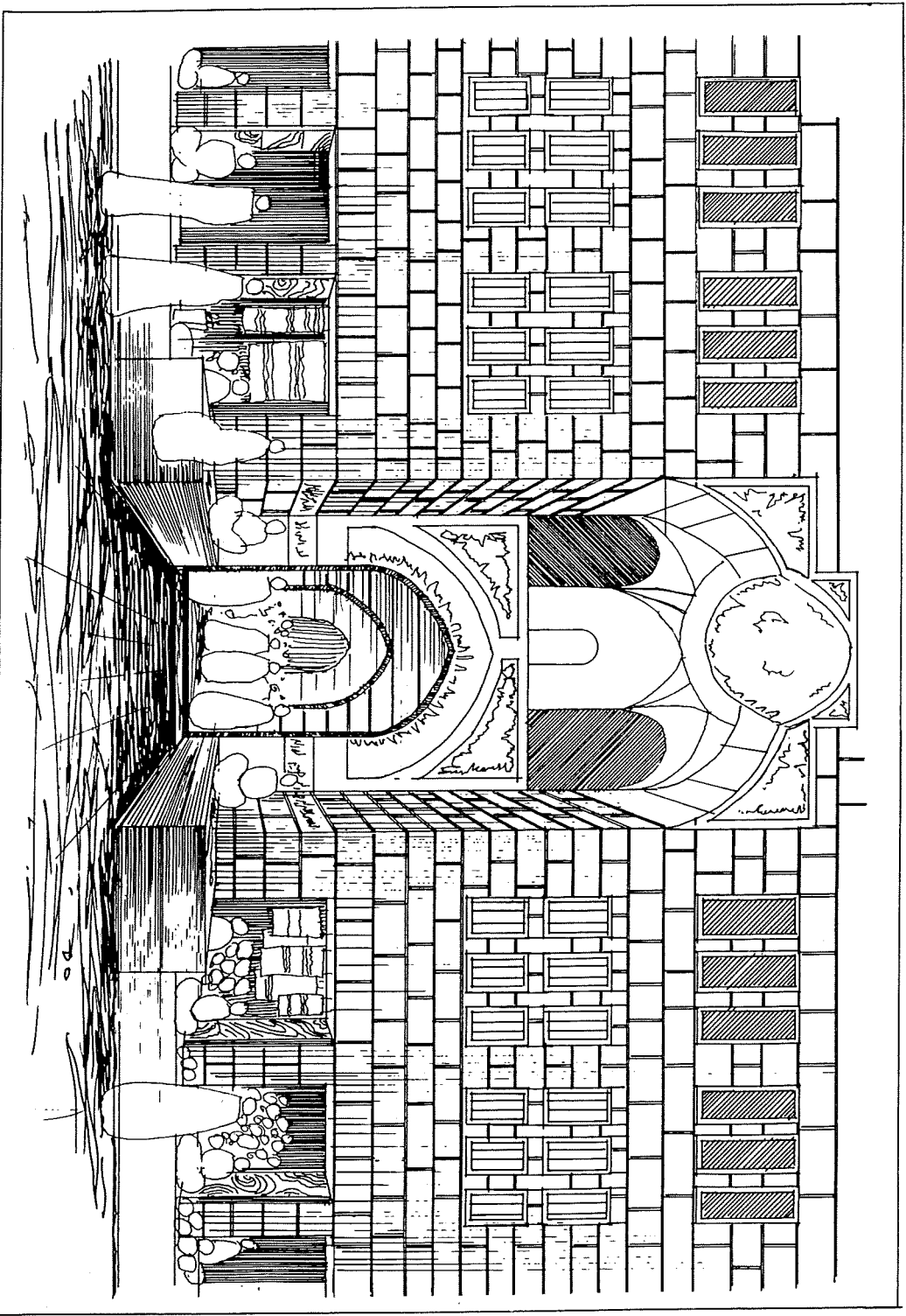
Fig. 4.9-2 The street life along waka'lah of Sulta'n. Qaytataba'y.
(Redrawn from Coste, P. L., 1939)

The common image of the traditional Islamic cities is that
its urban design was inward oriented. This was true only in the
residential area, but the commercial areas had a different
character. *The space of shops and other structures was open to
the public and to the space of al-fina' of the street.* The open
architectural solution of the shops with the street space made
the street a continuous and integrated part of the commercial
area (figure 4.9, 4.10). This is the opposite of the residential
streets *(ha'rah)*, where the walls divided between the inner space
of the houses and the street space. Each shop had a small area
about 6x6 feet. It was composed of one room or two rooms behind
each other.

The coffeehouse was an important focal point where the
people could spend their time for different purposes[239]. Chabrol
and Lane [240], estimated the number of the coffee shops in Cairo
to be about 1,000-1,200 at the end of the 18th century. This
large number of coffee shops reflects their important role in the
city as attractive public centers for the urban society. The
coffee shop had a small area. Wooden benches and mats were put
inside the shop and its *fina'* was used as sitting places for the
people.

Mobile Vendors: The space of *al-fina'* could also be occupied
by different types of sellers (i.e. cloth, food, bread, and
vegetables) who had no shops but used the open street space
between the shops. They were among the important settings which

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[239]Minutoli maintained that: The number of coffee houses, public baths,
and bazars is immense; the crowd which fills the latter, at all hours of the
day, would not permit a woman to pass through them on foot, unless she would
run the risk of losing a limb.

Minutoli, Wolfradin (von der Schulenburg) von Watzdorf. 1827,
Recollections of Egypt. Translated by S. H. L., Carey, and Lea, Cary,
Philadelphia. p. 44.
See also: Jomard, E. F., *Description of Cairo*. pp. 310-312.
de Chabrol, G., 1829, *Description of Egypt*. Translated into Arabic by
Al-Shayib Zuhir, 1993, A'mon, Cairo. pp. 152-155.
Lane Edward William, *Modern Egyptians*. pp. 341-346.

[240]de Chabrol, *Description of Egypt*.

applied in the commercial streets[241]. They were of two types:

1. Vendors without permanent places who often used carriages (*'arabah*). They moved their carriages from place to place through the streets and stopped temporarily at various places. Others just put their goods on the floor or constructed a simple structure which could be removed easily.

2. Vendors with permanent places in *al-fina'*. Their places were called *maqa'id al-aswa'q* (seats of the market). They had to have permission from the shopkeepers if they located in front of or close to the shops. If the location was far from the shops such as in a large square, then the site could be used by the vendors without having permission from others. Yet, they may have needed permission from the authorities if there was disagreement among the vendors about their locations.

Waka'lah or Khan :The term *kha'n* was used before the Ottoman period (1517-1789 AD) and replaced by the term *waka'lah* during the Ottoman period[242] (figure 4.9, 4.10). It was the place were wholesale of local and foreign goods took place and was also used to house the visiting merchants who sold their goods in the wakala. It was a complex building built around a central courtyard, and often had two or three storeys. The ground floor contained shops used for storage of merchandise and as offices for the merchants, while the upper floors contained accommodation for merchants. The central courtyard was used as a stable for the camels of the caravans. The *waka'lah* had a gate that controlled the traffic from the street. The whole area of the courtyard, *fina'* of the shops, and the indoor space of the shops were designed and used as one interrelated space.

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[241]Lane, Edward William, *The Modern Egyptians*. pp. 330-333.

[242]Seif, Ola and Spencer, Jayme, 1991, *Khan al-Khalili*, The American University in Cairo Press, Cairo. p. 4.
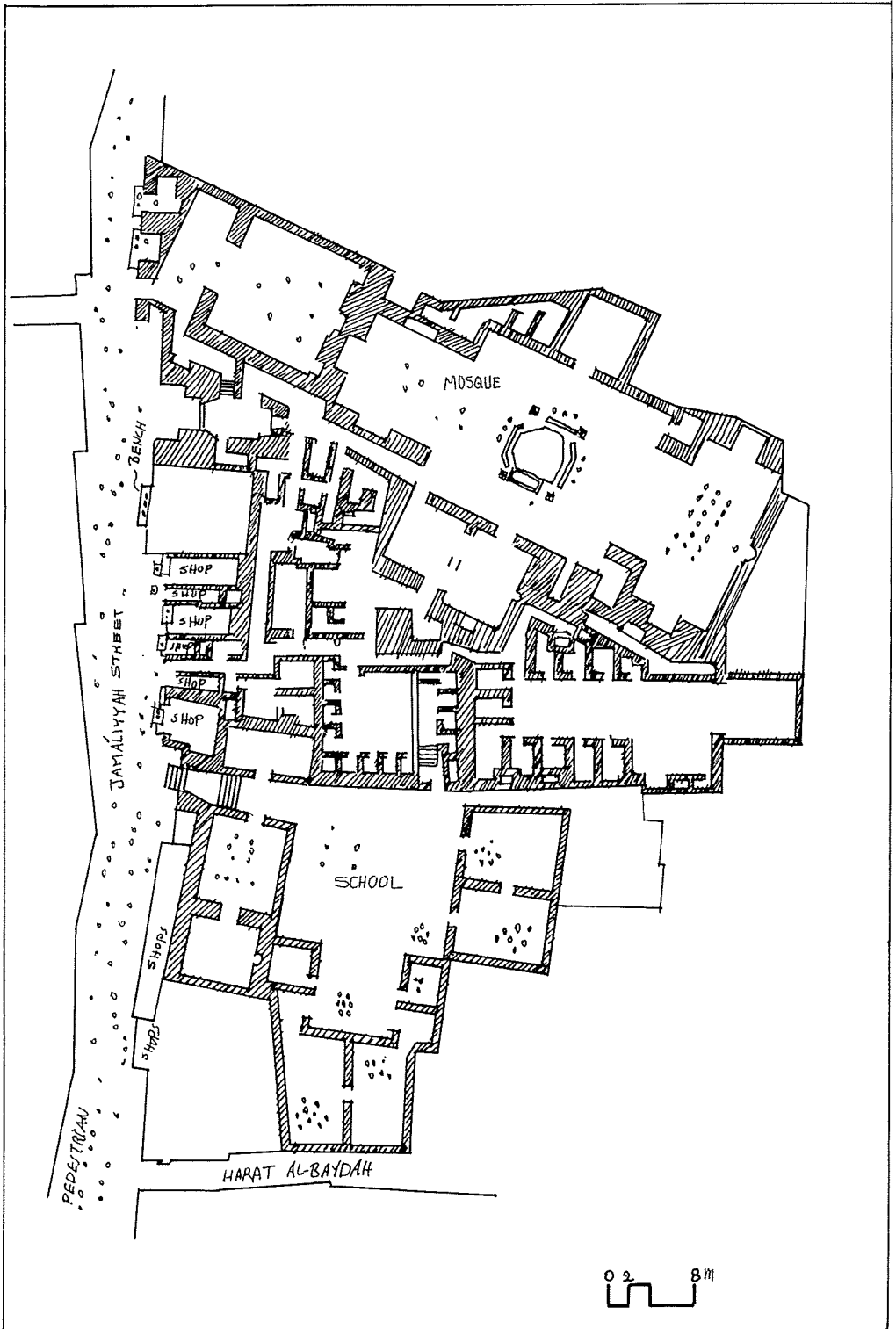
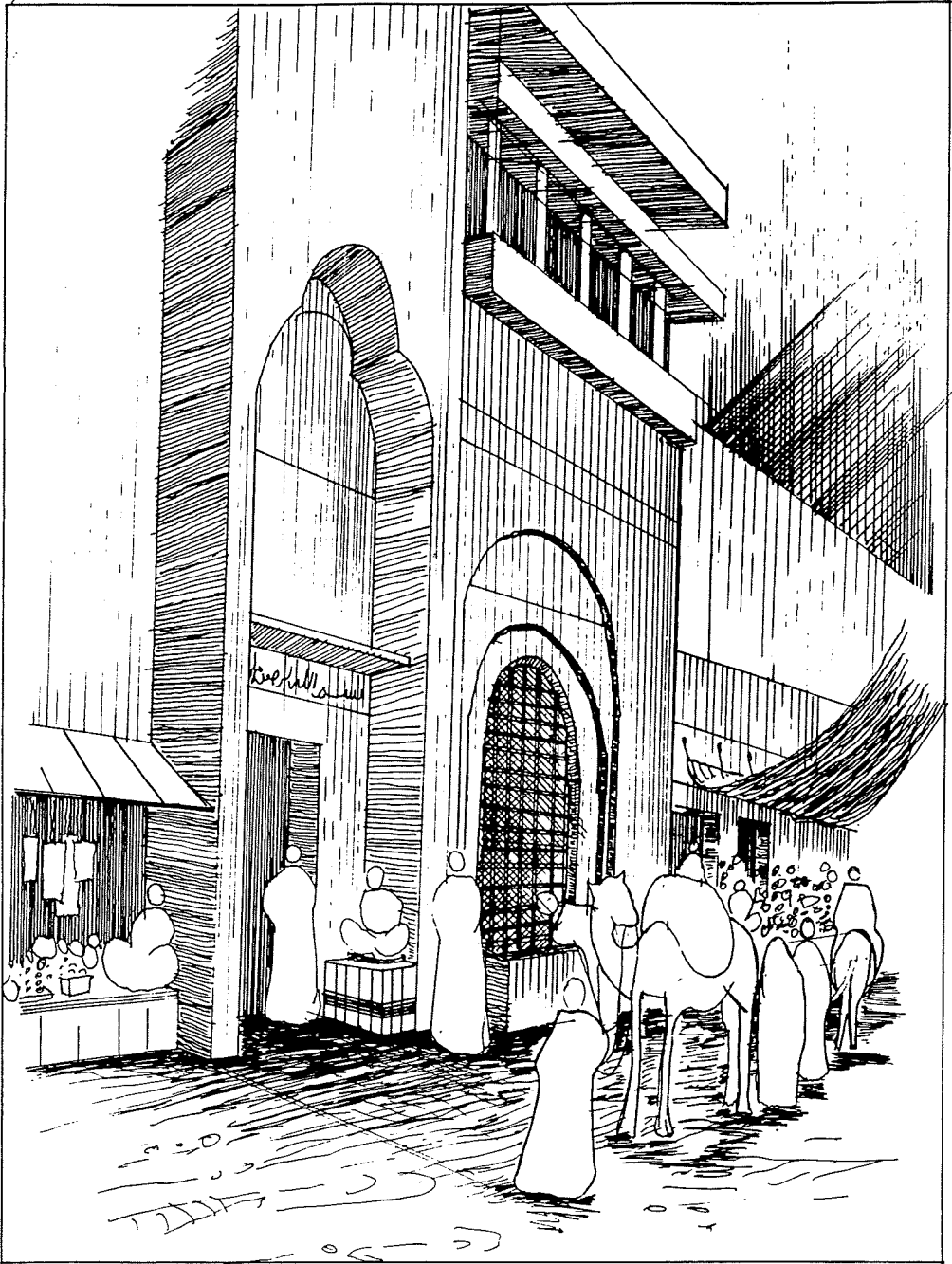Fig. 4.10   *A commercial street along Baybers al-Jashnkir complex.*

Fig. 4.11 *Reconstruction of al-fina' along the mosque, fountain, and shops along al-Mutahhar complex.*

al-Masjid (mosque)[243]: During the history of Cairo, several mosques were built along the commercial streets by the rulers and the rich people. This tradition was stimulated by two factors, first to reflect piety and use the wealth to serve Alla'h and the Muslim community, second, to reflect the power of the donor.

The mosques had different sizes and design patterns. It could be a small mosque to perform the basic five prayers, or a large mosque *(al-masjid al-ja'mi')* which had further functions such as the Friday sermon. Settings of the mosques contributed to and influenced the commercial streets by several ways: Its large courtyard *(fina')* formed a continuous public open space with the street space. The high walls of the mosque and the minaret provided the street with vertical elements (figure 4.11). The people in the street could hear the *Qura'n*, call to prayer (*a'tha'n*), and the Friday speech (*khutbah*). The mosque contributed to keeping a direct contact between people and their religion in the street's everyday life. This contact served to stimulate the human senses such as hearing sounds, and seeing the symbolic design elements along *al-fina'*. The fina' of the mosques were often appropriated by mobile vendors or as public sitting area. This was stimulated by the ownership pattern of the mosque which identified it as *Bait Alla'h* (or God House) and should benefit all Muslims. Therefore, Muslims interpreted the *fina'* of the mosque as blessed and occupiable for a particular benefit such as private, common, social, and economic activities.

Sabil (fountain): There were some 300 fountains (*sabil*) located in the different areas of Cairo[244], providing water for the public. Water is rooted in the Islamic religion because Islam

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[243]For more studies on the mosques of Cairo see:
   Ministry of Culture, 1988, *Islamic Archeological Studies*, Cairo. Vol.3.
   Behrens-Abouseif, Doris, 1989, *Islamic Architecture in Cairo*, E.J. Brill, Leiden.
   Creswell, K.A.C., 1959, *The Muslim Architecture of Egypt*, Oxford University Press, Oxford.

[244]Jomard, E. F., *Description of Cairo*.

required the muslims to clean their bodies and environment. *Wudu* (wash the face, arms, and the feet) is a ritual ablution before the prayer. Because there are five prayers every day, there was a continuous need for water in the mosques. On the other hand, giving water to a thirsty person is considered by Islam as alms *(sadaqah)*. Therefore, the rich muslims of Cairo built large numbers of fountains *(sabil)* in the city.

The structure of the fountain *(sabil)* was either part of larger structure, such as a mosque, or built alone. It was either a simple fountain or was a complex structure with a classroom on the second floor to teach the Qura'an to the children.

The fountain *(sabil)* was composed of a water container under ground level which was filled by water. The ground floor was an open room surrounded by some columns, with the spaces between them covered by wooden or iron network (window). The water was supplied to people by canals through the windows open to *al-fina'*. There were benches in *al-fina'* by the fountain *(sabil)* to reach the water. The sabil was always covered by verses from the Qura'an and the name of the donator (figure 4.11).

The *fina'* of the sabil was public space where any person could sit. Therefore, its benches were often used by mobile vendors and pedestrians.

The tombs *(turbeh)* and the mausoleums:The tombs of many religious people were constructed in built-up areas of Cairo[245]. They were either a simple structure or part of larger structure such as a mosque, or *sabil* (fountain). The mausoleums had large structures built by rulers or rich people and often built with schools and fountains. The *fina'* settings of these structures contributed to the street environment by settings of the fountain and the mosque as explained above. They also contributed to the

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[245]Jomard, E.F., *Description of Cairo*. p. 226.

street character by their spiritual meanings.

Al-madrasah (the school): The schools were introduced into the built environment of Cairo by the late period of the Fatimids. But it was during the period of the Ayyubids that building the schools became popular, and was continued after the Ayyubids' period[246]. The major purpose was to teach the four *Sunni* traditions of Islam (*Hanafi, Ma'liki, Sha'fi, and Hanbali*). It could be used to teach one tradition or several *Sunni* traditions.

These buildings (*madrasah, sabil, kutta'b, masjid*) could be built alone as a single structure, or combined in a complex structure. Their *fina'* had the same character of the mosque[247] (figure 4.10).

Note that all mosques, schools, and mausoleums often had shops along the commercial streets. These shops interrelated the religious functions and meanings with the everyday life of the street.

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[246]Al-Maqrizi, *al-Khitat al-Maqriziyyah.*
Mubarak, *al-Khitat al-Tawfiqiyyah.*

[247]See also: Ministary of Culture, *Islamic Archeological Studies.*

1.3.3.1.2. Meanings of *al—fina'*

The peoples' interpretation of the meanings of *al—fina'* settings can be seen in the architectural solutions of the buildings and the public spaces, and the way of using them.

The preceeding sections show that along commercial streets, different types of structures and settings were built or created over time. Each particular structure and setting had reflected its meanings in *al—fina'. As a consequence, different meanings could be experienced by the people in the street such as life, God, death, identity, and community (figure 4.12).*

On the other hand, the sequence of diversity of *al—fina'*, was supported by specializing each market with a particular type of good, and offering the goods directly in *al—fina'*. They gave each type of street a particular character of color, sound, and smell which reflected the physical character of the dominant type of good in the street, because:

1. Each type of good had its particular physical qualities (smell, and color).
2. Working with a particular material had a special sound which differs from other branches (for example metal, cloth, and tent). Therefore a person who walked in the market of *Naha'sin* (metal market) would hear different sound than the market of *Khyia'miyyah* (tent market).
3. Each type of good was offered in a particular way different to the others.

The shopkeepers who sat in *al—fina'* could easily use their voice to get the attention of the pedestrians in the street. Because each local market was specialized, the pedestrians could sense these voices and other common sounds, colors, and smells that identified each market area.
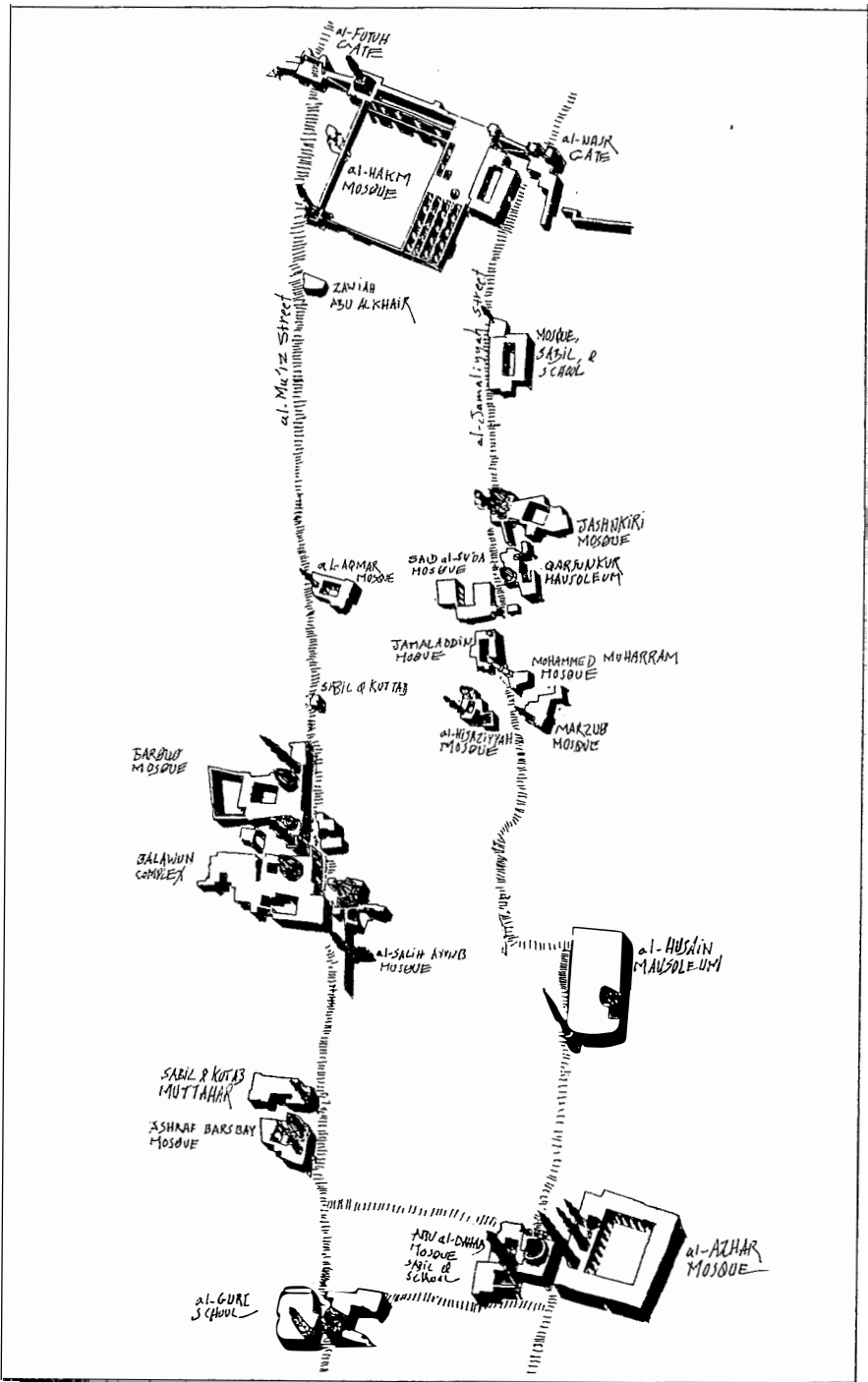
Fig. 4.12   Accumulation of the social and religious meanings
             along the main commercial streets of Cairo.

The location of the working place close to the residential quarters, concentration of the public activities in the commercial streets and the residential quarters as a private domain for the inhabitants, contributed to populate the main streets of the markets by pedestrians, mobile vendors, and animals crowding these streets most of the day time[248].

The streets of the market were used for different functions such as meeting, shopping and recreation. This made the *suq* space a *multi-functional space*. The narrow streets and the large number of the users in the space of the street reduced the distances between people in the street, and stimulate the direct social interactions between them.

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[248]Sonnini de Manonocourt, Charles Nicholas Sigisbert, 1799, *Travels in Upper Lower Egypt*. Translated from French by Henry Hunter, J. Stockdale, London. p. 260.

1.3.3.2. The residential streets

The term *khittah* was used in Egypt since the building of al-Fusta't[249]. Ha'rah was another term, corresponding to *khittah*, and was used when *al-Qa'hirah* was built, and was the same term which was used in North Africa[250].

There is no source which can identify exactly the number of the quarters in Cairo during the Ottoman period. Jomard[251] had documented 53 quarters *(ha'rah)* in Cairo at the end of 18th century. Other contemporary studies[252] documented 63 quarters *(ha'rah)* existing at the same period, while others[253] argued that the number could reach 100 quarters *(ha'rah)*. The hara was primarily composed of houses. But it could also contain some public buildings to serve the dwellers of the quarter *(ha'rah)*, such as a mosque, fountain *(sabil)*, etc. (table 4.4).

The peoples desire to live within the built up area of the city contributed to cluster the city. Therefore, the building of new houses occurred mainly through the subdivision or joining of existing plots and/or buildings. This contributed to change the character of the streets in the following ways:

1. Change the type of the street such as opening the closed end of the cul-de-sac transforming it into an open street, and closing the open street transforming it into one or two dead end streets.
2. Building a room across the street to connect two houses at the first floor.
3. Change the form and size of the buildings.

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[249]Kubiak, Wladyslaw, *al-Fustat.*

[250]Hakim, Besim, *Arabic-Islamic Cities.*

[251]Jomard, E.F., *Description of Egypt.*

[252]Raymond, A., *Le Caire.*

4. Reduce the width of the streets.

5. Change the organic layout of the street throughout its length.

Khitta or Hara	Residential quarte
Darb or Sikka	Road
Zanqa or A'tfa	Dead end street
Fina'	Space of the courtyard and in front of the house
Tariq	The public pathway
Bab	Gate or door
Mashrabiyyah	Wooden screened window
Bait	Small house
Dar, and Bait	Large house
Qasr	Castle
Masjid	Mosque
Sabil	Public fountain

Table 4.4: *The basic physical elements of the quarters (ha'rah)*

The function of *al-fina'* in streets of the residential areas was different than in commercial areas. The use of dead end streets was limited to only the people who lived there, while other main thoroughfares could provide access for people not living in the quarter to move between the different parts of the city. But in general, the streets of each particular quarter (*ha'rah*) were considered as a private domain. Therefore, the people of the *ha'rah* might suspect the strangers who might enter the quarter (*ha'rah*) and walked in its streets without having something to do there, especially if they had no friends or relatives living there.

Most of the residential streets were unpaved which contributed to raise dust, so that the individuals often watered in front of their doors. The common sewers of the houses had disposed directly to the streets. The garbage was collected by a group of people (*al-tara'bin*) who specialized in the branch and

were paid by the dwellers. They carried the garbage on donkeys
out of the city which gave rise to the mounds around Cairo. It
was also common among the dwellers to throw garbage in the
street. It contributed to raise the level of the street from the
dwellings beside it. The water was provided by two methods, the
fountains *(sabil)*, and the water carriers (*saqqa'*) who carried
water by animals from the Nile to the houses[254].

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[254]Lane, Edward William, *Modern Egyptians*. pp. 331-332.

1.3.3.2.1. Settings of *al-fina'*

The quarters (*ha'rah*) could have some public buildings such as shops, baths, fountains, mosques, and tombs. For example, there were some 300 fountains and 77 baths spread out over the different areas of Cairo[255].

However, the houses were the basic elements which influenced the characteristics of *al-fina'* in the residential streets. The physical relationship between the **houses** and the **streets** within each particular quarter (*ha'rah*) were influenced mainly by the social norms of the inhabitants to preserve the privacy of women, the family, and the community of the quarter *(ha'rah)*. Therefore, the design emphasized privacy and security, both in the design solutions of the houses and the quarter (*ha'rah*). There were three types of dwellings in the quarter (*ha'rah*):
1. The small houses of the majority of the population[256].
2. The large houses of the rich people.
3. The castle, often built by the ruling people.

The large houses of the rich people were 2-3 storeys with several rooms to serve different functions, while the houses of the lower social classes often had small plot and contained less number of rooms with 2 storeys[257]. Although the houses had similar design patterns, the differences between the house of a rich family and those of a poor family could be observed from the street by the elevations details, (height of the house, length of the elevation, buildings material, the design of the entrances and window).

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[255]Jomard, E.F., *Description of Cairo*. pp. 208-215.
Raymond, Andre, *Le Caire*. p. 219.

[256]Two other types of housing of poor people could be found: first the huts of the poor people, and second flats in high buildings called *rub'ah*.
See: The commercial area in this chapter.
Jomard, E.F., *Description of Egypt*. p. 162.
Lane, Edward William, *Modern Egyptians*. p. 31.

[257]Jomard, E.F., *description of Cairo*. p. 89.
Lane, Edward William, 1991, *Modern Egyptians*. p. 20.

The entrances (ba'b): Most of the houses had only one entrance from the street. It was often small, except in large houses. Its upper part could have decorations, and the wooden door may have been decorated. The decoration often contained religious writings such as Alla'h, or Alla'h is the greater. They were used to keep demons away from the houses and bring luck to the houses. The door led to a narrow passage which turned and formed an L shape to bar any view from the street into the house and its private courtyard. The large houses often had doorkeepers who sat in *al-fina'* in front of the door, or in the passage of the entrance (figure 4.13).

A bench made of stone might be built in *al-fina'* beside the entrance and used for sitting. An iron ring might be moulded beside the door to tie the donkey in *al-fina'*[258].

The windows: The windows were of two types: At the ground floor, they were often covered by wooden screen and located higher than the pedestrian eye level level. On the upper floors, the windows formed projections and were called **Mashrabiyyah or Roshan**, covered by a wooden screen. The screen allowed the dwellers to see the street from the room while the people in the street could not see people behind the window. The screen was used to hang jars to cool water. It helped also to reduce the direct sun and glare penetration [259](figure 4.19). The projection should leave enough space (vertical and horizontal) for the pedestrian and the loaded animals. These windows (*mashrabiyyah)* provided dwellers with the possibility to watch the residential street life and keep it safe.

Existence of the Canal and ponds in the city provided the houses along them with two different types of *al-fina*. The first

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[258]Lane, Edward William, *Modern Egyptians*. pp. 17-18.

[259]Lane, Edward William, *Modern Egyptians*. pp. 18-20.
    Lane-Pool, Stanley, *Cairo*. p. 8.

was located on the streets which was considered as partial ownership (*mulk na'qs*), the second was located on the water side and was advantageous because of the low temperature, the view of water and a green area. The *fina'* along the canal was considered as private ownership *(total ownership)* although it was public[260]. Jomard noted that pedestrians could only see and get pleasure from the canal and its green area from the archways which connected its two banks because the people built their houses beside each other and extended their *fina'* to the water. It was along the canal that people could sit in their fina' and perform various private activities, which was quite a different situation than *fina'* of the residential streets (figure 4.14).

Some settings were created only to protect the quarters from street violations. The quarters (*ha'rah*) often had a gate *(ba'b)* which was constructed to protect the neighbours from robbery or break in[261]. The gate of each particular quarter was often identical by its design, dimensions, and color. The gate was guarded by a door keeper (*bawa'b*)[262], although the inhabitants of the quarter would also participate in guarding the gate, which reflected another side of the social control and the decentralized decision—making at the level of the quarter. Construction of the gates started in 1459 AD as a consequence of increase in the robberies in the city. The youth of each particular quarter were usually the defenders of their quarter against the outside criminals or trouble makers.

This means that each quarter had a particular urban identity and represented a social and an administrative unit which had a large degree of control over its internal issues within the city, such as design patterns, building activities, and using the space of the street.

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[260]See part 2, the chapter: *Land use.*

[261]Jomard, E. F., *Description of Cairo.* pp. 163–166.

[262]Staffa, Susan jane, *Conquest and Fusion.* p. 268.

HOUSE

STREET

0   2   10

OUTDOOR   VIEW
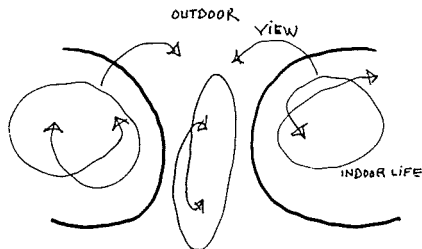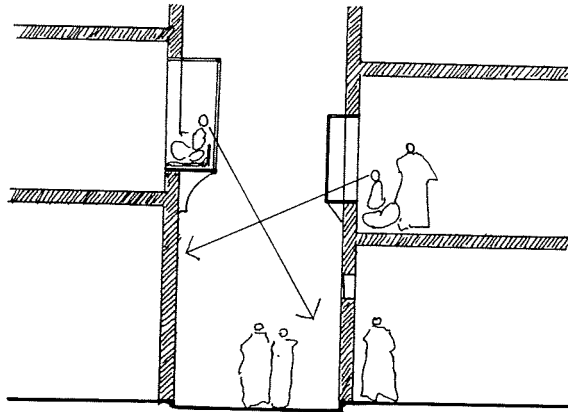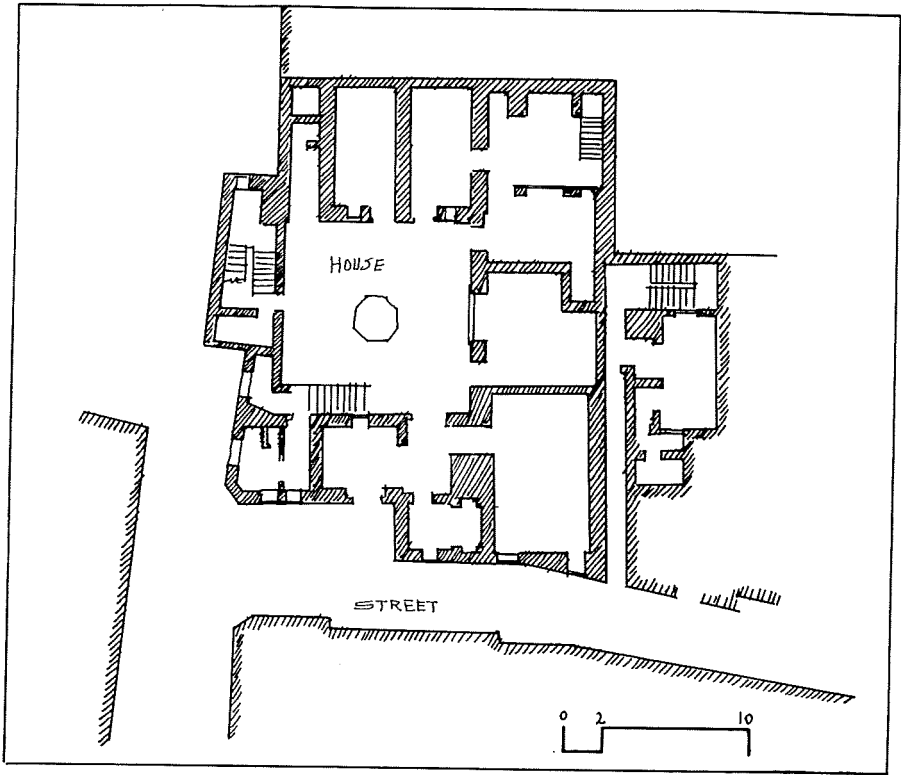
INDOOR LIFE

Fig.   4.13-1   *Outdoor and indoor spaces of the residential street along*
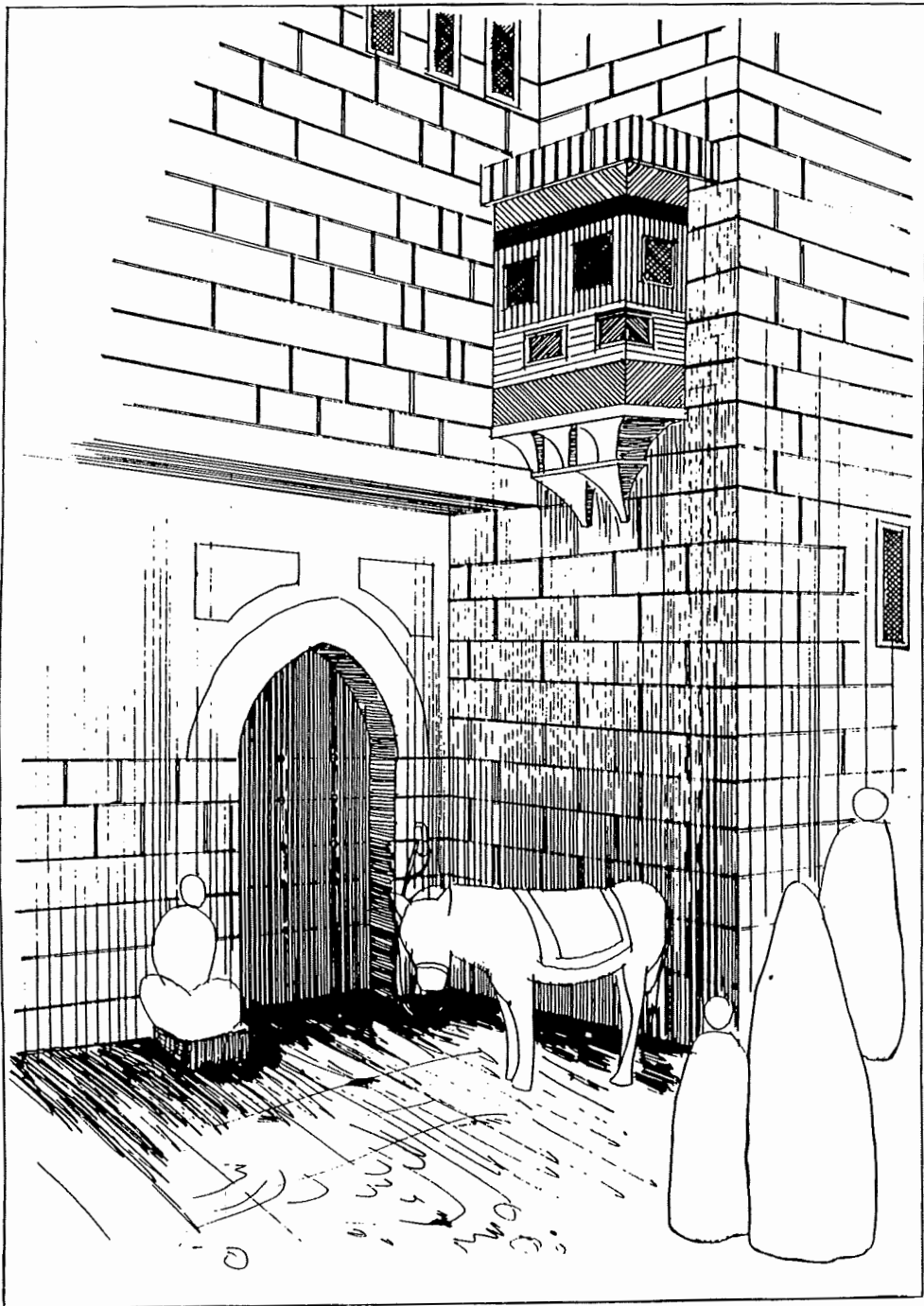   *Zainab Kha'tun house: Plan and section of the street*

Fig. 4.13-2   *Reconstruction of the street along Zainab Kha'tun house.*
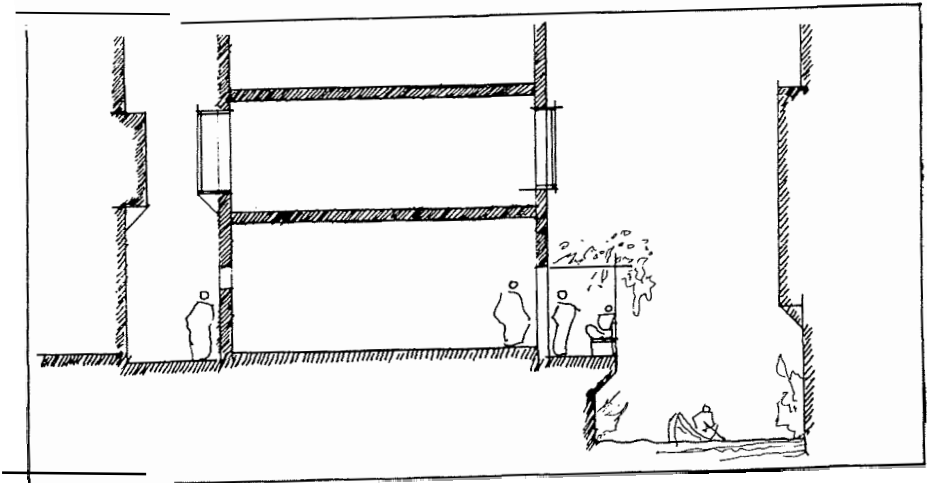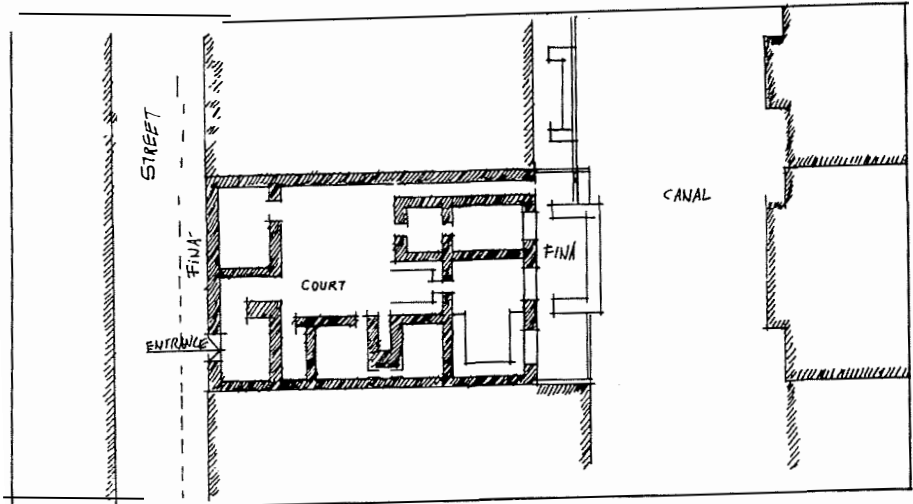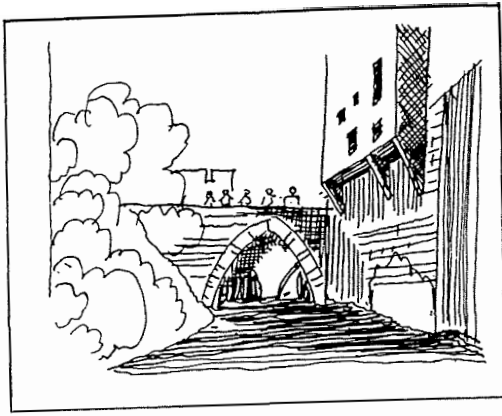
Fig. 4.14   *Al-fina' of the dwellings along the canal.*

1.3.3.2.2. Meanings of *al-fina'*

The dominatation of the social order and values over the physical patterns of the quarter influenced people's judgements to organize the behaviour and the way of using the street by the different user groups (women, men, childeren, strangers) to meet the requirements of the social order. The established order of social organization of each particular quarter was a consequence of several generations of the same families living in the quarter.

Because the quarter *(ha'rah)* was considered a private area, we can suppose that the inhabitants of houses along each particular street could *interpret* the right of using the space of the street according to their local tradition *('urf)*. This involved defining its width and direction, and protecting its space from violations or any type of destruction which could come from the inhabitants or the general public.

The people of Cairo always gave the interior space of the house a higher value than the public space of the street. Therefore, the physical character and use of the public space of the street was bound to the rights and the traditions of the private inner space of the house. This condition contrasts with the commercial streets where the inner space of the shops and the public space of the street had equal value.

On the other hand, the street was considered an area which could cause harm to the private life of the people in their houses. The harm could result from the **behavior** of people such as eavesdroping or looking into the house. The harm could be to the people outside, if an inhabitant of the house made changes in design which hindered pedestrians or harmed neighbours.

The inward-focussed house design, and clustering of the houses in the hara, contributed to transform al-fina' of the residential streets to a space edged with walls (the continuous

elevations of the clustered houses). As a consequence, *al-fina'* space had to function as a mediator space between the private indoor space and the pubic space of the street. *Al-fina'* had also to protect the sacred indoor family life. These two requirements supported the dwellers' right to benefit from their *fina'* as private domain beside its public function as part of the street space.

The entrances and the windows were the basic design elements which connected the indoor with the outdoor space. These architectural elements preserved the private life of the family while allowing access and ventilation.

The women had also the possibility to sit unveiled at the upper floor in their room also called *(harim)*, behind the screened windows (*mashrabyyiah*) and watch the street life as the narrow streets had reduced the distance between the *mashrabiyyahs* along the two sides of the street. This increased the possibility for social contact from the mashrabiyyah of the houses along the two sides of the street (figure 4.13).

1.4. Users interpretations and judgements in *al-fina'*

The preceding sections show that *al-fina'* helped to determine the character of the street environment of the residential and commercial areas by creating large number of settings. I explained how the elements of this character were the combination of mass, line, color, smell, sound, texture, and use. It was this combination that gave the street its meaning. The question which emerges is how in a dense and clustered city like Cairo could people create and organize such a combination?

The key issue behind this process was related to the judgement mechanism of each particular setting as in the following diagram.

For example, it has been mentioned that in the residential area the dwellers of any quarter were often concerned with issues related to the **security** of their streets, the **privacy** of their personal life in the dwelling, and their access to **use** of the space of the street for their activities beside its function as public pathway. Therefore, settings of *al-fina'* of this area were created to ensure privacy and support security. Three methods were applied to meet these issues: 1. the design, 2. common social norms, 3. the central authority.

1. **The Design:** The people and their builders (masons, pavers, plasterers, and white-washers) could use some **basic design elements** to generate a large number of architectural solutions in the built environment. These common basic design elements had become the peoples common building tradition (*urf*).

For example, by using some basic elements such as the inner courtyard, the screened windows, and the L shape entrance, people built their houses to create privacy and secure it from the outside. But it was up to the users how these elements should be coordinated to design the house. The inward design pattern of the house reduced the inhabitants desire to plant in the street in front of their houses, because they would not benefit directly

from the plants in the street when all the rooms were turned inward toward the courtyard. In addition, the location of windows in the ground floor had to be higher than a persons height, while the gate was used in the entrance of the quarter to create a safe community and define the edges of their domain.

2. **By the common social norms** *('urf)*. These were used by people to regulate the different behaviours in the street through decisions that defined the boundaries and domains of the quarter. When the architectural solution failed to meet the needs of the individuals and the community, the social norms helped to fill this gap.   The term **shame** (*'ib*) was applied to any way of thinking or acting that violated privacy of people and was condemned by the community.

Because the local tradition (*'urf)* was known and respected by the community in general, each member was able to participate in the decision making process on issues of his/her street environment and its meanings. Hence, the common tradition *('urf)* could easily be used to determine how the streets should be designed, and used. In this way, the harm could be easily identified. The use of the *'urf* by the the **local community** encouraged participation of people in the decision–making.

The participation in the decision making had a hierarchical order:
(a) The neighbors who were directly involved in a case.
(b) The local community of the market or the neighborhood.

In the residential areas, organizing the relationships and regulating the space of *al-fina'* were done by the users themselves by using the social organization of the quarter (*ha'rah*)[263]. In cases which required negotiation between the neighbors, the *shaikh al-ha'rah* who represented the head of the

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[263] Staffa, Suzan Jane, *Conquest and Fusion*. pp. 264–271.

ha'rah could serve as the negotiator. He had a strong position and could make his judgement to organize the *ha'rah* and keep general order[264]. Thus, he could stop an inhabitant who occupied the *fina'* if it caused harm and conflict with the neighbors. But if he failed then the involved parties could use the court.

In the markets the participation was depending on the social-economic organization (*ta'ifah*) of the markets *(suq)*[265]. Because each market was often specialized in one branch of business, this organization established a common tradition to regulate the use of the public space and *al-fina'* in the streets of each particular market.

However, not all acts based on *urf* corresponded with Islamic principles. For example, local tradition of building large tombs, mosques, and castles or other monumental structures was not advised by the Islamic law, yet the people of Cairo continued to construct monuments. Other principles of Islam relevant to planning indicated that the residents of a public street must not take over the street space by building in the common space[266]. Many documented cases show that people violated this principal judgement too.

Al-Jabarty [267] referred to many types of structures and

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[264]Lane, Edward William, *Modern Egyptians*. p. 131.

[265]de Chabrol, G., *Description of Egypt*. pp. 4-289

[266]See part 2, the chapter: *Al-fina'*.

[267]An Imam of a mosque told the worshippers in a Friday speech that building mausoleums for the saints and visiting them is *kufr* (blasphemy) and they should be destroyed. Some muslims went to the religious Scholars at al-Azhar mosque and asked them about their answer to what the Imam had told them in the mosque. The Scholars declared that saints' blessings do not stop after their death, therefore, the Muslims are permitted to build and visit the mausoleums. When the Imam heard this *fatwa* (formal legal opinion), he and about 1000 of his follows went to the *qa'di* and forced him to change that *fatwa*. But a few days later, the authority ordered the imam to leave the town to avoid conflicts in the community.

Al-Jabarti, 'Abd al-Rahma'n, (no date), *Ta'rikh 'Aja'ib al-A'thar*, Dar

behavior which existed in Cairo during 18th century which contradicted Islamic principles such as building mausoleums for the saints and visiting them. There were religious people who accepted this while others denied it. Although some religious people tried to change these practices most of them failed.

The local tradition of the people played a major role in this situation. For example, traditional strong social ties supported the desire to live close to each other within the built up area. It nearly required people to occupy parts of *al-fina'* to build larger houses. This contributed to reduce the width of the streets and the area of the public open spaces in the city. This was done even though occupying pathways was according to the Islamic law unadvisable *(makruh)*[268]. But because this standard judgement did not define clearly what the width of a public street was, it was open to interpretation by the users.

3. The **central authority** level represented the macro level. It was basically the courts which had this responsibility and they depended on the Islamic law (*shari'ah*) their decisions. If the negotiation on the local level did not work, then the people could ask the court to intervene and provide a juridical solution.

The official inspector *(al-muhtasib)* represented the central authority in the street. The difference between the judge and muhtasib lay in the *muhtasib's* direct way of making decisions concerning the street, when the events occurred. He was employed by the government and had several assistants[269]. The *muhtasib* derived judgements that controlled the order in the everyday life of the street according to Islamic law. For example he observed whether the shopkeepers cleaned their streets, and he also

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al-Jil, Bairut. Vol.1, pp. 83-86.

[268]See part 2, the chapter: *Al-fina'*.

[269]Lane, Edward William, *Modern Egyptians*. pp. 128-131.

removed people from the streets if they had occupied *al-fina'* and caused harm to the pedestrians or the neighbours.

Decision Making Mechanism in *al-Fina'* Space
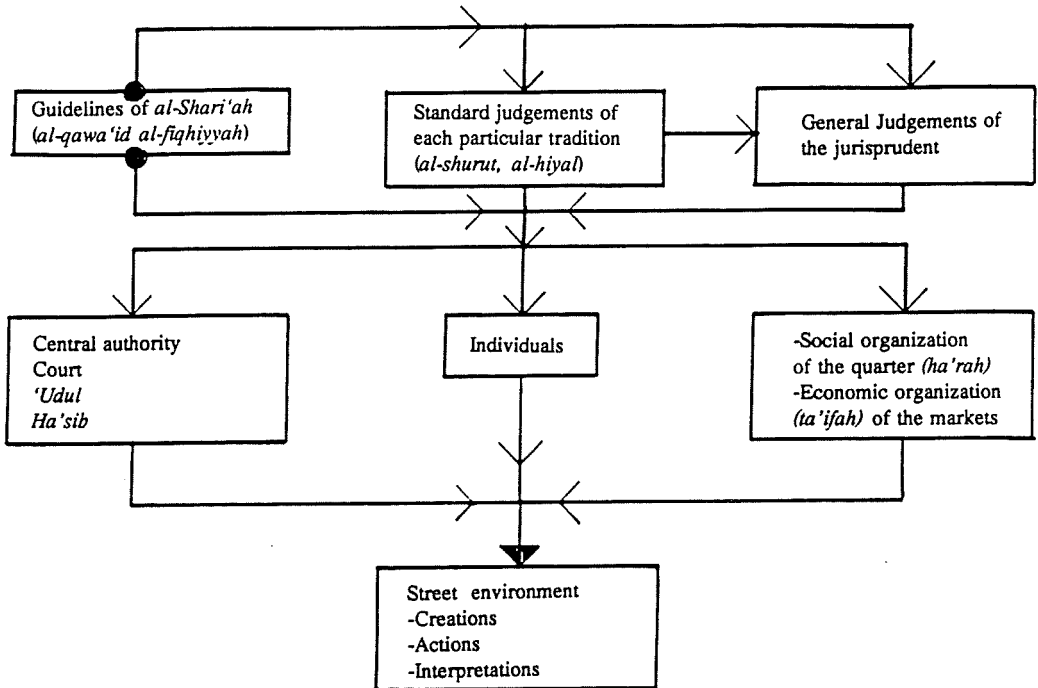
El—Nahal [270] documented some cases which were solved by the courts and maintained that:

> Regulations regarding buildings and changes in their structure or the structure of the *ha'rah* which in pre—Ottoman times had been enforced by the *muhtasib* (inspectors) were in the seventeenth century enforced by the court.

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[270]El—Nahal, Jalal H., 1979, *The Juridical Administration of Ottoman Egyptian in The Seventeenth Century*, Bibliotheca Islamica, Chicago. pp. 52.

The *Shari'ah* court archives in Cairo provide us with various instances of how the court played its role in the street environment. These cases refer to conditions which required the courts to intervene because the involved people could not solve the problem alone, although the majority could negotiate. To do this they depended on the local tradition (*'urf*) which defined the social norms and their values. The mechanism of the *'urf* provided the craftsmen involved in the building trades and the common people with the basic guideline elements about how buildings and open spaces should be designed without causing harm to others. The harm had two levels, the first could be tolerated, and the second could not.

The *qa'di* (judge) was the central person to make a decision about the different cases, and his decision was respected by the involved people in all cases. He also based his decision on Islamic law (*shari'ah*). If the case was complicated, he would discuss the case with other *mufti* (official expounder of Islamic law). The *qa'di* was assisted by building inspectors who visited the site where the transgressions were reported. According to the report of the inspector, the *qa'di* would search for a solution. His solution was based on a reasoning method which again was based on the basic sources of Islamic law (*shari'ah*), local tradition (*urf*), and the special condition of the case.

On the other hand, recognition of the *'urf* by the Islamic law *(shari'ah)*, provided the traditions of the different ethnic groups of Cairo with the possibility of using the court to find solutions for their claims. This can be found in the following documented cases from the archieves of the *shari'ah* courts in Cairo[271].

1. An owner of a house opened a new door to a side street where he had no door before. A neighbor across the street asked

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[271]El Nahal, Jalal H., *The Juridical Administration of Ottoman Egypt in the Seventeenth Century.* pp. 51-73.

the man to close the door because it became a gathering place for undesirable people who could cause harm for the neighbor's private life. Since the owner refused to wall up the door, the neighbor asked for the court's help. The *qa'di* sent the building inspector to question the other neighbors about this claim. The neighbors confirmed the charges. The *qa'di* ordered the owner to remove the new door and build the wall as it was before.

2. An owner of a house wanted to turn one of rooms boardering the street into a sewing shop. A neighbor next to him objected to this because the shop would cause noise and other problems to civil safety. The owner of the house could not convince his neighbor to allow the shop, so he asked the court's help. The inspector visited the area and found that the noise from the shop would not be so loud, and the other neighbors accepted the sewing shop in their neighbourhood. The *qa'di* gave the man the permission to open the shop and ordered the other neighbor not to stop him.

3. An owner of a grist mill bought a new mill and added space onto his original structure. A neighbor adjacent to the shop claimed that the man should stop the second mill because it caused noise in the street and shook his house. The owner of the shop denied these claims, and so the second neighbor asked the court to help with the case. The *qa'di* sent the inspector to test the case who confirmed that the second mill increased the noise more than could be tolerated. Therefore the miller was ordered not to operate the second mill.

4. A public bath was located in a street of a quarter *(ha'rah)*. Some members of the quarter (*ha'rah*) complained to the court that people from the street could see their naked women in the bath, while inspection confirmed this claim, and so the *qa'di* suggested blocking the street adjacent to the bath and opening a new street.

5. Some members of a hara living along a street complained that vacant lots along their street became a refuge for evil or otherwise undesirable people. They asked the lot owners to fence the lots, yet the owners of the lots denied the claims. The neighbors requested that the court should help them. The inspector visited the site and questioned the neighbors who confirmed the claims. The *qa'di* ordered the owners of the lot to fence their land.

6. A house belonging to *waqf* (a charitable foundation) was in bad condition due to a lack of maintenance over a long time posing a threat to the houses near to it. One neighbor adjacent to the house claimed that the court should order the *na'dir* (building superintendent) of the *waqf* to repair it and prevent damage to the neighbourhood. The *qa'di* asked the inspector to visit the site. The inspector found that the house was six stories tall. The structure had cracks, some stories were without roof or doors, and the upper story was built of wood and bamboo which could catch fire. The inspector reported the situation to the *qa'di* who ordered the nazir of the *waqf* to use the revenues from rentals to repair the building.

In spite of the foregoing examples, some people who had strong social positions could occupy *al-fina'* and cause various kinds of harm to the pedestrians and the neighbour. These people included members of the government, army, wealthy persons, or even jurists, although, in some cases, such actions could be later removed by the neighbours or the authorities.

For example: Al-Jabarty[272] writes that *shaikh al-Nafrawy* was a known Jurisprudent *(faqih)* in Cairo. Yet, even he occupied parts of the street and lands of his neighbour to build his house. This was also done by *shaikh al-Hawary* who had also occupied the the street and lands of his neighbours.

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[272] Al-Jabarti, *Ta'rikh 'Ajaib al-A'tha'r*. Vol. 2. p. 158, 174.

In this way Islam played the role primarily as a regulator of peoples' behavior in the street environment, and the architectural solutions. Thus, for Islam, the architecture was not an independent subject, but should always be judged by the quality of the social life in the living environment and the meanings created by the architectural solutions. This relationship was thus used to find out whether a particular pattern of design, use, or behavior was appropriate or acceptable for the community. The inhabitants modified any element or characteristic of the street to obtain the required quality and meanings when the element opposed their basic principles.

The interpretive judgements of judges, and users judgements, were all parts of an integrated system that determined the acceptable character of the created settings in *al-fina'* spaces and contributed to produce a dynamic system of decision making based on participation. This is evidence that Islamic built environment judgements were, indeed, adjustable decisions and not rules.

1.5. Conclusion

Al-fina' and *al-harim* contributed to transforming the urban structure of the serial settlements which built in the site of Cairo in two different ways. *Al-fina' was an inner force that transformed the shape of the city.* It played this role in two ways: first, frequent modification of the territorial boundaries between the private properties and public spaces of the streets, second, by frequent modification of the design elements of *al-fina'* (such as doors, windows, projections, walls, and benches).

On the other hand, *al-harim* contributed to the transformation process by influencing the expansion process of the built up area into the surrounding areas. *Therefore, al-harim was the outside force which influenced the future general shape of the built up area.*

Al-fina' and *al-harim* phenomena can help us to propose a process of forming the Islamic Cairo which also might explain forming and transformation of Islamic cities in general:

1. A settlement is established as a spontaneous or planned settlement. In the early stages of building a city, the *harim* (reserved land) was enforced, surrounding the built up area of the city.
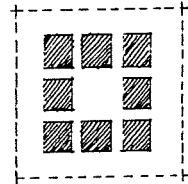
2. Most of the jurists required the local authority's permission to occupy a *mawa't* (dead) land close to the city. Therefore, it is logical that most of the people (especially in cities where this rule applied) should choose the location far from the edge of the city to avoid the restrictions of the authority and conflicts with the owners. Then, the standard distance between the built up area and the new cultivated land could be applied.
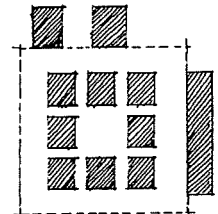
3. When most of the lands surrounding the city were cultivated and the population of the city increased, then people would build the rest of the unoccupied lands in the city until all the available lands would be built up.
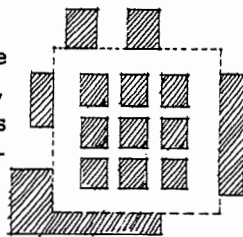
4. Then some people would occupy *al-fina'* and modify its territory which contributed to reshape the street. Others would subdivide or combine the properties to house more people and activities. This might require new roads or the closure of existing roads.
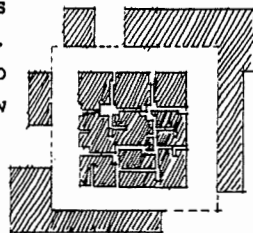

5. When the inner city became more and more dense and most of the possible lands were built up, then people would occupy the harim of the city by permission from owners or the local authority. They were obligated to leave enough space for the street. If they disagreed, then the width should be 5-7 cubits for the street but this standard could be changed if the users agreed on another dimension.
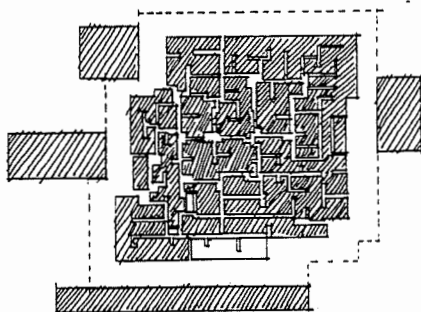
6. All the *harim* area and the cultivated land around the city had been built up and a new *harim* of the city would be formed. Then, the process would start again.

All of these six stages may have overlapped with each other over time. Each particular stage may have started earlier than described, and its process may have extended into the next stages.

On the other hand, different forces of the traditional Islamic urban society constituted the irregular urban form and organic evolution process which manifested in the character of *al-fina'* (table 4.5).

Table 4.5:   *Examples of architectural solutions that are influenced*
              by the different urban forces and which contributed to create
              the character of the street environment.

parts	Forces	Design patterns
Material culture	Building materials and technology.	–Low buildings, and common features.
	Services.	–Distribution among quarters *(khittas)*.
	Transportation means (people and donkeys).	–Narrow streets feasible –The length of the city.

People	Different cultural, religious, and socio-economic groups.	Division in quarters *(Khitta)*.
	Poulation growth and peoples desire to live close to each other as a consequence of strong social relationships.	–Clustering of houses. –Multidividing plots and buildings. –Appropriation the space of al-fina. –Expansion of the existing built up area.
	The social-economic organization *(ta'ifah)* of the market.	–Each particular market growing up around trade in one business or product giving that market its particular characteristics of sound, smell, colore, texture, and temperature.
	Markets' need for street social life and stimulation of selling activities.	–Indoor spaces designed as outward looking spaces toward the public outdoor space of the street. –Appropriation of the fina' for sitting and displaying goods.
	Changing the seat of political power.	–Building new urban areas.
	Need for privacy.	–Inward design of houses
	Need for safety.	–Constructing gates for each street or a group of streets.

Natural environment	Topography	Direction of extension of the city
	Heat	-Narrow street for shade. -Using awnings by shops or covering the entire street of the market. -using wooden screened windows.
	The canal	-Provide with green areas. -Most of the housesd along it developed their fina' as total ownership.

Islam provided people of Cairo with a body of beliefs, norms, and mentality which influenced their interpretations and judgements about which actions and creations should be initiated, developed, tolerated, or abandoned in the street environments to deal with the different urban forces over time. These judgements were adjustable according to the local contexts of each particular place in the street.

These local and adjustable judgements dominated the streets' transformation process was contributing to organic evolution. The originally regular and straight streets changed always to narrow and winding streets, while irregular streets changed always to new irregular forms.

Al-fina' played an important role in developing a common social and physical order in the street space by creating the different settings and modifying the existing characteristics of the street environments. The basic force behind the continuity of *al-fina'* tradition emerged from the common local traditions (*'urf*), and the Islamic law.

The different settings of *al-fina'* were used for different benefits. Among them were :

1. Stimulating the direct human contact in the space of the street.

2. Stimulating economic activities.

3. Organizing the way of using the street space and the people's behaviour.

4. Providing each inhabitant whith the possibility to reflect his knowledge, values, and meanings in the design and the way of using the settings in his/her *fina'*.

5. Involving the inhabitants in controlling the safety of the street life of their community.

6. Diversifying the spiritual meanings along the street.

The case study also shows that the content, type, and number of applied settings in *al-fina'* of commercial streets were different than in residential streets. *Al-fina'* of the commercial streets had a larger number of settings, were applied to create continuity between the space of the street and the inner spaces of the buildings along it, and created strong and direct social interaction between the people in the street and the shopkeepers and others in their buildings.

In the residential streets, most of the relevant settings often had social and spiritual functions. People applied them in such a way as to respecting the strong privacy rule of the inner space of the houses, which required division between the street space and the inner spaces to hinder people from looking in or hearing sounds from the house. On the other hand, these settings gave access to the users of the inner spaces to see and hear the public users of the street.

The case study also shows that major historical changes in the political and cultural conditions were associated with changes in the character of the street environment. When these changes contributed to turbulance in the continuity of the peoples way of life and meanings in the street environment, then the people gradually modified the new design solutions of *al-fina'* to revive their common order of ways of life and meanings.

The intense desire of the people to apply the traditional orders of *al-fina'* seems to have continued from the tradition of the people who settled in the early *Fusta't* which was again influenced by their pre-Islamic traditions. Even though Islamic law was involved in organizing *al-fina'*, many settings of *al-fina'*, were created by people in spite of the fact that they were not advised by Islam. The Islamic law was, however, involved in the basic way of organizing the relationships of people and physical elements. Here, it was the people and their craftsmen who depended on a set of commonly accepted social, economic, and religious guidelines and standard judgements to make variouse judgements and create various settings in *al-fina'*.

Finally, the following questions emerge:

1. How can the lessons of the traditional concept of *al-fina'* help us to understand the contemporary transformation process of the Islamic urban street environments in the light of modern forces such as life style, modern design, population growth, and new planning regulations?

2. What is the role of *al-fina'* in constituting the character of the contemporary street environment?

3. What are the lessons of the use and benfits of *al-fina'* which can be used for the benefit of modern urban society and the urban design in the Islamic cities?

These questions will be discussed in the next chapters.

2.The modern period 1789—the present.

2.1. Introduction.

As we have seen in the preceeding chapters, the different settings of *al-fina'* had gradually established a particular order in the streets of Islamic Cairo. But, from the beginning of the 19th Century, the street environments of Cairo witnessed a different sort of changing in their **environmental character**, started gradually by Mohammed Ali and accelerated by Ismail, a process continuing through the present (appendix 6)[273].

During this process, different models of street design have been applied. The straight, wide, and regular streets are the common character of all these models. These were associated with the introduction of **new designed patterns** in *al-fina'* which contributed to constitute a new character of street environment totally different from the traditional character.

The new design patterns also required a *new system of rules to organize the use and relationships in the different settings according to design and planning principles.*

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[273]There are many important studies on the transformation period such as:
Muba'rak, 'Ali, 1982, *Al-Khitat al-Tawfiqiyyah*, Al-Haiah al-Misriyyah al-'Amma lil-Kitab, Cairo.
Sharikat Masr al-Jadidah, no date, *Dahiyyat Masr al-Jadidah,* Cairo. (documents).
Shafiq, Ahmed, no date, *Muthakkarati fi Nisf Qarn*, Matba't Masr, Cairo.
Abu lughud, Janet L., *Cairo*, Princeton, New Jersey.
Staffa, Susan Jane, *Conquest and Fusion*, E.J. Brill, Leiden.
Lane, Edward William, *Modern Egyptians*, Maktabat Madbuli, Cairo.
Richmond, J.C., 1977, *Egypt 1798-1952,* Methuen & Co Ltd., London.

2.2. Emergence and growth of the new street design during the 19th century.

2.2.1. Modifying the existing streets.

This period was started by Mohammed Ali in 1805 AD and can be described as improving the city by *modifying the character of the existing built up area*. It was the beginning of the modernization process that came in the ensuing decades[274]

The first step was the modification of the settings of al-fina' of the existing streets. This step was stimulated by the introduction of modern horse-drawn carriages. In 1824 AD there was only one carriage in Cairo, belonging to the Pasha Mohammed Ali. In 1840 The Pasha had imported some 30 carriages from France for his royal family and some ministers, with the ownership of the modern carriages being monopolized by the royal family[275].

The traditional narrow and winding street network of Cairo was not planned to be used by these large carriages. For this reason the Pasha ordered the removal of the traditional *mastabah* (bench) from *al-fina'* of the markets *(suq)*. He only allowed benches in the wide streets, but the benches should not be wider than two feet. He ordered the removal of the gates from the streets and disallowed the people from replacing them. The flat tent roofs used to cover the streets in some parts of the commercial area were also removed, but he allowed the shop owners to replace them with wooden roofs. Buildings whose location caused hindrances to the carriages were also removed[276].

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[274]About some of these changes see:
Muba'rak, 'Ali, *al-Khitat al-Tawfiqiyyah*. Vol. 1, pp. 87–202.
Abu-Lughod, Janet, *Cairo*. pp. 83–103.
Richmond, J.C.B., *Egypt, 1789–1952*. pp. 31–69.

[275]Abu-lughod, Janet, *Cairo*. p. 110.

[276]Muba'rak, 'Ali, *al-Khitat al-Tawfiqiyyah*. Vol. 1, pp. 197–198. He mentioned that most of the streets were narrow and that, even in the wide streets, it was difficult for two loaded camels to pass through it easily.

The next step was the construction of newly designed streets and gardens (figure 4.15)[277]. The street of Shubra (1808 AD) was opened as a wide avenue with trees along it to connect his new constructed palace (which had Turkish and European influences) at *Shubra* with *Azbakiyyah* (figure 4.16)[278].

In 1845 AD an official plan (*tanzim*) was established which had important influences on the future improvements in the street environments of the city (figure 4.15)[279] . Among its plans were to open new streets in the traditional area such as *al-Muski* street and *al-Qal'ah* street.

al-Muski street was opened in the Frankish quarter to improve the transport circulation from the eastern side to the western side of the traditional area and develop commercial trade in the central area. It was regular, straight and wide. The religious leaders advised Mohammad Ali to leave enough space for the movement of two loaded camels, so that the width of the street was decided to be 8 meters[280]. The work with this street started in 1846 from *Azbakiyyah* and finished at the Canal, then extended crossing *al-Mu'iz* street to the eastern side of the city in 1858 (figure 4.15, 4.16).

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[277]Muba'rak, 'Ali, *al-Khitta't al-Tawfiqiyyah*. Vol. 1, p. 210.

[278] *Azbakiyyah* was one of the well known seasonal ponds in the traditional area and was named after amir Azbak who built his palace beside it. Other rich families also settled near to this pond. It covered 18 hectares and was filled with water by the annual Nile flood in July and August. The pond and the open area near to it were used for different social activities. *Azbakyyah* has undergone several transformations that changed its character continuously. During the period of Mohammed Ali it was drained and developed to be a lake surrounded by gardens, the palaces of his family and public buildings. Their architectural solutions were based basically on the Turkish building style.

[279]The *tanzim pl. tanzimat* (reorganization) were reform plans applied to the Turkish Empire to reform the administration and law system during the 19th century. But Egypt had refused to adopt the Turkish model and developed later its own model of *tanzim*.
See also:
Richmond, J.C.B., *Egypt 1789-1952*, pp. 70-91.
Bernard, Lewis, 1968, *The Emergence of Modern Turkey*, Oxford.
Akbar, Jamil, '*Imarat al-Ard Fil-Islam*. pp.113-117, 122-130.

[280]Muba'rak, 'Ali, *al-Kitat al-Tawfiqiyyah*. Vol. 3, p. 183.

The elevations of the buildings along the streets of the traditional area were also affected by these changes. For example, the awnings which were used to shade the shops were ordered to be removed and replaced by wooden planks. The traditional *mashrabiyyah* (wooden screened windows) were abandoned from all new buildings and replaced by European window patterns covered with glass, while the elevations of buildings along the main streets were whitewashed.

Up until this time there was not a simple system to name the streets[281]. Therefore in 1847 AD, the authorities introduced a new and modern system to name the streets and number the buildings[282].

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[281]See the chapter The order of the streets and the open spaces, in part 4.

[282]See introduction of Sayyid, Fua'd Aiman in Jomard, E. F., *Description of Cairo*. pp. 49-60.

AL-KHALI CANAL

AZBAKIYYA
POND AREA

AL-MUSKI STREET

AL-FIL POND AREA

CITADEL

100 200   600m
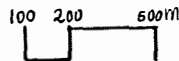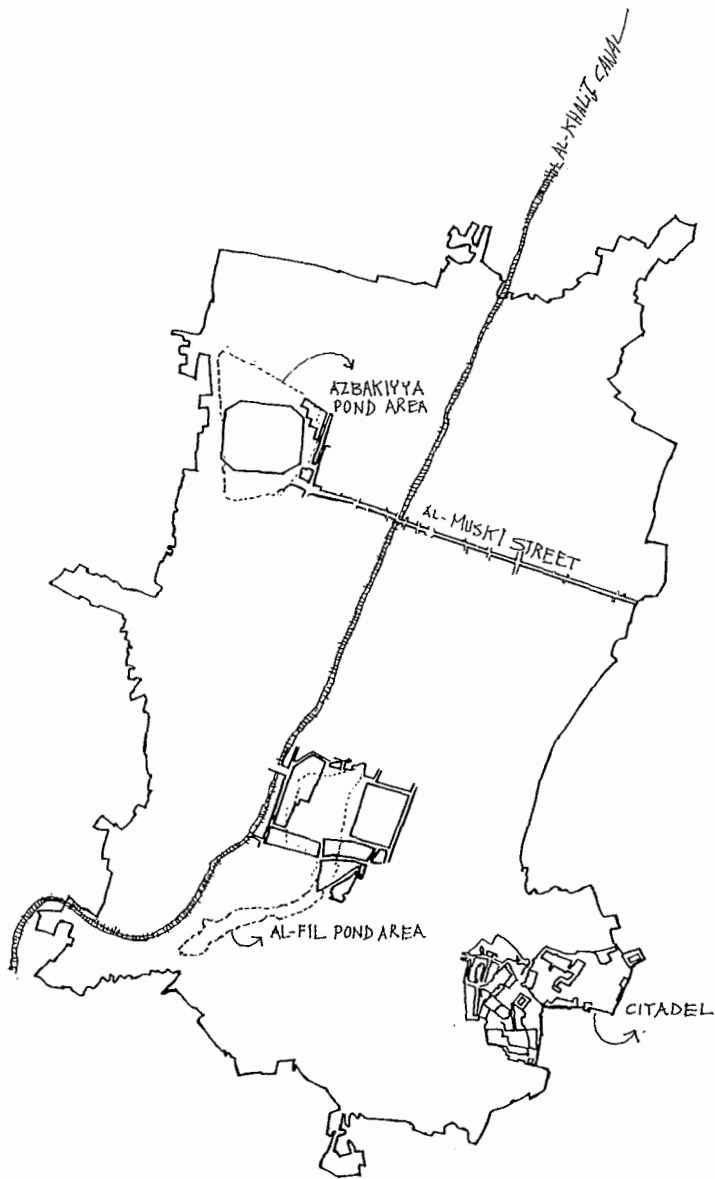
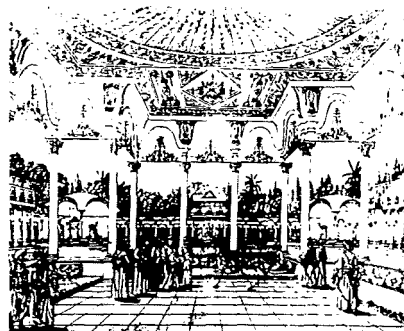Fig. 4.15   *The major development projects in Cairo between*
                  1800-1860.

al-Shubra street

al-Muski street

Mohammed Ali palace in Shubra

Fig. 4.16   *Examples of the modernization projects.*

2.2.2. *Isma''iliyyah* (The Haussmann Model)

Ismail, who reigned in Egypt from 1863, accelerated the transformation process of the street character of Cairo by his decision to build a new European city outside of the Islamic Cairo at the western side and called *Isma''iliyyah* (appendix 6).

The preceding chapters show that building of serial Royal cities on the site of Cairo (*al-Fusta't, al-'Askar, al-Qata'i' and Qa'hirah*) occurred as a response to changes in the major ruling families (appendix 3)[283]. It reflected the desire of the rulers to house their people and to demonstrate their power. They used the architectural design as means to realize these goals.

This was also the case during the period of Ismail. But the difference here was the goal to create a European city in Cairo. It involved application of designed streets according to the new European town planning principles, architecture, and rules. At the same time, the local architecture, the traditional mechanism of decision making and ways of use, and the meanings of the traditional built environment were neglected.

The land of *Isma''iliyyah* was offered for free to the royal family and some rich families to build their villas which should be designed according the new European styles. The building costs should not be less than 2000 Egyptian Pounds. This was a clear restriction to exclude the low and middle classes from living in this area. Thus religious and power factors used by the Fatimids to exclude the common people from the Royal city[284] were repeated by Ismail, but here by imposing difficult financial rules to exclude the people from the new European city.

The backbone of the new city was its **new street system** which depended on creating avenues and green parks according to the new

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[283]See also: Cairo during Islamic period.

[284]See the Chapter *Qahirah* in part 4.

town planning of Haussmann (figure 4.17). The streets were wide and straight. The middle area was planned to be used for the carriages and sidewalks for pedestrians, shaded by trees.

The other important element in this project was the *new European design in the new buildings and the new villas along the new commercial and residential streets*. Douglas Sladen described the new character of al—Muski street in 1887 as following[285]:

> "In the Muski, the "caboot" or wooden roof which formerly spanned the street has been removed, and the small but attractive native shops, with their old—world superstructure, have to a great extent been replaced by large plate-glass windows and modern fronts."

The major consequence of this change was establishing a different street life and different relationships between indoor and outdoor spaces which constituted a character totally different from the traditional concept of *al—fina'* (figure 4.18).

These changes influenced the character of the street environment in the markets and the residential areas in three ways:
1. Traditionally, the inner space of the shops and other buildings of the market *(suq)* were opened toward the public space of the street (figure 4.9, 4.10). In the new streets, shops were divided from the public space by the windows. The shops also had received new designs. They became larger and the shopkeepers sat inside their shops instead of sitting in front of the shop.

2. The traditional courtyard design of the dwellings was replaced by new plans with open spaces toward the street, and the house was surrounded by gardens separating the house from the street space.

3. The settings of the traditional *fina'* were totally abandoned.

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[285]Seif, Ola and Spencer Jayme, 1993, *Khan al-Khalili*, The American University in Cairo Press, Cairo. pp. 8—9.

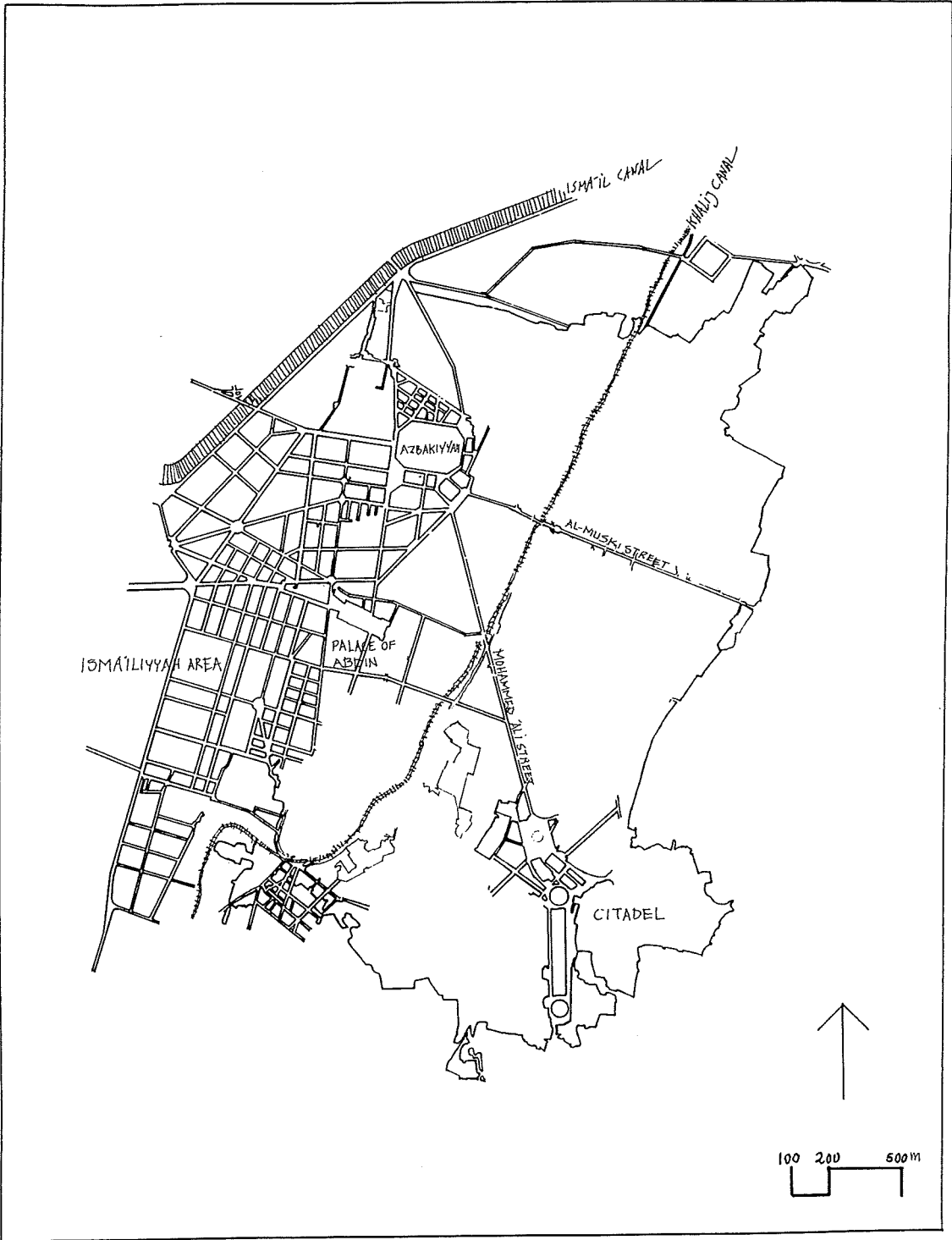Fig. 4.17 *Islamic Cairo and Isma''liyyah in the 1870s.*

STREET LiFF , EYENTS

INDOOR

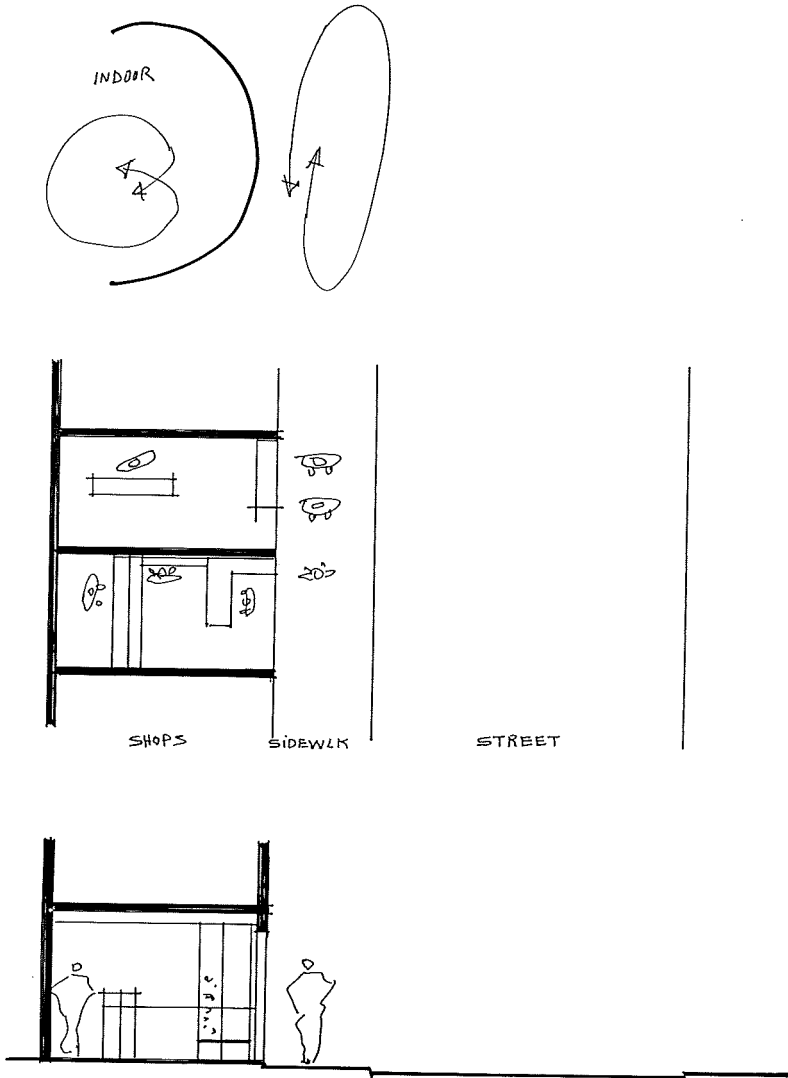SHOPS   SIDEWLK   STREET

Fig. 4.18   *Dividing between indoor space of the shops and*
                    the outdoor space of the commercial street.

In 1874, the built up area of the new city covered some 104 hectares which was equal to 1/7 of the built up area of the old city. The streets covered 30%, while the buildings covered 13%, and fully 57% was open space as green area[286]. The new areas in comparison with the traditional built up area was small. Yet, these developments decided the course of the developing character of the street environments of Cairo[287].

The new plan was also applied partly to improve the old city (figure 4.17). This was limited to three areas.

1. *Azbakiyyah* was regulated and developed to be a focal point to connect the old and the new city and open radial streets into the two areas.

2. The street of *al-Qal'ah* was opened in 1875 to connect the citadel to the *Azbakiyyah* in the old area after demolition of a large number of buildings.

3. The expansion of *al-Muski* street was continued from *al-Mu'iz* street into the eastern side of the city.

Most of the old buildings along these streets were demolished and replaced by new buildings with a European architectural style, while the streets and the buildings which were located behind these streets were left untouched.

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[286]Raymond, Andre, *Le Caire*. p. 274.

[287]Muba'rak, 'Ali, *al-Khitat al-Tawfiqiyyah*. Vol. 1, p. 213.

2.2.3. Heliopolis (The English Garden City).

Ismail was forced to abdicate his power in 1879 by France and England. They used the excuse of protecting their own business interests to force their control over the Egyptian government who failed to pay its obligations to European financial investors[288]. The effect of this control was that in the 19th century, the Europeans established a power network in Egypt which provided them with strong access into the central decision making process to make different investments in new urban projects. Among these projects was building the city of Heliopolis in the suburbs of Cairo.

The importance of this project is that it became a model repeated in the other urban areas of Cairo, such as *Ma'a'di* in the south, *Hada'iq al-Qubbah* in the north, and *al-Duqqi* in the west[289], and has continued as a tradition through to the present time.

During this period Tanzim was the government's planning institution and was based on using street design as a tool to modernize the town form and urban life. In 1889, it developed new rules which obligated all new streets to be designed wide, straight and avoid the occupation of the street by any element which might obstruct traffic, such as benches, doors, or gates.

The history of Heliopolis is also associated with establishing a tramway company in 1894 to build a modern public transport system for Cairo[290]. The tram project proved its success in short time, and thus the company was encouraged to benefit from this market to invest in developing a city outside

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[288]All the projects of Ismail were based on loans from Europe. Thus, his urban projects were totally dependent on European knowledge and capital. This method ended with a total fiasco which exposed Egypt to economic, political, social, and cultural occupation.

[289]Musilhy, Fathy Mohammed, 1988, *Tattwor al-'Asima al-Misriyyah*, Dar al-Madinah al-munwwarah, Cairo. pp. 229-230

[290]Abu-Lughud, Janet, *Cairo*. pp. 132-143.

of Cairo and connect it with a tramway. In 1905, the company was granted the concession to develop a new suburban city on a site located at the north-east side of Cairo and the Company of Heliopolis was established in 1906 to realize the plan (figure 4.20)[291]. The new area was called Heliopolis (borrowed from the name of the ancient city of Heliopolis or the city of the sun) to advertise the project in Europe as a tourist area (figure 4.20).

The company aimed to make profit from four sources, first by *transporting people by the tram* between the city and Cairo, second by *selling the buildings and the plots*, third by the *tourist hotels and services*, fourth by *providing infrastructures and public services*.

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[291]The company was composed of the Tramway Company, and Oasis of Heliopolis with 15 million Francs as capital. Later, the company became known as the Heliopolis Company.
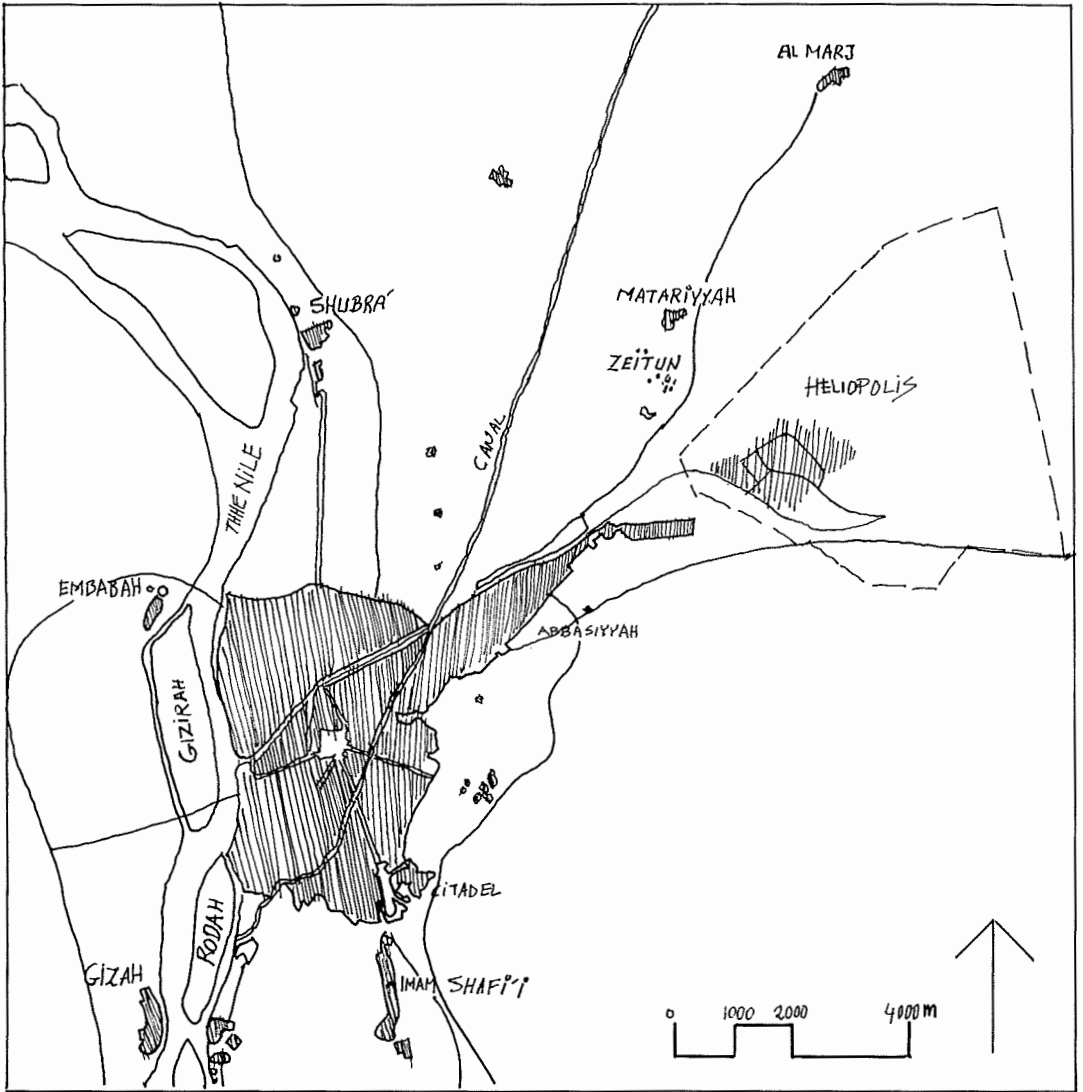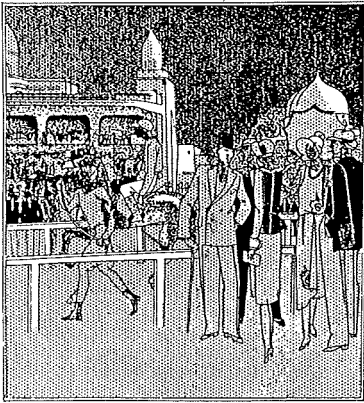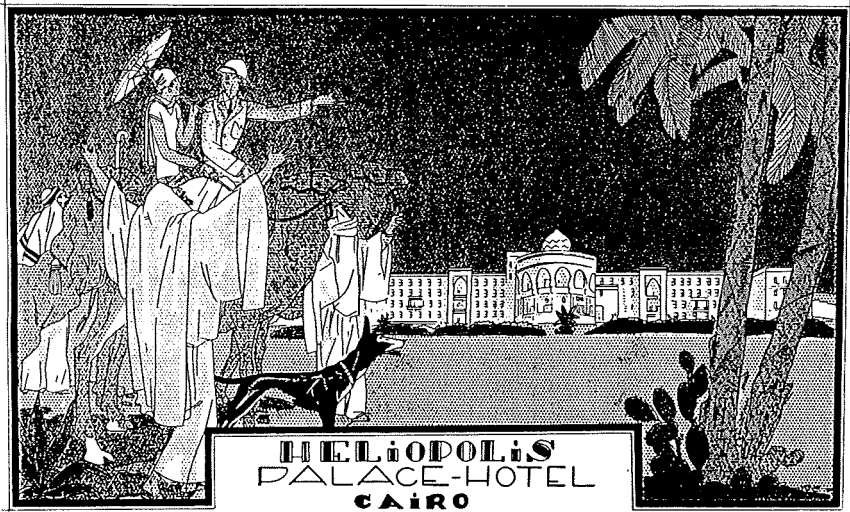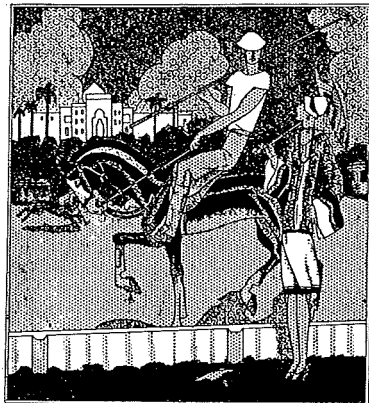
Fig.   4.19   *Cairo and Heliopolis*

RACES. £ 30.000 in prizes.

POLO. Daily tournaments.

Fig. 4.20   Some examples of the advertisements.

2.2.3.1. The Plan of Heliopolis

The general Plan was based on concepts of British town planning, applying the Garden city design and the Satellite Town planning. The owners of the project controlled most of the projects' process such as administration, design and planning, and the construction process[292].

The town plan was characterized by dividing the built up area into several oases divided by the desert where each oasis had a particular size of population.

The first stage of the plan was to build two oases, first Heliopolis, and second Almaza. Each oasis was planned to cover 2 million square meters and divided from the next one by 1km of desert land. In the beginning, the construction was concentrated in Heliopolis, while *Alma'zah* became a service area with some tram installations and connected to Heliopolis with a tramline and a service road.

The Heliopolis plan divided the housing areas into two parts connected by Ahram street as the central avenue with a wide green belt along its central refuge (figure 4.21):

1. Workers or low class housing area on the north side.
2. Middle and upper-middle class area on the south side.

The residential areas were organized by clustering them in quarters according to the type of the dwellings, such as a quarter with palaces and villas, a quarter with bourgeois apartments, and a quarter with worker dwellings.
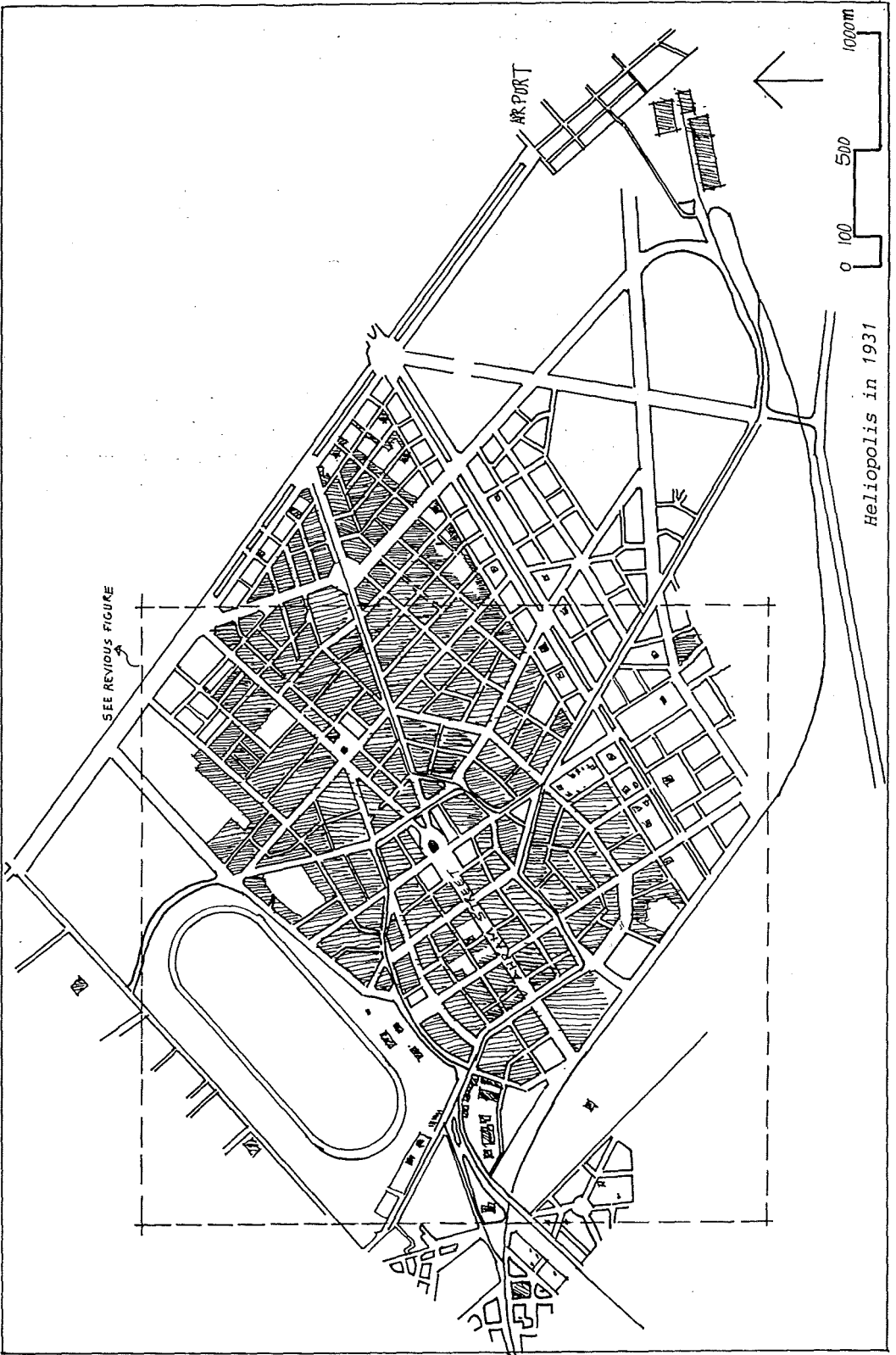
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[292]Sharikat Masr al-Jadidah, *Dahiyyat Masr al-Jadidah*.
    The agreement of 1931 between the Egyptian government and Company of Heliopolis. See also its related rules of planning the streets and the sidewalks of Heliopolis.

Heliopolis in 1907

Fig. 4.21   Development of Heliopolis.

SEE REVIOUS FIGURE

AIRPORT

Heliopolis in 1931

0 100   500   1000m

The shops were concentrated along the main streets, especially those of Ahram, Ebrahim, and Baghdad. This concentration was influenced by the distribution pattern in the initial plan and encouraged by the large traffic along these streets which provided the shops with services and access from other parts to the commercial area.

The buildings were located either beside the sidewalk, as in the commercial areas, or a front garden divided the sidewalk from the building in the residential areas. The rules required that one build no more than 50% of the plot, and all projections into or occupation of the sidewalk were forbidden.

The streets were planned straight and regular with a grid network, their length and width according to their function. Thus the main streets were planned as wide avenues connected with the smaller residential streets. The plan depended on creating green areas along the streets by the avenues and the gardens of the buildings (figure 4.22, 4.23). The buildings had basic European designs and were decorated by some elements of Islamic architecture. Most of the decorations had no relation with the function of the buildings, such as *minarets* from mosques on the top of residential and commercial buildings.

The plan and its related rules has been updated and changed over time. For example, the reduction of the size of the plots and the open land between the oases led to abandonment of the idea of open land, so that eventually the town plan became one whole.

The plan of the city was divided into six districts. The main streets divided the districts. The central district of the city was designed to contain the commercial areas and the public services of the city.
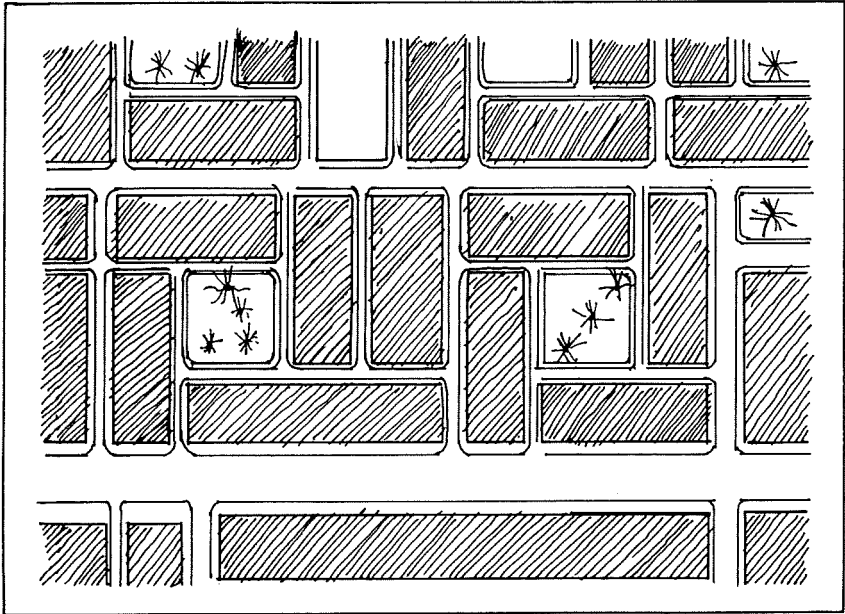
Neighbourhood plan
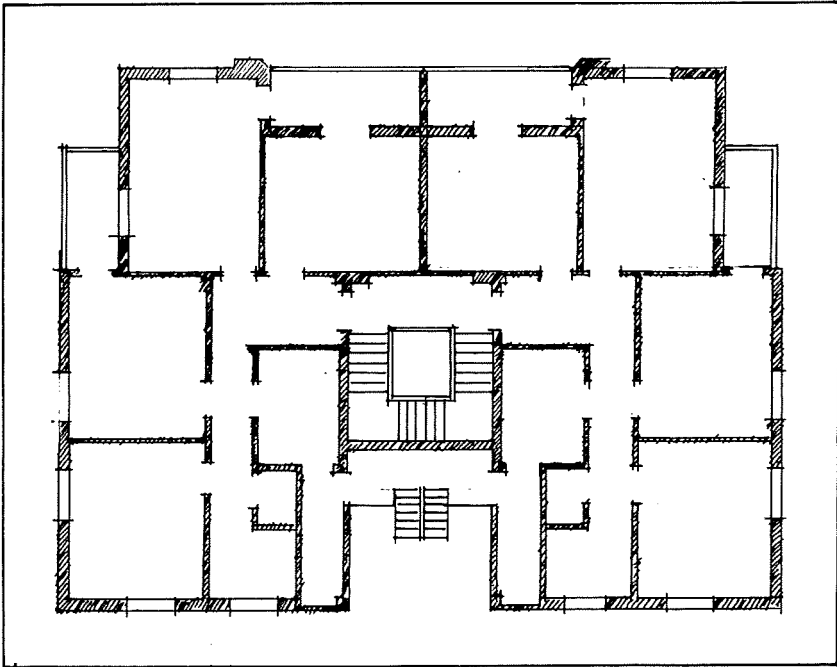
Plan of a typical residential building
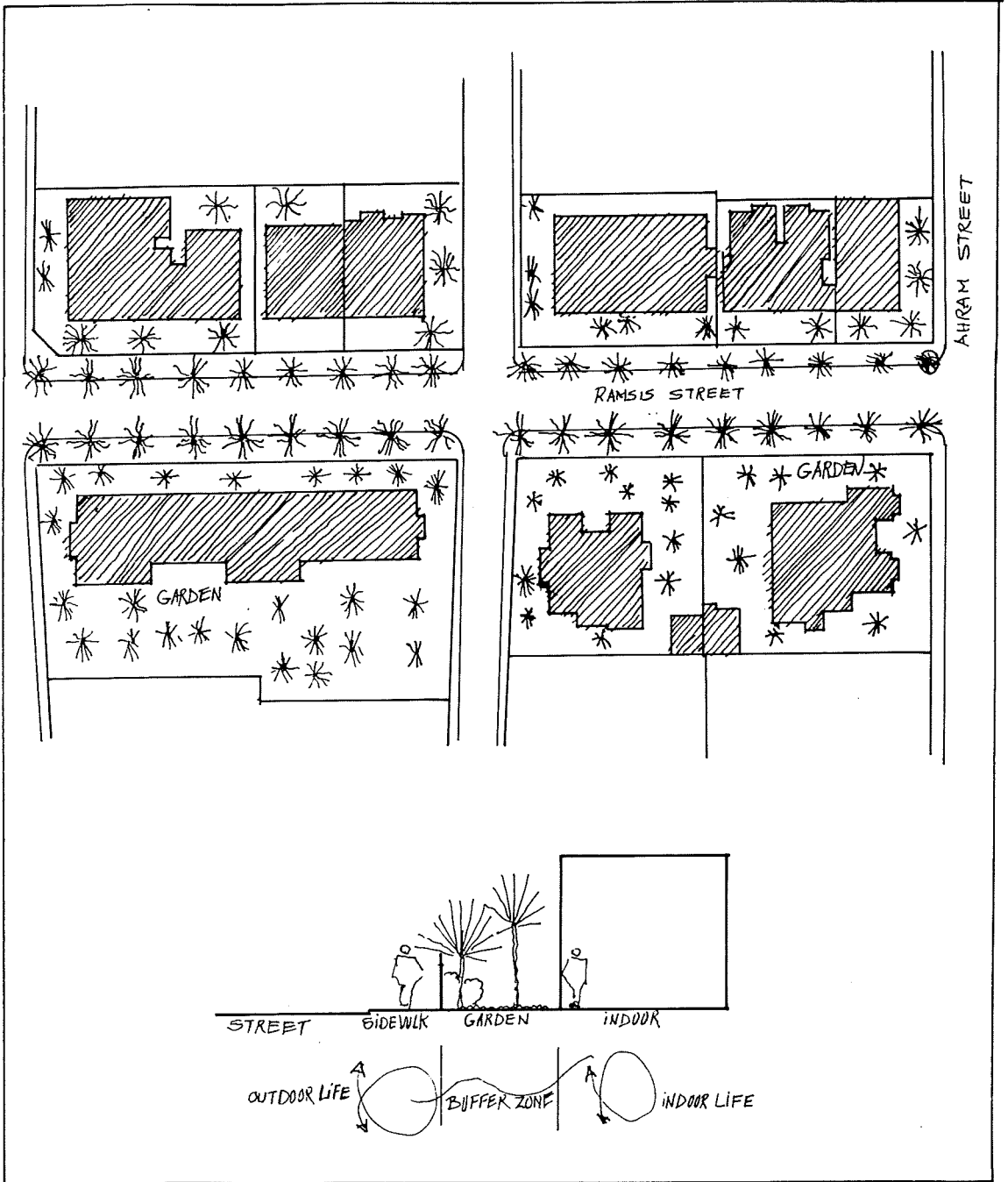
Fig. 4.22   *The modern urban design*

Fig. 4.23 Outdoor and indoor spaces of a new residential street in Heliopolis.

Each particular district had a hierarchical organization as follows:

1. The district: Each district should house a homogeneous social class and its population should be 40,000-50,000 persons. It should contain central services and a primary school. The diameter of the district was planned to avarage between 800-1,000 meters. Each district was divided into 10 neighbourhood units.

2. The neighbourhood. Each neighbourhood unit should house 3,000-4,000 persons and contain an elementary school. It was divided into several residential cells.

3. The residential cells. Each residential cell housed 1,500-2,500 persons and contained a common park with children's daycare center. This size of population was intended to create the social interaction and facilitate the social network system in each cell. The pedestrian circulation system was planned to be far from heavy traffic. The height of the buildings near the central area should be lower than those which are far from center.

The street network is classified into three classes:
1. The first order of streets, or the main streets. These are the highway streets which are constructed to connect Heliopolis and Cairo or with the streets which lead to other cities. These streets are often long and straight, with the width being 50-60 meters. The rules demanded that they be divided from the metro-line and the residential areas.

2. The second order of streets or local streets: These are the streets which were constructed to connect different areas in Heliopolis. Their width is 28-60 meters and may also contain a metro-line. The ground floor of the buildings which are located along these streets can be used for commercial activities.

3. The third order of streets or the residential streets: These are the streets that facilitate circulation within the residential areas.

The street dimension is also classified into three types according to the following table[293]:

Length	Sidewalk	Roadway	total width
101–300m	2x3m[294]	5.5m	11.5m
301–500m	2x3m	8.25m	14.25m
501–1000m	2x4m	11m	19m

Table 4.6: *Street dimensions of Heliopolis.*

Since building Heliopolis, the Company of Heliopolis controlled the planning and administration of the city, strongly enough to demand that all new streets and buildings be according to the initial plans and design principles. For example, the number of the storeys, the height of the buildings, the elevation design style, use of the sidewalk, pavement material, and even the color of the buildings were controlled by the company.

2.3. Conclusion

The 19th century was the era of changing to the new European designed streets. The government's central plans dominated the transformation process from the traditional organic streets to the modern designed patterns. As a consequence, in the new area, all settings of the traditional *fina'* were replaced by the new patterns of buildings and street plans. This process was associated also with changing building codes and land use. Two questions emerge here:

1. Does the regular layout character of the designed streets continue into the present period?

2. Are the settings of *al-fina'* being revived in the modern designed streets? What are their uses and benefits? How do they affect the character of designed streets and their central role? These will be discussed in the next chapters.

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[293]All numbers should be considered as a minimum permitted dimensions.

[294]2x3 refers here to the two sidwalks along a particular street where each sidewalk is 3 meters wide.

2.4. Cairo in the contemporary period

The present policy of the government considers the region of Greater Cairo as composed of three governorates Cairo, Giza, and Qalyubiya. Each governorate is divided into several administrative centers (appendix 7).

The living built environment of this large area is divided by the Nile into three areas, the eastern side, the Islands, and the western side. They are connected by six bridges. The urban Cairo has an octopus form, its arms extending from Matariyyah at the north to Helwan at the south which is about 36 Km, and from Al Wayli at the east to Gizah which is about 26 Km (figure 4.24). The built up area is estimated to reach 63000 hectares in the year 2000[295].

The major part of this built area has been developed in the 20th century as a result of rural migration, and later, the natural population growth. This population growth has been stimulated by the concentration of investments, services, large industrial projects, and education centers within the region, and has contributed to increase the density of the buildings and the streets of the city. There is contradictory data about the population growth of the city, GOPP estimated it to reach 16 million in the year 2000 (appendix 8). A study done by the UN estimated this number to be 18 million inhabitants by the year 2000. Raymond[296] has maintained that considering the decrease in the average natural population growth since the 1980s, the population for the year 2000 may reach only about 13 million[297].

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[295] GOPP, 1983, *Greater Cairo*.

[296] GOPP, 1983, *Greater Cairo*.
UN, 1990, *Population Growth and Policies in Mega-Cities*, Cairo, STE/ESA/SER.R/103
Raymond, Andre, *Le Caire*. p. 317.

[297] The population growth is also associated with economic problems which contributed to several problems in the Metropolis such as poverty, and housing, transport, health, and financial problems. Some examples of these are: living in cemeteries, building informal housing, air pollution from factories, workshops and traffic, lack of a publicly organized domestic solid waste disposal system, and inadequate infrastructure for sewage and waste
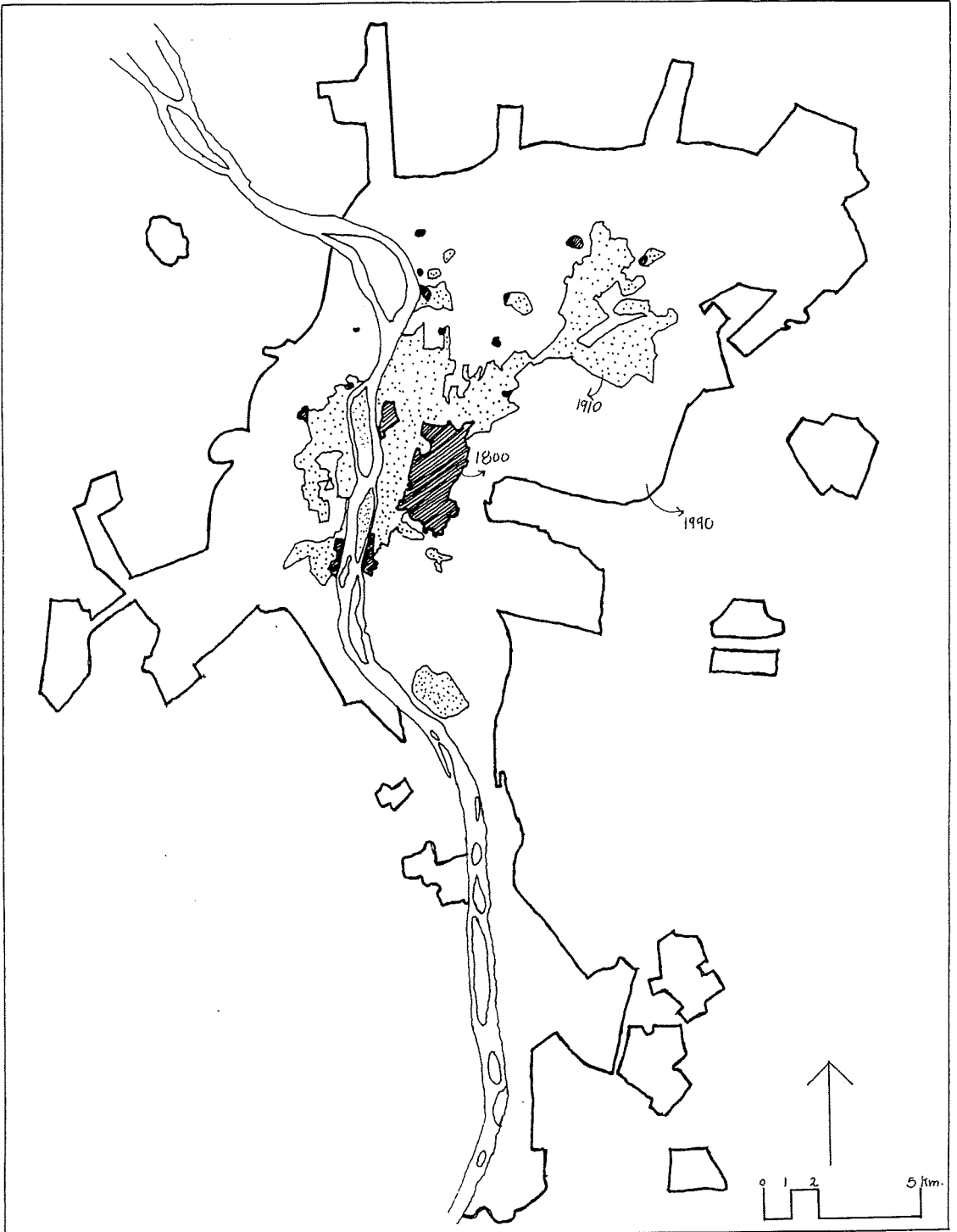
Fig. 4.24   *Expansion of Cairo 1800–1990.*

There are many authorities dealing with the urban development of Cairo. All are organized in the government's central structure and operating according to the government's central national policies.

Studies show that most of these authorities are facing large challenges from uncontrolled growth, lack of resources, and the rigidity of administration and the legislation, which contribute to frustrate their plans and working process[298].

Four major master plans have been made for Cairo since the plan of 1874, inspired by the Haussmann model[299].

On the other hand, the 1956 plan was developed according to English town and country planning principles[300]. Among its policies was to absorb rural migrants within the industrial suburbs which contributed to extend the built up area onto agricultural lands.

Between 1965–1970 another master plan was prepared and approved by Ministerial Decree in 1974. It continued many of the policies of the 1956 plan and adopted the policy of concentrated decentralization and large–scale projects based on large financial investments and central control.

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water.

A report of the UN shows that "Cairo is one of the world's most densely populated cities, with one of the lowest provisions of road space per capita and dramatic growth in the number of private vehicles".
UN, 1990, *Population Growth and Policies in Mega-Cities, Cairo,* ST/ESA/SER.R/103.

[298]Serageldin, Mona, *Planning and Institutional Mechanisms.* In Aga Khan Award, 1984, The Expanding Metropolis Coping with the Urban Growth of Cairo, Concept Media, Singapore. pp. 121-128.

See also two other papers in this book:
El-Daghestany, Aly, *Transport in Greater Cairo.*
Neamatalla, Mounir, *Urban Services Delivery.*

[299]See Part 4, the chapter: the street layout of *Isma'iliyyah*, in part 4.

[300]This was already practiced since planning Heliopolis in early 20th century. See chapter the street layout of Heliopolis, in part 4.

The existing Master plan adopted the plan of 1974 and was updated in 1983 according to the new National Urban Policy which adopted the policies of decentralization and privatization[301].

One of the common factors between these Master plans is dependence on Western models for planning policies and for derivation of rules and criteria for town planning and detailed design concepts.

The present Master Plan classifies the land use of Cairo into four categories[302]:

1. Residential areas.
2. Commercial areas.
3. Industrial areas.
4. Other areas, such as agriculture, public service, and recreation.

The different Master plans aimed to create local commercial and service areas for each large settlement to serve the local community and reduce the pressure on the town center, as for example with Heliopolis and Nasr City.

Despite these policies the pressure of the population growth and the economic activities have contributed to mix the commercial and residential functions in these areas. Even the buildings with one function such as residential, commercial, or religious are changing to combine two or more functions.

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[301]GOPP, 1983, *Greater Cairo Region,* Master Scheme.

[302]Law number 3, 1982, Ministry for Housing and Land Reclamation.
See also:
    GOPP, *Greater Cairo.* Chapters 1–5.
    Abu–Lughod, *Cairo.* p. 218.
    Kalifa & Muhieddin, 1988. *In The Metropolis Era.* Edited by Dogan, Mattei, SAGE, London. pp.235–265.

It is, however, possible to identify four basic categories of living environments. Each one has its order of street layout and character of street environments (appendix 9):

1. The old Islamic Cairo.
2. The city of the tombs.
3. The squatter settlements.
4. The formal settlements which have been built since the end of 19th century.

These settlements can be classified in different ways according to the involved factors such as: planning solutions, buildings design, socio-economic class, education level, population size and density[303].

On the other hand, the contemporary official classifications of the streets and their design depend on the type, speed, and amount of the traffic. According to this classification the street systems of the city are divided into three main categories of networks (appendix 10):

1. Primary network: The system of roads which are aimed primerly to serve high speed and high volume traffic (70-90) km/h.
2. Secondary network: The roads for medium speed traffic 50 km/h.
3. Tertiary network: The local streets and under standard streets. It has roads for low traffic 20km/h.

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[303]Note that it is common to include informal constructions in these areas too. For example, new floors added to existing buildings without permission, and changing the parking places of the buildings to offices or residential apartments.

See also: Rageh, Abou-Zeid, *The Changing Pattern of Housing in Cairo*. A paper in Aga Khan Award for Architecture, 1984, The Expanding Metropolis Coping with the Urban Growth of Cairo, Concept Media, Singapore. pp. 133-140.

2.5. *al-Fina'* in contemporary building codes

The town planning authorities have developed some basic principles to design and use *al-fina*[304]:

1. *Tariq 'A'm* (public road): A parcel of land owned by the government and used as a public thoroughfare to reach dwelling places or working areas.

2. *Tariq kha's* (private road): A parcel of land owned by private persons and used by one or several persons as access to their buildings with at least one of the buildings not connected to the public road.

3. *Hadd al-tariq* (road boundary): The line which defines the width of the road between its two edges, valid for both the public and private roads.

4. *Khat al-tandim* (regulation line): The line which divides the private properties and the public areas.

5. *Khat al-bina'* (building line): The line which defines the construction line, whether it is located on the regulation line, the road boundary, or beyond them, according to the official regulation.

6. *al-Fina'*: A private or common open space which can contain projections and openings. It includes the following types:

A. *Fina' Khariji* (outer *fina'*, or street *fina'*): An open space along a building connected from at least one side with the space of the street.
B. *Fina' dakhili*: An open space located inside a building.
C. *Fina' mushtarak*: An open common space between two or more neighbors.

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[304]About the municipal legislation see: Ministry of Housing and Land Reclamation, Law number 66, 1956. Law number 33, 1957. Law number 106, 1976. Law number 3, 1982. Law number 129, 1982.

The rules permit making projections in the *fina'* of the street but its depth should not exceed 3 meters, and should allow at least 3 meters open space from the ground to the projection. *Al-fina'* can also be extended into the buildings for lighting and ventilation.

The people can use the *fina'* as private passage if its width is not less than the official codes, but this requires the authority's permission.

Generally people are not allowed to occupy the sidewalk or the street, yet for temporary periods or particular uses it can be allowed for a short time and after permission of the authorities. But even then, it is not allowed to block the traffic or the pedestrians.

The shops are allowed to occupy 20% of the sidewalk's width to extend their windows, but this is not to exceed o.4 meter. This extension should be used as benches for selling, yet the authority has the right to ban such projections.

The mobile vendors should have work permission from the authorities classifying them as mobile vendors, and can thus occupy parts of the sidewalk. They are only allowed to use sidewalks which are 3 meters wide or more. The size of their kiosk should not exceed 1 meter wide, 1.5 meters deep, and 2.2 meters high. The kiosk should leave at least 1.5 meters of the sidewalk for the pedestrian access[305].

These rules show that the term *al-fina'* is considered by the central authority. But they have limited the concept of *al-fina'*

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[305]See also:
Al-Shawarbi, Abd al-Hamid, 1988, *Tashri'a't al-Baladiyyah*, Dar al-Matbu'at al-Baladiyyah, Alexandria.
Ministry of Housing and Land reclamation, 1992, Law number 106 of 1976, Cairo.
Ministry of housing and Land Reclamation, 1992, Law number 3 of 1982, Cairo.

by considering it as a private area located only inside the boundary of the private properties, while the sidewalk and the roadway are considered to be owned by the city authority and regulated by its rules. According to this policy, organizing of all applications of *al-fina'* is done by standard rules that all users should follow rather than adjustable judgements as it was the case in old Islamic period.

In common practice however, the owners of the properties consider the sidewalk as a continuous part of their *fina'*, and apply different types of settings in both areas to create the traditional domain of *al-fina'* regardless of the formal rules. This phenomena is repeated in the different types of street environments with different ways and settings.

2.6. *Al-fina'* in the present streets

Although most of the streets have combined functions (commercial and residential), the case study has divided these streets into two categories according to the dominant activity (commercial or residential) in the ground floor of the buildings along the street.

The case studies were done in the eastern side of the city. Four areas were chosen depending on the age of the area and the developmental process of *al-fina'*. The four areas cover Islamic Cairo, *'Abba'siyyah*, central part of Heliopolis (oldest part of Heliopolis), and *Alma'zah* (a new part of Heliopolis). The four areas show different design solutions, social-economic class, and amount of traffic. The aim is to show how the concept of *al-fina'* is returning in the different street environments despite their differences. This will involve:

1. Showing the elements of *al-fina'* have been modified.
2. Identifying some basic settings created and developed by people in the spaces of *al-fina'* of the different streets.
3. Showing how these settings of *al-fina'* constitute the organic character of the street environment.
4. Showing that social and economic benefits of these settings for the users.

In the following chapters I will give only a summary of these case studies. The details will appear in the next chapter following the summary. The complete description and drawings of the streets will appear in Appendix 11.

2.6.1. *Al-fina'* **of the Commercial Streets: Modification of the existing settings and creation of new settings**

In the streets of *al-Na'hasin*, *al-Mu'iz*, *al-Muski*, *'Abdah*, *Ramsis*, *Ahra'm*, and *Ibra'him* (figures 4.25-4.38) where the shops are the basic part of the ground floor the streets, various modifications are done in the existing street environments which influence character of *al-fina'* such as:

1. Removing old building and building new and higher buildings which contain shops in one or more floors and offices in the higher floors.
2. Building in front gardens or rebuilding existing buildings by adding new floors, or changing the rooms of the apartments to shops.
3. Building kiosks on the sidewalks.
4. Occupying the sidewalk by mobile vendors.
5. Constructing flowerbeds on the sidewalks.
6. Using awnings.
7. Placing signs of different types on sidewalks and elevations.
8. Changing pavements of the sidewalk.

On the other hand, many settings have been developed on the sidewalk and the inner spaces adjacent to the sidewalk by the owners and the users. These settings can be identified according to their basic functions as following (figures 4.26, 4.28, 4.30, 4.32, 4.34, 4.36, 4.38):

Social and economic staying settings:

They involve sitting and standing with long or short duration. The settings which have been created for these uses are:

1. **Staying places of the shops**: The case studies have documented that the shop owner shows a strong desire to occupy the sidewalk and/or change its related elements. This sidewalk provides the shopkeepers with *social, economic and climate benefits*.

The shopkeepers place their goods on the sidewalk and thus get a larger space to offer their goods. The customers can see, touch, and/or smell these goods directly in the street without being separated by the windows.

On the other hand, they sit on the sidewalk to watch their goods and talk directly with the clients in the street. They also benefit from the climate (low temperature and wind), of the street and from participation in the social life of the street.

Most of the shop owners who were interviewed explained that their action of occupying the sidewalk generates a direct contact between inner space and street space which stimulates direct human contact with neighbors, customers, and pedestrians in general. One of the shop owners justified occupying the sidewalk in this way:

> Here I can see and talk with people, invite a friend or a neighbor to spend good time together, and sell my goods easily. Isn't being with people better than spending the whole day inside a box!

Such expression reflects a strong desire to experience all the living events of the street environment. Therefore, they are not isolated in the shop, but integrated in an open living space. *Thus, the market activity of the shops is not only based on commercial relationships between sellers and customers but also combined with social relationships and human feelings.*

In some large shops which have windows dividing the inner space of the shops and the sidewalk, often the shopkeeper goes out of his shop and stands on the sidewalk watching the street or talking with his neighbors. Some of them move their sitting place to beside the window to keep contact with the street life and avoid isolation in the shop.

The inhabitants who live in apartments in the upper storeys often work in the shops or have strong social ties with the shopkeepers. They can visit them and sit on the sidewalk for an hour or more while the children often play in the roadway and the sidewalk of the side streets which have less traffic and economic activity.

2. Staying places of the coffee shops. These are important gathering places in the street. Most of these shops are small and opened toward the street. They occupy the sidewalk during the day and often until late in the night. The sound and the smell originating from these shops can be heard and smelt by the pedestrians and other users of the street.

When there is a football game, one can see the whole sidewalk in front of the shop and part of the roadway crowded by people watching the game on TV. I asked one of young boys there why he did not watch this game on the TV at home, and he answered:

> Why should I miss all this warm action here! At home I can only hear myself. Here, I have fun with people.

People come to these shops alone or in groups, and sit, play, drink, smoke, talk, hear music or watch TV. Therefore, the coffee shop represents the most popular place for men who want to spend time with friends.

3. Staying places of the food shops. These are another public gathering place in the street. They are small and often locate a mobile kitchen and a few chairs on the sidewalk. The people gather on the sidewalk in front of these shops and even on the street. They stay and spend their time there eating fast food and meeting friends where they talk and watch the street life. Some shops also construct flowerbeds on the sidewalk as decorative elements and to provide shade for their part of the sidewalk.

Most of the shop owners in these streets have paved their part of the sidewalk as an individual decision independent from their neighbors. Therefore, every one has used different materials, and colors. This is done to make the shops attractive for the people and to indicate the continuity of the inner space of the shops with the sidewalk as one domain. The pavements in front of the respective shops do not normally even have the same level but are lower or higher in relation to their neighbors. This makes walking along the sidewalk tiresome for pedestrians especially for the old people and is another factor pushing the pedestrian to use the roadway.

4. Staying places of the mobile vendors.

Mobile vendors occupy the sidewalk in different ways. First as permanent kiosks which should have the official dimensions of 1x1.5x2.2 meter and allow for at least a 1.5 meter width of the sidewalk for the passage of pedestrians. But many of them do not follow these rules. The second type is the mobile carriages which move from place to place and occupy the sidewalk temporarily. The third type is sellers who simply place their goods on the sidewalk and may occupy the sidewalk for a short time or use it permanently.

According to the authority's rules, the mobile vendors should have permission from the authorities. In many cases they only receive permission from the neighbors. This is common in the low and middle social class areas, and thus neighbors show solidarity with these poor inhabitants and give them permission to use their sidewalks permanently or temporarily for such small businesses.

On the other hand, despite the growing amount of traffic the people continue to use the sidewalk as a living space for commercial and social activities. This involves the people along both sides of the street. The people's response to the traffic shows that their behavior or the place of their activities has not changed, but they are adapting to the traffic in their street life.

Because the sidewalk of most streets is occupied by the shopkeepers and the owner of the buildings, the pedestrian must either walk in the remaining space of the sidewalk or use the roadway. Therefore, the pedestrians and the motor vehicles are mixed on the roadway itself.

5. Religious settings

The people created different settings in *al-fina'* with religious and spiritual functions. The study documented three basic types of constructions:

The traditional *sabils* (fountains) have been abandoned because their function as the main source of water supply for the population has been replaced by pipes. Despite this, in the Islamic Cairo many people still put jars or boxes out in the sidewalk to function as a *sabil* (fountain) and provide water for the pedestrian. In some streets of Heliopolis, a few jars are also put in the sidewalk.

People stop there for a short while to drink or it might be part of a small coffee shop and then people will also stay there. In old Cairo the traditional fountains have places for sitting. Therefore, they attract social and economic activities.

Mosques (*masjid and jami'*) and praying places (*mussalla*): The mosques are important staying places in the street for short and long duration. The prayers five times a day make these places used during the day. It is common to pray in the front garden, front yard, and sidewalk in front of the mosques when the indoor space is filled with worshippers.

Praying place (*mussalla*) is a small room in a building open to the street and used for praying. It functions as a local mosque and is often built by the inhabitants of the street neighbourhood. If the room is filled by people they will use the sidewalk in front of the *mussalla'*.

2.6.2 *Al-Fina'* of the residential streets: Modifications of the existing settings and creation of the new settings

In the streets of *al-Thawrah, al-Ma'zah*, and *Hasan Aflatun* (figures 4.39-4.44) where the ground floors of the buildings are basically residential, the sidewalk is also occupied and its related elements are modified and many settings have been created by the owners for different purposes.

(a) Changing pavements of the sidewalks in front of each particular property.

(b) Removing fences and walls of the buildings.

(c) Building new fences and walls to divide the property from the sidewalk space.

(d) Constructing flowerbeds and gardens on the sidewalk.

(e) Changing some rooms to shops, offices, and praying places.

(f) Opening new entrances.

(g) Rebuilding the balconies to rooms.

(h) Opening new windows or changing existing windows.

(i) Rebuilding the old buildings or building new buildings in front gardens.

(j) Using new materials and colors for elevations.

(k) Building kiosks on the sidewalk.

These modifications are made to create new character or to create new settings for different functions (figures 4.40, 4.42, 4.44). The basic created settings are:

Settings of staying activities:

The staying setting in the residential streets are often created for sitting, standing, and playing. They are located in front of entrances, front gardens, and balconies.

1. Most of the buildings have **one entrance** common for all apartments of the building, and it is guarded by a doorkeeper *(baw'ab)* who also takes care of the plants, and cleans the sidewalk. He often sits on a bench in front of the entrance watching the street life. The doorkeeper of the neighboring

buildings often visit each other and sit together on the sidewalk
in front of one of the buildings. They know all the inhabitants
of their street and keep an eye on strangers.

Some owners make an entrance to their apartments by opening
a door in their rooms. This enables them to have a private
entrance from the street and to avoid using the common entrance.

2. Most of the buildings have front **gardens** in their *fina'* with
or without *fences*. The fences vary between low to high walls. The
front gardens which have walls dividing from the sidewalk to
avoid the gaze from the pedestrian in the street might be used
by owners for sitting. Front gardens without fences or walls are
often not used for sitting by owners but only by guards.

3. The inhabitants occupy their sidewalk to make **gardens, and
flowerbeds**. Others use the whole sidewalk in front of their
properties as **parking places**. These settings exist mainly in the
high and middle social class areas of Heliopolis.

One of the inhabitants defended occupying the sidewalk and
making gardens as following:

> Well, one can smell all this nice smell and see beautiful
> flowers. The pedestrians still have some space here, and you know
> they can also walk in the roadway!

Creating these settings is often associated with paving the
sidewalk, but everyone uses different materials and levels of
pavement. This contribute to the sidewalk being divided into
different levels and makes it difficult for pedestrians to walk.
This individual construction of the pavement contributes also to
make the sidewalk in front of each building as a part of the
private territory of the particular property.

4. The balconies are often not used as sitting places but are
abandoned or used as storage. Their use is limited to the summer

season particularly in evenings.It is common to put curtains or build walls around the balcony either to extend the inner living spaces, to avoid the gaze from the pedestrian and the neighbors, and/or to shade it.

Because all the buildings use modern design, indoor spaces are directly connected with public spaces through windows. Most of the *windows* are large, yet those located on the ground floor are often covered by curtains to veil the inner private space from the public pedestrian in the street.

The high and high-middle social class consider staying activities in the space of the street as unacceptable behavior that belongs to the low social classes. They consider the most important function of the sidewalk as not social but as a parking place or a green area to decorate their buildings, provide shade, reduce temperature, and to smell the plants or the flowers. *Thus the existence of front gardens along the street is not decisive in creating staying activities for the adults on the sidewalk.*

The adults often don't use the residential street for their staying activities. The men either meet their friends at **home** or in other public places, particularly **coffee shops** and **clubs** and public parks. The women often use the **home** and partly **clubs** and **public parks** to meet each other.

The children use both the sidewalk and the roadway as their playground. Most families ask the doorkeeper *(bawwab)* to watch the children on the sidewalk. In a few areas young boys use the sidewalk for sitting, and the roadway as the play area particularly for football.

5. Different types of **shops, kiosks, and mobile vendors** locate in these streets and serve as community gathering places. They occupy the sidewalk in a similar way as with the commercial streets. The shop owners sit close to or on the sidewalk in front of the shop. They place their goods there too. Often the rooms

of the apartments are changed into shops by the owner of the apartments to make more income.

The different settings constructed on the sidewalk often block the access and push the pedestrian into the roadway, occupying the space of the roadway between the traffic and the parking places. This phenomenon is common in most internal streets of the residential areas.

6. The Religious settings in residential streets

The people constructed some new mosques or praying places along the streets of the same neighbourhood area to reflect their belief and meet the demand for new praying places. This is done either by building new mosques or changing existing shop, a room, or an apartment to a praying place for the local community. It contributes to support the continuity and spread of the spiritual experiences of Islam in the streets of each particular community.

2.6.3. Meanings of *al-fina'*

The case studies show that creation of the settings in the street environment aims to gain social and religious meanings which had been abandoned in the present designed street environments.

Here, these spiritual meanings can be experienced by the human senses and activities[306]. They are manifested in the built environment in two basic ways: *first by the design elements of the settings* such as the mosque, mussalla' (praying room), hanging Qura'nic verses, and fountains *(sabil). Second, by human behavior and activities* such as praying or reading the Qura'n.

Building the different religious structures along the streets by the people symbolizes their belief, and the desire to mix everyday street life with their religious and spiritual meanings.

The official design and rules are concerned with issues related to abstract aspects such as buildings height, sidewalk dimension, function of the buildings, and so forth. When a person walks in a new designed street such as Hasan Afla'tun in Heliopolis, he will find tall apartment buildings and shops. Their original plan was not concerned with any sort of spiritual meanings in the street life.

The case study shows that modification of these streets and creation of new settings is a response to fill this gap, but each particular social class and street function shows a different response.

Using jars in the street is an attempt by the users to create spiritually meaningful substitutes for *sabils* (fountains). The mosque has a unique role to effect the constitution of Islamic meanings in the street, not because of its design

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[306]See part 4:The case of *al-fina'* in Cairo.

patterns only but also because it keeps direct contact between the people in the street and Islam. These effects are basically from reading the Qur'an and the calls for prayer which can be heard daily by all the people in the street.

Most of the shops hang **Qur'anic Verses or the Prophet's Sayings** in front of their shops or/and inside their shops. Their intention with these Verses and Sayings is to be blessed, to reflect their belief in Islam, publicly in the street as their identity, and to remind other people in the street about Islam.

On the other hand, the social meanings also sometimes dominate some settings of *al-fina'*. Removal of windows from the shops and sitting on the sidewalk is not only done to make economic profit but also to communicate with outdoor space. For a shopkeeper, the sidewalk is not only a public space, but also his private domain. It helps him to be involved in the public street life. He often puts his chair on the sidewalk at the same location every day. He considers this place as perfect to provide him with the possibility to look after his shop and demonstrate his role as a member in the community of the street. He invites his friends to sit close to him on the sidewalk where they stay for a long time doing various activities such as talking, relaxing, eating, smoking and playing.

The case study shows that such settings are created mainly in Islamic Cairo and *'Abba'siyyah* which have residential and commercial functions and are populated with low and middle social classes. The residential streets of the high social class have fewer settings which are created for social or religious activities and meanings. The high social classes often reflect their modern lifestyle in the applications of *al-fina'*.

The major forces behind creating such settings in low and middle social classes are related to high population density in the apartments which reduces the available indoor spaces, limited family economy which reduces family members' possibilities to

choose other place to spend their time, having strong social network among the residents that supports their desire to establish personal interactions in the street space, and continuity of the traditional way of life and the traditional local knowledge.

2.6.4. Users' interpretations and judgements in *al-fina'*

The preceding section shows that *present modifying processes and the resultant street character reflects the continuity of the concept of al-fina' in the present street environment*[307].

Although pedestrians are forced outwards or off the sidewalk and use the roadway as a passage, the people claim that their occupation of *al-fina'* does not block the street as long as there is enough space left in the roadway. This response was the same in the Islamic period and this behavior was permitted by the common tradition *(urf)*. According to Islamic law one should leave enough space between building to guarantee the function of the street as a path[308]. Although official codes clearly emphasize that pedestrian should use only sidewalks for walking and driveway for crossing, the people define **enough space** of the pedestrian not only in the sidewalk but include also the driveway as an additional walking space.

The various people interviewed had a common complaint about absence of the traditional meanings in their built environment. A lawyer said that:

> At the present, we can not be at home without being observed from the street or by other neighbours. One has to close the windows constantly by curtains to create real privacy, but I wonder why designers insist that these solutions are best and ignore our need for such traditional values in the built environment!

The created settings help to create the domain where the inhabitants traditional **way of life** can be practiced. In this way, they generate a generally effective process in the built environment including the designed environment of the sidewalk, social activities, and meanings.

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[307]See character *Al-fina'* in the commercial and residential streets of Cairo in the preceding chapter.

[308]See part 2 the chapter: Utilization's rights-The right of passage *(haq al-murur)*.

An owner of a building in *Alma'zah* street turned one of the apartments into a praying place. I asked him why he did that and he answered:

> There was no mosque close to us. We had to walk a long way to get there. Further we need to hear the sound of the call for praying and blessing of our neighbourhood. I suggested to my neighbours the idea of building a praying place in our street. All of them agreed and participated in the project with work or money.

During the case study, it became evident that *many shop owners who paved their sidewalk were stimulated to do so by their neighbors*. This was also the condition in the residential streets where the owners paved their sidewalk and constructed flowerbeds.

This can also explain how an act and its setting can be created by individuals and then become a common tradition when the people become satisfied with their benefits. This act is then interpreted and transferred by a learning process from one generation to another, which contributes to the continuity of the tradition of the setting.

All examples of the case study show that modifying process and creating new settings are continuous, frequent and rapid. It was common that during the study period between 1992–1995 many registered settings and modified element changed, disappeared or were replaced by new one. It was also common that a setting which had been created in small areas had been spread over the whole street within the study period.

The study documented that in the new built area along Hasan *Afla'tun* street the process of modification and creating settings started short time after the people moved into the area. This process increased over time until the whole sidewalk acquired a new character.

In the oldest streets such as in Islamic Cairo and *'Abba'siyyah*, and *Ramsis*, the process went on the same way.

Modern streets which were built in the last 20–30 years, such as *Alma'zah* and *Thawrah* street, had reached a new stable condition after being through the process of modification and creating settings, but the process still continues with less speed.

The modifying process and creating settings are influenced basically by the following forces:

(a) Rapid population growth.
(b) Changing owners of the properties.
(c) Increasing commercial competition.
(d) Increasing price of the land.
(e) Poverty.
(f) Lifestyle.
(g) Need for small shops of different trades and products in each street rather than concentrating in the neighbourhood center.
(h) Continuity of the traditional way of life and thinking.
(i) Climate.
(j) Increasing number of the cars without having enough parking places.
(k) The existing buildings and public open spaces are not enough for people and their uses, and/or their design and contents do not meet their needs and desires.

The low and middle social classes show a strong desire to have direct human interaction in the space of the street. This relationship is based on daily contact in different ways such as saying hello, talking, visiting, playing, and eating together in the sidewalk area. For this purpose, they modify the sidewalk and parts of the buildings adjacent to the sidewalk in order to create the required space character for their activities.

All these activities are performed in the street regardless of the traffic or the street design. These last forces did not restrict the people or push them to abandon and/or move the location of the social activities from their streets. They simply live with the traffic and continue with their activities in the street anyway.

This is an important phenomenon because it opposes the argument by many scholars that intense motor traffic and the street dimensions[309] contribute to reduce the social life in the street or encourage a change in the location of the indoor activities.

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[309]See:
  Appleyard, Donald, 1981, *The Livable Streets*.
  Gehl, Jan, *Soft Edges in Residential Streets*.

2.6.5. Illustrating *al-fina'* in ten streets of the case study.

In the following chapter is shown details of street sections, photos, and settings from the following streets:

1. *al-Naha'sin* street.
2. *al-Mu'iz* street.
3. *al-Muski* street.
4. *'Abdah* street.
5. *Ramsis* street.
6. *Ahra'm* street.
7. *Ibra'him* street.
8. *al-Thawrah* street.
9. *Alma'zah* street.
10. *Hasan Afla'tun* street.
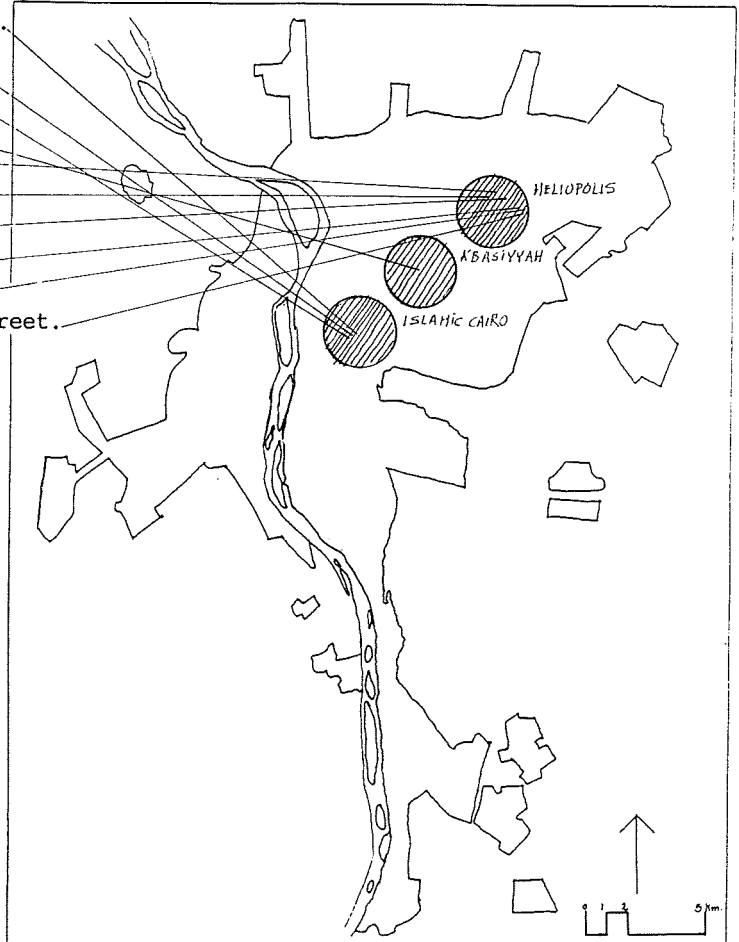
Detailed drawing and information of each street are given in appendix 11.

LEGEND

░░░	PEDESTRIAN
▭	CAR
✻	TREES
✾	FLOWERBEDS
▦	DISPLAYING BENCH OR TABLE
▦	SITTING PEOPLE
▦	KIOSKS
▦	GARDEN
⬡	DRINKING WATER IN JARS

0   5   10   20m
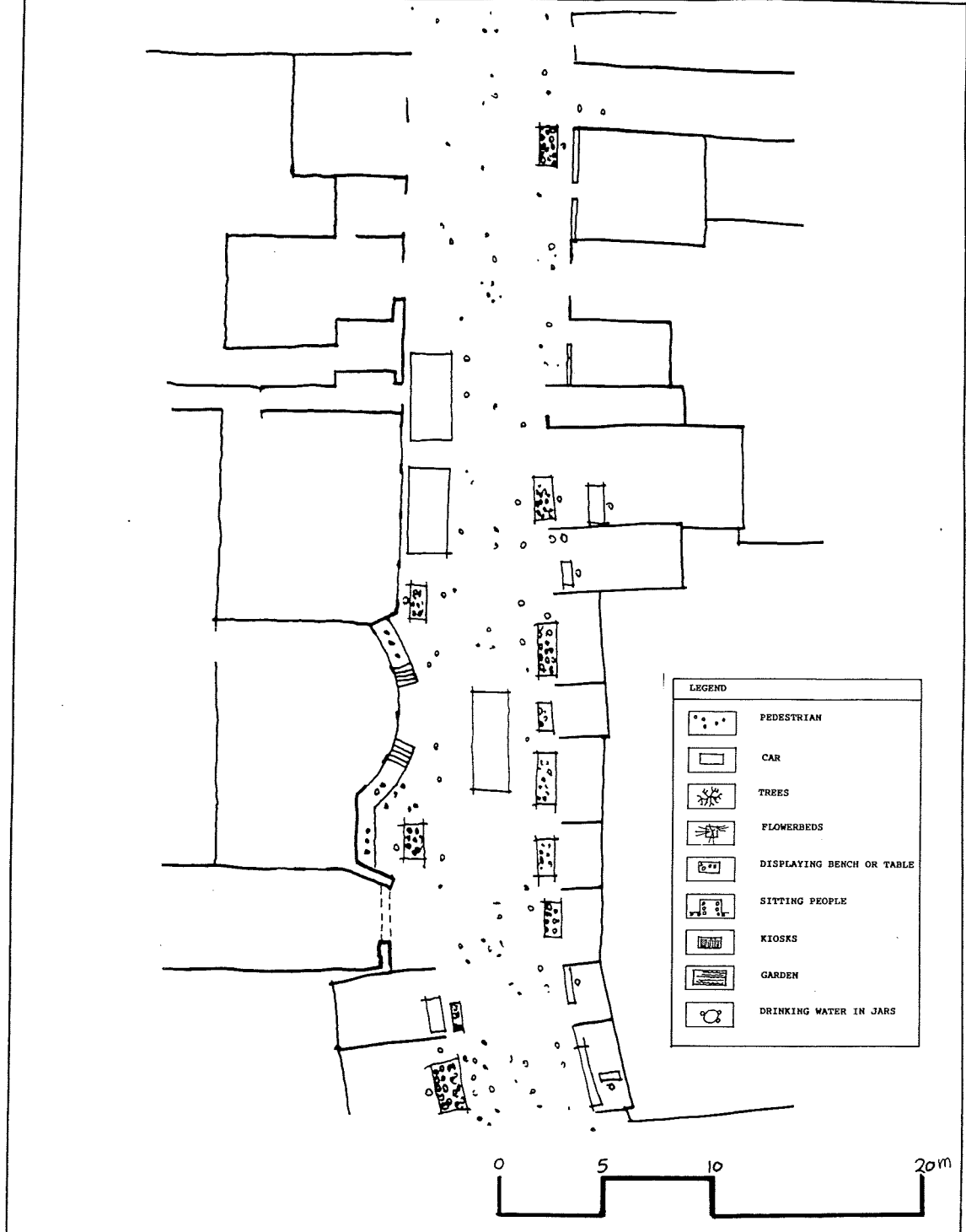
Fig. 4.25   *Street of al-Naha'sin.*

SITTING STAYING   WALKING   DISPLAYING

OUTDOOR

STREET LIFE

FINA' ACTIVITIES   INDOOR
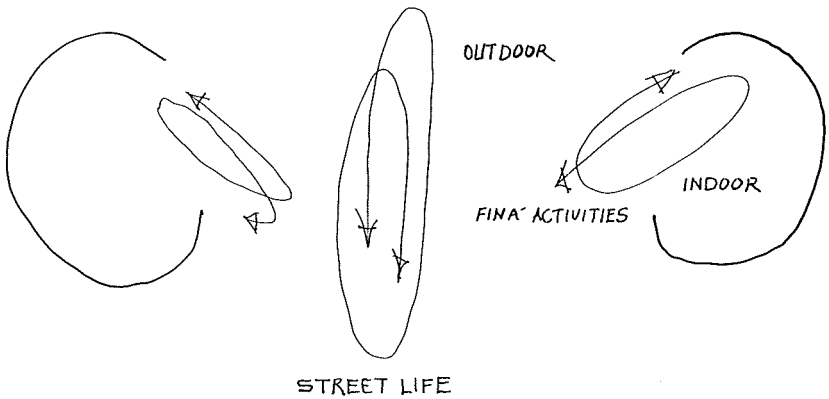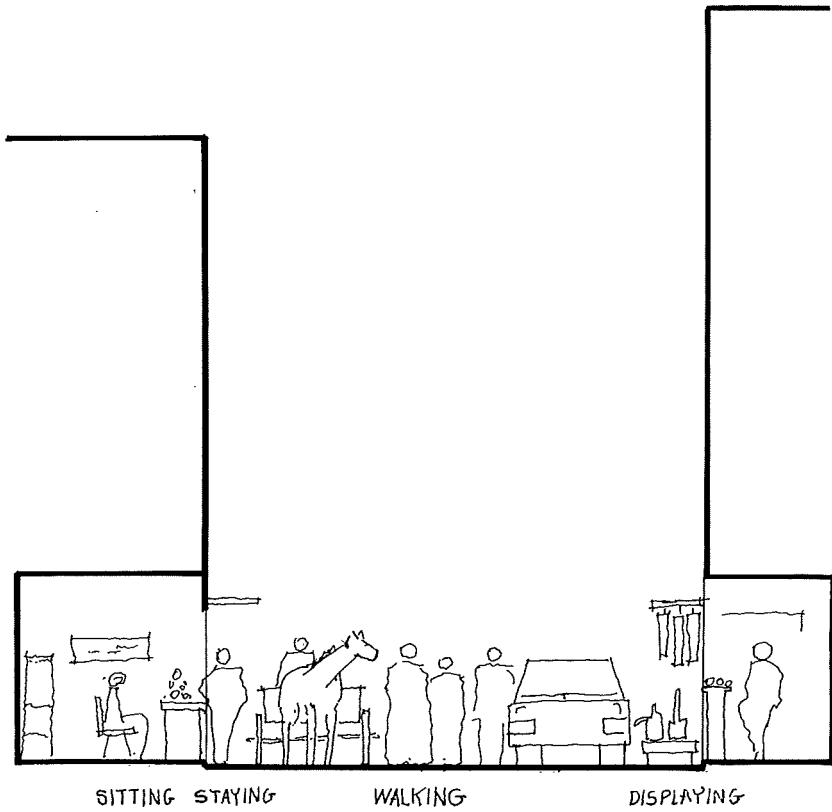
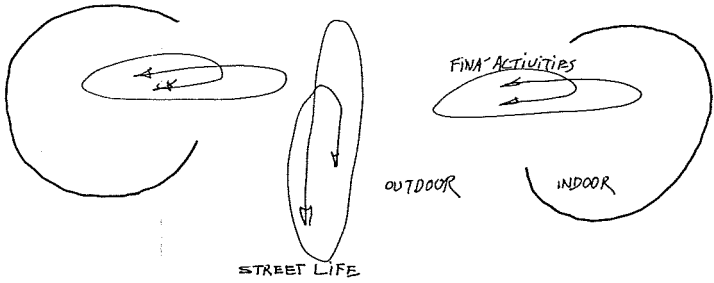Typical section of *al-Naha'sin* street.

Fig. 4.26   *Settings of al-Naha'sin street.*
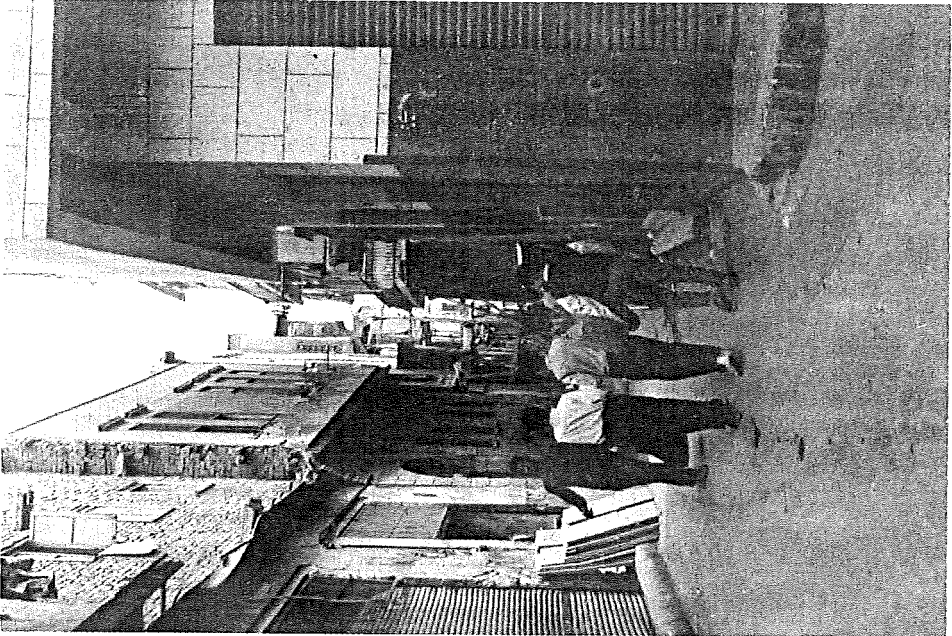
Settings of al-Naha'sin street.
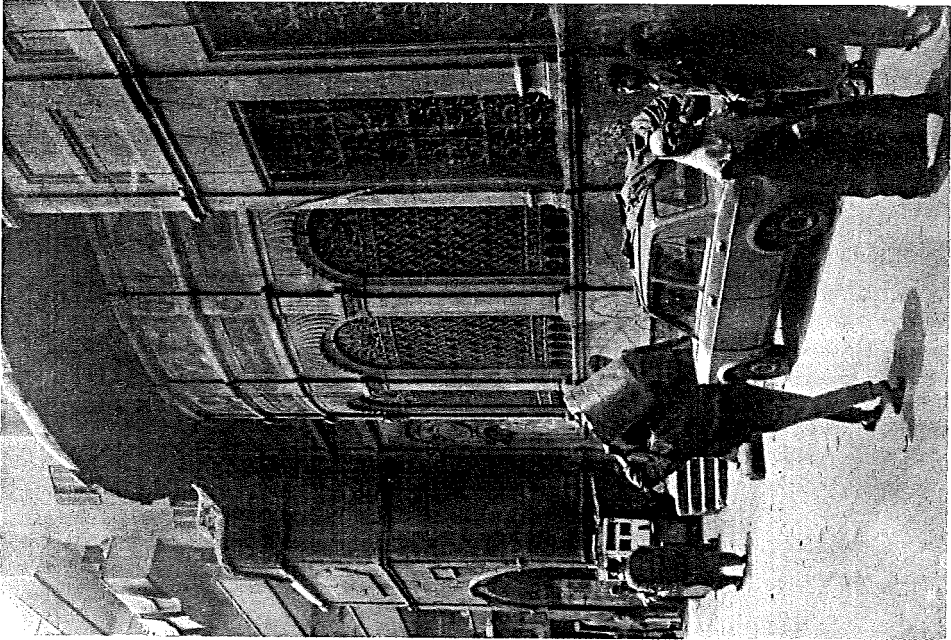
Settings of al-Naha'sin street.
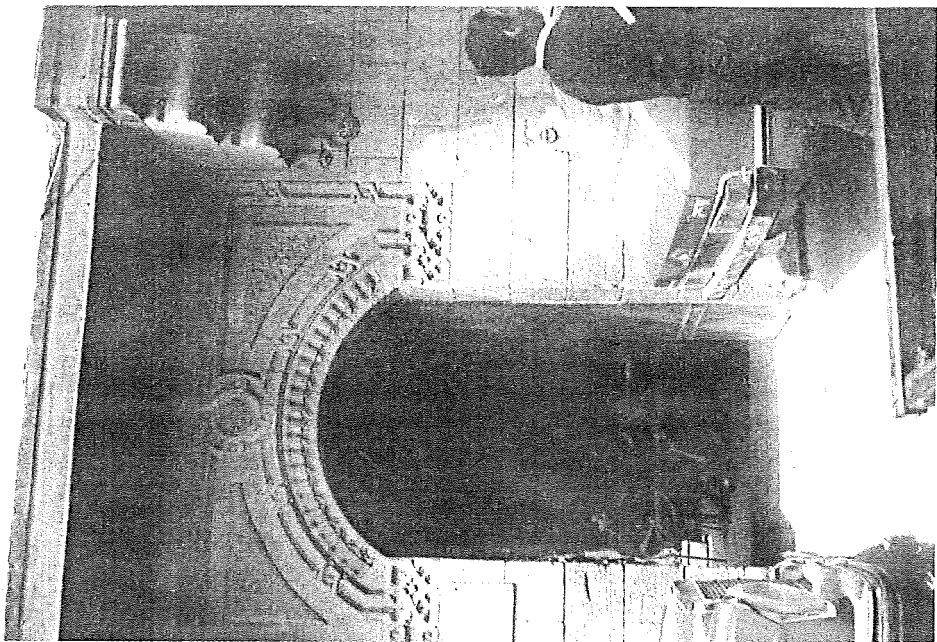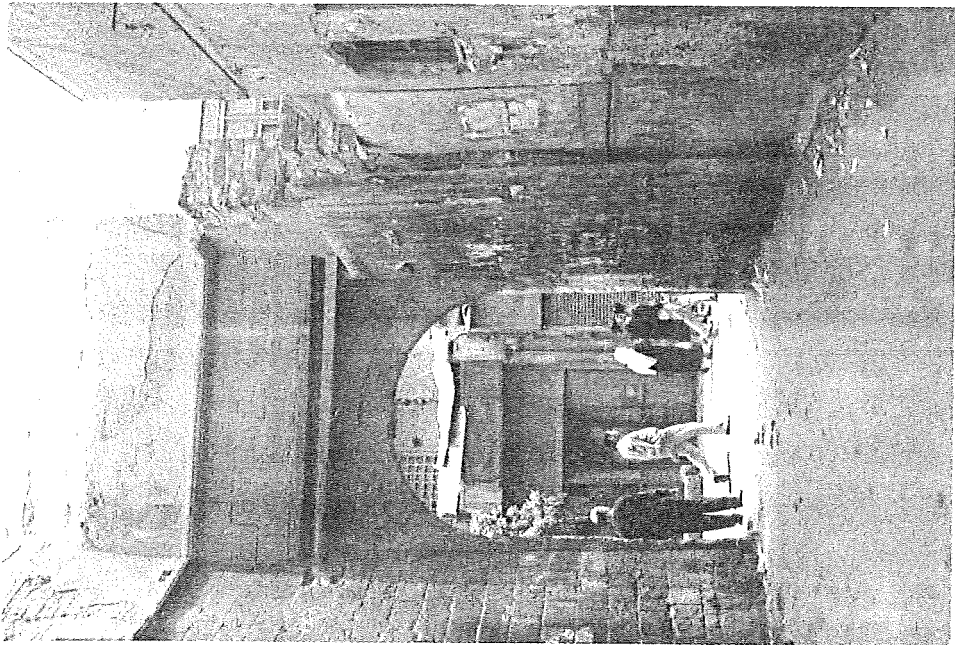
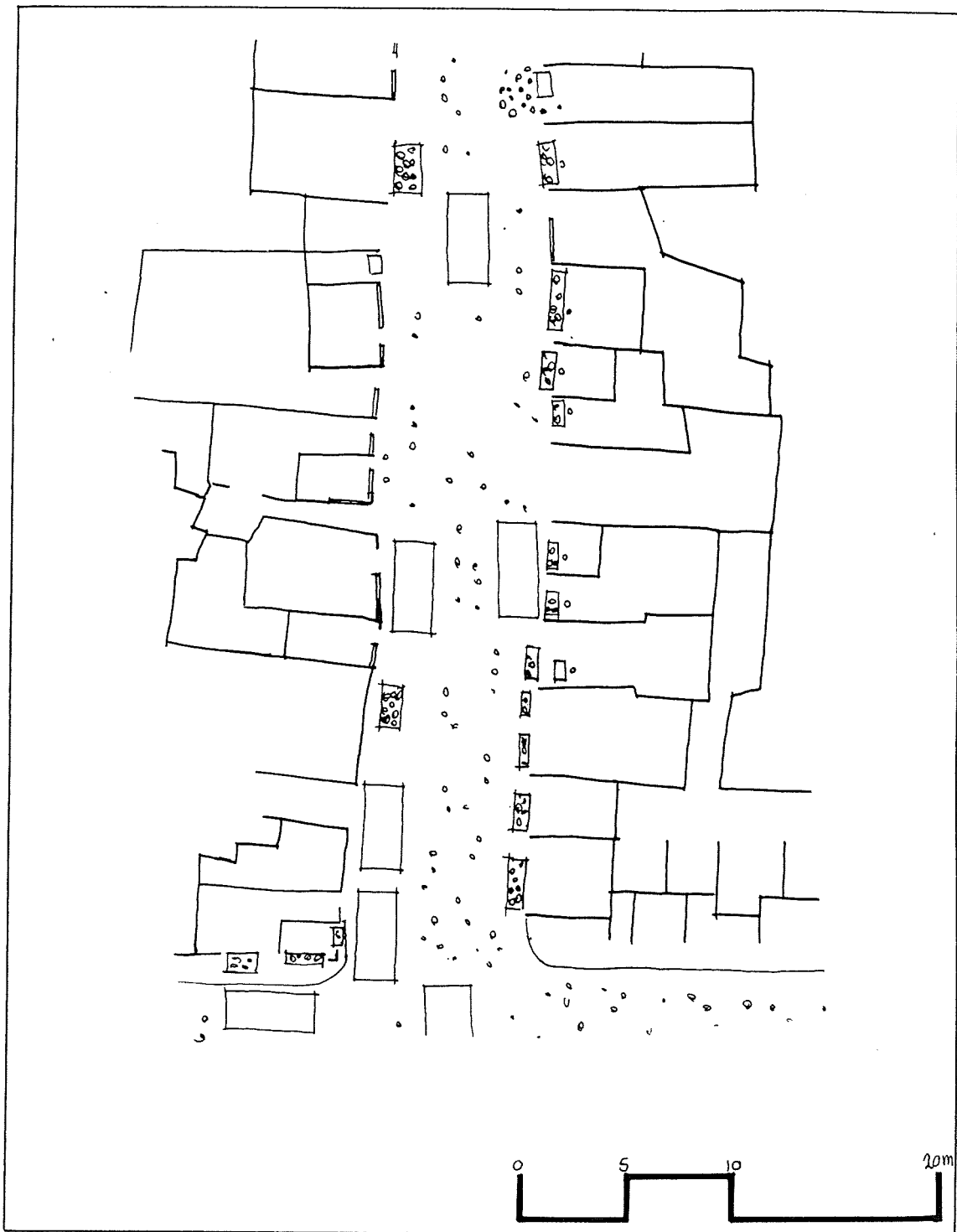Settings of al-Naha'sin street.
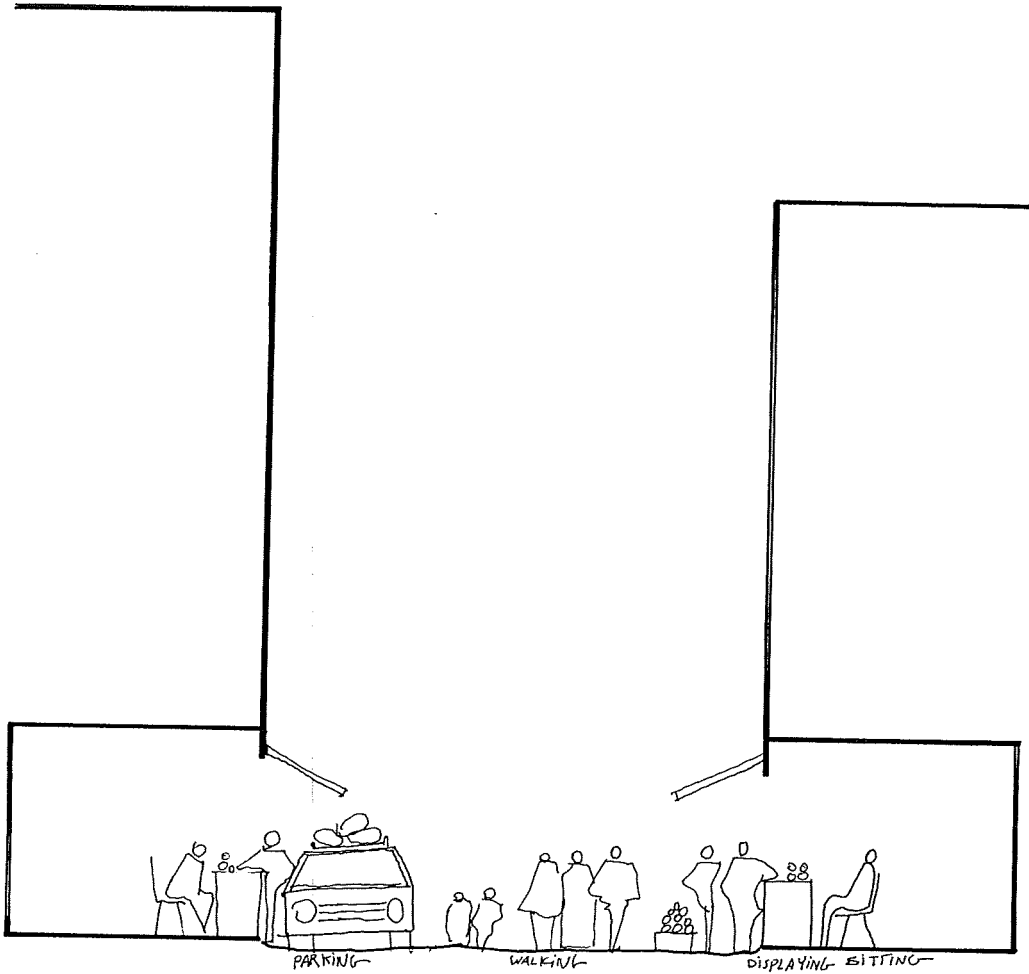
Typical section of *al-Mu'iz* street.
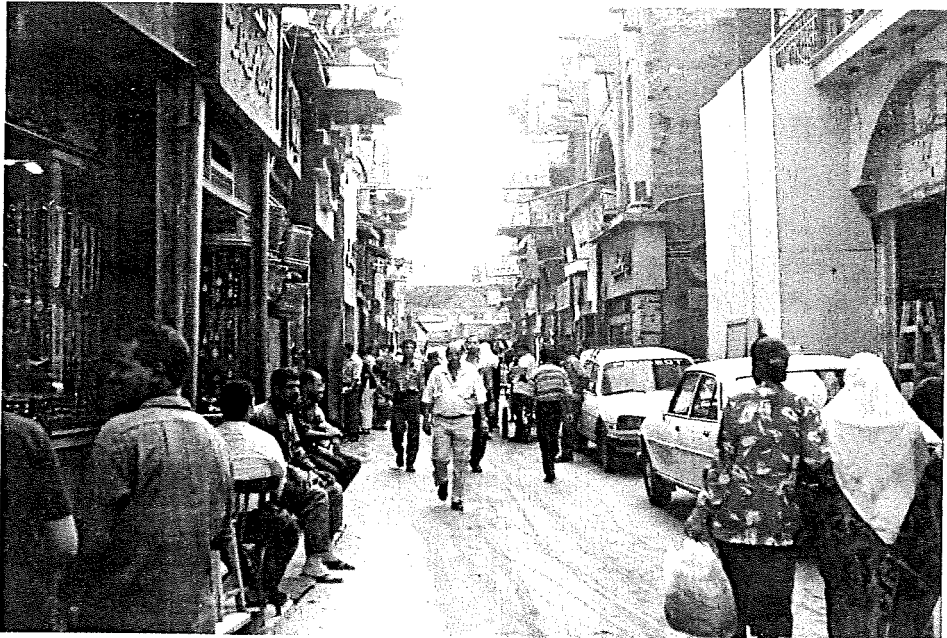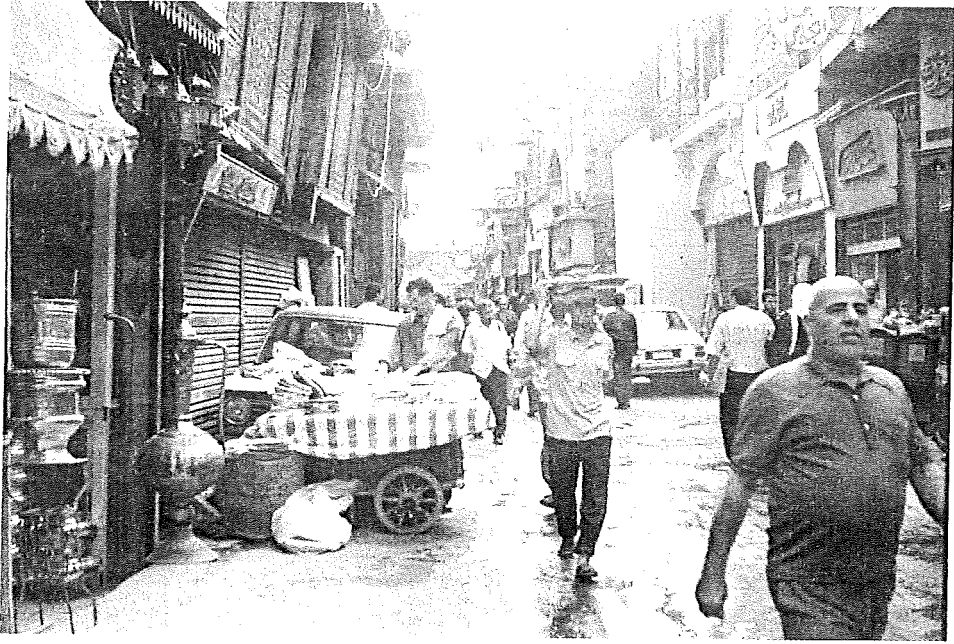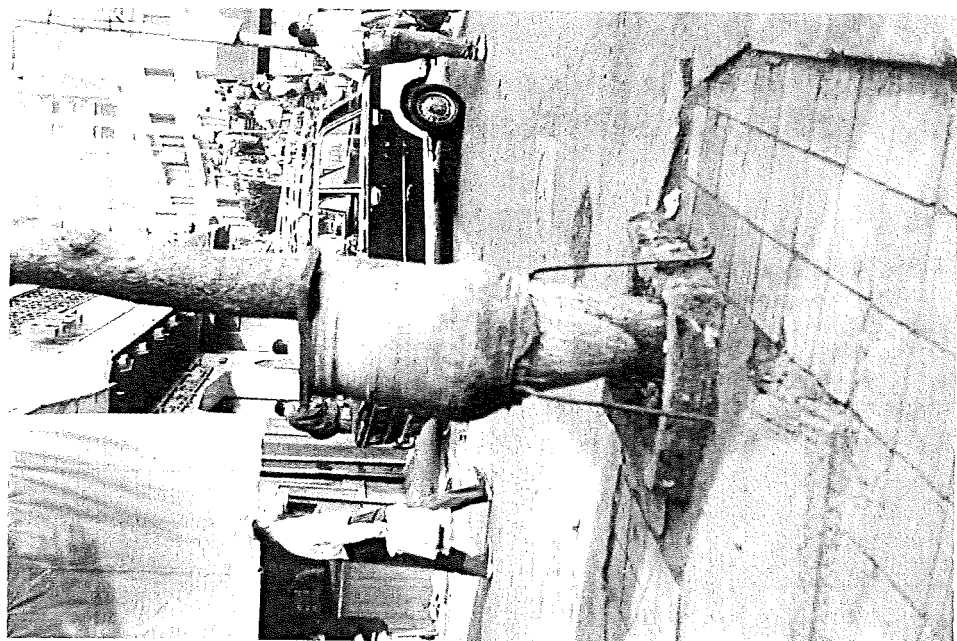
Fig. 4.27   Street of al-Mu'iz.

Fig. 4.28   *Settings of al-Mu'iz street.*

Settings of al–Mu'iz street.
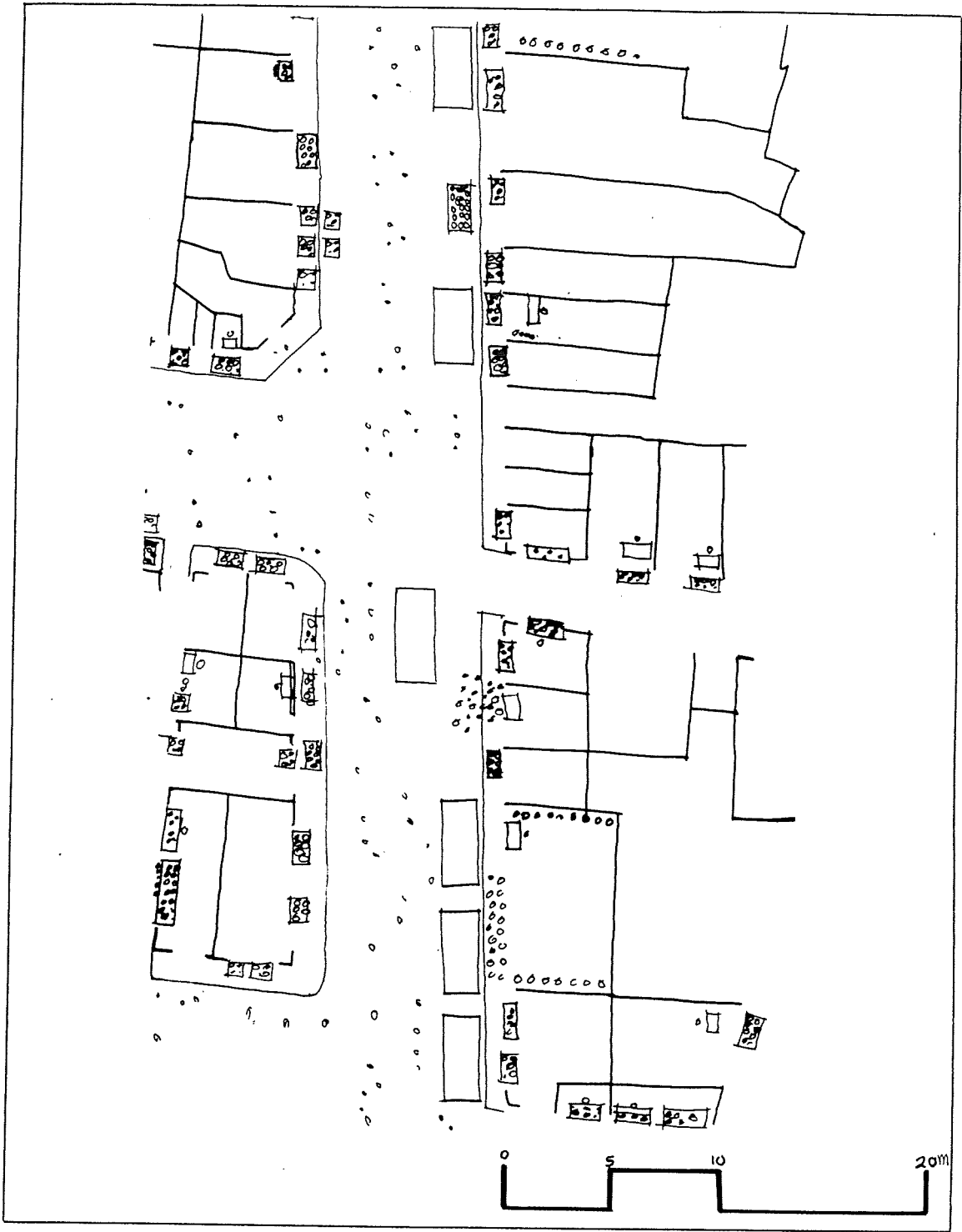
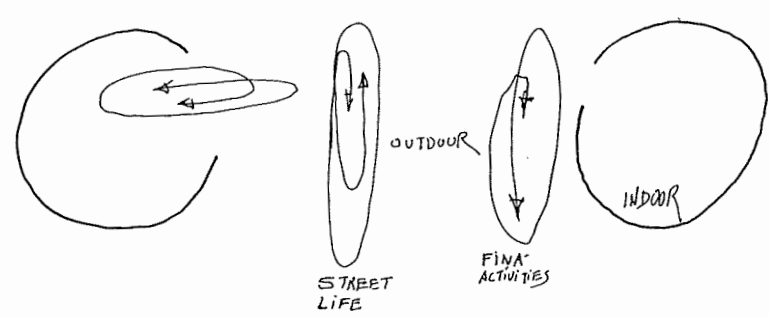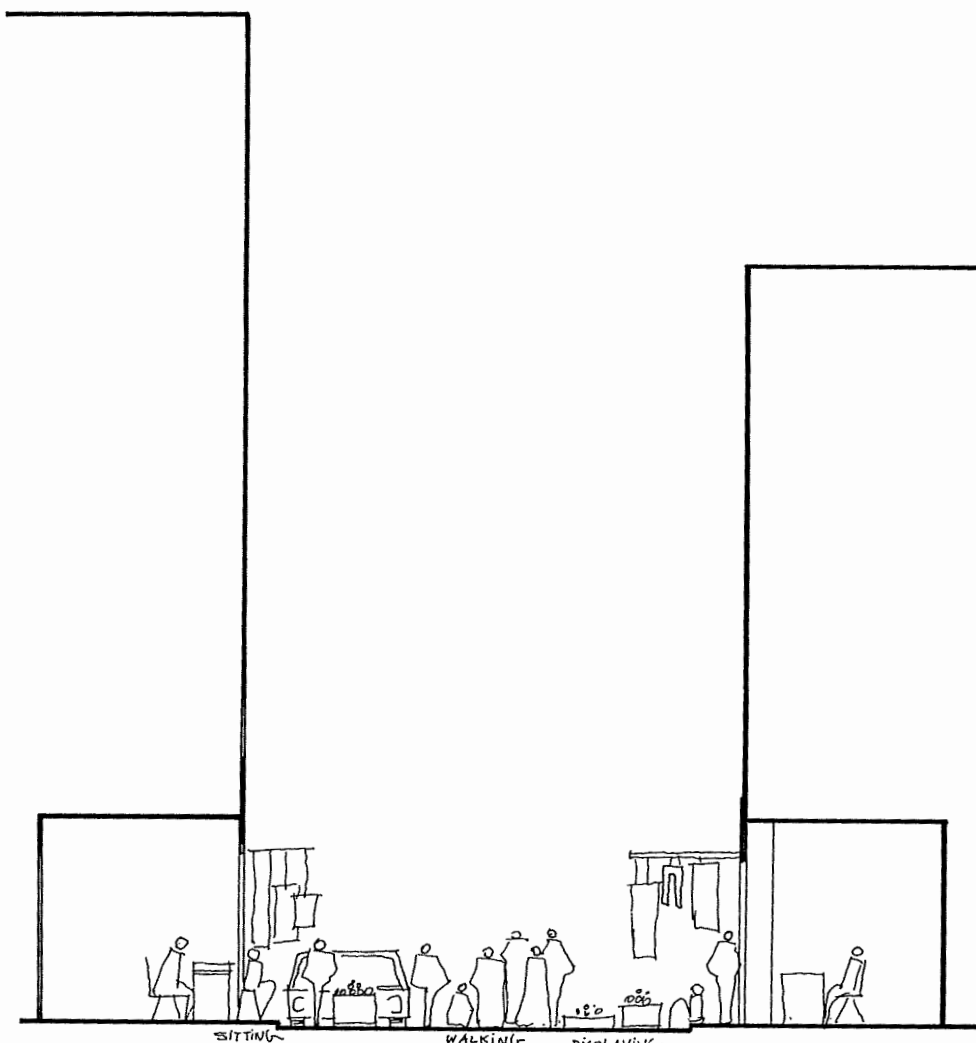Settings of al-Mu'iz street.

Fig. 4.29 *Street of al-Muski.*

Typical section of *al-Muski* street.

Fig. 4.30   *Settings of al-Muski street.*

Settings of al-Muski street.
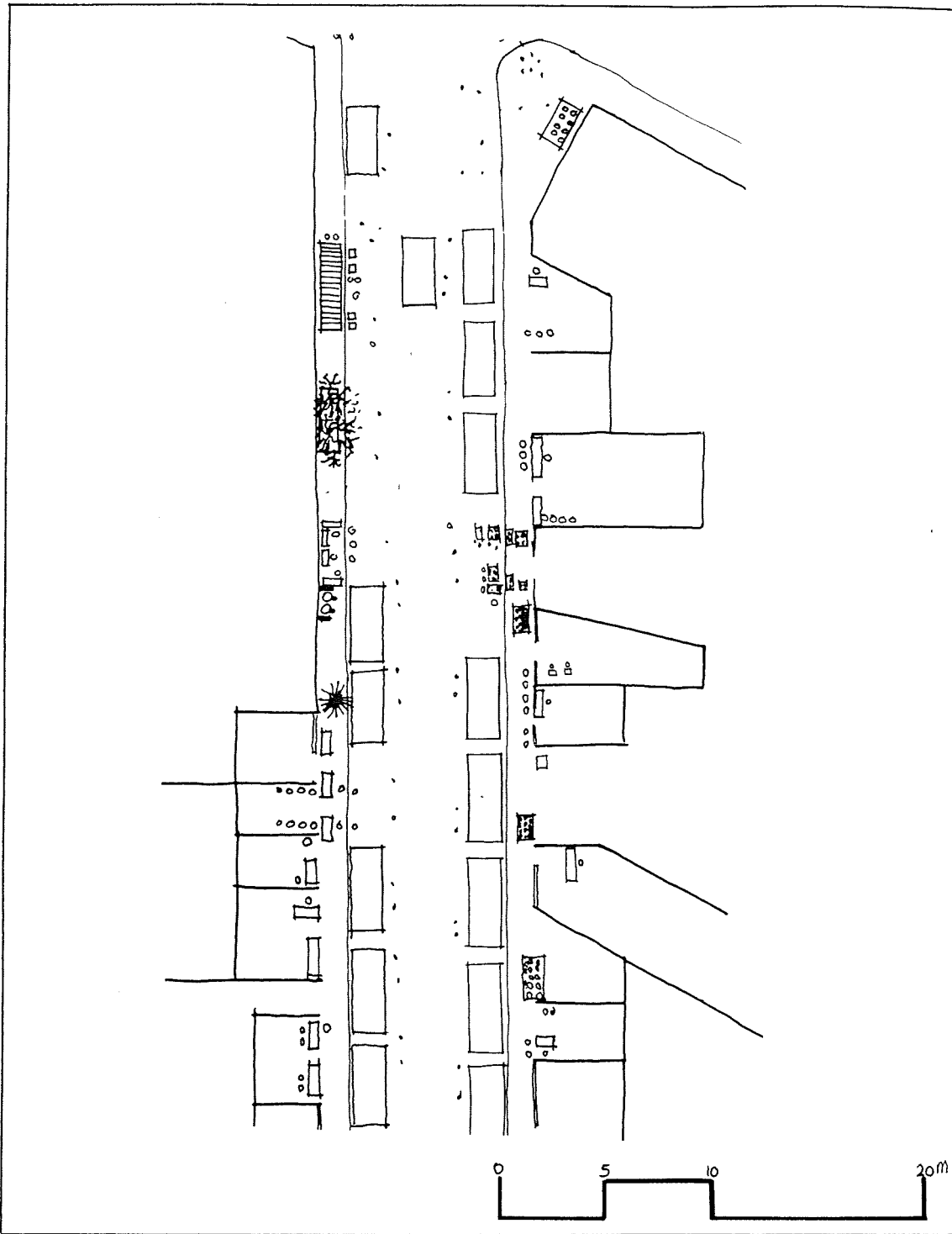
Fig. 4.31   *Street of 'Abdah.*
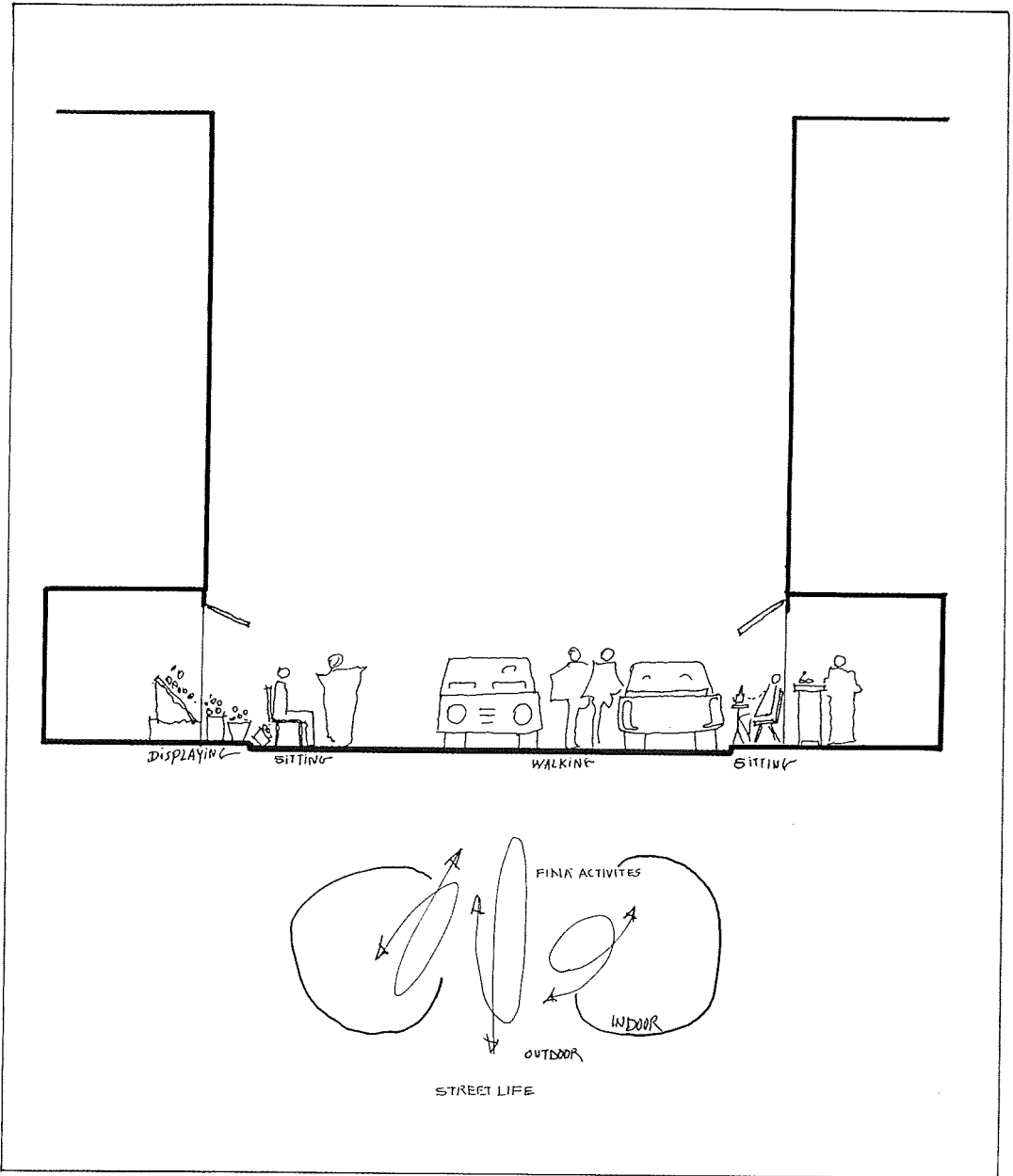
Typical section of 'Abdah street.
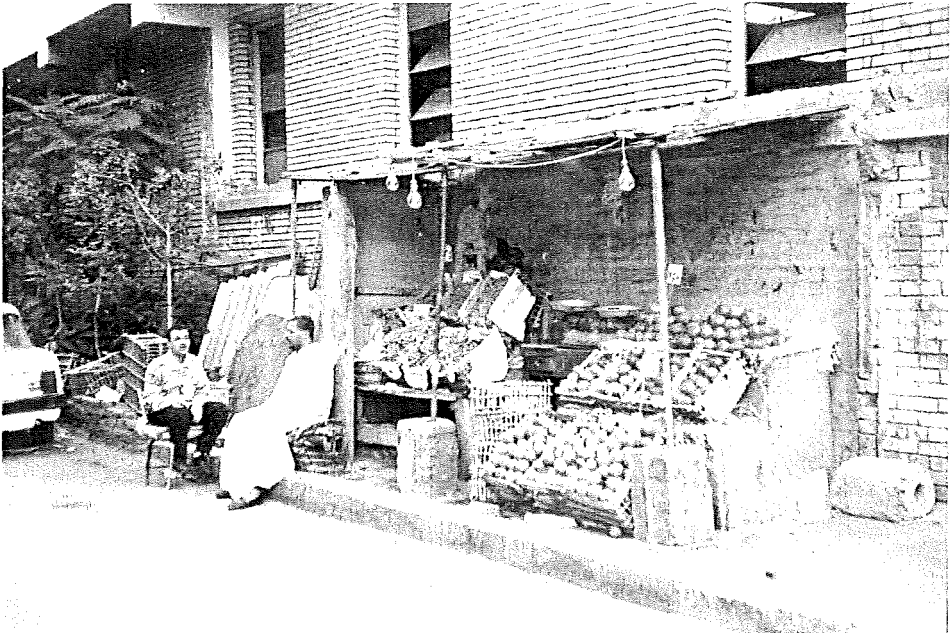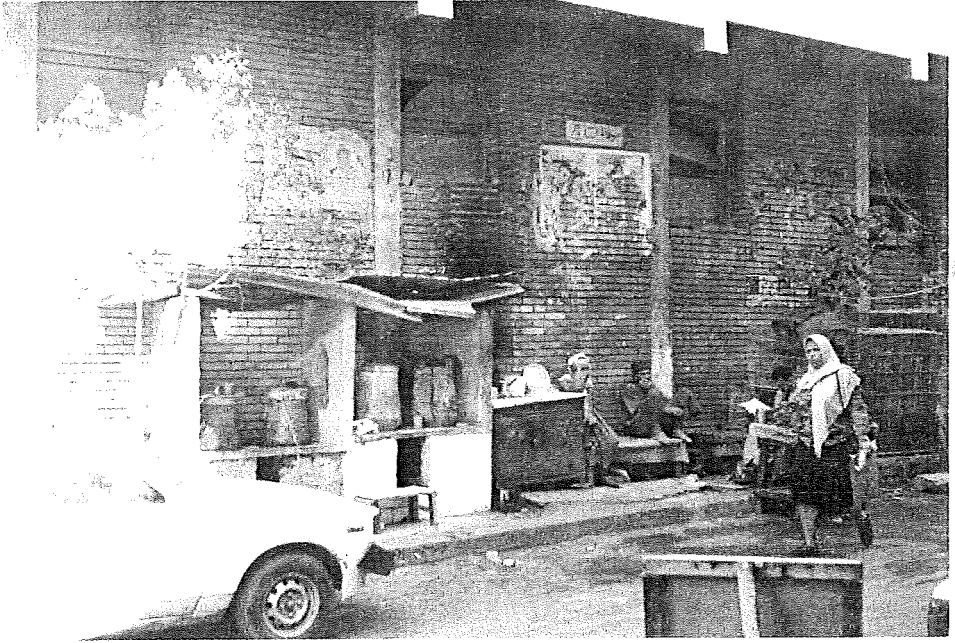
Settings of 'Abdah street.

Fig. 4.32   *Settings of 'Abdah street.*
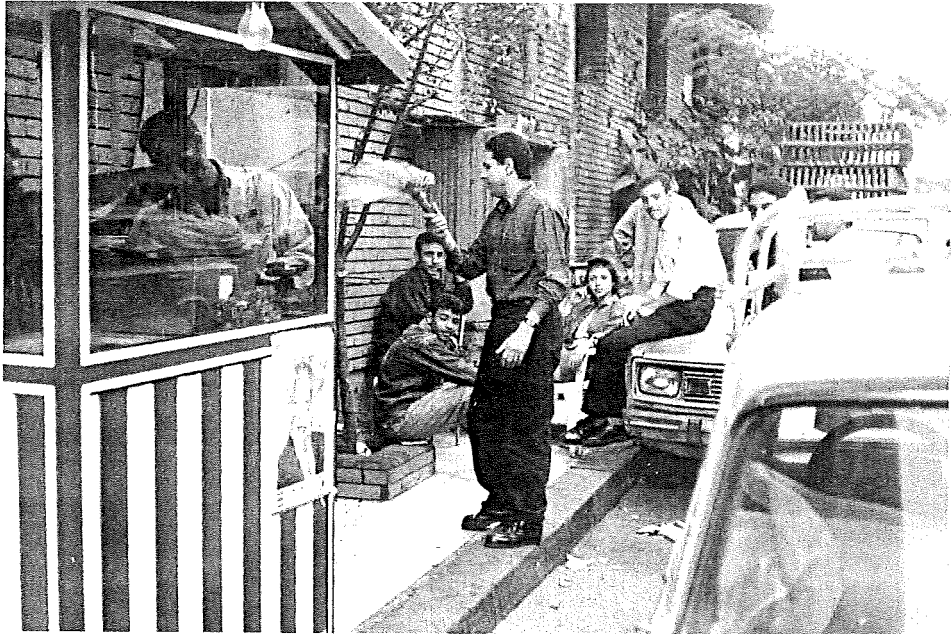
Settings of 'Abdah street.

Settings of 'Abdah street.
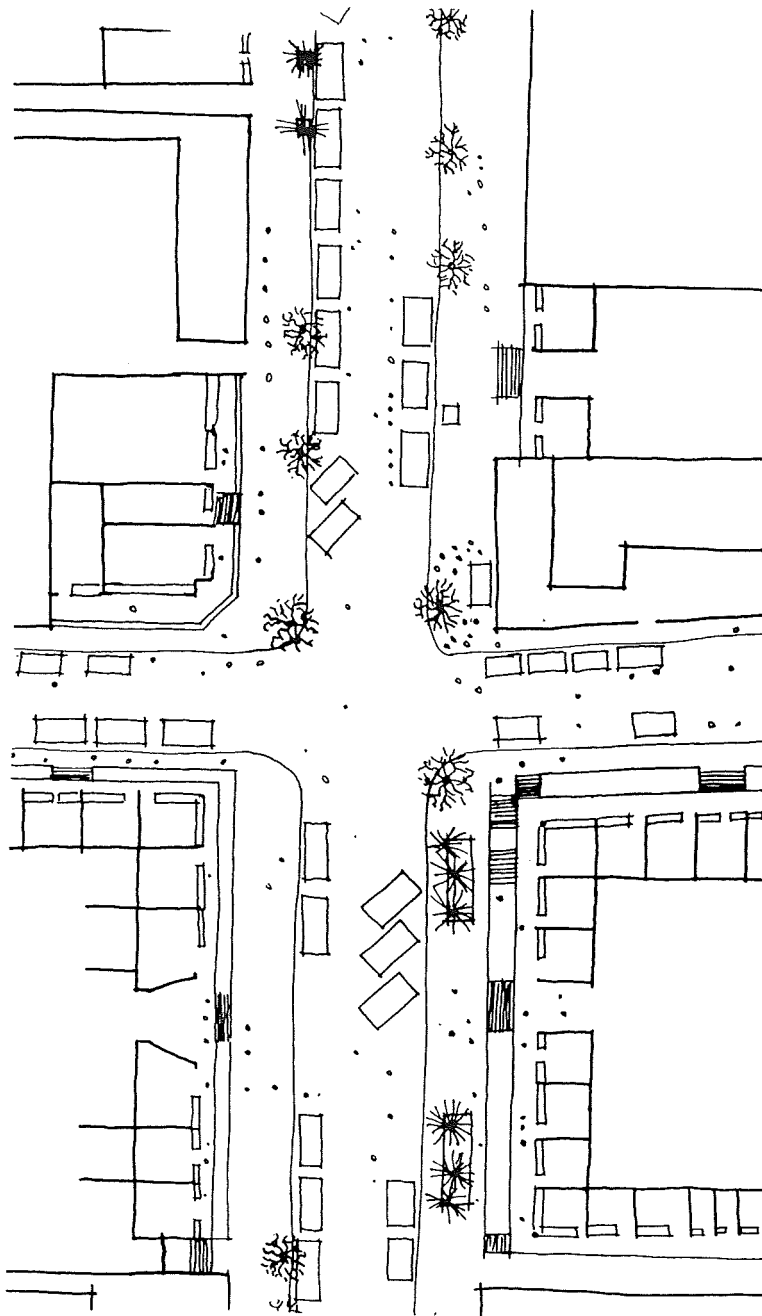
Fig. 4.33   *Street of Ramsis.*
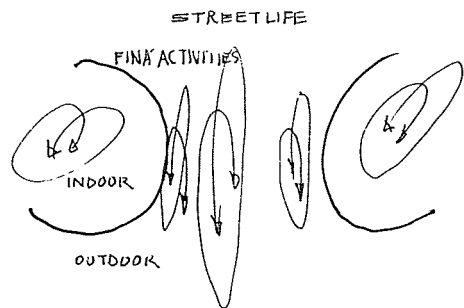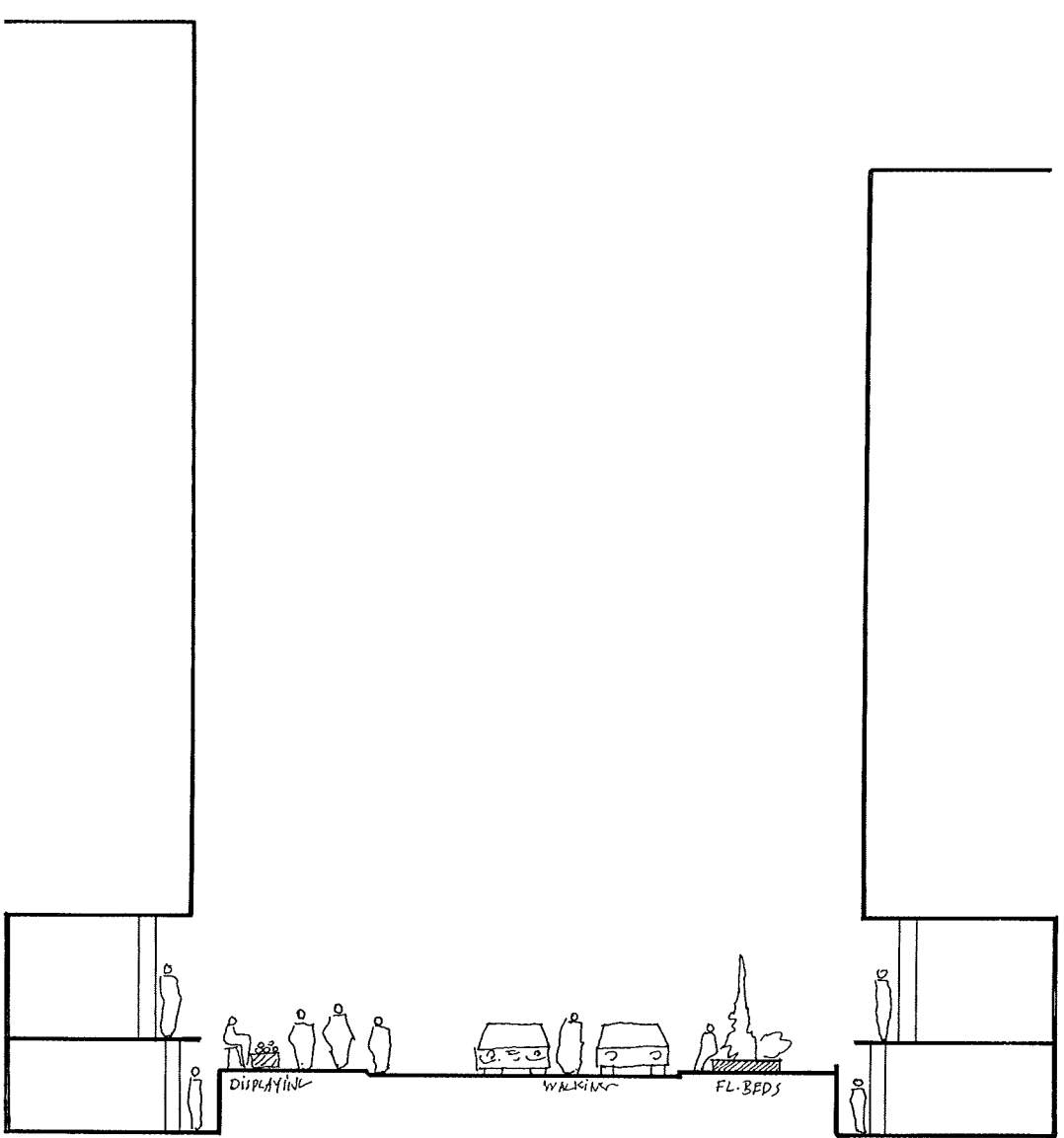
Typical section of *Ramsis* street.

Fig. 4.34   *Settings of Ramsis street.*
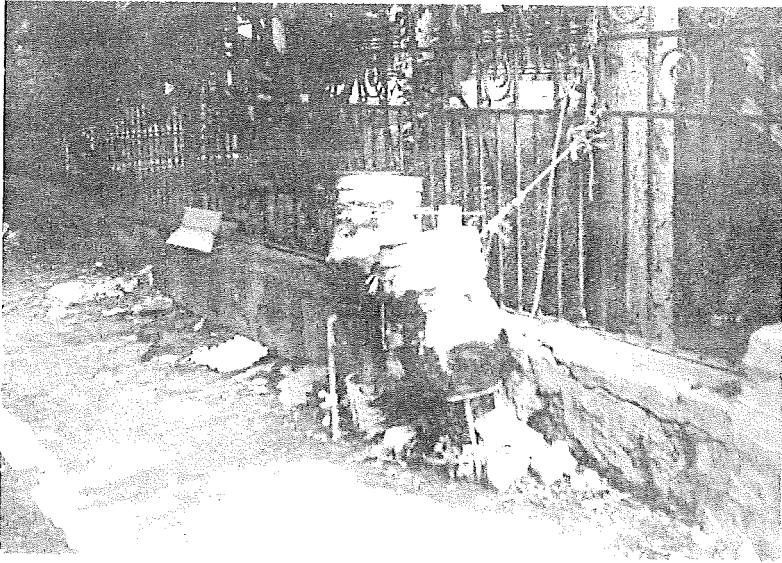
Settings of Ramsis street.
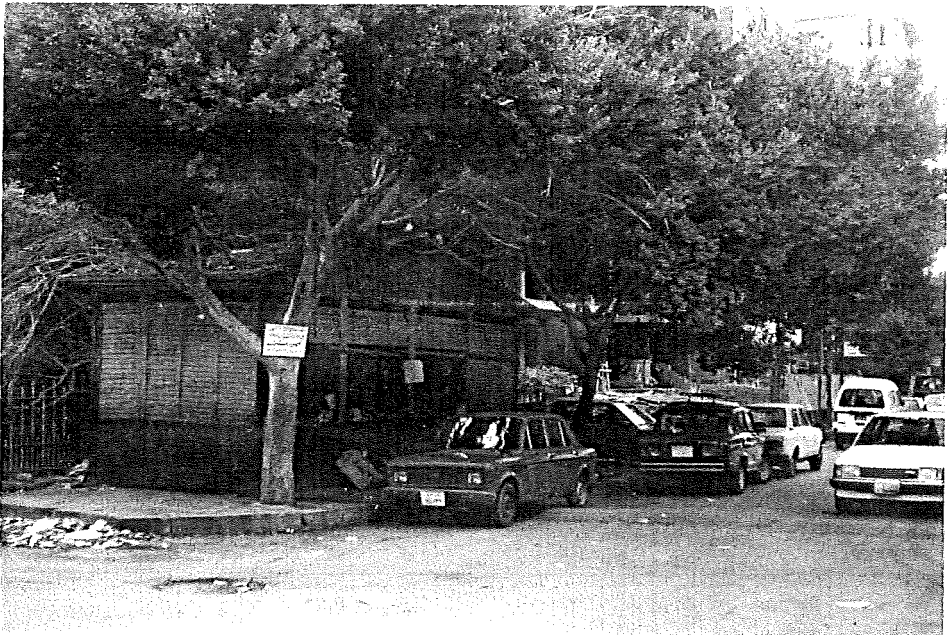
Settings of Ramsis street.
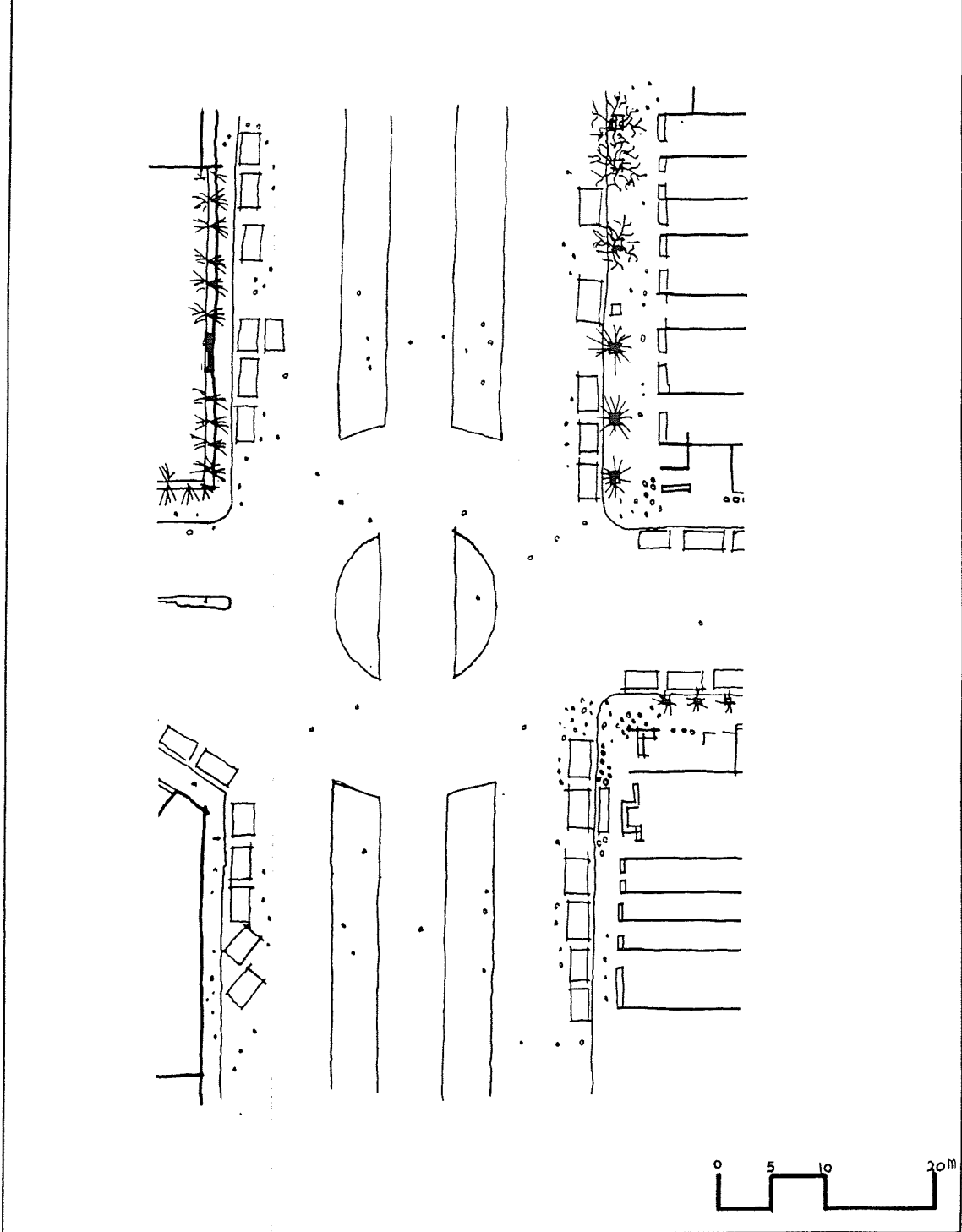
Fig. 4.35   *Street of al-Ahra'm.*

Typical section of Ahra'm street.

DISPLAYING · WAITING

STREET/LIFE
OUTDOOR

FINA · ACTIVITIES
INDOOR

PLAYING
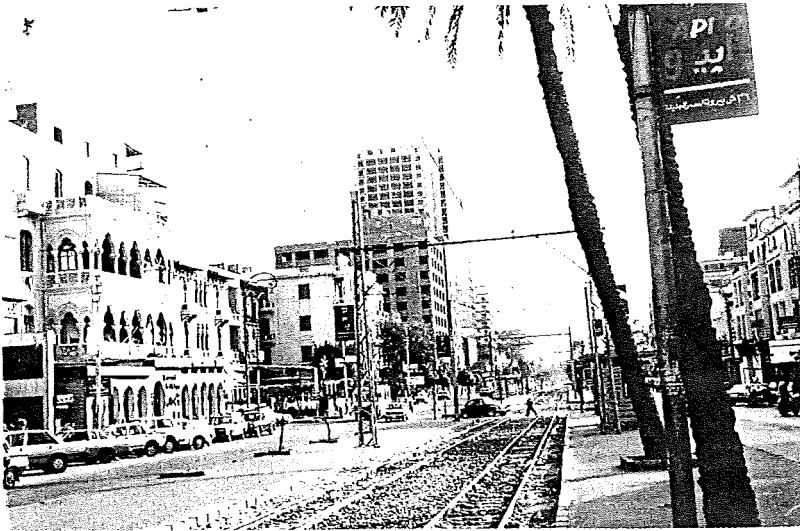
Settings of al-Ahra'm street.

Fig. 4.36   *Settings of al-Ahra'm street.*
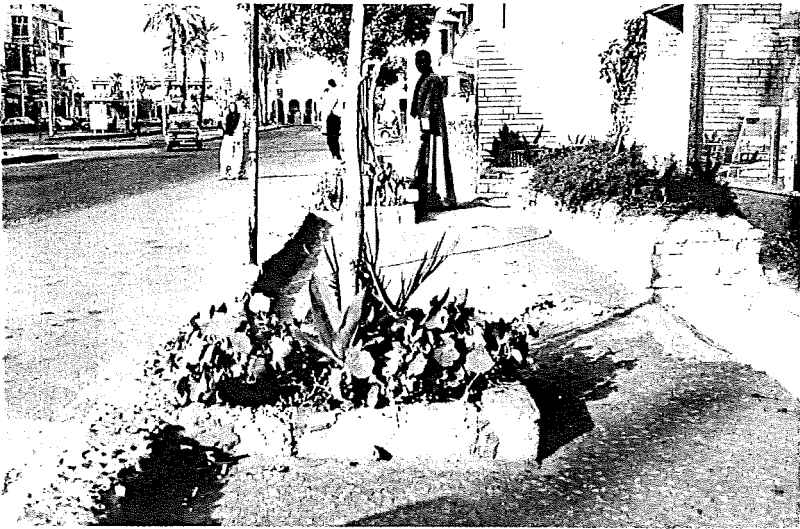
Settings of al-Ahra'm street.

Settings of al-Ahra'm street.
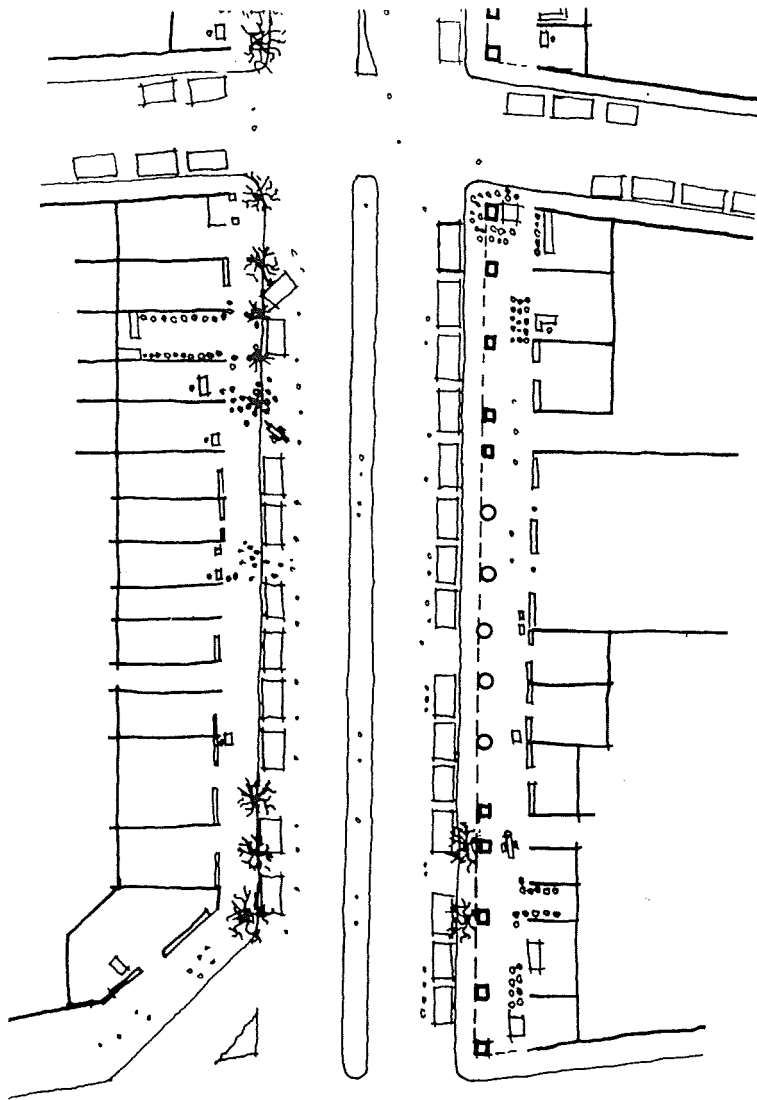
Fig. 4.37 *Street of Ibra'him.*

Labels within the figure:

DISPLAYING   STAYING
WALKING
WACKING
SITTING
WALKING   DISPLAYING

FINA' ACTIVITIES
OUTDOOR   INDOOR
STREET LIFE
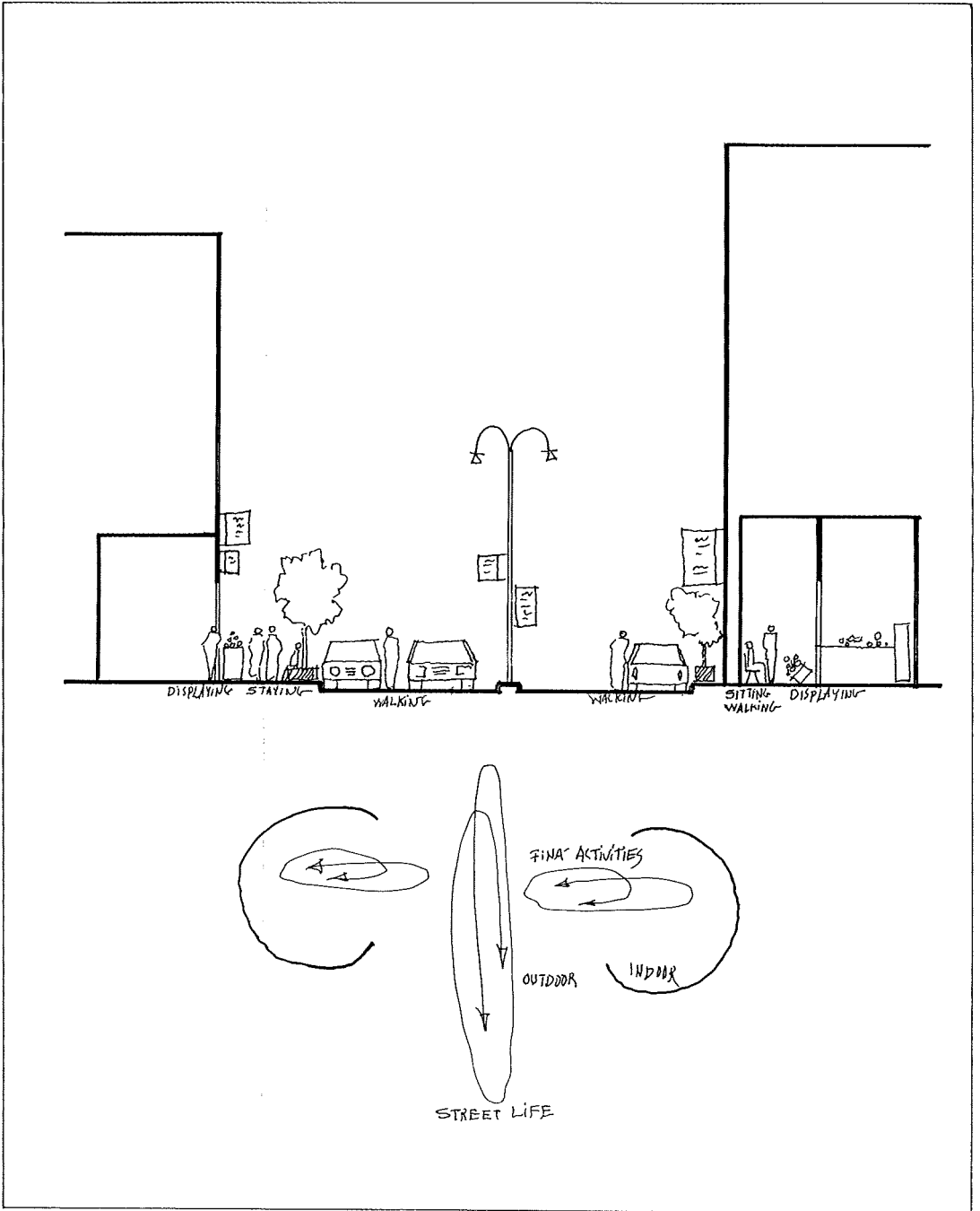
Typical section of *Ibra'him* street.

Fig. 4.38   *Settings of Ibra'him street.*
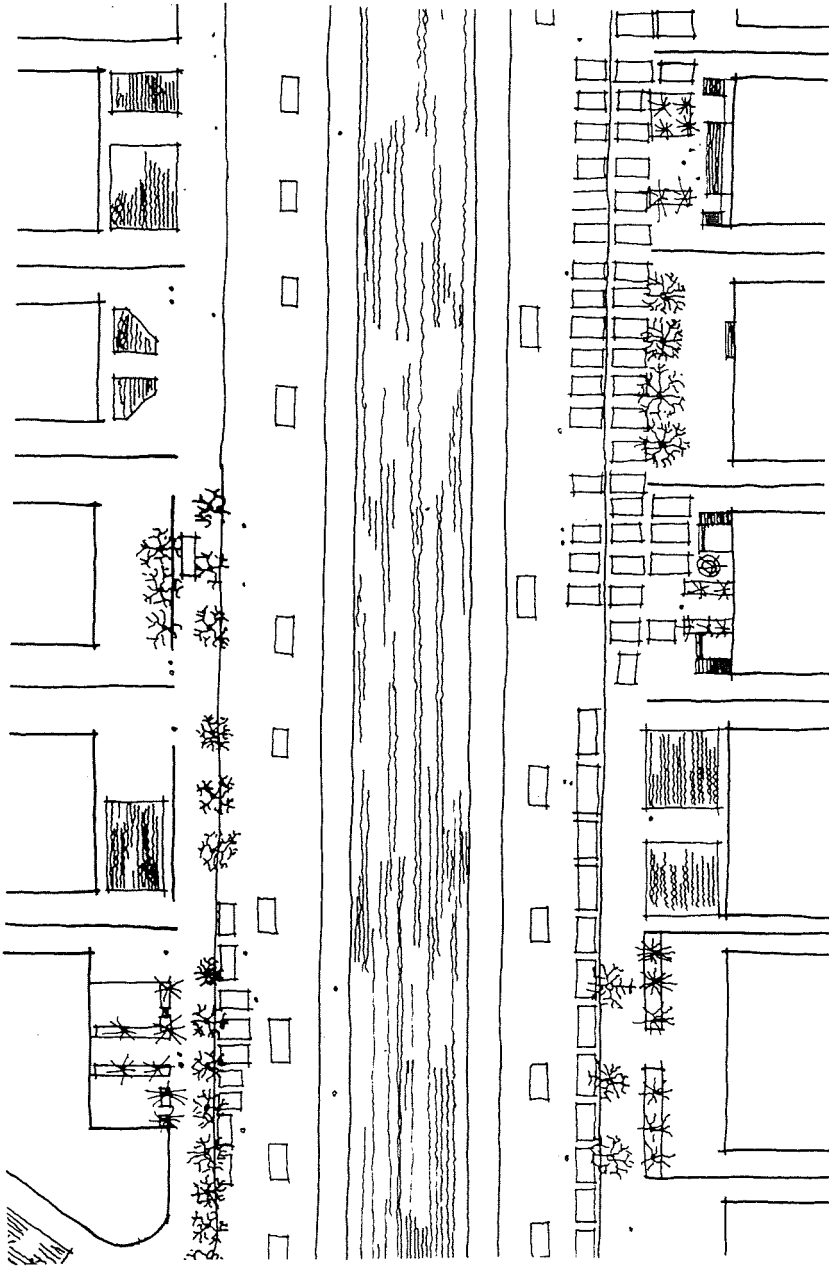
Fig. 4.39 *Street of al-Thawrah.*

Settings of Ibra'him street.
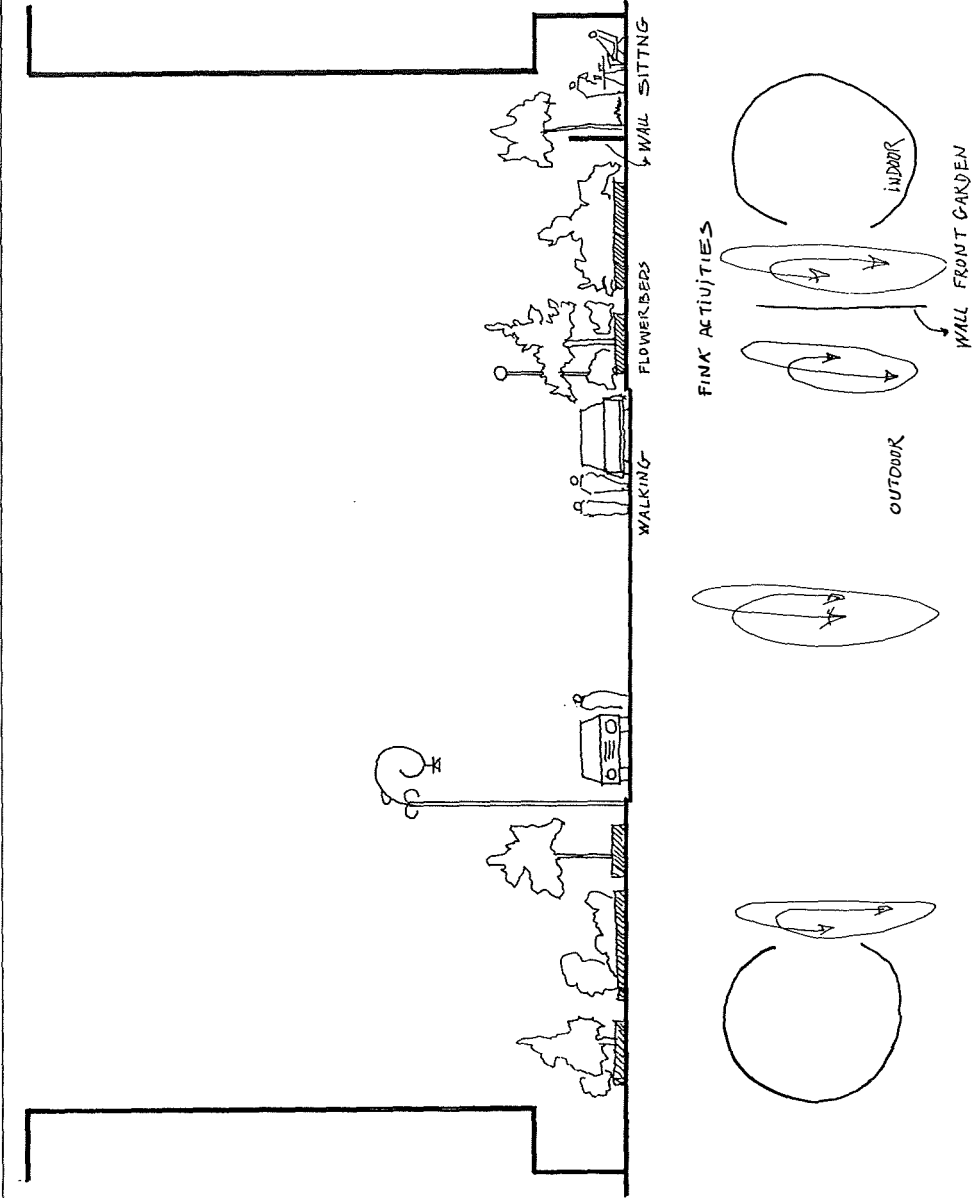
Typical section of al-Thawrah street.

Fig. 4.40   *Settings of al-Thawrah street.*

Settings of al-Thawrah street.
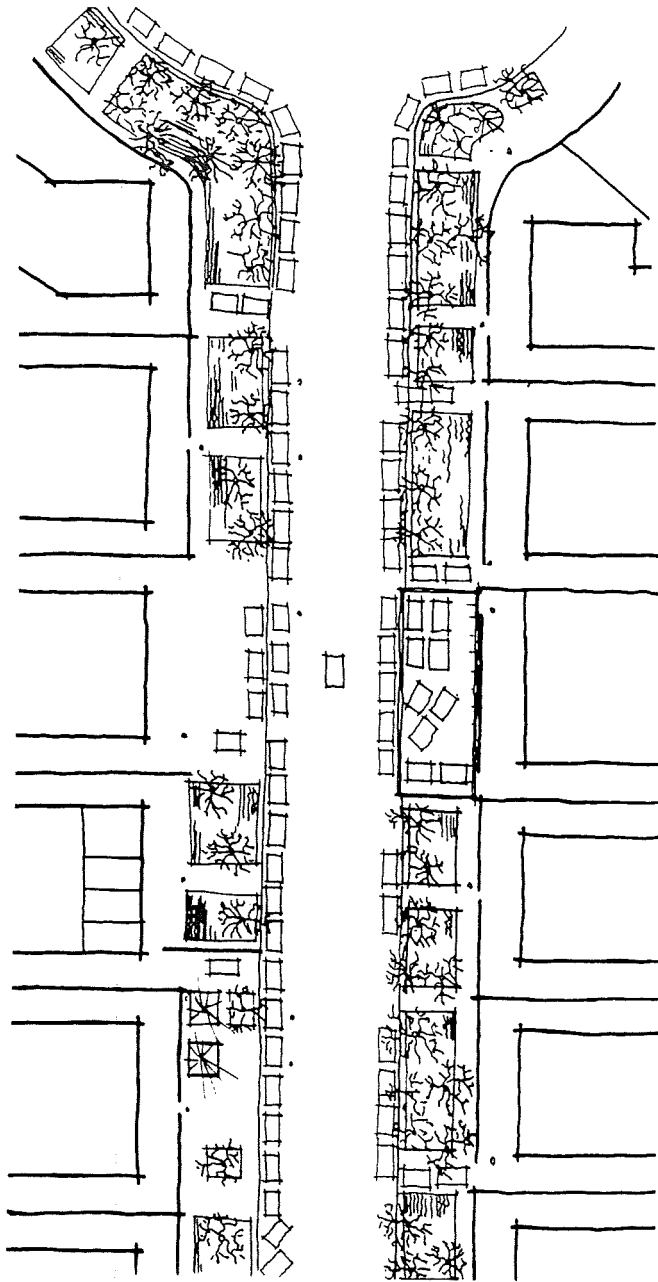
Fig. 4.41   *Street of Alma'zah*

Figure labels within the drawing:

FLOWER BEDS

WALKING   WALL FRONT GARDEN

FINA' ACTIVITIES

INDOOR

OUTDOOR

WALL FRONT GARDEN

STREET LIFE
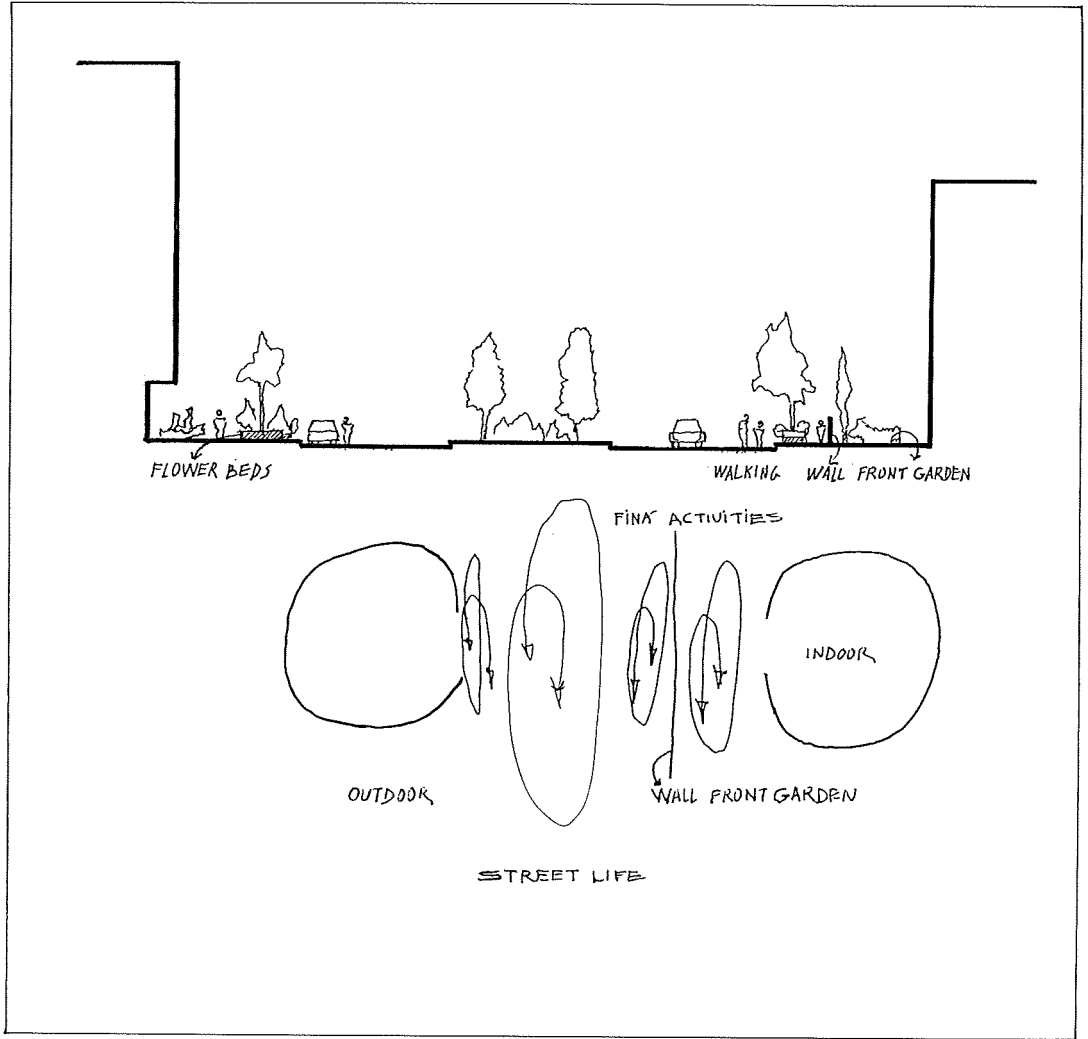
Typical section of *Alma'zah* street.
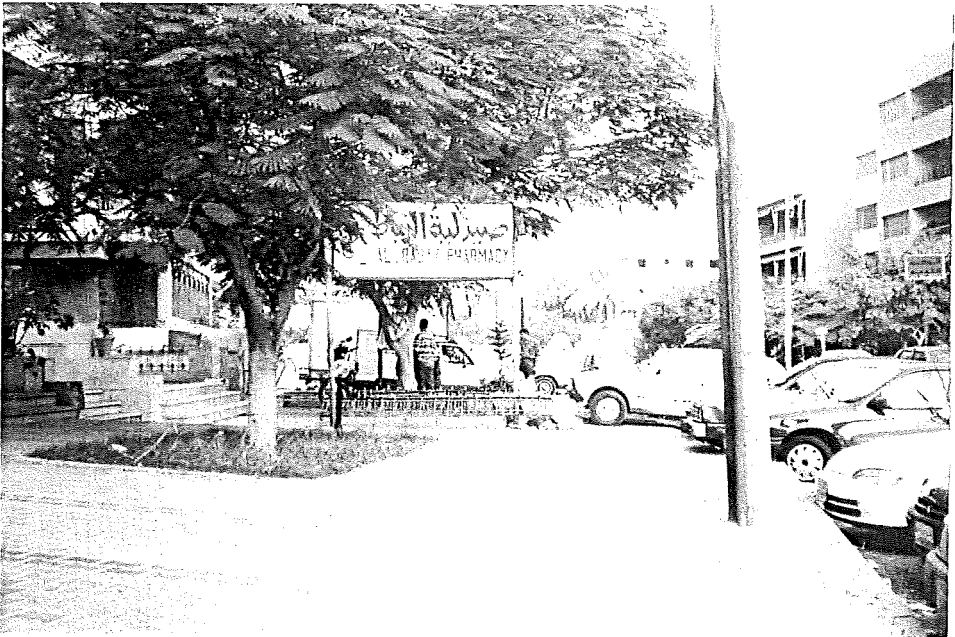
Fig. 4.42   *Settings of Alma'zah street.*

Settings of Alma'zah street.
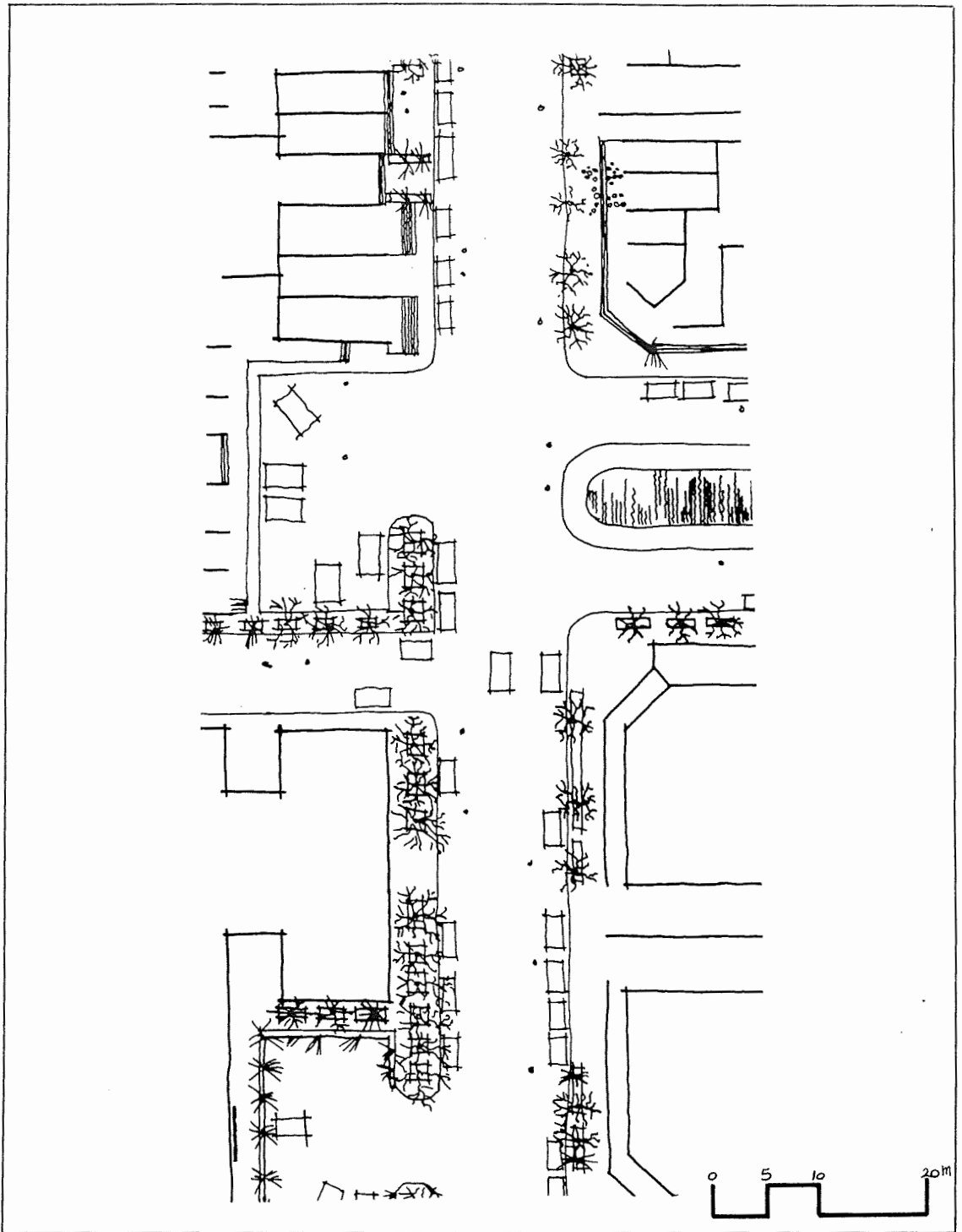
Fig. 4.44   *Settings of Hasan Aflatun street.*

DISPLAYING F1·BED   WALKING   FLOWER BEDS SITTING   GARDEN

STREET LiFE   OUT DOOR   FINA ACTIVES   INDOOR
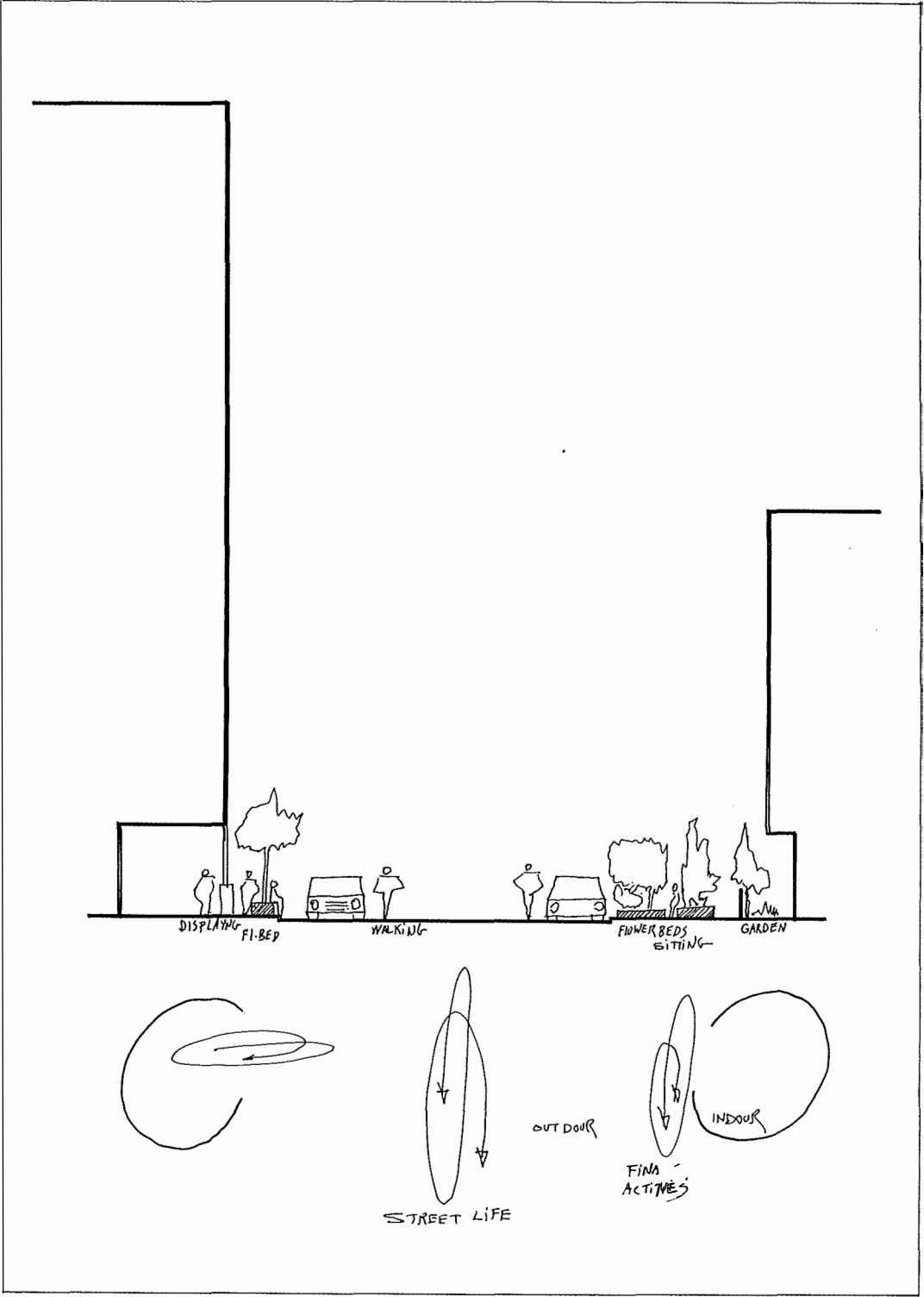
Typical section of *Hasan Afla'tun* street.

Settings of Hasan Afla'tun street.

Fig. 4.43   *Street of Hasan Afla'tun.*

Street of Hasan Afla'tun.

Settings of Hasan Afla'tun street.

3. Conclusion and findings

This study provides us with important findings to answer the major questions of this dissertation concerning the applications, local characteristics and role of *al-fina'* in the process of the street environments of Islamic cities, particularly in Cairo.

Although the term *al-fina'* was used to indicate only the space in front of or surrounding a property, this study shows that its territorial space involved the area of the sidewalk, the front gardens or front open spaces of buildings, the elevation of buildings and their related elements, and the inner spaces of buildings directly adjacent to the sidewalk space. By seeing these elements, spaces, and functions as involved in the territory of *al-fina'*, its role is supported both as path and place in the street environments of traditional and contemporary Islamic cities. Therefore, *al-fina'* is a central urban design concept in the streets of Islamic cities.

The roots, contents, and development process of *al-fina'* reflect a strong desire to create a high level of privacy while at the same time contact with community and nature by specific patterns for connecting indoor spaces with outdoor spaces.

At the present, the phenomenon of occupying and modifying the sidewalks, and creating settings, can easily be considered a problem or a violation against central rules and public rights. However, this study shows that we can look at these phenomenon as sources for learning and developing knowledge about the local built environment, policies, plans, and their rules.

Therefore, this study suggests that designers develop more adjustable and detailed guidelines for the use, design

of, and judgements for street environments derived from existing created settings. It requires identifying and understanding the locally identifiable forces, and how people use their tradition to interpret the urban spaces in the context of these local forces, such as population growth, poverty, economic competition, social relationships, education, crime, climate, and traffic.

This will require us also to study tradition and built environment as two interrelated aspects and as sources for learning from the history which people live with. This may also contribute to making use of tradition in urban design and policies that are relevant and not merely nostalgia or the recitation of old tales.

But the **challenge** is how to study and use traditional aspects by exploring their reality without distortion or misrepresentation, and to suggest innovative ways for their applications, and without being hindered from developing the contemporary built environment through new and creative solutions.

3.1. The creation of settings of al-fina' is to meet users's needs in the context of the local forces dependent on local interpretations.
    In each historical period, new forces contributed to change and create new design and functions of *al-fina'*. The case study of Cairo shows that people's local interpretations of the different local forces such as, climate, religion, community, privacy, commerce, lifestyle, climate, and population growth are playing a central role in how they occupy the sidewalk and create settings (table 4.6).

For example, an increasing population has contributed to an increase in the built up area and a reduction in

available space in the existing areas for economic and
social activities. This pushes people to use the sidewalk
for their activities.

On the other hand, this population growth is not only
from natural growth but also due to migration from small
cities and rural areas. These newcomers bring a perception
of the public and private spaces which is strongly
influenced by the old traditional way of life.

The evidence shows also that even in newly built up
areas which are populated by urban people, the users start
creating *al-fina'* right from the early stages.

Table 4.6: *The basic forces and their effects on the settings of al-fina'*

Parts	Forces	Influences on *al-fina'*
Material culture	Modern building material, technology, and design.	Abandon the traditional settings.
	Transport (car and metro)	Straight wide streets and highways Expansion of the city.

| Natural environment | Temper climate variables | -Using awnings in front of shops. -Using air-conditioning -Reduce staying activities in the streets during summer season. -Occupying the sidewalks to construct gardens and flowerbeds. |

People	Different socio-economic groups	–Division in districts and communities.
	Rapid population growth and density	–Intensify use of the street space.
	Increasing economic competition	–Occupying sidewalks for displaying goods and reflecting colors and smells. –Building shops in front gardens. –Rebuilding rooms of flats as shops and offices. –Rebuilding old low buildings with new high buildings. –Paving the sidewalks with new materials.
	Poverty	Occupying the sidewalks and the streets by the mobile vendors and other inhabitants.
	Need for community life in the street	Occupying the sidewalk for sitting.
	Need for privacy	Building high walls around the plot, and covering windows.
	Reflecting lifestyle	–Occupying sidewalks to build flowerbeds, gardens, and parking areas. –paving sidewalks. –using colors.
	Need for safety	–Placing benches for sitting for the guards in front of the houses.
	Traditional rules	–Restricting the use of residential streets for adults for staying activities.
	Need of praying place	–Building mosques. –Changing function of a room or a flat along the sidewalk to a praying place. –Occupying the sidewalk for praying. –Use front yards along the sidewalk for praying.
	Spiritual meanings	–Hanging Qura'nic verses on entrances,

3.2. The local interpretations of *al-fina'* are based on the local culture:

The local tradition of each particular Islamic society provided people with particular local knowledge to manipulate the local forces in creating, using, and developing the settings and elements of *al-fina'*. Therefore, the local tradition *(urf)* is not only the social norms and behavior, as is commonly held among scholars, but also includes the local knowledge and its achievements which have been developed over time by the users through their everyday life as responses to local forces, such as population growth, climate, economy, and social relationships. These responses formed their particular local cultural schemata and cultural orders which still guide people's behavior and actions in the environment to create their particular environmental solutions.

We could see in the Islamic period, that *al-shari' ah* (the Islamic law) had developed some standard judgements *(shurut)* for the design and use of the street environments which should be followed by people. At the same time, the law had developed another set of devices called *hiyal* to assist people in finding new alternatives even though they might be different from a strict interpretation of the standard judgements *shurut*.

We could also see in the traditional period before the advent of modernism, that *Islam and local tradition (urf) were central sources for for the standard judgements and people's decisions. These principles were a central planning system that used in each particular case to derive adjustable built environment judgements in order to make solutions according to the condition of the particular case.* Therefore, the Islamic built environment never followed a particular detailed set of rules permanently, but rather followed guidelines. The judgements and concrete solutions changed over time, place, and case.

3.3. Al-fina' phenomenon can be used in developing the modern urban design of Islamic cities.

Understanding the role of Islam and the local tradition *(urf)* in constituting the local cultural schemata of Muslim societies means one should include knowledge of modern Islamic jurisprudence in the field of urban design in order to develop Islamic built environment judgements and design concepts for Islamic countries. It is the researchers' and designers' responsibility to find out how this modern jurisprudence will be used in order to match local cultural orders with the built environment and help to develop them in an innovative way. This recalls the use of the earliest principles of Islamic jurisprudence as recommended by its founder Imam Hanafi.

In contrast to the traditional process of urbanism, contemporary planning and urban design are based on detailed rules to be used in all cases of the built environment, yet the nature and number of the users' judgements in their actions and creations are much more complicated than the official design. The contemporary case study of the ten streets of Cairo shows that people change the designed spaces of the streets and do not follow their official, central legislation. The user's interpretation in the different streets shows strong influences from the traditional cultural schemata in choosing these sorts of settings in their street environments. The major force behind this condition is that people depend on their traditional guideline principles to legitimize creating, using, and developing the settings and modification of *al-fina'*.

The planning authorities should learn from this fact in their plans, policies, and legislation. *It is necessary to have central planning to guide urban design and its use* but it should be based on local guideline judgements and be open to the creation of new settings by users and allow for multiple alternatives for each particular design concept and use. This will require that *the planning and urban design* should function

as a framework for the large number of the settings which will be created by people over time. The central planning should not neglect *al-fina'*, but should instead grow to involve more settings from the local urban life. Towards this goal, central planning practitioners should identify the basic settings of *al-fina'* and their contents in order to find their common system and characteristics which can be used as guidelines to organize and develop the existing or new settings in the space of *al-fina'*.

This will help us to identify the settings which are accepted by the community and support the local processes and characteristics of the streets, and will also help solve problems of some settings in order to improve their applications. This last is important because the case study of Cairo shows that creating settings in *al-fina'* may be associated with problems such as pushing pedestrians into the roadway, dividing the sidewalk into different levels by new pavements, and crowding the sidewalk with signs. This identification is important to protect the different rights in the street, helping people by providing them with guidelines for the existing and the new settings in order to improve physical characteristics, organization, and everyday life of the local street environments.

In this direction, the method which has been used by old Islamic jurisprudence is very relevant in the present and can be developed to match contemporary local needs. This method can be described as following:

The jurists either allowed or disallowed a particular setting in the space of *al-fina'* according the nature of the benefit or the harm of the setting to people, properties, and nature. This study suggests that benefit and harm should be measured in relation to the following issues:

(a) type of the setting,

(b) duration of the setting,

(c) type of benefit,

(d) duration of the benefit,

(e) the affected people,

(f) the affected elements of the environment,

(g) type of harm,

(h) duration of harm,

(i) harmed people and other factors,

(j) dimensions of the street,

(k) functions of the street,

Utilizing this model of interaction within the street space, a setting can be allowed, reformed, and/or developed by testing the answers to these issues for each particular case against the Islamic built environment guidelines. The contemporary Islamic built environment guidelines should be based on the basic traditional sources, Qura'n, the Prophet's Sayings, and local traditions, while at the same time taking into account modern scientific methods and achievements. In this way, science in general and modern urban design methods and theories in particular are not used as tools to exclude the local knowledge or the traditional culture of the society, and vice versa.

3.4. The process of *al-fina'* contributes to organic character.

The process of *al-fina'* affected the urban fabric of Islamic Cairo and the characteristics of the street environments (figure 4.44).

The historical study of Cairo shows that transforming regular streets into irregular or organic patterns over time goes back to the early Islamic settlement of Fustat in the 7th century. *It was basically created by the initial demarcation of land and later by the incremental evolution of the built environment. The evolution process involved building on the vacant lands within the city, subdividing or connecting the plots or the houses, appropriation of al-fina', and building out the*

exsisting built up area on the protected land of the city (harim).

On the other hand, although *al-fina'* process was only one factor behind the irregular street patterns in the old period, *it played the primary role in creating the organic everyday street life.*

Since the 19th and early 20th century, European planning models, design solutions, and their related rules have been widely copied and applied in Cairo. The goal of this movement was to disregard the reality of the local traditional living built environment in order to create a new city similar to modern European cities.

All examples of the present case study of Cairo show that the inhabitants have continuously modified the character of the modern street environment. This phenomenon has contributed to manifestation of a new organic character of street environments different from the initial intentions for the designed streets.

An important force which continues to animate this process is related to the concept of *al-fina'*. Indead, the inhabitant's traditional way of using, occupying, and modifying the design patterns of *al-fina'*, common during the Islamic period, is present even today. The way a street is organized, constructed and formed in present Cairo depends basically upon the various settings in its *fina'*.

Therefore, the mechanism of al-fina' which was only one factor behind the irregular street patterns of old Islamic Cairo, is playing the primary factor in the present because the land demarcation and land subdivision are largely controlled by the central authorities' standards and regulations while space of al-fina' is still an open space where people still reform its contents, boundaries, and their related activities. .
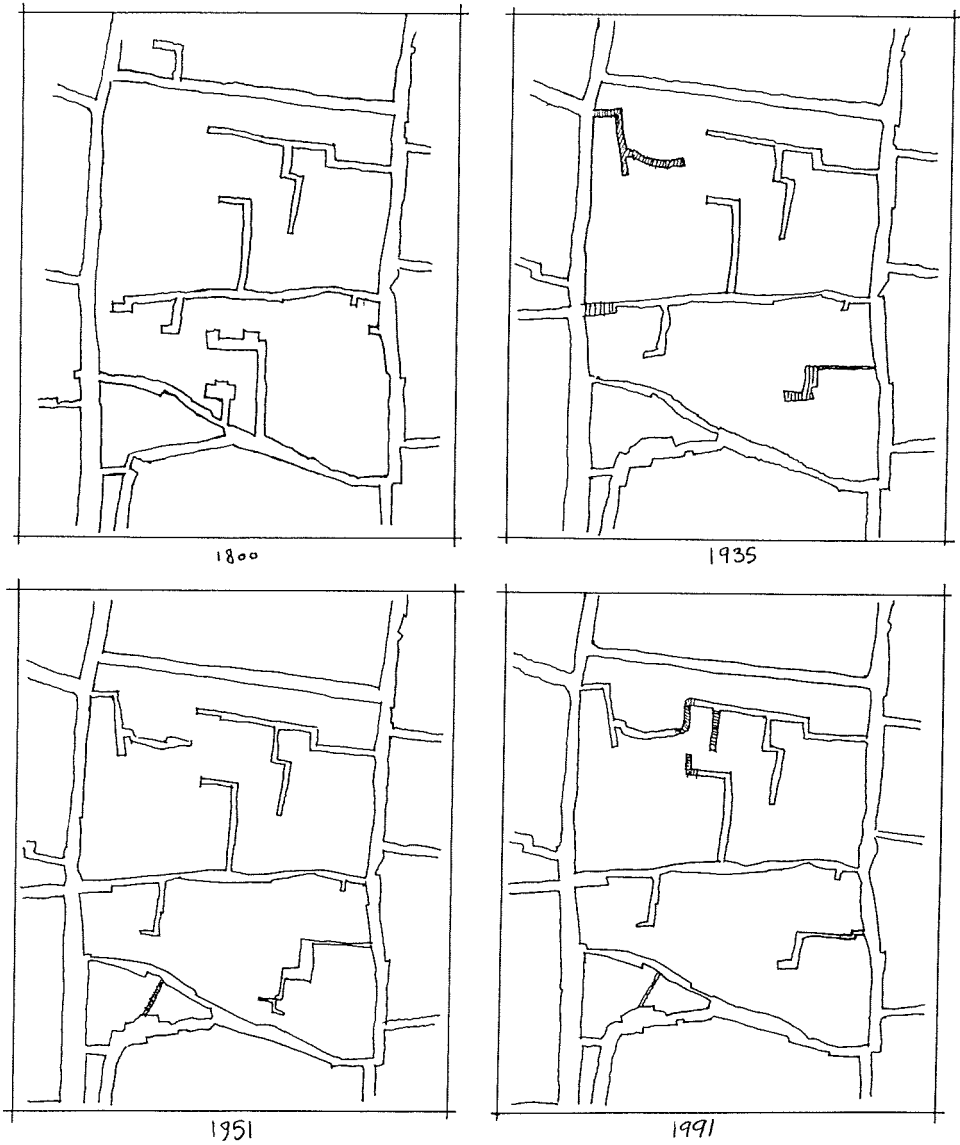
Figure 4.45   Transformation of the street network system
                   al-Naha'sin area in Islamic Cairo.

3.5. The concept of al-fina' is a strong predictive tool. It not only predicts the past condition of the street but also the future.

Transformation of the regular character of the designed streets to an organic nature indicates that the future course will very likely not be dominated by the principles of the imposed modernist designs. The local people will create more traditional settings in the street and modify the design elements and their use to meet their own socio-cultural needs. This will contribute to giving the urban streets an even more organic character. This supports Kostof's theory that the natural way of cities is daily shifts and changes in the urban fabric by the people which are autonomous actors and can't be stopped by formal city planning devices.

Creating of new settings and the modifying process of *al-fina'* contributes to produce a large number of settings by people in the space of *al-fina'*. It reorganizes the designed spaces of the street which have a small number of elements and contributes to reestablishing the complex order of environmental relationships.

This again supports the theory of Alexander that the number of the elements and their relationships in the real built environment are larger and have more overlapping order than in the modernist designed patterns. On the other hand, the elements and their relationships are time and place related. Therefore, it is not only the preconceived designs of the architects and planners which contain less number of elements, but also changing time, place, possibilities, needs, and users, often make the number and types of the elements of the existing natural built environment less than the required.

The creation of the settings in *al-fina'* is to give this space its natural context. This process has a dynamism which is common in all streets of the case study. This dynamic can be used

to propose a theoretical model to predict the past and future processes of street environments. The dynamic of *al-fina'* has four major stages:

1.Stable condition
This is the early stage of opening a street for use and building along both its sides. In this stage the design often follows the pre-conceived design and rules.
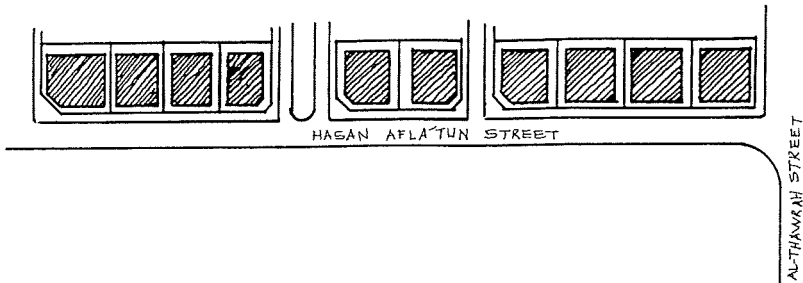
2. Tension condition
Because of the growing needs of the users, an implicit conflict will become explicit. These needs might have to do with climate, economic, social, religious, and/or lifestyle aspects. Users start by creating a few settings and making small modifications to the existing elements of *al-fina'*.
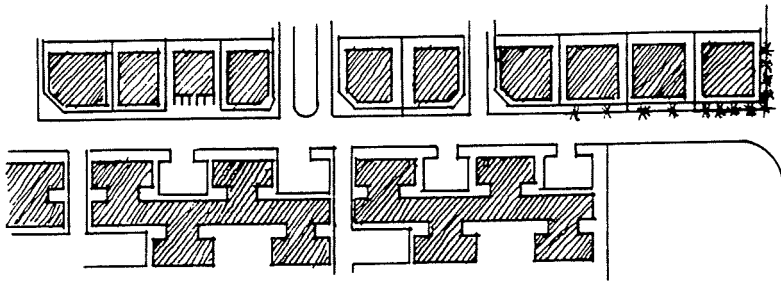
3. Conflict condition

The needs increase and the existing character shows an explicit
conflict along with the growing needs of the users. Users
increase the number of settings and the speed with which the
settings are created, the existing elements of *al-fina'* are
modified, and the sidewalk is occupied. They will also start with
removing existing buildings, replacing them with new buildings.
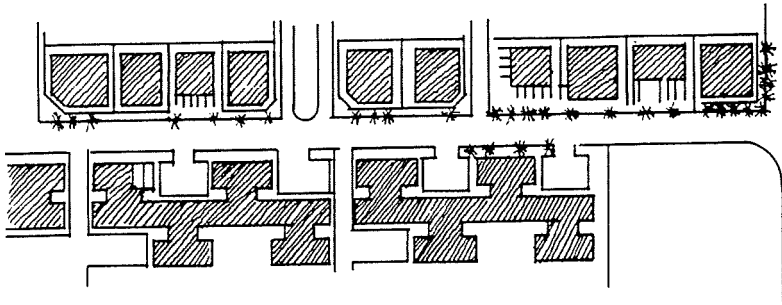
4. The new stable condition

The modification of *al-fina'*, the creation of new settings, and
the reconstruction of properties involve the whole street and
thus new characteristics emerge. The street will gain a new
stable condition and then will once again follow the cycle of
stability and tension.
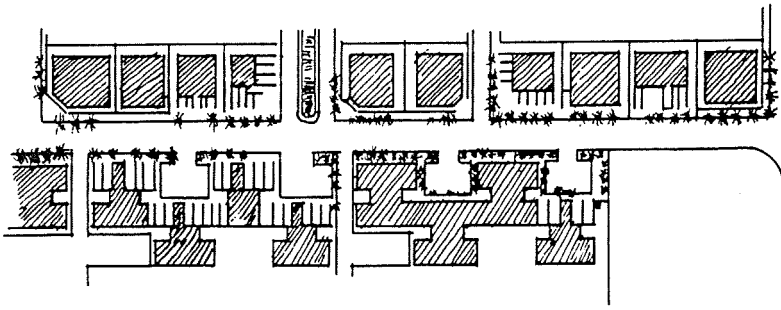
Note that implicit conflict may start as early as the stable condition. The phase of duration of each stage depends largely on how strong or effective the central authority's control is, and on the types of users and their needs.

3.6. Settings of al-fina' are meaning mediators.

The case study of Cairo shows that during the traditional period, the society's thinking, action, and behavior were dominated by the religion. The characteristics of life's aspects were explained and controlled according to Islam, with a direct connection between religion and the built environment through the design and use of the built environment. This connection occurred at both the practical and ethical levels, while connecting local tradition and Islamic principles in urban design and use. Thus, the material and spiritual aspects of the society and the city were in this way interrelated.

The modern scientific revolution in Europe of the 18th and 19th centuries brought the idea that society and the built environment can be organized by theories and methods of science. As a consequence, it rejected the old traditional knowledge and systems of organizing society and replaced it. One of the basic rules in this project was to divide religious and state systems. The expression of this method in the urban design and architecture was to remove the connection between religion and tradition in the urban fabric and its process.

The modernization process of all Islamic countries is based on this European model. As a consequence, modern designed streets of Islamic cities as in the case of Cairo, abandoned all traditional meanings which had emerged from connecting religious and social traditions in the design, use, and rules of the local traditional street environments. They are replaced with modernist individual designed meanings according to the principles of objective urban design, which was aimed primarily at giving material expression to objective, causal reality,

rather than being inclusive of spiritual meanings. Modern town planning and architecture became concerned more with aspects such as air circulation, light, green areas, vehicle traffic, and pedestrians. Religious structures, including elements such as mosques, came to be considered as abstract community building, among others. Their size and location were calculated and decided according to the size of the community while their spiritual role in the street was never considered. The mosque thus became merely equal with any other structure, such as an elementary school. Therefore, the recognition of spiritual reality in the modern designed street became an isolated and distorted affair which made it difficult for any person using the space of the street to identify, feel, and live with the religious identity of the society in the street environment's characteristics.

In this way, an important historical chapter of God, Man, and built environment relationship ended. The new urban design never considered the consequences of such a momentous step for social life, criminality, and peoples general behavior in the street.

Despite the use of modernist planning models by central authorities, continuity with the traditional past is still being manifested in the people's desire to revive the concept of *al-fina'* in order to maintain some traditional social, religious, and spiritual meanings and reflect new meanings into the public space.

This continuity over time makes it possible for all users of the street to experience Islam and local culture by seeing, hearing, touching, feeling, and smelling continuously the elements of everyday life experiences. They stand as reminders of the communities' values and judgements in the street space which support community solidarity, and involvement with the street's social everyday life.

This finding is not an argument against the use of science in designing for the built environment, but against using science to remove spiritual meanings from the built environment or using culture-bound scientific criteria rather than local peoples' criteria in the location and design of the buildings and elements which create relevant meanings in the street environments. This can't be achieved without a sensitive understanding of these meanings in the context of the established old traditional street environment and created settings of the local people in the present street environments.

3.7. Settings of al-fina' stimulate economic and social activities in the streets.

The settings of *al-fina'* in commercial streets play an important role in making goods attractive to pedestrians, and thus increase marketability and sales. They contribute to, at one and the same time, creating a private domain for owners and/or users of each particular setting, and public domains where the involved people of all settings in each particular street belong. Thus in addition to helping commercial activity, these settings are also used for private and public activities such as sitting and standing to obtain microclimatic benefits through design, and decoration. These settings essentially contribute to making the space of the street a common public home, the place of belonging for the neighbourhood community where all members are involved in protecting the neighbourhood and making it safe. This joining of economic, social, and religious activities is dependent on direct human contact for the success of each aspect, evident in those streets with high pedestrian traffic and requisite space for person to person contact.

The major part of the created settings in the residential streets of the high and middle social class areas are front gardens and flowerbeds. These settings do not serve as social gathering places to encourage private or community social activities. In the low social class area, a large number of

settings serve as social gathering places to encourage the
activities in the street, even though the buildings have no front
gardens. Therefore, using the space of *al-fina'* as gathering
place by the residents is largely based on their life style and
tradition. These conditions oppose Gehl's findings in other
western cities.

The study also shows that the number of settings developed
in *al-fina'* of the commercial street is higher than in the
residential street. This condition is largely influenced by the
traditional social rules of the family's private life and using
the streets of the market for economic activities and as social
gathering places.

3.8. The settings of al-fina' create a safe street life.

Up until the modernized period, young people identified and
observed any stranger entering their quarter. In the market, if
a shopkeeper left his shop for a while he often did not close the
shop but asked his neighbors to keep an eye on it. Thus, these
rules and the presence of seated shopkeepers in front of their
shops and the possibility of watching the street directly from
the windows of the dwellings were among the factors which played
an important role in creating safe streets.

In the present streets, the longer duration of peoples'
staying in the street which resulted from creating settings of
al-fina', allows for the possibility to watch and control street
life events continuously. The shopowners, inhabitants, and
doorkeepers are the main group who provide the eyes to watch the
commercial streets and the streets with combined functions of the
low and the middle social classes while the doorkeepers and
inhabitants are the main groups in the residential streets of the
high social classes.

This **defensible space** could not be realized without having
a **defensible culture** which gave each inhabitant and user of the

street the feeling of duty to defend the community and to create
settings to support this desire. In this way, settings of *al-fina'* made people be a part of the events of the street
environment, and not only watching the street from the indoor
space through windows.

Therefore, using design to create a safe community or a
defensible space against violations, requires solutions to create
and support the daily involvement of the community in the street
life and their ability to modify the design, use, and judgements
of the street environments continuously to preserve the
community's involvement when the situation requires.

For example, when I made my observations in the streets of
Cairo taking pictures, measuring, and drawing, members of the
street community of different ages and sex often came to me
asking who I was, and what I was doing and why in their street.
Some of them were angry and all of them behaved as if the street
was their own property. As a consequence, a sense of the
traditional privacy of the public community space is present
within these neighbourhoods.

3.10. Processes of *al-fina'* modify physical barriers for the continuity of community street life.

Changing the design and rules of the street are not
necessarily a hindrance to social interaction, if the tradition
of the society is strong and it can react by modifying and
creating user-based solutions in the designed spaces. This
represents the main theme of activity which influences the
people's response in Islamic cities to the changes in the design
of the street environments and the emergence of new forces such
as increasing traffic and the street's wider dimensions.

As above, the case studies show that people continue with
the desired social life in the street by modifying the character
of the designed spaces of the sidewalks based on traditional

models, as a response to their desire to live together as a
community. The majority of the people who were interviewed have
established relationships with their neighbors who also have an
active social street life, especially in the old parts of the
city.

When the streets are populated by low and middle social
classes, the peoples' social interaction is strong, both among
the inhabitants living on one side of the street, and between the
two sides of the street crossing the traffic of the street. This
pattern is reminiscent of more traditional conditions where, with
the presence of pedestrians and animals in the street at high
densities, social interaction was strong and had for the most
part a long duration.

This means that the people's common tradition provides them
with guidelines to use the street, and modify the physical
barriers of the streets when these barriers oppose tradition.
Thus, modifying the character of the street environments is a
response to obtain the physical and the social consensus of the
local inhabitants.

The modern designed patterns referred to here, have been
influenced by **environmental determinism**, which in turn depended
on a theory that **behavior can be changed and controlled by
manipulating the physical environment.** For example, the streets
are designed to be used by the cars separated from pedestrians,
who should use the side walk, while the residential streets
should be separated from the main traffic streets to support
social life and avoid problems of traffic. Further, the shops'
inner space is separated from the sidewalk by windows to display
goods, and finally to keep children's playing areas separate from
the main streets in order to keep children out of danger.

In reality, the streets of Cairo work in a **different** way.
People change the physical environment to coincide with their

behavior. They dispute the boundaries or limits of the physical environment and its rules. This observed condition supports what Alexander has suggested, that natural cities grow over time to be appropriate containers for the complex relationships of people-environment and their requirements. Finally the modifying actions of the users of the street encourage the overlapping of the different uses of the street (residential and commercial), and between the social and physical environment.

3.11. Settings of *al-fina'* define the identity of the place

In the pre-modernization period, each particular business and product were often located in a spesific area or market. Sitting and displaying the goods in front of these shops in each particular market made it possible to recognize the qualities of the product and the business directly and easily in the street space.

In the contemporary period, the accumulation of a large number of the settings in each particular street contributes to give the place its identity. This identity emerges from characteristics of the setting manifested in colors, sounds, smells, and textures. There is a strong desire to mix between different colors in each setting which contributes to diversify the colors in the street. Thus, the existence of several settings on the sidewalk make the sound and smell from each setting strongly identifiable by the users in the street. Using different types of materials and design in each particular setting also contribute to diversifying the texture of the street space.

3.12. Modifying *al-fina'* elements and creating new settings contribute to forming the modern local Islamic architecture.

In spite of the existing processes of creating *al-fina'* by the users in the contemporary street environments of Islamic city, official legislation, modern urban design of private companies and central authorities are continuing to neglect or pay scant attention to *al-fina'* phenomenon and involve it in

their new projects and policies. On the other hand, in those new situations of the street environment that have emerged as a consequence of *al-fina'*, it involves a large number of locally created design patterns, use, and judgements. They can aid researchers, designers, planners, and different involved authorities to find local and appropriate solutions for the street environments.

It was through similar processes that traditional Islamic architecture and built environment rules originated and developed.

4. Future research questions

This research studied *al-fina'* in four cities, yet only one of these cities could be studied in detail. Beyond the answers to research questions found in the above, the researchers' future challenge is to continue studying this phenomenon in different countries, regions, and in urban and rural environments and in different social, economic, and climatic conditions. Researchers should look for the effects of the created settings and modified elements of the street environments in climate, economy, social life, privacy, etc.

Al-fina' is only one concept of Islamic urban cities. There are many other concepts which require research to find their applications and how they have contributed to the character of traditional and modern Islamic urban environments.

Further, each one of these concepts has different elements which can be used as research cases such as windows, entrances, roofs, gardens, colors, sounds, and smells.

Finally, the systems which have contributed to the dynamic process of these concepts and elements in the traditional period such as the Islamic *waqf* system, *hasbah* system, and Islamic *jurisprudence*, aslo require more research.

In the present, we essentially need more research on the relation between the local process of street environments and each particular modern local force, such as population density, economy, education, and building legislation. There is further a need to know how the different groups of the society contribute to the process of the street environments and how the street environment meets the needs of each particular group.

This study explained the dynamic of *al-fina'* process in the street environments of Cairo which may have some differences in detail with other Islamic cities. This is an open issue for more research.

The ultimate goal should be to explore local knowledge about concepts such as *al-fina'* in local urban design and improve life conditions of the local urban society.

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