It is common to describe the expansion of Cairo in the 19th century as the moment when the city "opens up" at last to the river. But before the first regulation and control works on the Nile carried out by Muhammed Ali, it was the river itself that came to meet the city. Not only did the seasonal floods cover the whole area of the present town centre, the high levels in numerous canals brought water into the very interior of the urban fabric, filling the pools and irrigating the gardens.

Cairo in the 18th century still possessed a dozen pools. A plate in the Description shows the pool of Esbekeyié covered with craft criss-crossing at the foot of the houses and palaces built on the shores, while Doris Behrens-Abouseif (1982) reminds us of the successive regulations forbidding women to have boat excursions so as not to be gazed upon from nearby windows. In the middle of the 19th century, Gérard de Nerval, in his Voyage en Orient (1853), evokes the gardens situated inside the town, such as those at Rosette or the nearby ones at Choubrah, where "one then crosses the bridge over a canal which stretches away on the left forming a small lake surrounded by lush, cool vegetation. Houses, cafés and public gardens take advantage of this shade and this coolness."

It is necessary to bear this situation in mind if we wish to try to understand today the urban fabric of the old town, to imagine the closeness of the water and the profusion of the gardens. This is surely a hard task because of the great changes that have taken place in a city which in a century and a half has seen its population increase from 270,000 (in 1800) to some 12 million today. It is complicated by the fact by the rise in ground level and the reconstruction of former buildings on the same sites. But in spite of these changes which are still taking place before our eyes, a comparison of the present plot alignments with a plan of the levels of the old town undoubtedly confirms the reasons for such dispositions as a road skirting the flood area, a recent building development taking the place of a filled-in pool, and an old village on its tell.

THE BASIC ROUTES

Present-day Cairo, Al Qahira, is situated on an ancestral route, extending along the east of the Nile, linking Memphis with Heliopolis, Upper Egypt with the Delta, Africa with the Mediterranean and with Asia Minor. Since the Arab conquest under Amr in the year 640, three towns have already followed one another along this route before the Fatimid army in its turn set up its capital there in 969. "This historical route played an essential role in the formation and the development of all the towns occupying this site: the route for foreign invasions, for trade and communication with Asia, the direction for the shifts of the towns from the seventh to the tenth century and the main artery of the Fatimid capital and axis for the expansions of the city since the tenth century" (Noweir 1984).

The plan of the Description enables us to grasp the basic structure of the old town. The Al Luizz road follows the historiach alignment: from north to south, duplicated in part by the Gamaliya road. West of the canal, the khalig duplicates the caravan route in water, two gates in the north (Bab Al Futuh and Bab Al Nasr) and one in the south (Bab Zwelia) mark the boundaries of the Fatimid city, the size of which was increased in the 11th century. In the 12th century Salah Al Din reorganized the city, restoring and extending the nucleus, and building the Citadel on the Muqattam hill in the south. By this time the city developed both along the north-south
axis and towards the west where two roads which ran round the Esbekiye pool linked it with the island of Bulaq and began the conquest of the shores (Abou — Lughod, 1971). To the east, there were large cemeteries with mosques, madrasas and collective habitations built around the tombs of the amirs.

STUDY OF URBAN PHENOMENA

The plan in the Description does not give any division into lots, any more than the subsequent plans such as that of the Grand Bey in 1875 or that published in Creswell’s monumental study in 1957. At a scale of 1:5,000 (except for that of the Grand Bey, which is at 1:4,000), these plans enable an analysis to be made of the road networks and major monuments; however, they do not enable the actual fabric to be analyzed. Only the cadastral plan of 1930 permits this, as it shows the lot boundaries and the location of buildings, indicating courtyards and passages. Unfortunately, this plan is at a scale of 1:500 in disconnected plates, only slightly updated. Hence the necessity to have a tool enabling urban phenomena to be studied. This tool is provided by a detailed plan at a scale of 1:1,000 drawn up progressively since 1982 by the “Atelier du Caire” of the Versailles School of Architecture. Covering an area similar to that of the Description — of about 4 km. from north to south and 3 km. from east to west — this document contains 25 sheets, viz. an original drawing of 4 m. by 3 m. It provides a complete picture of the old town and its links with the extensions of the 19th and 20th centuries. Based on an assembly of reductions of the cadastral plan of 1930 involving the handling of more than 300 sheets, it was entirely redrawn and updated. The updating was carried out at plot level on the occasion of the annual field surveys of the central quarters and the main itineraries. A comparison with the National Geographic Institute map of 1977 at a scale of 1:5,000, and completed by partial surveys, enabled important modifications to be made for the other quarters such as new roads, large infrastructures and ensembles of MLH. The majority of the historic monuments and the mosques (a large number had to be directly surveyed) were shown in cross section, the built-up parts were shown with dense hatching, the courtyards and lands not built on with broad hatching, and public buildings and monuments not surveyed with cross-hatching.

This document has a two-fold advantage compared with earlier plans. On the one hand, it enables a “continuous” reading to be made of the plot boundaries, completing that of the road network. In this way not only the dimensions and shapes of the lots appear, but also continuities, groupings and alignments (especially the ends of lots) constituting a veritable X-ray of the urban fabric. On the other hand, the monuments are plotted in the urban continuum and at the same scale, and are no longer isolated on the page of a book. This work explains the adjustments, arrangements and deformations resulting from the constraints of the site, which without this clarification would appear only as pure formalism. The major part of the ancient fabric consists today of buildings that are less than a century old, and plot by plot the renewal of whole districts is still continuing. This fact deserves to be emphasized, for although we can speak of ancient fabric and of old towns, it is the presence of monuments, the permanence of alignments and of the plot configurations that preserve the memory of the town. An analysis or merely an observation of the current fabric and the ordinary structure are thus first those of the present-day city. It is, in favourable cases, on the basis of this knowledge that it is possible to reconstitute the former dispositions by making, as suggested by Marc Bloch (1974) a perpetual coming-and-going between the directly observable present and the past apprehended through the works of historians. A certain number of urban phenomena, in the sense intended by Carlo Aymonino (1966), may be evidenced. Some are fully readable in the organization of the structure. Some monuments are indeed direct testimony of former epochs which fix the significant dispositions; others are revealed by the plot alignments which retain the outlines of preceding occupations. Historical details (old descriptions, accounts of travellers, the works of historians and archaeologists) sometimes bear out the urban phenomena brought out by the morphological analysis. In other cases the latter makes its own hypotheses and assumptions on the basis of the observation of facts.

MONUMENTAL INSTALLATIONS

More than others cities, Cairo possesses a vast heritage of monuments testifying to its history, its economic role and its political and
religious importance. As opposed to the "classical" scheme of the medina, the great Al Azhar mosque is not situated in the centre of the city whose structure, furthermore, is not radio-concentrical but linear, stretching along the basic alignment. This business road, the urban part of the old caravan route, is a "stake", the place of competition between the commercial installations and the religious complexes.

Mosques, mausoleums and madrasas crowd this axis, and bear witness to a will for representation that is translated by the importance of the monumental façades. The Sultan Qalaun complex (1279-1386), still intact, responds to the vestiges of the Ayubid mosques and madrasas. Further north, the Fatamid Al Aqmar mosque is situated on the way to the Sulaiman Agha Al Silahdar mosque (1530). To the south, the mosques and madrasa of Barsbay (1425), Sheykh Muddahar (1744), Al Ghuri (1503) and also of Al Fawakeh and Al Moayed continue the punctuation of the alignment.

The mosques and the madrasas follow the ritual orientation towards Mecca: the qibla. This orientation, which according to the epoch and procession used varies in Cairo by several degrees, is not a priori that of the highways and of the sites. A whole series of negotiations and recuperations obeying other constraints give a site a rigorous internal geometry. It will be noticed that in Cairo it is generally in the thickness of the building that this "recuperation" is made. The thick walls, secondary rooms and ablution courtyards absorb deformations without these being noticeable in the public space. Waqalas are commercial buildings organized around a courtyard distributing the stores where the goods are stocked. Close to the Turkish hans or Maghribian fundus, they have the particular feature of accommodating temporary or permanent low-price lodgings. They belong to charitable foundations, the waqfs, which makes them inalienable, foreseeing part of the commercial revenues for the upkeep of a religious institution (mosque, madrasa, public fountain, etc.). Logically, the waqalas are situated along the main thoroughfare (Al Muizz street), the parallel road to this (Gamaliya street), in the neighbouring roads, bordering on the khālig or close to the port of Bulaq.

We observe here an aspect of the urban form-building type relation as evidenced by Aymonino. This is dialectic relation: business logic is the cause of location, and in turn this location stabilizes and stimulates the commercial function which sets its seal on the urban form.

The waqalas occupy vast plots, often more than 1200 sq. m., the biggest ones up to 4,500 sq. m. The regular courtyard, whether square or rectangular, distributes vaulted stores on a repetitive scheme. Their installation due to commercial reasons has no other "must" than ease of access. The courtyard can have its major dimension perpendicular to the road, or parallel to it, according to the shape of the available land. Access on the various floors is via a different entrance, most often in a side road or a cul-de-sac. Even if the building has disappeared, its regular origin can be read in the present land division. (Paneral et al. 1986).

Lastly, while some palaces (Bestak, Radwan Bey, Emir Taz) are situated directly along the main thoroughfare, there are also some located on less important roads, near the Citadel, around the pools, and even within the urban fabric. The small number of old palaces and houses remaining does not enable conclusions to be drawn about the locations still observable today. These palaces are often possessed vast gardens, now gone, the plot division sometimes bearing the mark thereof. But the absence of geometrical regularity in the original dispositions prevents any systematic traces from being sought in the present fabric.

LIMITS AND VESTIGES

The Bab al Futuh Gate punctuates Cairo's main thoroughfare. The fanning out of the roads in the northern district of Hussseininya is a classical phenomenon of the dispersion of roads past the gate. The origin of this fanning out is clearly situated further back than the present gate, almost in the southeastern corner of the Al Hakim mosque. This mosque was in fact built outside of the present wall which was subsequently shifted to include the mosque. In this way, despite the recent removal of the city wall and the rearrangement of the mosque square, the former layout can still be read today.

Further east, the wall no longer exists and only a ruined tower reminds us of its past existence, but the difference between the enclosed city and the exterior is still appreciable. The district of Darassa, laid out at the beginning of the 20th century and constructed in the 1930s, occupies the site of a
vast non-built-up area between the Fatamid wall and the city wall of Salah al Din. The area, long used for the quartering of the troops, still today retains its status of being outside of the city, as witnessed by the establishment in the 1960s of two HLM complexes.

Internally, the roads run parallel to the wall, and the construction of buildings backing on to the wall continues to block the passage, although the wall has disappeared. South of the Fatimid foundation the Bab Zweila gate has also been shifted to include a mosque (later reconstructed). The wall still stands in part, set into the constructions, while outside, the beginning of the district formed the object in the 17th century of a vast urban planning operation with the creation of a covered commercial street linked to a waqala and to the palace of Radwan Bey.

At the northwestern end of the district of Bab al Charia part of the Salahal Din wall still stands, separating an ancient fabric established in the Mamluk epoch from the modern areas built at the end of the 19th century. The width of the roads as well as the size and shape of the plots divide these two worlds. In the interior, the road that follows the wall rejoins the main street in the district shortly after the old gate of Bab el Bahr (the Gate of the Sea, i.e., in Egypt, of the Nile) that led to Bulaq. Although the creation of the station just beyond the gate meant the piercing of the old city (Clot-Bey Street), the continuity of the former fabric is still perfectly readable.

Thus the continued existence of the town wall as a structure, or its vestiges in the plots still marks an inside-outside opposition within the fabric, although the present periphery of the city has shifted several dozen kilometres. And with the exception of a few rare modern passages, interior-exterior relations are still situated at the side of the ancient gates, even when these gates have disappeared.

Other vestiges which remain harder to decipher. A change in the nature of the plots behind the monumental complexes bordering the main road seems to retain the imprint of the western limit of the Fatimid palaces. As opposed to rather large, regular plots (averaging 500 to 1000 sq. m.) there are more limited, more imbricated plots (100 to 300 sq. m., on average). We may think that the large site corresponds to the reusing of the walls and foundations of the palaces after their demolition, while the small site bears witness without doubt to a village predating the Fatimid foundation. The presence in the northwest of an ancient Coptic church bears out this hypothesis.

Have other villages been included in the city, and does their presence still mark the present fabric? To answer this question we should remember the dual structure of agricultural villages: a small cluster on a tell which protects the village against floods when the river is swollen, and an arable area arranged according to a rigorous, unchanging geometry of square basins supplied by canals (Nowier, Panerai 1987).

South of the Al-Azhar mosque, in the heart of the Batneiya district, the Fatimid wall curves to take in a group of lanes and culs-de-sac making up an orthogonal regular complex very different from neighbouring districts. Is this the agricultural part of a former village? Here again the presence of Christian monuments right in the centre of the Fatimid foundation could suggest this. Or, what of the garden, likewise irrigated, of a nearby palace? In any case, it seems sure that agricultural land is at the origin of this "plot development".

More recently, the development of Sharqawi offers a regular layout with equidistant streets and identical plots which contrast with the surrounding fabric. This is the late urbanization of an "enclosure" that for long remained "rustic" and probably liable to flooding. The land is lower lying than the neighbouring districts, and this bears out the assumption. Likewise, the filling-in of the pools inside the town took place in a recent period. The district of Hilmia established by Ali Pacha Mubarak on the pool of Birket el Fil is the best known example of this.

NEW ROADS, LINKS AND IMPROVEMENTS

The modern period has not touched the layouts of the old city very much since efforts from the 19th century onwards have been concentrated on the lands bordering the Nile which were transformed into building land by the reclamation works of Mohammed Ali. Nevertheless, three important operations have marked the urban fabric. Situated at the end of the "free district", Esbekeiyé in the 19th century become the centre of the modern city, crowned by the construction of the Opera House on the occasion
of the ceremonies marking the opening of the Suez Canal in 1869. ("Aida" was performed there, composed especially for the occasion by Verdi). Apart from the upgrading of the links between old and new fabrics, the development of this centre entails opening up two new roads to connect it with the important points of the old city. The first one is Muski street, running approximately west-east, linking the business centre of Khan al Khalili and the great Al-Azhar mosque. This road had probably already been started at the end of the 17th century, as the plan in the Description indicates a first segment of it; it was to be resumed in 1845 and subsequently finished. The second one is Citadel street, now Mohammed Ali street, opened in 1873, linking the new centre to the centre of political and military power. These two relatively narrow roads are accompanied by architectural prescriptions concerning the buildings lining the river bank. Mohammed Ali Street was made following an order of arcades similar to those of the Rue de Rivoli in Paris. Nevertheless, we note that these roads are limited in extent and operate only on the plots directly touched by the alignment. There is no redistribution of the plot development in depth, and the pre-existing roads retain their continuity from one end to the other of the new roads. A subtle operation marks the take-off of these two roads from Al-Ataba Square to the southeastern corner of the Esbekeyié gardens, with the construction of a metal market which acts as a junction between the old fabric and the modern constructions. Contrasting with the delicacy of the roads opened in the 19th century is the brutality of those of the 20th century. The political decision of the British administration to "cut through" the traditional districts after the nationalist uprising of 1919, or faced by the traffic constraints, the opening of Al-Azhar street (1920-22) and of Al-Geish Street, or the destruction of a whole row of islands along the old khaliq filled in at the beginning of this century appear as real gashes in the fabric. However, despite the filling in and the widening operations making the old canal (the present Port Said street) into a real "cut" bordered by large, modern edifices such as the Islamic Museum and the police headquarters, the old fabric still persists here. It retains the layout of the tanners' villages established in the outskirts of the old city, shifted in the Ottoman period, and cut through by the opening up of the Citadel Street.

Lastly, the desire to enhance historical monuments has led to the large-scale suppression of the old fabric to make the great monuments stand out. Thus, the mosque-madrasa of Sultan Hassan with the construction of the Al-Rifa'i mosque (1905) and the renewal of Rumeliya square at the foot of the Citadel according to a design already outlined in the plan of Grand-Bey. The same logic around the Al-Hussein mosque and in front of the Al-Azhar mosque where the measures undertaken by the Minister of Public Works, Ali Pacha Mubarak, were to continue until the 1690's.

Paradoxically, the old vestiges extend to inside the modern city. The city centre built at the end of last century using European methods conserves important fragments of the old fabric under the apparent uniformity of its regular division and its broad streets. To the south of the Opera square there are some old roads, and an ancient mosque breaks the alignment of Al-Gumhuriya strett. Further south, an old road linking Bulaq with Bab Zweila still proceeds between the big modern institutions such as the Abdin Building and the monuments dating from the beginning of the century. Nor has current speculation starting from the banks of the Nile yet fully eliminated the Maarouf district, an old quarter swallowed up by the urbanization between the Palace of Justice and Cairo Museum. Such vestiges within the urban fabric still preserve the memory of the old city.

Sawsan Noweir
Philippe Panerai

The illustrations are extracts reduced from the scale of 1:4,000 of the cadastral plan of Cairo drawn up by the Laboratoire de Recherche de l'Ecole d'Architecture de Versailles (LADRHAUS) and the Atelier du Caire, Certificat d'Etudes Approfondies en Architecture: Villes Orientales, Maghreb, Proche-Orient, under the responsibility of Sawsan Noweir and Philippe Panerai.