

URBAN STRUCTURE OF ISLAMIC CITY AND ITS MODERN TRANSFORMATION: A CASE STUDY OF ALEPPO, SYRIA

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Abstract Aleppo is the most typical Islamic city. Recently its urbanization has been advanced with the demolition of Islamic townscape and historic monuments under the modern European-style urban planning. Especially, new road construction has demolished many traditional houses in old town. This paper describes these phenomena based on the case study in Bab al Hadid area of Aleppo and proposes the necessity of city planning for conservation of traditional town. The most important point is that the cul-de-sac accessways resembling the traditional blind alleys must be constructed and facilities for car parking must be annexed to them. Because it results in conservation of not only Islamic townscape but also Islamic urban life.

Key words: Aleppo, Islamic city, conservation of historical city, urban growth, courtyard house, modern urban planning

1. Introduction

Aleppo, a significant cultural and commercial center in the Middle East, is one of the most important and historic cities in the Islamic world. In the beginning of the 19th century, the population of Aleppo was estimated at around 150,000 inhabitants, rendering it the third biggest city in the Ottoman Empire, following Istanbul and Cairo. But the gradual replacement of traditional caravan routes by new sea connections after the 17th century caused the decline of commercial activities in Aleppo, resulting in the stagnation of urban development and population growth. Up to the latter half of the 19th century, the city ceased to expand and most of the traditional Arab features in the city were preserved as a result. In spite of new urban development in the present century, the old city of Aleppo is a very significant example as one of the relatively well preserved historic cities in the Middle East. However, the nucleus of the new European-style town planning is alien to the historic structure of an Arabian town. The rapid urban expansion in today's Aleppo is making an increasing impact on its traditional fabrics.

The aim of this paper is to highlight the character of the historic houses and fabrics of Aleppo and to clarify the conflicts between traditional residential system and recent



Fig. 1 City of Aleppo in the past and present
 1: Ancient walled city; 2: City of Aleppo in the middle of the 19th century; 3: City of Aleppo in the middle of the 19th century; 4: Bab al Hadid District
 (case study area)

European-style urban planning ideology. Additionally some notes of urban planning for conserving the traditional townscape and urban life are presented in conclusion.

2. Urban Growth and Its Structure in Aleppo

Historic structure of old Aleppo

In the beginning of the 19th century, the built-up area (city) of Aleppo had extended 3

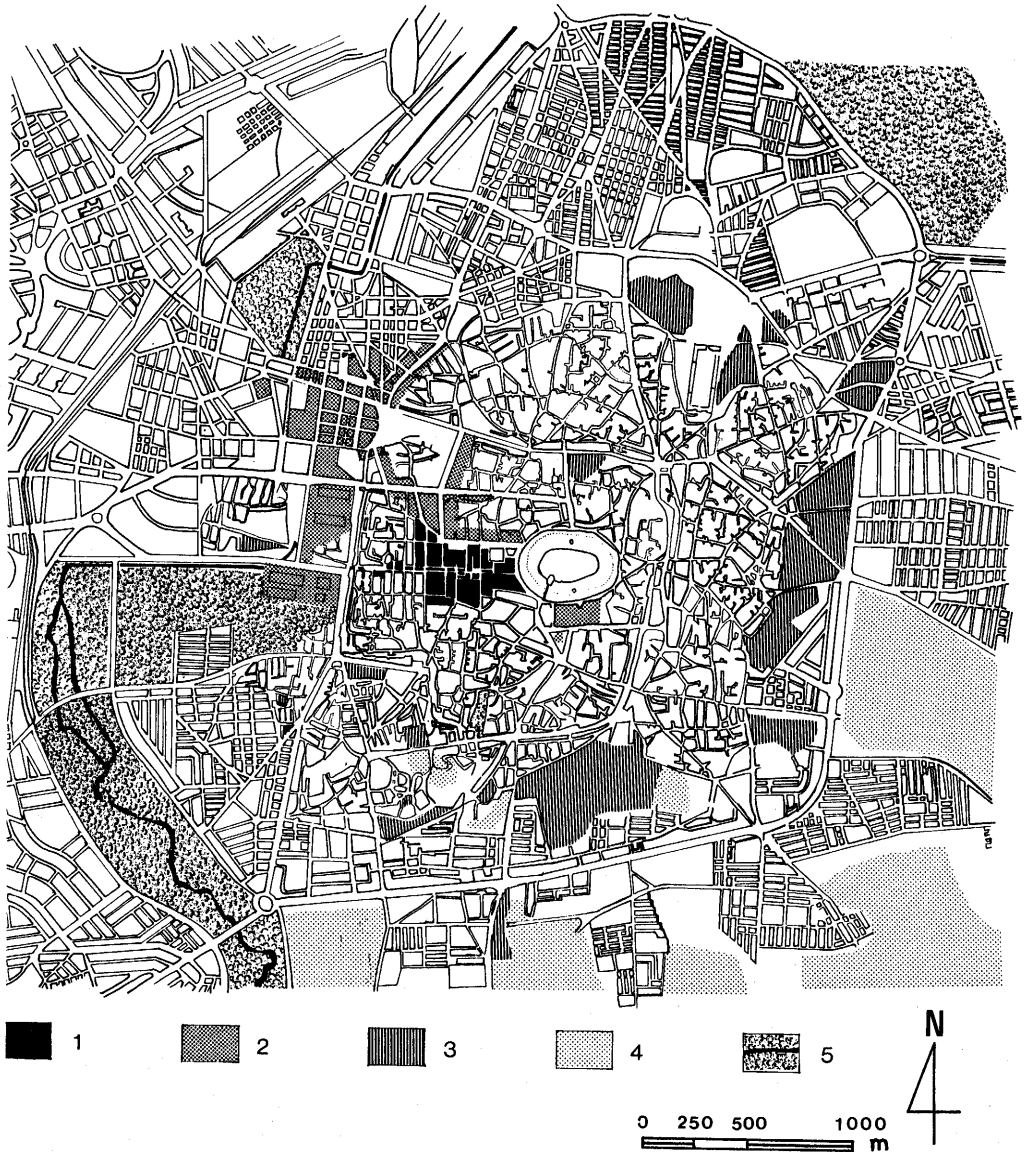


Fig. 2 Present urban structure of central Aleppo
1: Souks; 2: Modern city center; 3: Cemetery; 4: Orchard; 5: Gardens and river

kilometers to the west-east and 2 kilometers to the north-south. The city consisted of an old town of walled-city and the suburbs spread outside the walls in northern and eastern directions (Fig. 1).

In historic Arab cities, the core of the old city (*Medina*) was not only the large commercial center but also the focal point for all the city's activities. The *Medina* of Aleppo was established along the ancient east-west axis of the Hellenistic town. The main Mosque in the *Medina* was constructed on the former Agora space. A total length of the *Medina* approximated 800 meters, stretching from the Antioch Gate (*Bab Antakia*) in the west of the old city to the foot of the Citadel, and a width of it approximated 300 meters. There are not only a number of parallel rows and covered market alleys (*Souks*) but also larger public buildings which are located behind *souks*. *Souks* consist of such various facilities as storehouses (*Khans*), manufacturing units (*Geysariyes*), Mosques, schools (*Madrasahs*), public baths (*Hammams*), restaurants and so on. The entrances to these public buildings are laid out between the shops (*Dukkans*) on the *Souks* (Gaubé und Wirth, 1984).

The residential areas were spread out around the *Medina* and separated from it as shown in Fig. 2. In the beginning, the traditional distribution of the population in the different quarters was determined not by income but by religious or geographical origin, by professions and ethnic groups, or by attachment to a mutual patron. Houses were clustered around alleys, most of which were dead-ended, and were grouped interdependently according to family. Since the 18th century, there has been evidence of social segregation. However, such segregation was never rigid in Aleppo. Aleppo consisted of around one hundred communities (*Haras*) which were opened to outside influence, not only to regional, national but also to international trading activities (Bianca *et al.*, 1980; Kuroki, 1987).

In Islamic cities the street system was designed for the pedestrian. The pedestrian network of the city was based on a sophisticated hierarchical system, gradually leading from the more public to the more private areas, passing from the main thoroughfares to secondary streets and to blind alleys which reach the very heart of residential quarters. In these residential areas the alleys were mostly narrow, with a width of 2 or 3 meters, and generally were bordered by closed walls. Therefore the life within the houses was hardly discernible from the street.

Modern urban growth in Aleppo

After the Egyptian occupation (1831-1840), a new centralized administration (*Serail*) was established, and the city acquired an European-style municipality in 1868. The increase of European influence was also marked in the urban development (Fig. 1).

The Azizie district, developed in the north-west suburbs during the 1870s, was the first district which were entirely separated from the old city. This was a European-style residential quarter with wide streets laid out in a chessboard plan and was inhabited by the Christian middle class.

In 1882, the Ismaeliyeh and Jamiliya districts sprang up to the west of the city, where the Moslem and the Jewish middle classes predominated. These districts were also separated from the old quarters by the gardens and orchards along River Qoueiq.

After 1882, the elements of a modern city center, such as warehouses, horse stables, blacksmiths and mechanical workshops, hotels, restaurants, coffee-houses, cabarets, theaters, offices, *etc.*, appeared and quickly expanded in the west suburbs of Bad al Faraj (north-eastern gate of the walled city). The location of this modern center was determined here due to the proximity of the new middle and high class residential districts, to the presence of available lands near the Medina, and to the connections with the Medina through Bab al Faraj. Additionally this modern center was able to be located only on the western suburbs, because the city had already expanded towards the northern and the eastern suburbs.

After the 1890s and during the first half of the present century, large-scale town planning projects were carried out. For instance, the project to transform the moat along the northern wall into a 14 meters wide street started in 1893. In addition to the completion of a new city center and the improvement of connections between the Medina and residential quarters, a railway station was constructed in 1905 (Fig. 2).

After World War II, the city of Aleppo began to grow up again. This recent urban growth caused the "illegal" private developments around the city, except the western suburbs which were developed according to European town planning ideology.

Recent urban growth and the urban structure of Aleppo

The recent population growth of Aleppo is shown in Table 1. The population of Aleppo, estimated at 150,000 inhabitants in the first half of the 19th century, reached to 232,000 in 1932 (David, 1986). At that time, the population of Aleppo was bigger than Damascus. However, in 1955 Aleppo had a population of around 400,000, which was the same number as that for Damascus. It was after 1932 that the population of Damascus increased more quickly than that of Aleppo. The rate of population increase within the 28 years of 1932 to 1960 was 245 % in Damascus, while it was 183 % in Aleppo. The rates for the next 10 years, 1960 to 1970, were 158 % in Damascus and 150 % in Aleppo. But recently the population increase rate in Aleppo has been higher than that of Damascus. The rate from 1970 to 1981 was 154 % in Aleppo in contrast to 133 % in Damascus. At the present, the population of Aleppo is estimated at one million and more.

In the administrative, trade and service sectors, Damascus maintains a more important position than Aleppo, while Aleppo remains equal to Damascus in terms of production and manufacturing activities. In addition, Aleppo offers many kinds of centralized functions and regional services such as hospitals, schools, universities and corresponding private business activities.

It is evident that such rapid population growth in Aleppo has been caused by numerous

Table 1 Population growth of Aleppo and Damascus (%)

City	1932	1960	1970	1981
Aleppo	232,000 (54.5)	425,467 (100.0)	639,428 (150.3)	985,413 (231.6)
Damascus	216,000 (40.8)	529,963 (100.0)	836,668 (157.9)	1,112,214 (209.9)

(): %

rural immigrants (Naito, 1985). As a result, many parts of new residential quarters of the city were developed as "illegal" settlements, which were founded in the suburbs by rural immigrants and were erected without building permits. In the 1970 census (Syrian Arab Republic, 1986), these illegal settlements counted 247,000 inhabitants, which reached 39 % of the whole urban population. Its population density was not as high and measured approximately 500 to 600 dwellers per hectare. Such "spontaneous" or "non planned" settlements first sprang up in 1950, and rapidly surrounded the city on all sides except the west. These dwellings did not conform to the traditional model of architecture in Aleppo. The "non planned" settlements are characterized by the small-scale grid pattern with narrow streets, that is in contrast not only with the large-scale grid pattern in the western suburbs according to the European planning ideology but also with the traditional pattern in the old city (Fig. 1).

Traditional houses in Aleppo were flat-roofed and made of stone. The rooms are arranged on two or three, sometimes four, sides around an inner courtyard (*patio*). They are mostly on two levels facing the courtyard, and have very few openings towards the street. But the houses of the poor are very simple, having one or two rooms serving several purposes at ground level, sometimes with no courtyard and one more room on the first floor. Rooms on the upper floor are added according to family's needs or are rented to other immigrants (Bianca *et al.*, 1980).

In spite of the fact that these houses were built without permits, the existence of these quarters is occasionally recognized by the authorities, thus allowing for the implementation of various improvements. Water and electricity are brought in, sewers are installed, and then the streets are paved. This is the very model of town making in the recent Islamic World.

At present, the following characteristics can be noted in Aleppo's urban structure. In the old quarters of the city, the traditional low houses were demolished and four or five story buildings were constructed. Most of these are inhabited by the working class, and have no inside courtyard and no open space other than the street or alleys. The population density in these districts is very high, reaching 1,000 to 1,200 dwellers per hectare.

In the previously developed residential quarters there are apartment buildings of better quality, which are inhabited by the lower middle class. These buildings, as is characteristic of the extraverted European house style, have outside gardens. Traditional houses, on the other hand, are intraverted in style and have an inside courtyard. These buildings in the European-style offer a more airy and cheerful environment, but are not adapted to the traditional ways of living of the inhabitants coming from the old quarters or from the rural villages.

The upper class residential quarters are located on the west side of the city near the university, which architectural pattern is based on the model of a European villa. The population density is much lower here so that gardens add a pleasant aspect to the buildings.

3. Outline of Urban Planning in Aleppo

In spite of the fact that the modern center and grid-patterned residential quarters developed in the latter half of the 19th century, European city planning ideology was not introduced until the first half of the present century. The European city planning is noted for its street planning and for the idea of creating monumental avenues. In addition, not only traffic conditions but also all other aspects of urban life were converted into the European style. New road construction and enlargement of the streets were regarded as a positive achievement which would cope with the rapidly growing number of private cars after World War II.

It is for the first time that city planning schemes were comprehensively produced by R. Danger and by M. Ecochard during the period from 1931 to 1938. They were inspired by contemporary European town planning ideas. The new extension areas were connected by a street network whose grid was supposed to cut through the density inhabited old town. However, most of such planning proposals were not realized because of the resistance of the inhabitants of the old town.

In 1954, a new masterplan was proposed by Andre Gutton, a French architect. The basic concern of this masterplan was to stress Aleppo's position as a major node of regional, national and international road connections. For this masterplan, two large road channels in the west (sea)—east (desert) direction should cross the old fabrics, with the concentration of bus and track terminals near the center. Inside the walls, an interior ring road would separate the *Medina* from the surrounding urban fabrics, in order to give direct vehicular access to the *Khans* and *Souks*. As a whole, Gutton's masterplan seems to aim at an "abstract composition of urban form" with the Citadel as a focal point. Although only a limited part of Gutton's masterplan was executed, its basic approach and spirit have been reflected in most of the projects and proposals of the municipality during the 20 years until 1974.

Therefore, the next new masterplan designed by G. Banshoya in 1974 did not effectively change the basic guidelines of Gutton's project. The major improvements of the new masterplan has been shown in more consideration for the old town. The inner ring road suggested by the 1954 plan was eliminated and replaced by a number of cul-de-sac accessways to residential quarters, in order to maintain the coherence of the fabric in the walls. However, it was recommended that the previously proposed two major west-east crossings should be completed. The first sections of these roads have already been executed.

The very geometry of this road layout places great pressures on the traditional old city. If the road network plan suggested by the present scheme were implemented, most of the traditional fabrics would be demolished. The preservation of the old town must be encouraged, because the fundamental structural feature of the Islamic fabric, such as the intraverted layout of its architecture, the integration of single buildings into large clusters, the coherence of the urban texture and the special character of the pedestrian network, have not been taken into account. This point has been confirmed by the recent decision of the authorities to register the historic fabric as a comprehensive monument. Following an urgent appeal by the Old City Committee, the northern suburbs outside the

walls were registered in 1978 by the Antiquities Department, in an effort to stop the immediate execution of the masterplan proposals (Bianca *et al.*, 1980). A registration system of historic houses and monuments for their preservation has been prepared. However, there remains the problem of harmonizing redevelopment with conservation of the old city.

4. Characteristics of Traditional Urban Fabrics and Historic Courtyard Houses

Traditionally the Islamic towns have been characterized as having little exterior space, which is emphasized by the intraverted courtyard structure of buildings (Fig. 3). It has been shown that the main features of the Islamic residential neighborhood can be seen in: 1) intravert buildings with prominent enclosed central courtyards; 2) a high coverage of land by structures; 3) minimal outdoor public open space; and 4) integration of dwelling units (Moustapha *et al.*, 1987). They have also distinguished the design features of the Arab Islamic towns as follows: 1) urban design scale conducive to pedestrian movement—dense and low rise development—; 2) incorporation of features of passive cooling or shading in the town design to protect from the sun; 3) fostering of social contacts through strong neighborhoods or local districts; 4) street pattern conducive to pedestrian movement and passive cooling; and 5) street pattern emphasizing privacy through use of narrow, winding streets and frequent dead-end streets. As the above indicated, the traditional fabric consists of clusters of neighboring dwellings along the blind alley (Fig. 4).

The traditional houses have an inner courtyard. The homes of the rich have sometimes

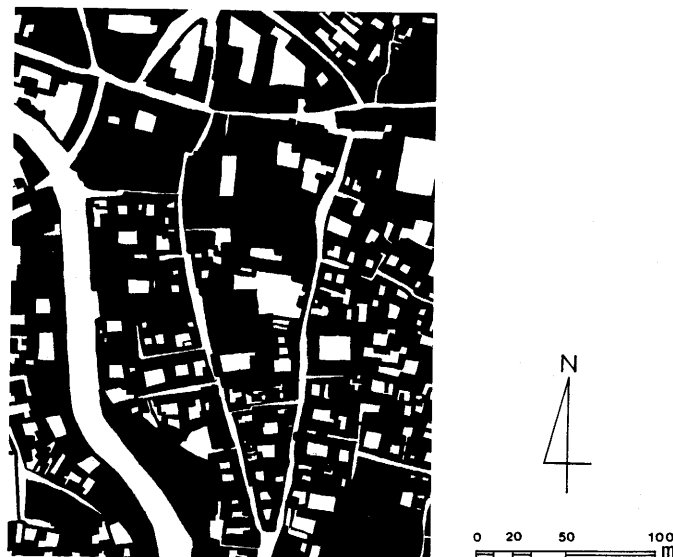


Fig. 3 Traditional pattern of open space in the Bad al Hadid area
— Street, alley and courtyard —



Fig. 4 Cluster of neighboring dwellings along the blind alley in the traditional fabric

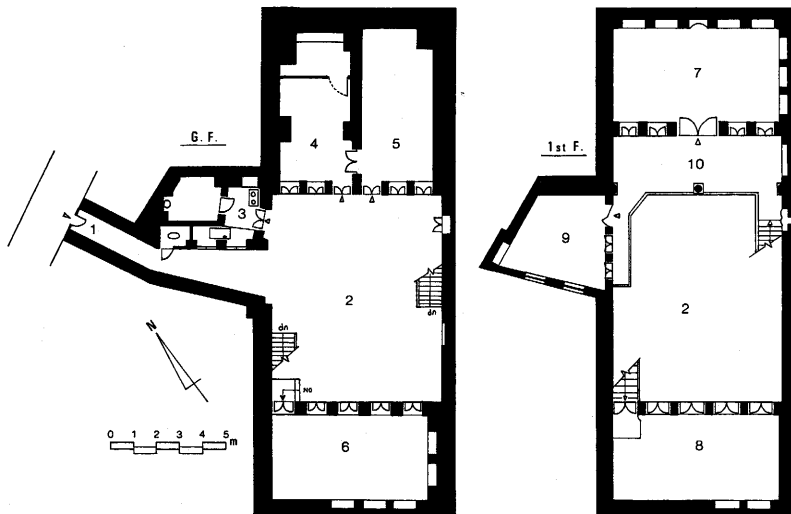


Fig. 5 Plan of a traditional house
 1: Entrance; 2: Courtyard (patio); 3: Kitchen and shower bath;
 4: Dining and washing; 5: Living and bedroom for a boy;
 6: Workroom (dressmaking); 7: Main bedroom; 8: Bedroom for three daughters; 9: Storeroom; 10: Balcony

several courtyards, around which the rooms are arranged. The courtyard is linked to the entrance by an inside passage and serves as a “turntable” for passing from one room to another. Therefore, the courtyard, which paved with flagstones, is the center for many domestic activities, when the weather permits. Figure 5 shows, in a measured drawing, the typical first and second ground plan in a traditional house. This traditional structure

of houses resembles a “shell”. The “shell-like” walls of each house are built up on the boundary of the site with little openings. The alleys within the residential area are generally bordered by these closed walls and most of them are dead-ended. The cluster, as the traditional residential unity, consists of houses which are arranged along the alley. Therefore, these alleys have the function of semi-public and semi-private outdoor space and are very important for the traditional life of the family (Abu-Lughod, 1980). However, if the new planned street is laid out on the existing houses even slightly, the construction of this new street must demolish not only these houses but also the alleys.

5. Impact of New Road Construction and Urban Transformation in Bab al Hadid Area

The Bab al Hadid area, where this case study was carried out, is located in the north-east suburbs of the old city (Fig. 1). The route from the *Medina*, through Bab al Hadid and Bab Qarliq, to the east was one of the most important ancient caravan roads. Bab al Hadid was the entrance gate to Aleppo for the caravans coming from the east. Therefore, there were large *Souks* and *Khans* in the Bab al Hadid area which were as vital as those in the Medina. Figure 6 shows the measured drawings of first floor of an old *Khan* that was originally used to store of grape syrup, but has been used as a wooden

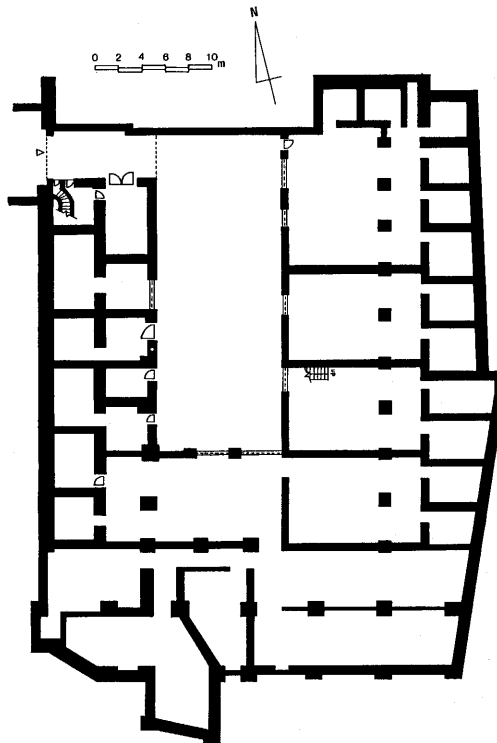


Fig. 6 Plan of an old *khan*

Table 2 Usages and ownerships of large-scale buildings in Bab al Hadid

Site Number ¹⁾	Usages and ownerships — in the past and at present —
581	<i>Khan</i> and shop, were <i>Waqf</i> ²⁾ Public, now are private property.
584	<i>Hammam</i> (Bathroom) and three shops, were <i>Waqf Zarree</i> (Family <i>Waqf</i>), now are private property and divided into many landlords.
998	Seeds store. Part of it was Family <i>Waqf</i> and the other was private property, and now is government property.
1025	Seeds store, was <i>Waqf Zarree</i> , and is now government property since 1956
940	Mosque and shops are <i>Waqe</i> Public (Banqusa Mosque) till now.
972	Two <i>khans</i> and shops. Land was <i>Waqf</i> and building was private property. Now both land and building are private property.
973	<i>Bathroom</i> (<i>Souq El Ghazel</i>) was private property and also now. But the bathroom was demolished and land is empty now.
1160	<i>Khan</i> , in the past and also at present, is private property
1161	<i>Khan</i> in the past and now factory. Land was <i>Waqf</i> and building was private property. Now both land and building is private property.
891	Dwelling house, has been private.
892	Two dwelling houses, has been private.
977	<i>Khan</i> . Land has been <i>Waqf</i> and building has been private property.
978	Shops, has been <i>Waqf</i> .
934	Dwelling house, Was <i>Ehhlassee Mosque Waqf</i> and now is properties for many persons.
936	Two dwelling houses, were <i>Ehhlassee Mosque Waqf</i> and now are government property.
1127	Dwelling house, has been private property.
843	<i>Khan</i> , has been private property.

1) Site numbers are shown in Fig. 7.

2) *Waqf* means the foundation which is established based on the Traditional system derived from the Ottoman Empire.

The *waqf* system has the purpose to encourage private citizens to establish institutions of public welfare, such as mosques, libraries, hospitals, shops, baths and so on.

furniture factory since the 1960s. After the change in both the international transit and the trading system, the position of the Bab al Hadid area has lowered as a regional trade center in connection with the eastern regions.

The recent urbanization of Aleppo transformed the ownerships of lands and buildings. Table 2 shows the past and present ownerships of main buildings in the Bab al Hadid area. For this table, two kinds of changes are recognized. One is the change from *Waqf* (Foundation) and private property to governmental property. This is accompanied by the construction or widening of the streets. The other is the change from *Waqf* to private property.

In addition to this change of ownerships, two kinds of urban structural transformation is observed in the Bab al Hadid area. One is the large-scale demolition of old fabrics and *Souks* by the construction of new streets and crossings. The other is the spontaneous construction of western-style, and sometimes high-rise, buildings (Fig. 7).

The traditional districts is characterized both by the system of courtyard houses and pedestrian alleys and by the Islamic social system of way of life. The courtyard transmits to the house the elements of light, air and water, and serves as a focal space of domestic life while maintaining the privacy of each family (Al-Hathoul, 1980). However the new high-rise buildings are very detrimental to such environmental systems in the old districts, for they encroach on the privacy of traditional homes by offering views into the lower terraces and courtyards. They also reduce the available open space, in spite of general shortage of open space in Islamic cities. These spontaneous high-rise buildings are located facing the relatively wide street (Fig. 7).

Furthermore, it is detrimental for the conservation of traditional fabrics that the new road construction of European-style will demolish most of the traditional houses. Figure 8 shows the houses which will be demolished by the new road construction and paths

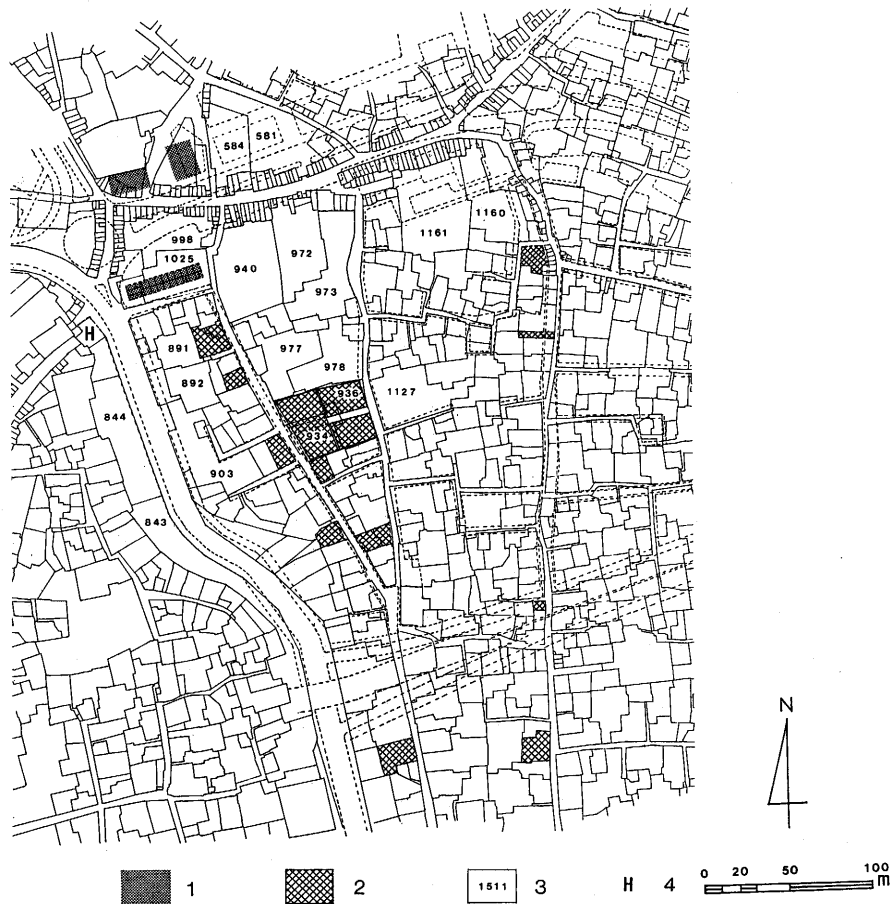


Fig. 7 Spontaneous construction of the Western-style building in the Bad al Hadid
 1: "Planned" building accompanied by construction of streets; 2: Spontaneously constructed building; 3: Site number in Table 2; 4: *Bab al Hadid* (Gate of Hadid)

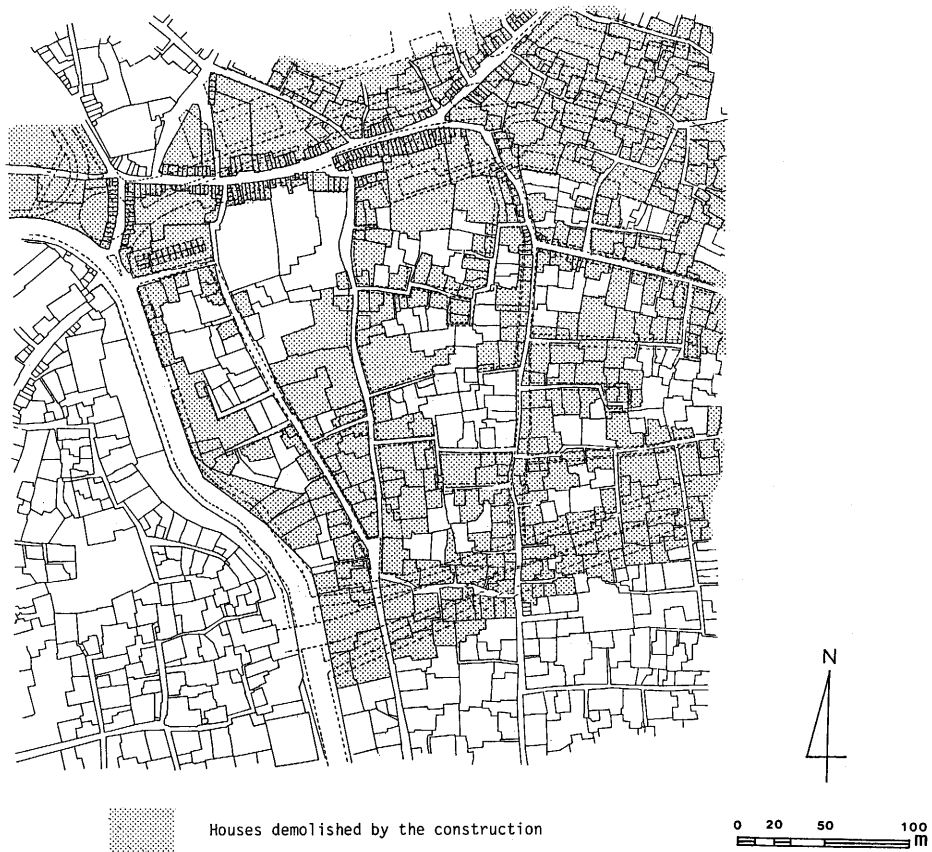


Fig. 8 Houses demolished by the construction of proposed road network

improvement according to the existing scheme in the Bab al Hadid area. A few houses located in the heart of the fabric will be left in fact, because, being made of stone, the entire house would have to be demolished if a part of a house is cut by the new road. Such demolition of traditional fabrics caused by road construction under the European-style planning ideology are experienced in whole of the historic Arab cities (Noe, 1980).

6. Conclusion

Two questions remain to be answered. Why must the historic fabrics be preserved? What is necessary to preserve the historic fabrics?

I think the conservation of the traditional fabrics is important because not only the Islamic townscape must be preserved but the traditional life of the family must also be maintained. Although the number of cars are increasing, it is more significant to preserve the way of life both spatially and spiritually.

In order to conserve the traditional fabrics, it is very important that the construction of streets which cut through the fabrics must be stopped, except for street widening,

when necessary. Secondary streets must not be allowed to cut through the fabrics. Instead, "cul-de-sac" accessways resembling the traditional blind alleys must be constructed with car parks. This scheme must be planned based on the traditional pedestrian system as only this way of thinking can succeed at conserving the traditional townscape and urban life. Also, it is important to regulate the height of new buildings in historic fabrics.

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