



project 4 . FIELD WORK .
egypt .

2 old cairo study .

III WORLD STUDIES
ARCHITECTURAL ASSOCIATION
SCHOOL OF ARCHITECTURE
36 BEDFORD SQUARE
LONDON W.C.1

The work presented here is the result of two months field work carried out in Egypt as part of the III World Studies Program. The aim was to re-evaluate indigenous planning, design and construction techniques for contemporary application.

Under this aim 4 subject areas were studied:

1. Climatic evaluation of traditional houses in old Cairo and of test rooms at the Cairo building research centre.
2. Survey of old Cairo.
3. Comparative studies of New Gournna, an architect designed village and vernacular villages in the Luxor area.
4. Mud-brick, vault and dome construction; including building a dwelling unit applying the construction method.

The group worked in Egypt from 25th March to 10th May 1973 and then in London wrote the reports and mounted an exhibition of the work done.

Those participating were:

Omar El Farouk
John Norton
Wendy Etchells
Jocelyn Levaux
Allan Cain
Farroukh Afshar

EGYPT REPORT

OLD CAIRO STUDY

JOHN NORTON
ALLAN CAIN
WENDY ETCHELLS
JOS LEVEAUX

UNIT 8
5TH YEAR

OLD CAIRO

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PLEASE NOTE :

this study was undertaken as a joint project in spring 1973 by the following group of people.

ALAN CAIN

JOHN NORTON

WENDY ETCHELLS

JOCELYNE LEVAUX

FAROUK AFSHAR

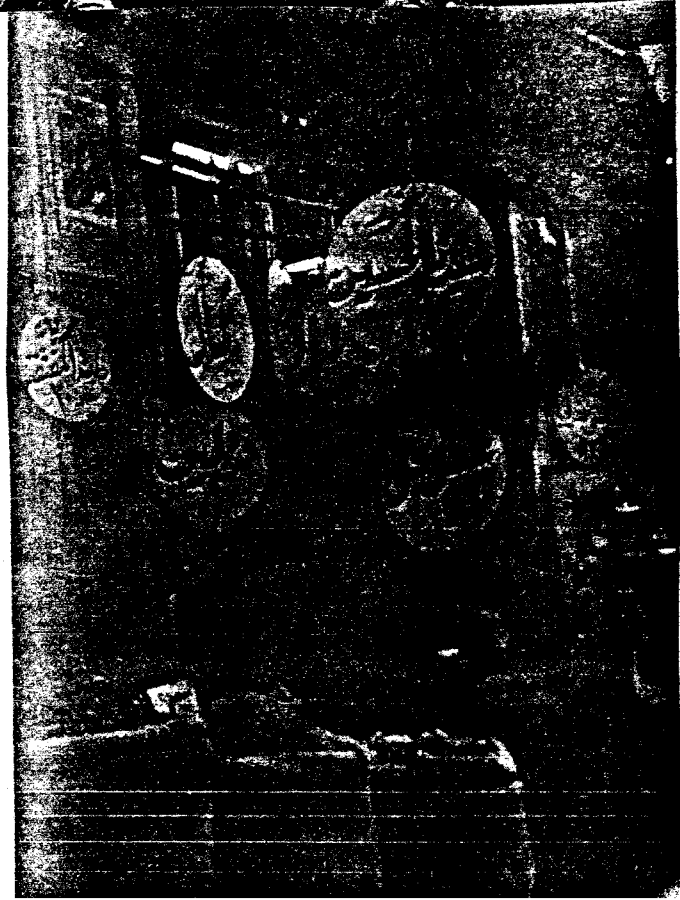
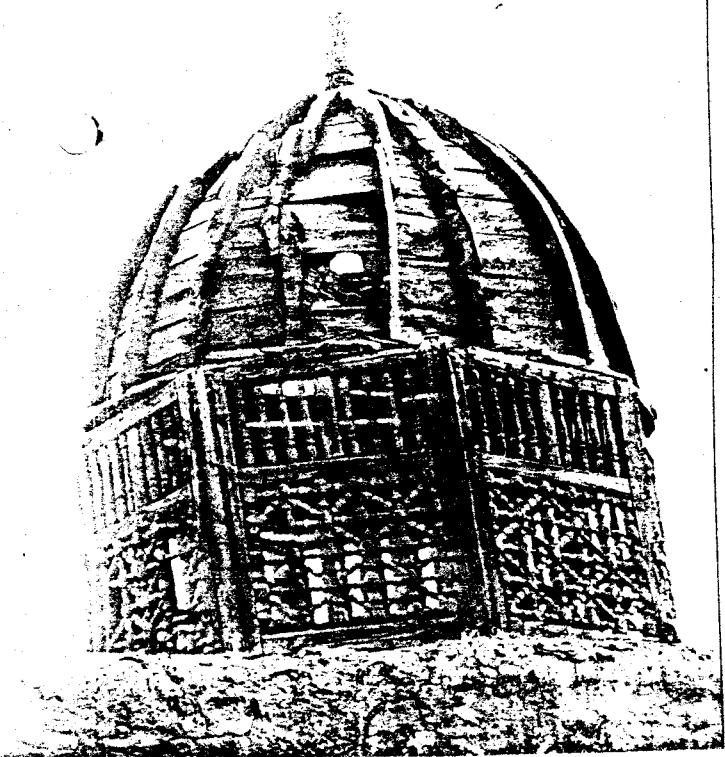
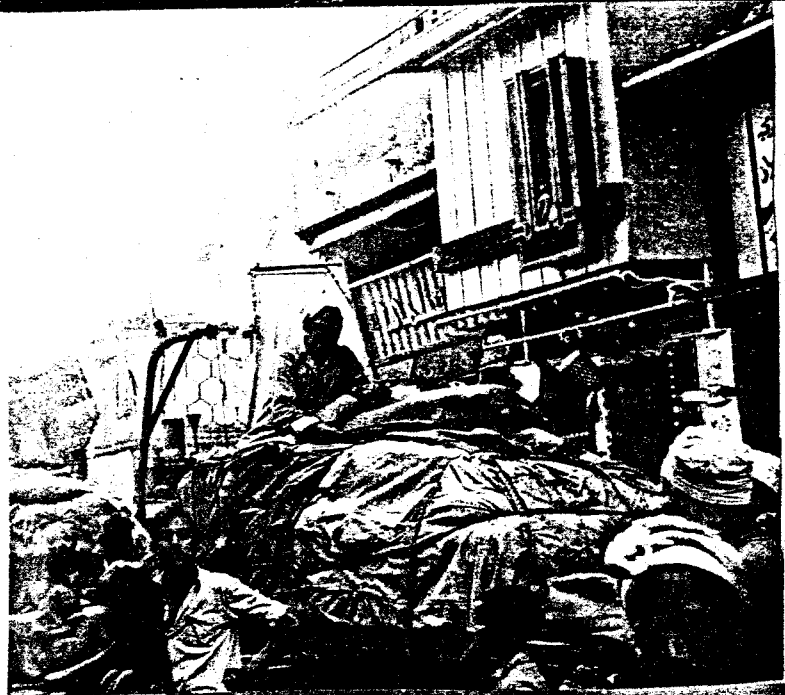
PETER SUTHERLAND

We worked closely on all aspects of the project and produced the draft report as a group.

The final presentation of each person's report has been left up to individual effort



CAIRO SKYLINE



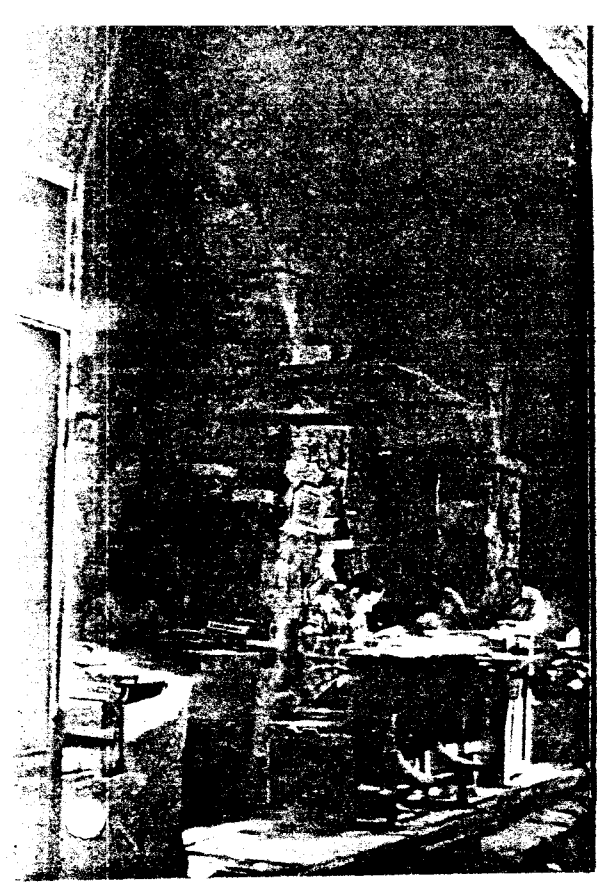
INTRODUCTION.

Old city centres in the third world have for some time now been ignored and allowed to decay or perhaps worse still fallen prey to heavy handed re-development. This has resulted from the belief that they are nothing more than obsolete slums, unstructured and not worth a second look except for a handful of prominent buildings.

On the contrary old city centres such as old Cairo provide a valuable source of information of planning and design methods true to their environment and cultures. Underlying the apparent haphazardness a structure does exist far more successful and effective than the 'modern' parts of the city.

R. Fonseca's study of Old Delhi and comparison with Lutens' New Delhi illustrates this fact admirably.* This study attempts to begin a similar dialogue on Old Cairo.

* see R. Fonseca, "The Walled City of Old Delhi" in Shelter & Society. The Cresse + Press 1969.



OLD CAIRO SURVEY.

Personal Impressions

Old Cairo is a mosaic of contrasts of life, people, activities, sounds, smells, colour, light, shade and feelings. If it were possible to make a complete sensory model, maybe one could explain what it is like to be in it.

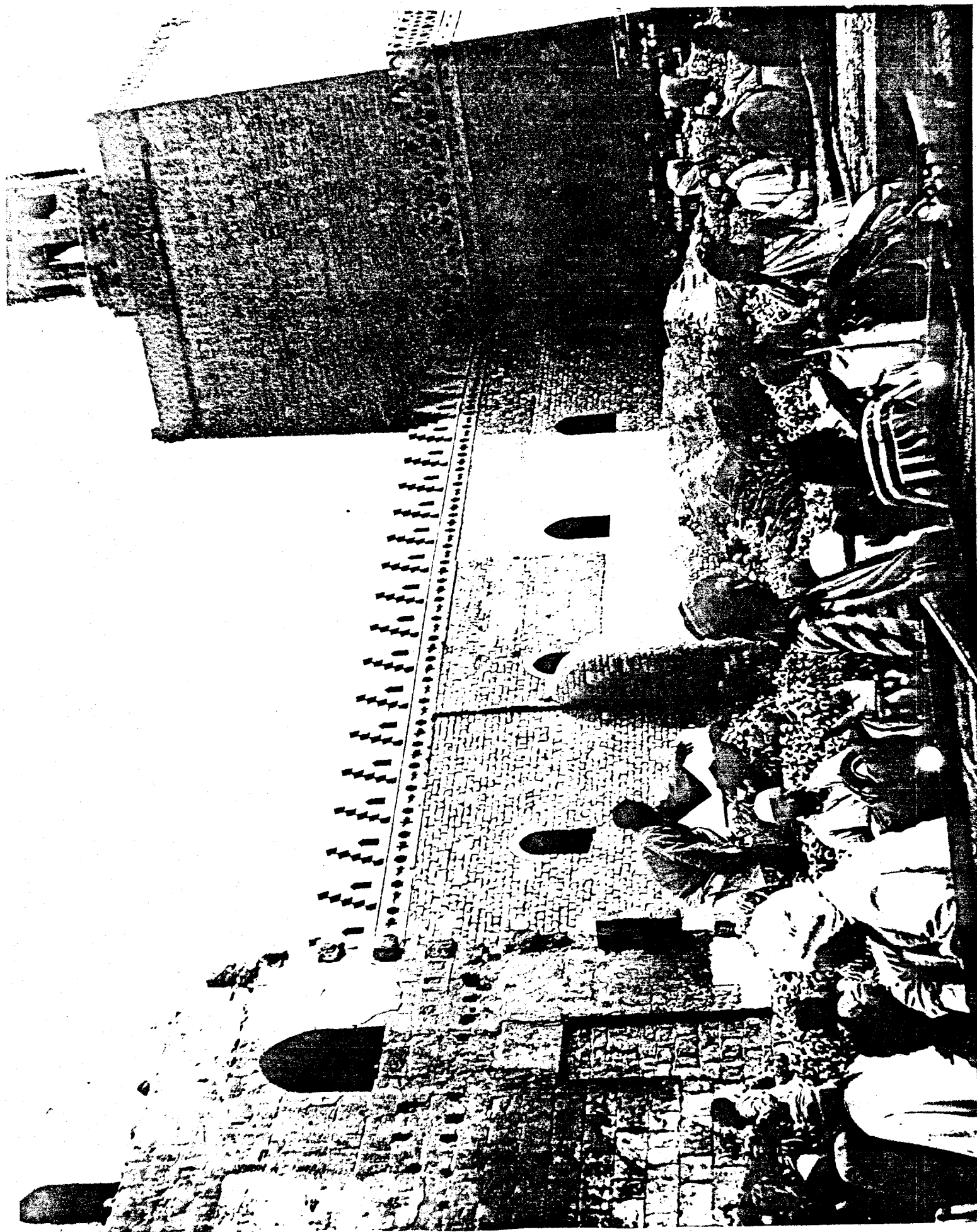
As it was we were limited to the use of our own eyes plus cameras, a tape recorder, a movie camera and a map to help us. The survey itself took place in one small section of the overall complex of areas which make up Old Cairo, consisting of the metalwork and jewellery areas.

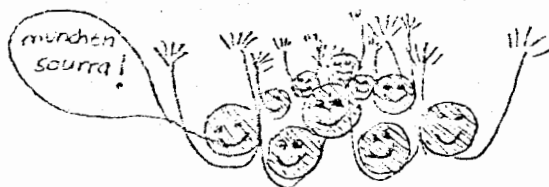
We obviously looked like tourists, and even after two weeks of wandering round the same streets were still considered oddities to be stared at - continuously hassled with language difficulties, misunderstandings, intolerance, incomprehension of the unfamiliar, repugnant attitudes and views.

No matter - we press on and manage to take some pictures, make a few notes and diagrams, some film and recordings.

Sketches were out. Our two attempts being disastrous in attracting so many people, that our subjects were obscured from view by a sea of curious faces at very close quarters. Not knowing enough Arabic to persuade them to move, we had to give up. Even when we did learn a few appropriate phrases they seemed to have no effect.

However, the technique of photography was mastered quite well. We chose a subject, then proceeded to turn in an almost opposite direction and prepared to take a photograph. Meanwhile about





two dozen kids positioned themselves in front of the camera, arms waving, shouting "munchen sourra" (will you take my picture) and grinning from ear to ear. At the last instant, a quick turn and click, and the picture was taken. After that the children never quite knew where to stand.

Apart from the survey we spent much time exploring the rest of Old Cairo, meandering through the maze of streets, finding ourselves, one minute overcome by the smells of spices, the next by the fragrance of musk and amber. We passed a square full of garlic stalls; numerous fruit sellers hidden behind mounds of oranges, limes, bananas, melons and dates; shops roof-high with carpets, materials and thousands of pairs of leather shoes.

Our strolls always began and ended in the same place - Fiershawi's - a coffee and tea house in Khan Khalili, the tourist bazaar area which, fortunately, is not typical of the rest of Old Cairo. All the shops sell the same things, all aimed at the tourist's purse.

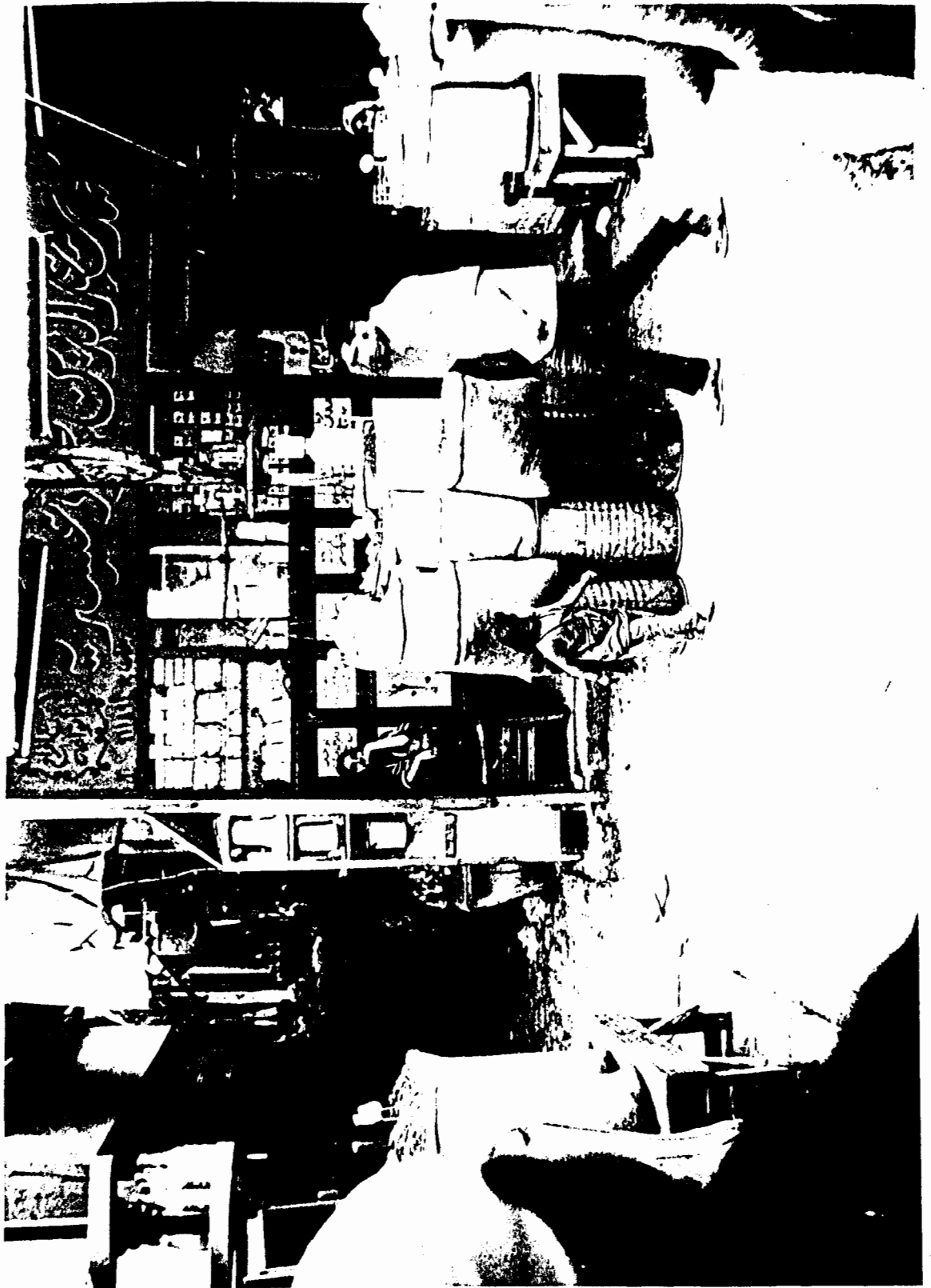
Tourist Bazaar area - notes written sitting in Fiershawi's, to try to put over some of our feelings while we were there.

April 30th - back in Old Cairo after 3 weeks in Gurna -

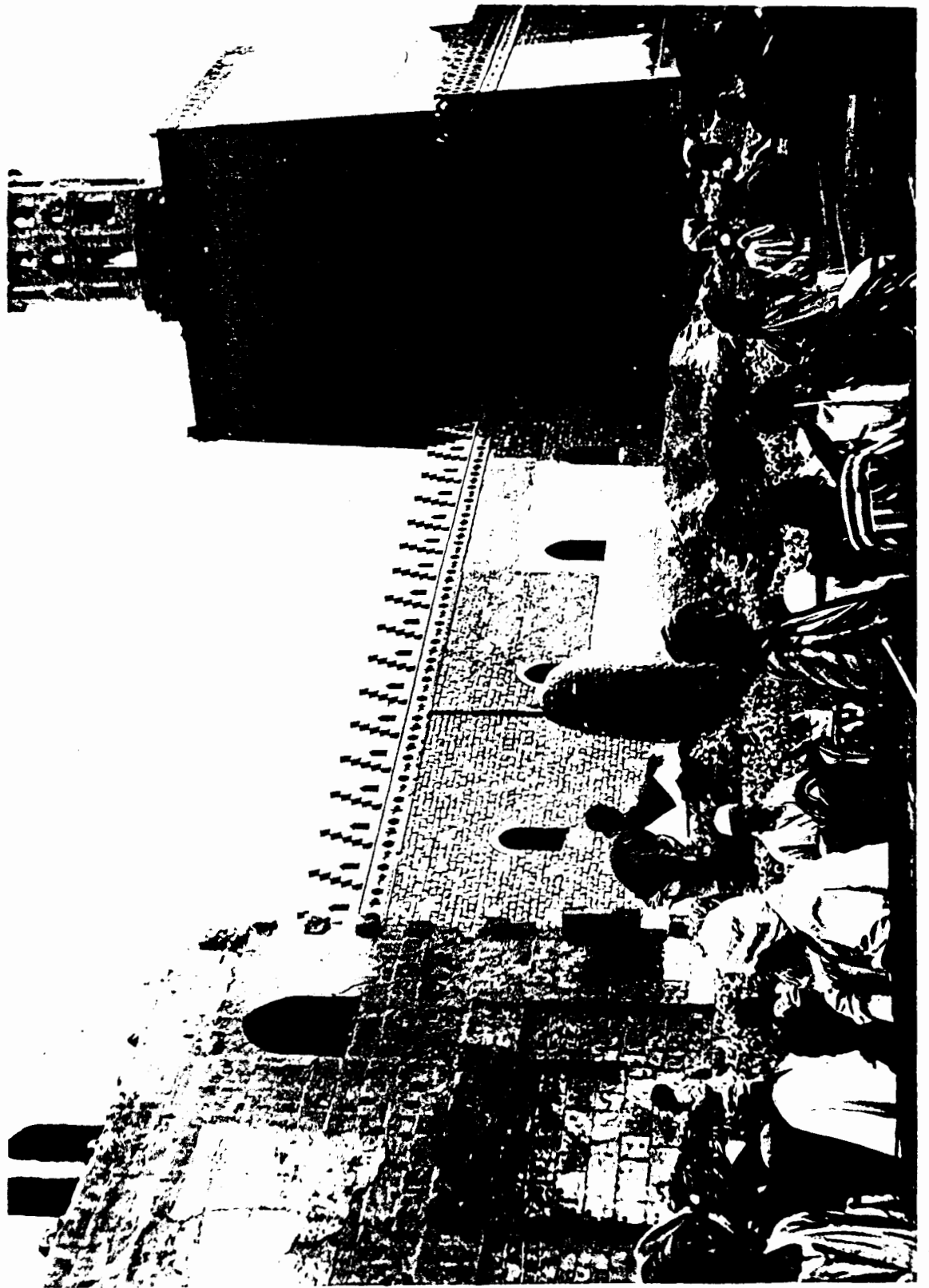
"A return to the city environment, a public holiday today for most of its inhabitants - but not for us - we are contemplating a walk round armed with cameras and tape recorders. Noise - music on a cheap radio - voices begging business. It's Easter time here, one week late. Growing annoyance with shop keepers - "madame, madame, come inside, I have something here just for you" - all the time - will they never give up. Somehow not genuine - playing to the tourist - sick!
Ashoe cleaner comes by and insists on cleaning your shoes, even if they are sandals and not much there to clean. "La, imshi, imshi." (No, go away.) The tea is "Mish quis". (no good.) another cup - that is better. City tensions start appearing - a wound-up feeling - becoming wary of people, no genuinity any longer - why does the city destroy these people? People in the cities seem to lose their standards and values and self respect. Any way, to work."



OLD CAIRO - market area - coffee shop, meeting



OLD CAIRO - spice market

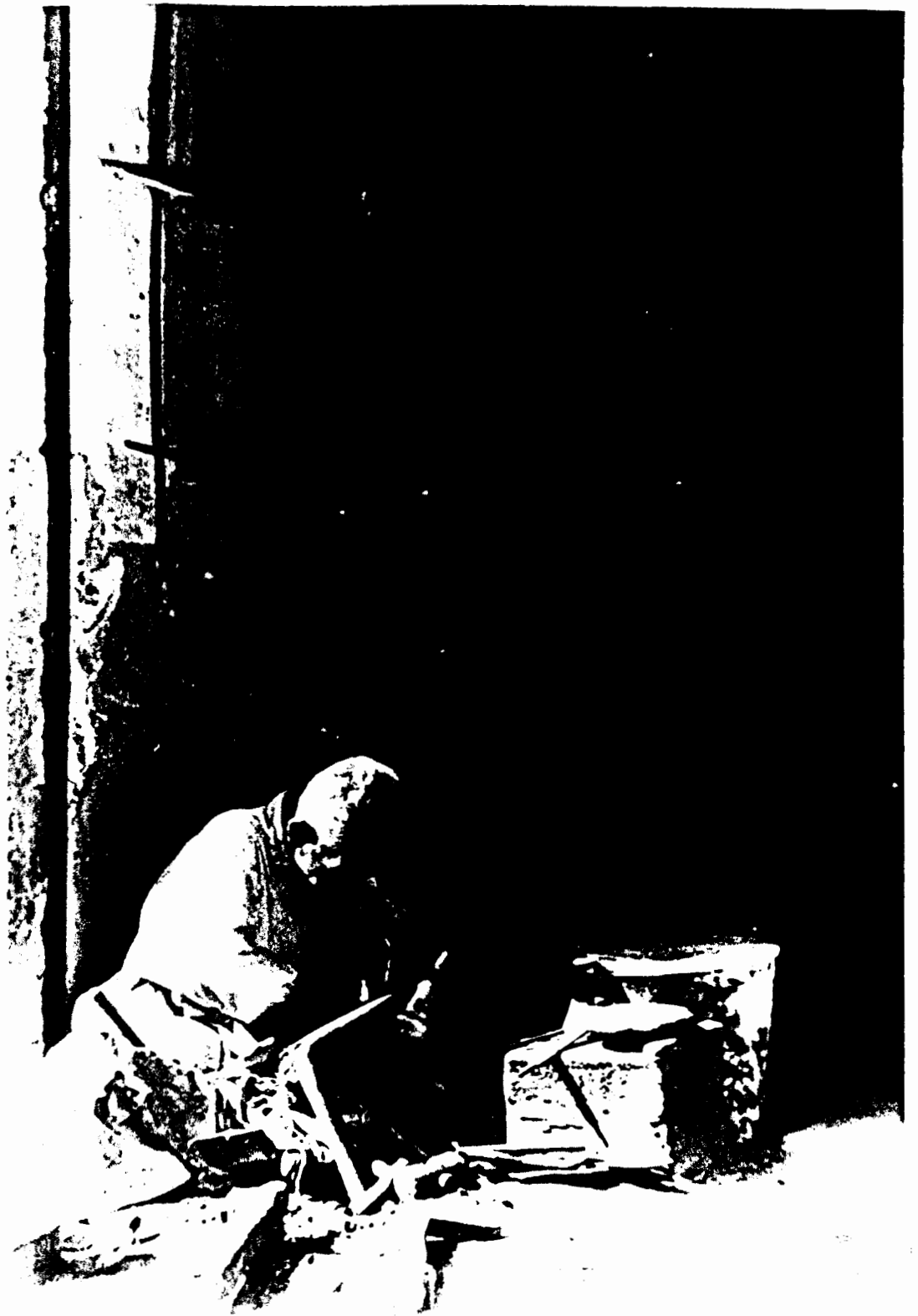


OLD CAIRO - garlic market - mosque behind

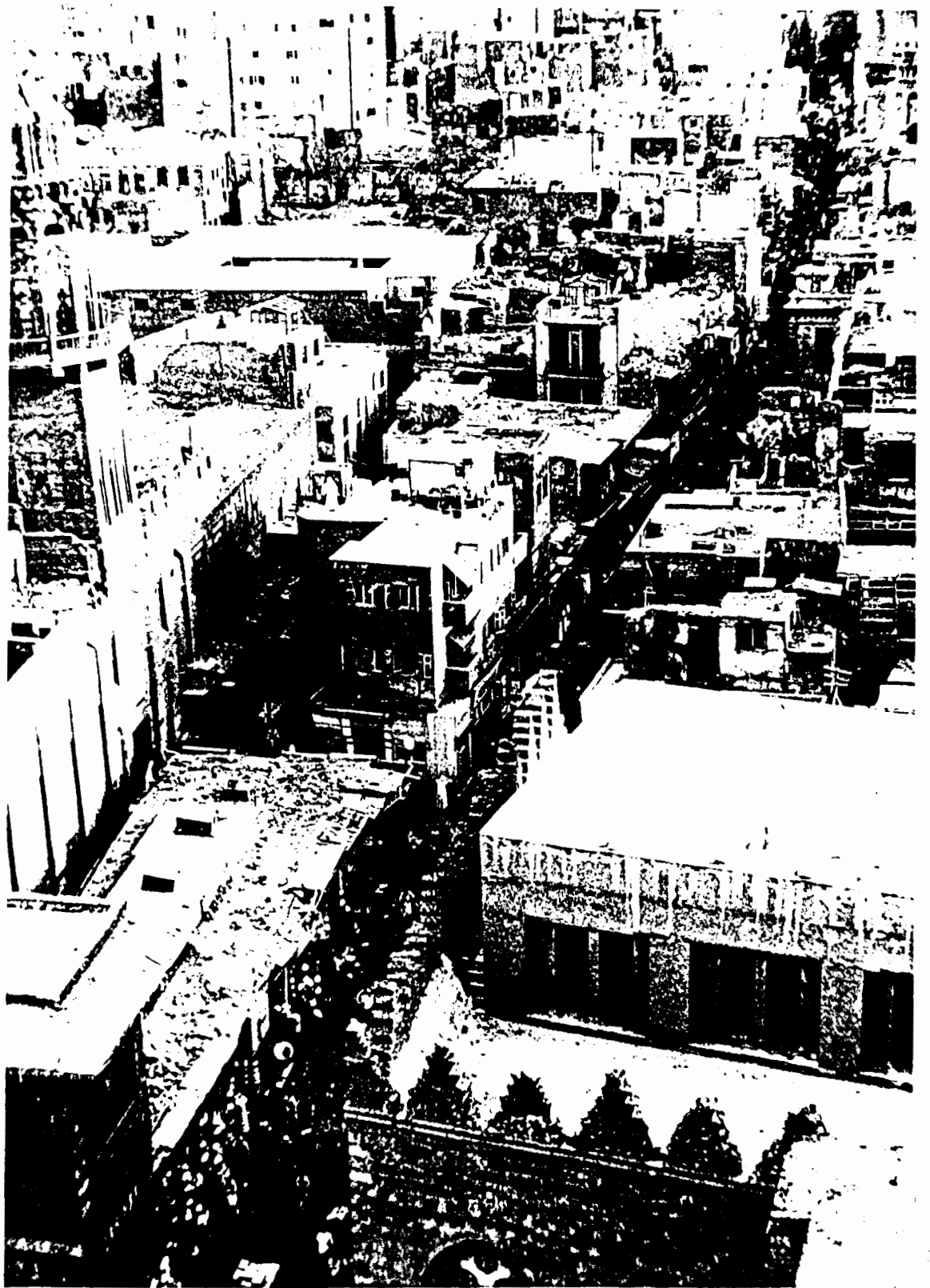
OLD CAIRO.

A wander round - route shown on map ●●●●●●●●●●

We leave Feishawy's and walk to the main street shown on the map. Horse drawn carts clatter past, people hurrying in all directions - bright sunlight, dusty air - an ugly block of modern flats, paint peeling off - jewellery shops, and dark narrow passages full of workshops behind them - past the long tree-lined drive, leading to the Kalawone Hospital - turn a corner dominated by the powerful facade of the Mosque of Kalawone and its calm peaceful interior - a slight breeze - more men and women talking and walking, shouting and laughing - shops selling pots and pans of all shapes and sizes - hubbly-bubbly pipes being smoked by cross-legged gentlemen sitting in doorways - a cart laden with large juicy oranges - the street divides into two - we turn right into Darb Kermez - a quieter, winding street, inviting us to investigate further - we peer through a doorway - a nursery school full of laughing children playing games, a smile from their teacher - out again, and through another covered entrance - the smell of fresh garlic, and hens running round a court yard of flats all round, and makeshift wooden shacks - out again, and facing a closed vista of tall buildings, we see a dark and narrow tunnel, cold and damp, but interesting - we go through it slowly - its very silent, with cobble stones, leading us to the glare of light at the other end - out into the open light, wondering where it will lead us - round a bend, and we are in a large open square buzzing with activity - a tree shading a tea-shop - a lorry goes round, and stops outside the police station in Beit el Qadi square, and we move on quickly as we see a policeman



OLD CAIRO - scale shop ① (see map)



OLD CAIRO - Binel Kassrin Street ②

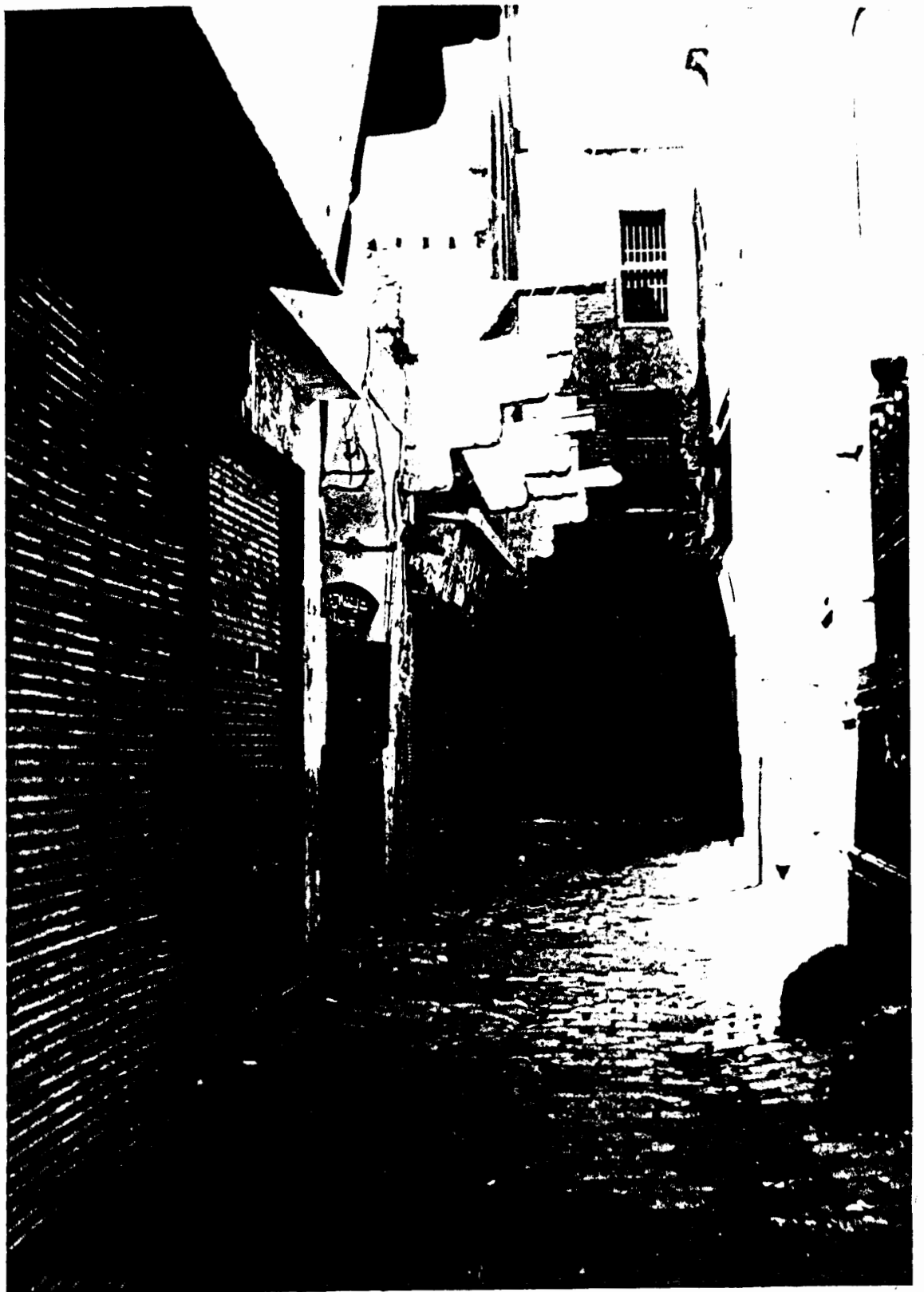


OLD CAIRO - Khan Khalili - tourist market ③



④

OLD CAIRO - market street and apartment block



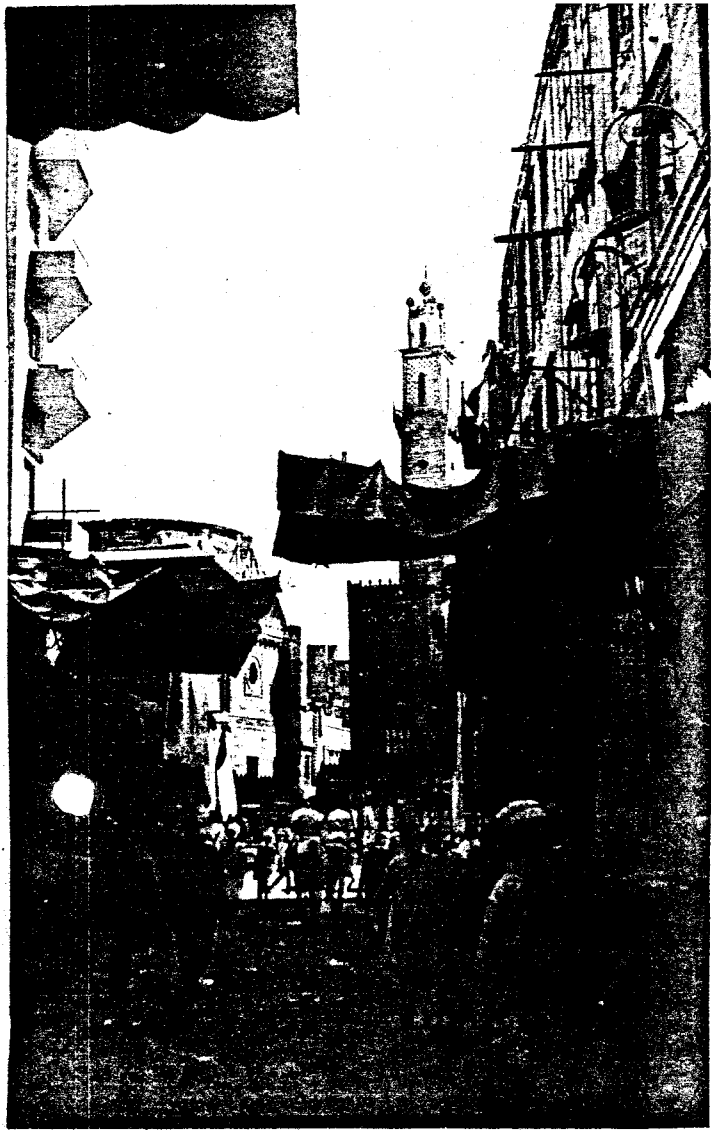
OLD CAIRO – jewellery workshops, holiday ⑤



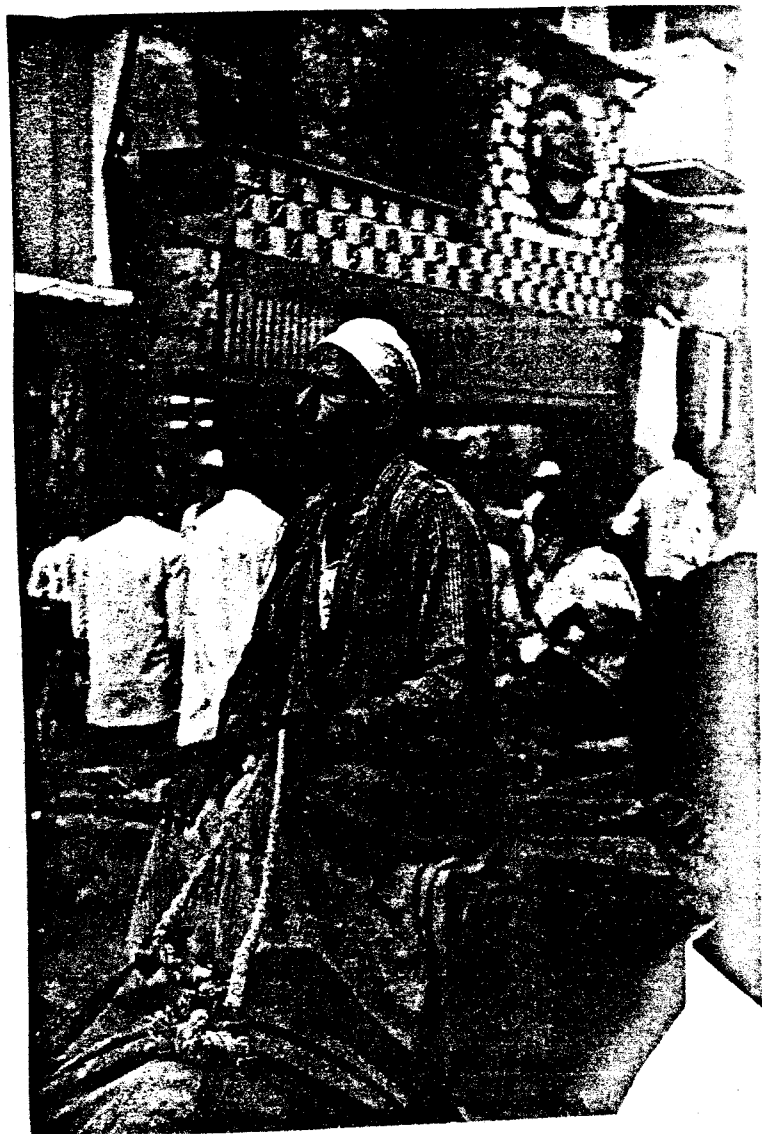
OLD CAIRO - 'modern' apartment block ⑥



OLD CAIRO - Babel Kassrin Street - focal point ⑦



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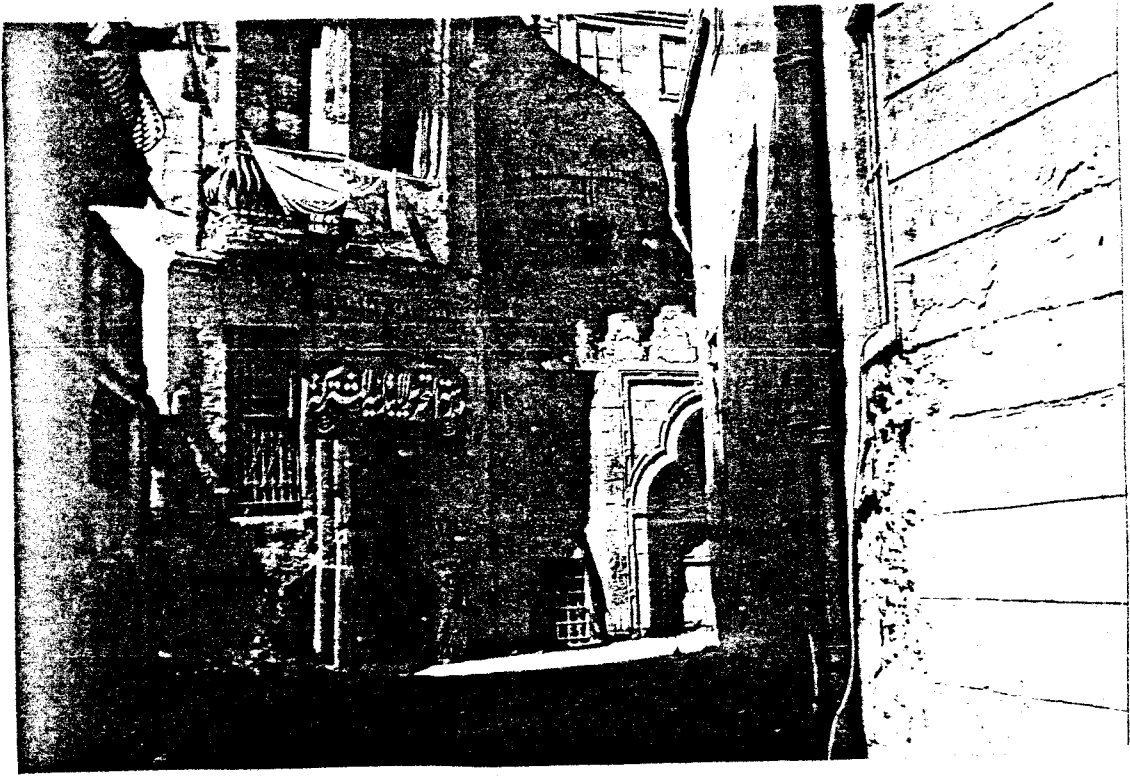


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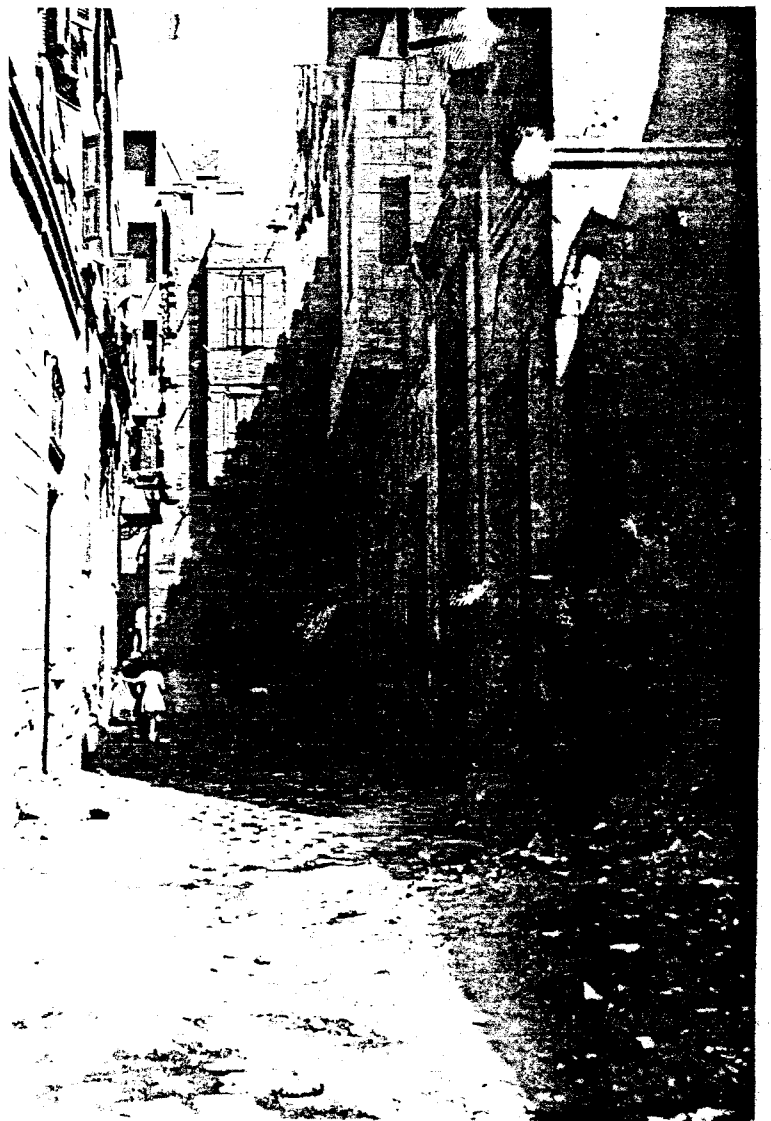
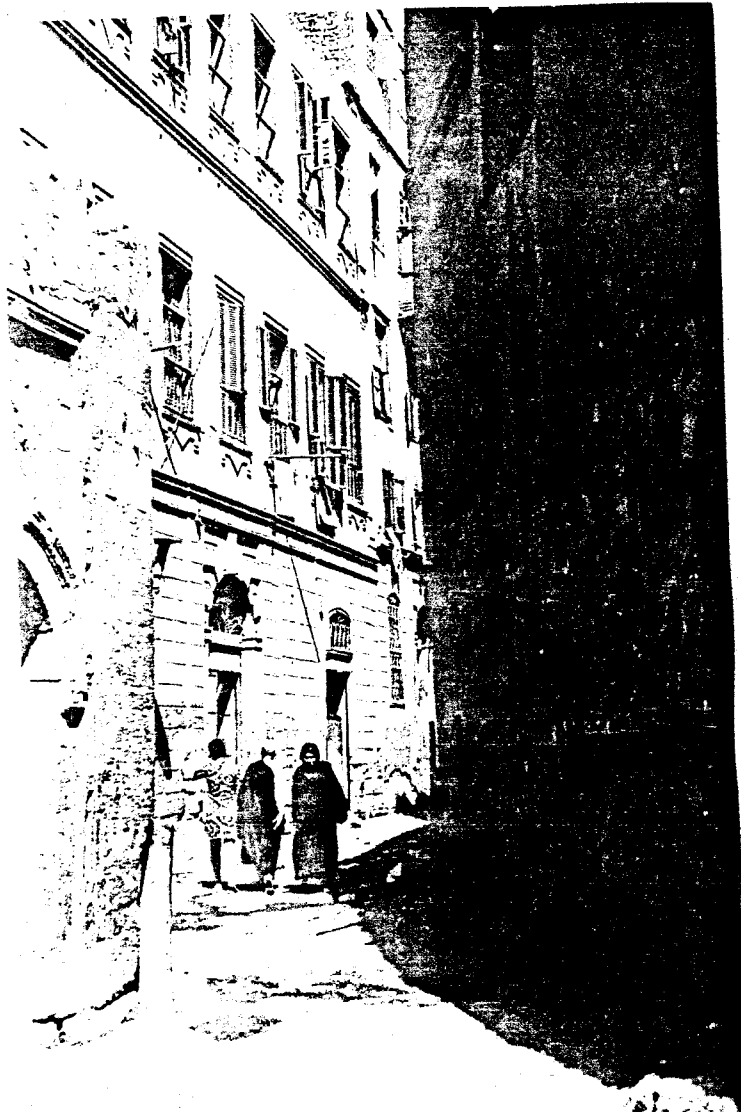
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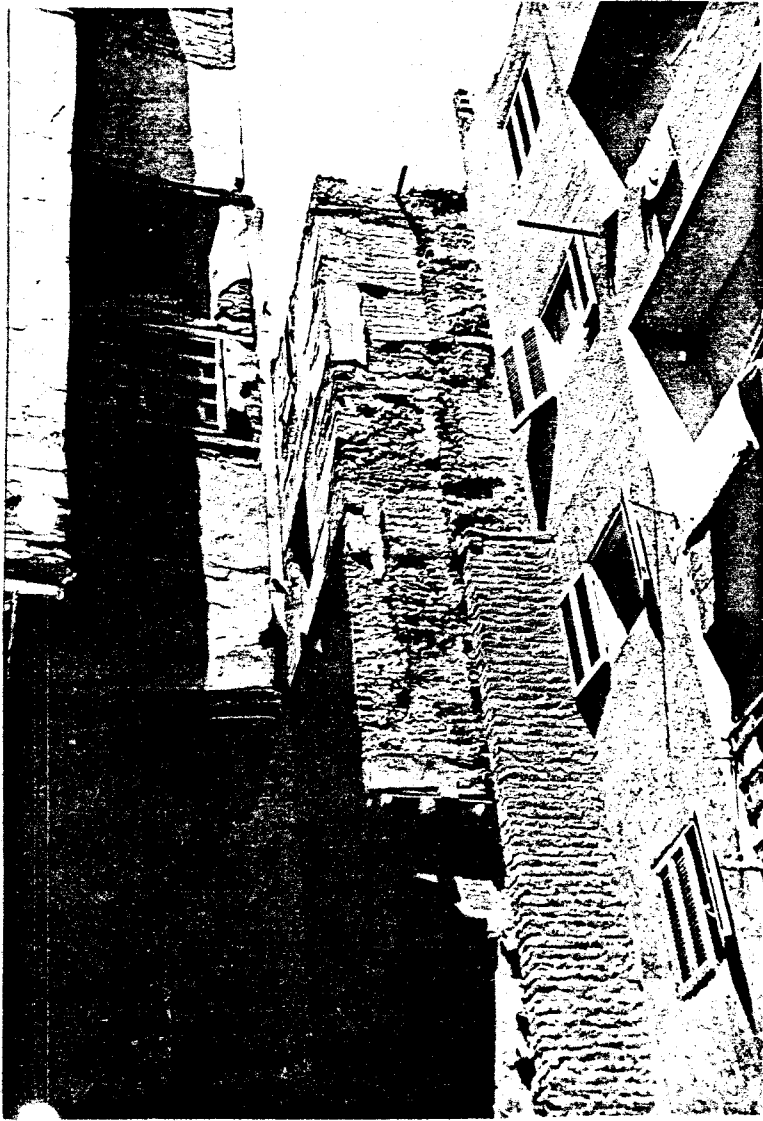
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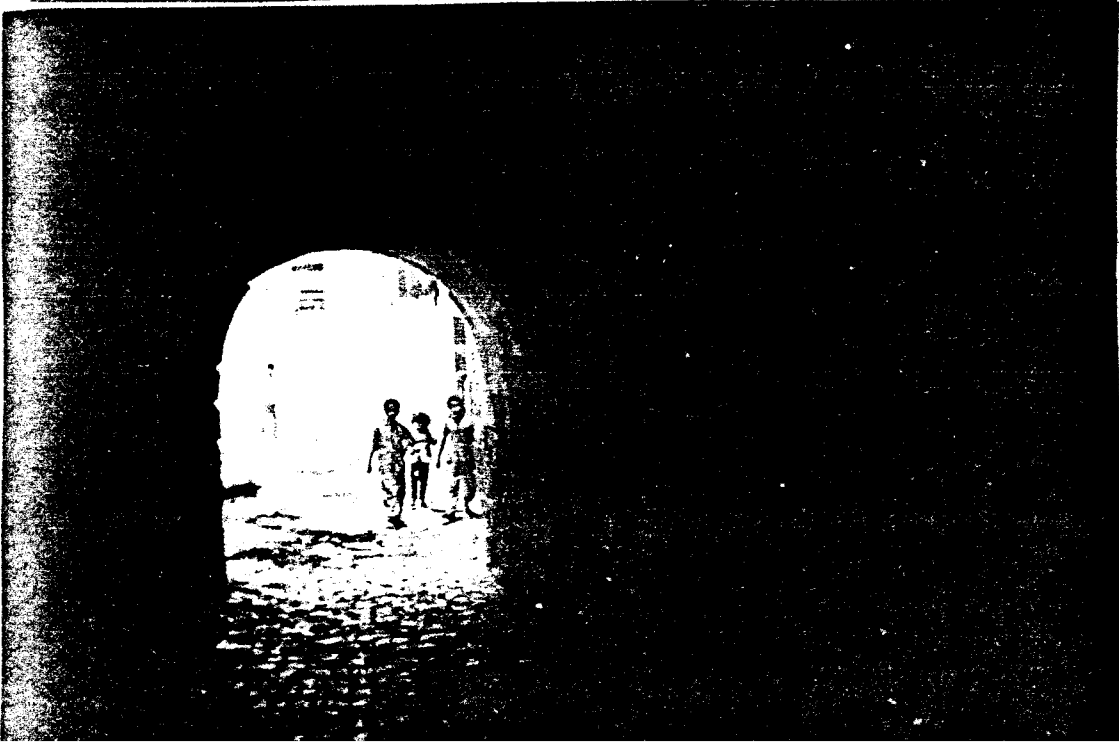
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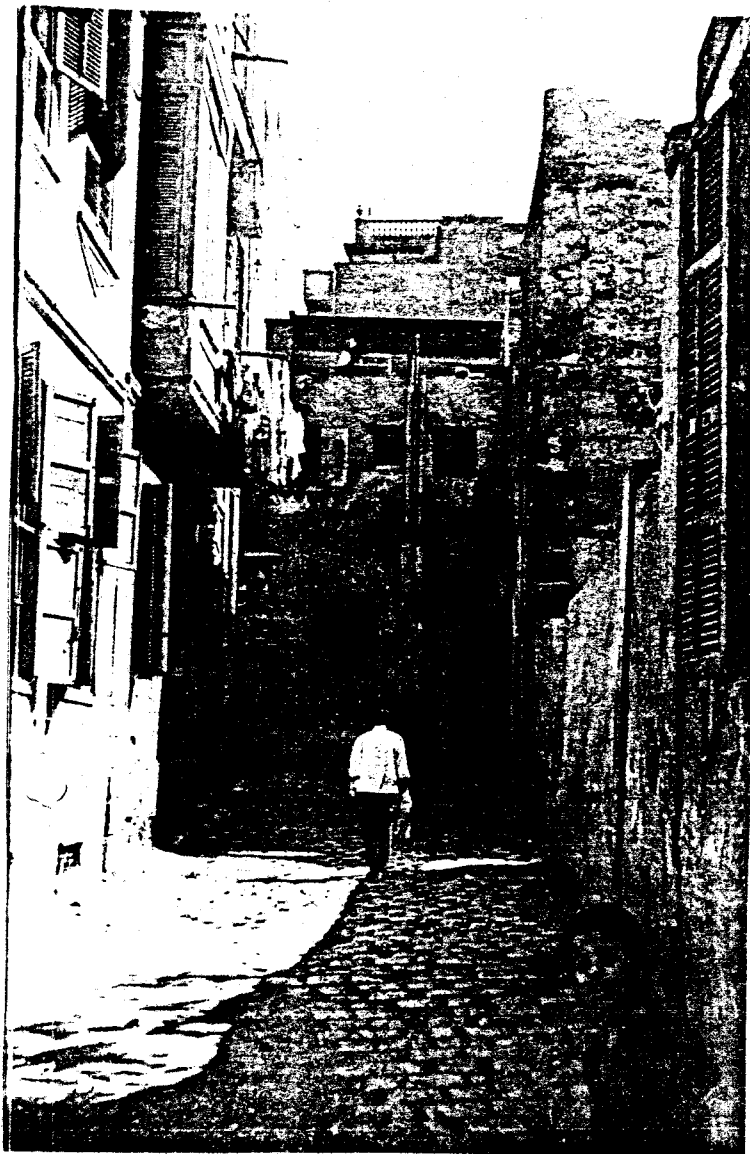
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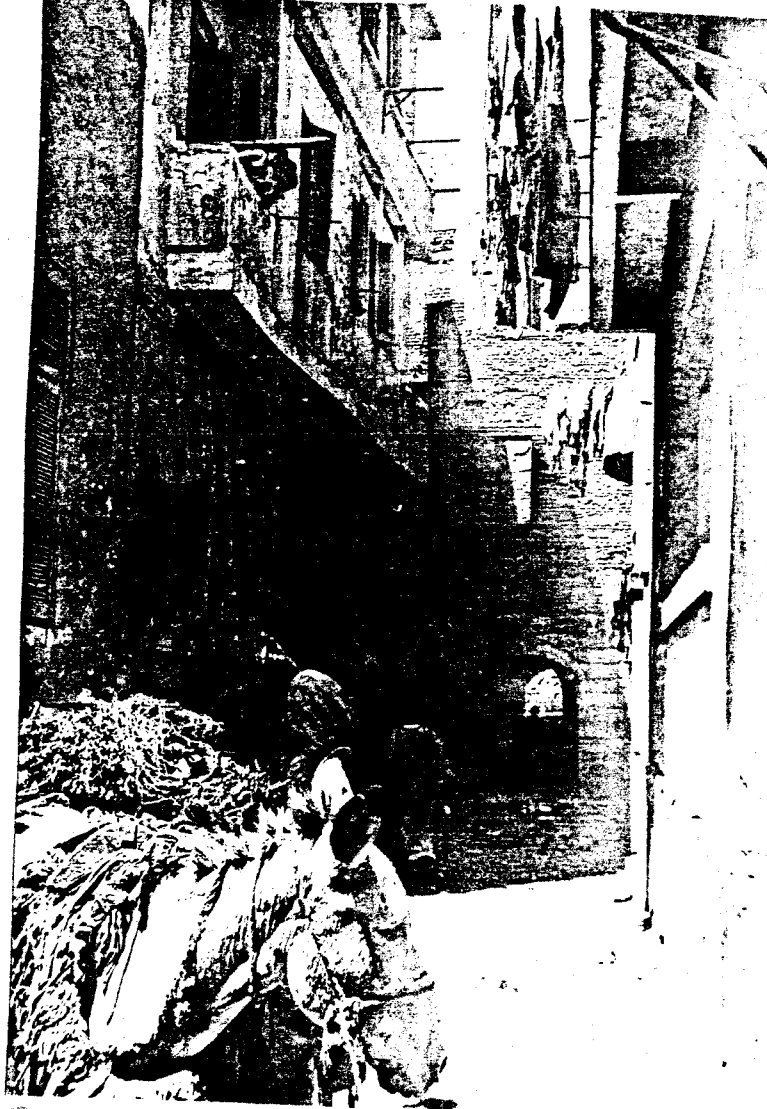
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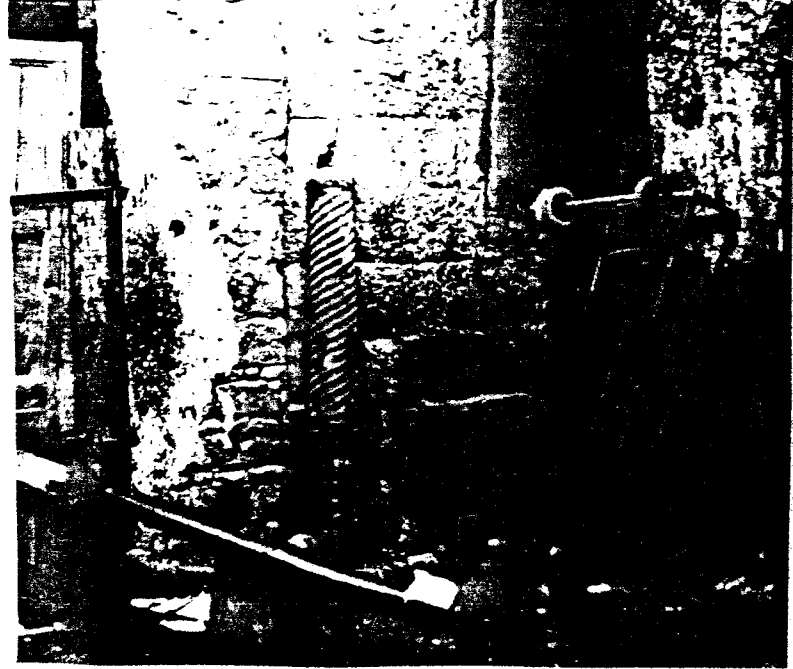
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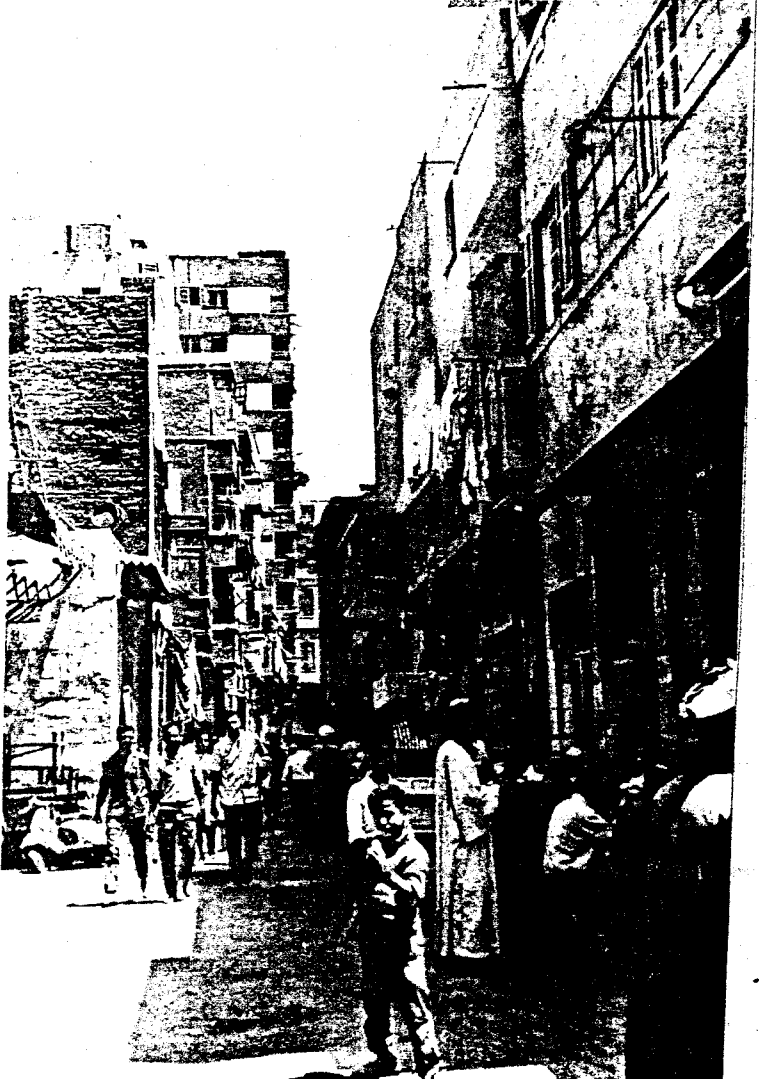
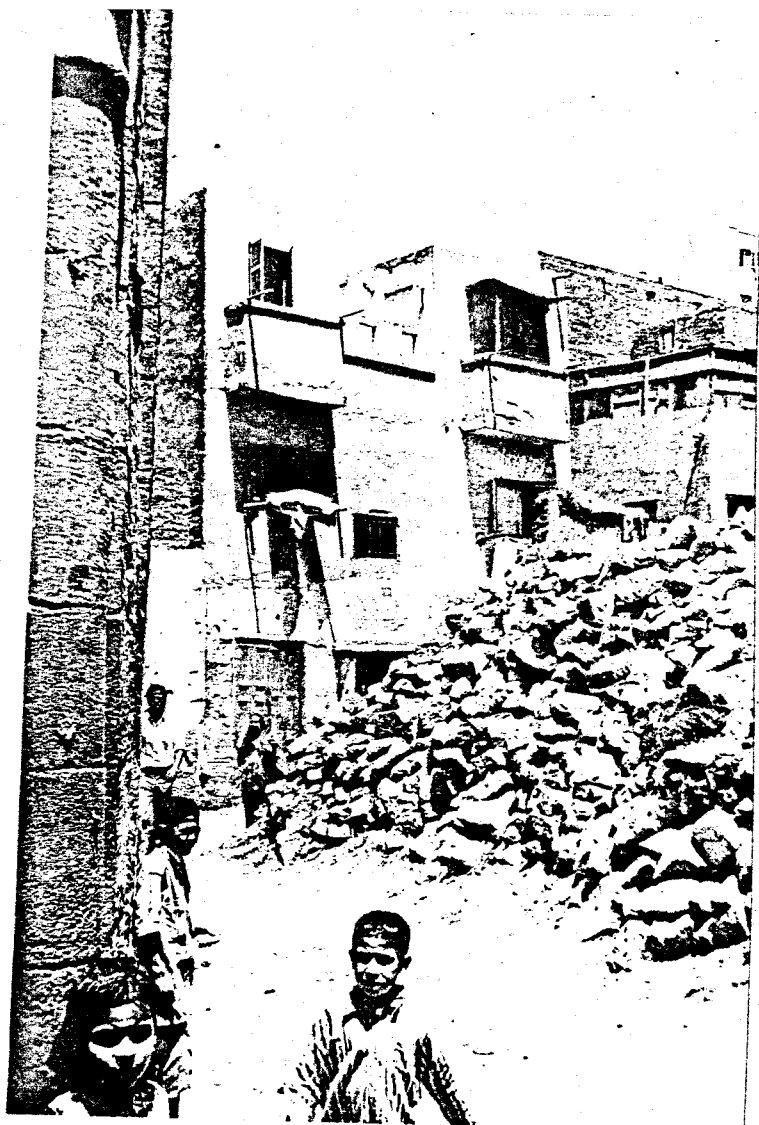
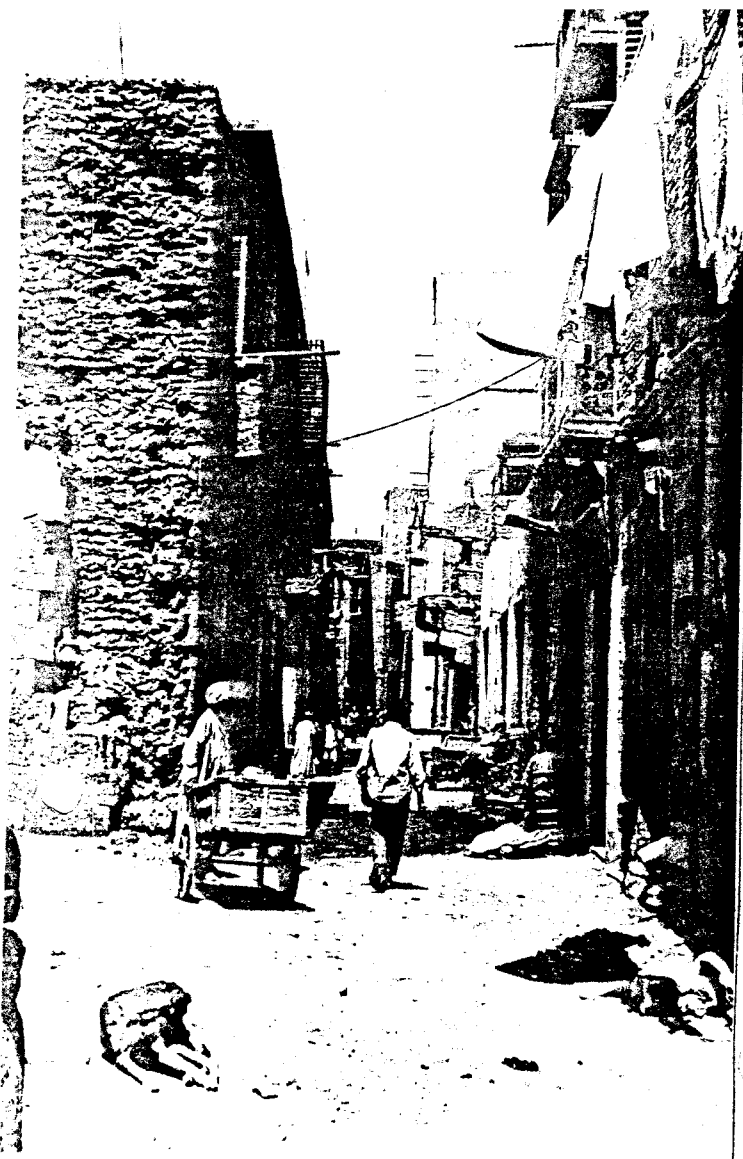
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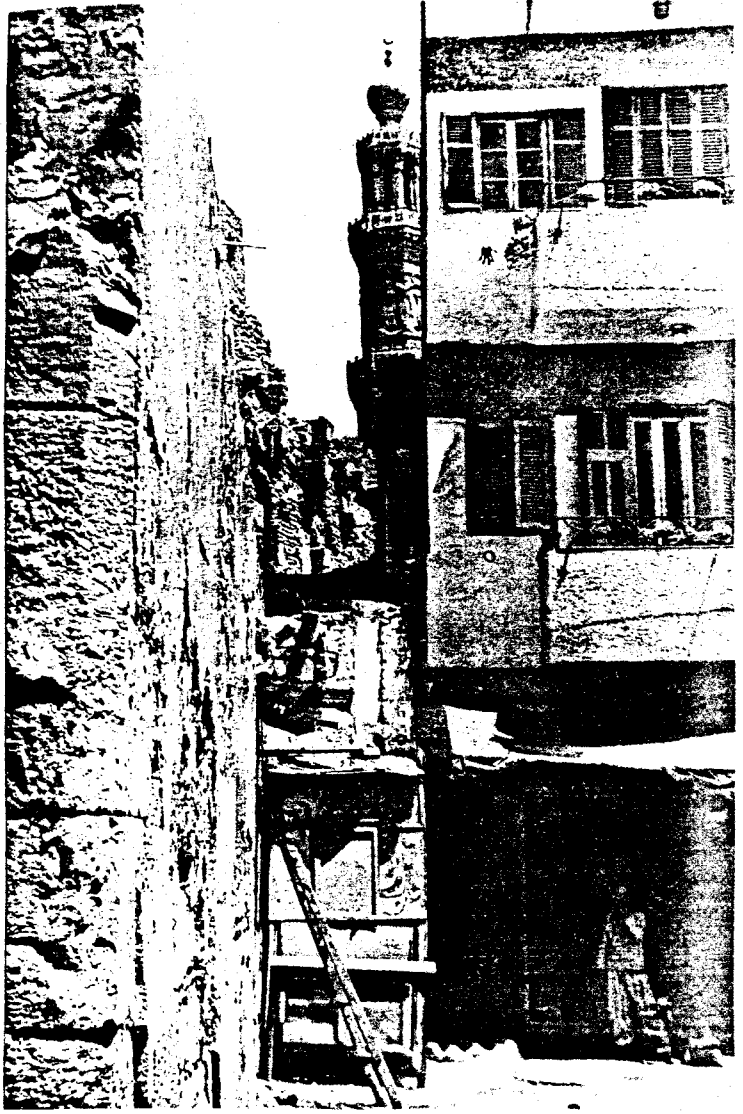
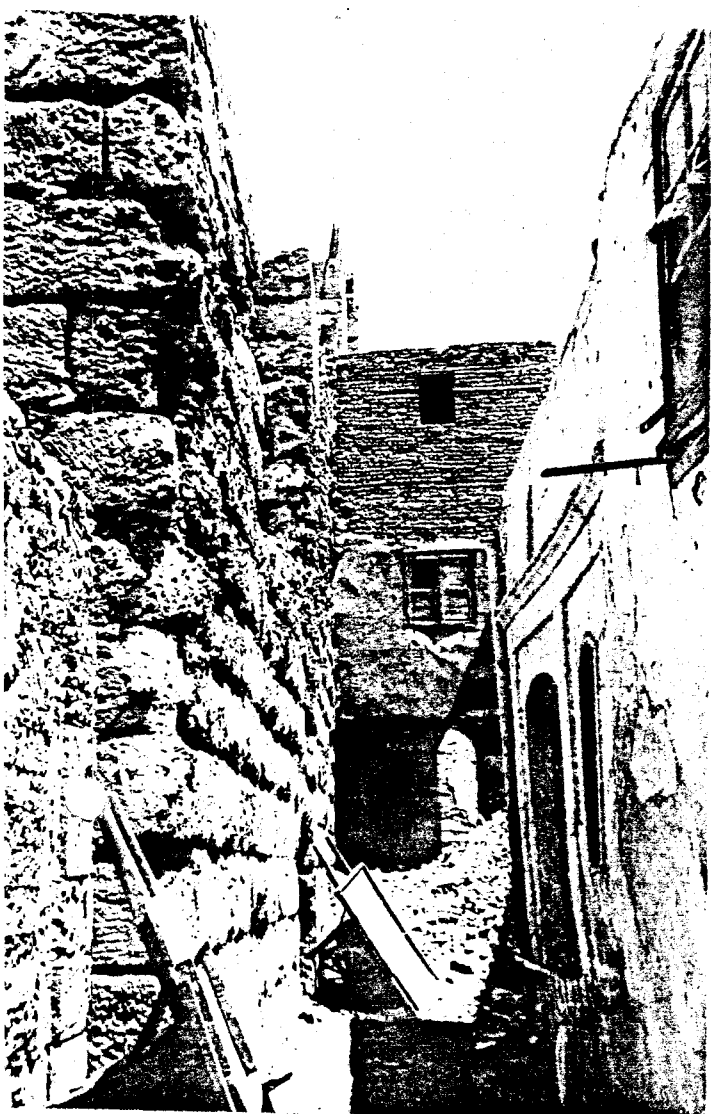
OLD CAIRO

Another wander round. - route shown on map.●●●●●●●●

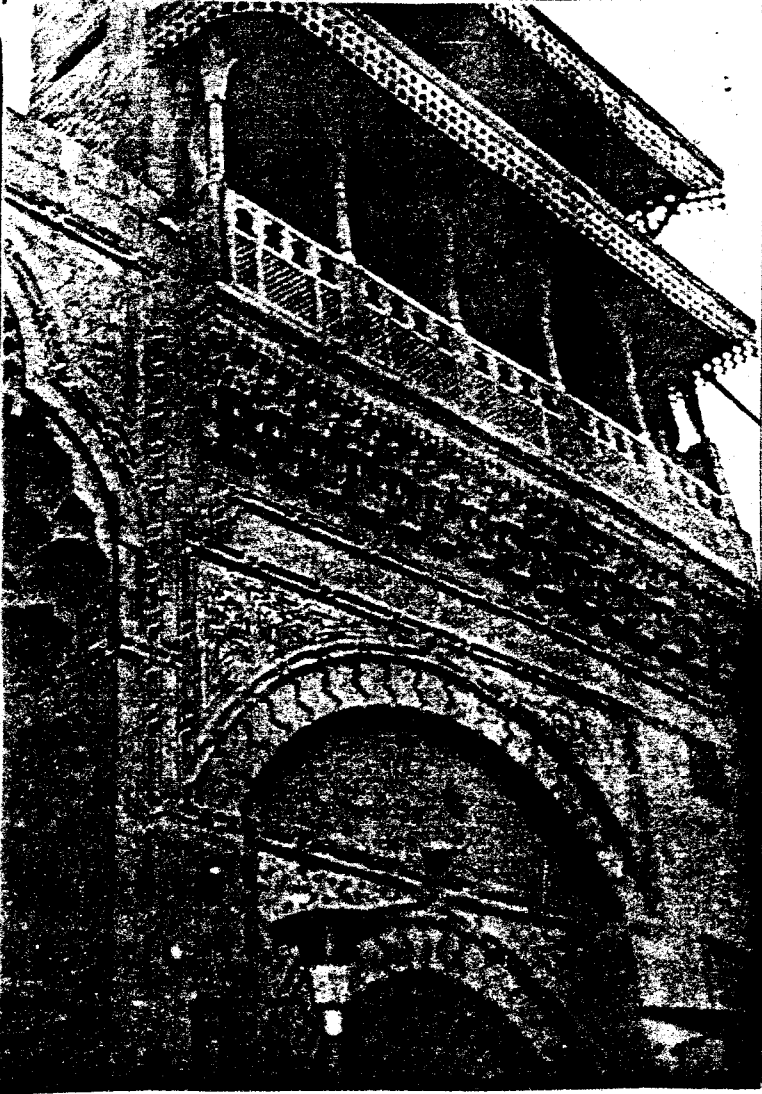
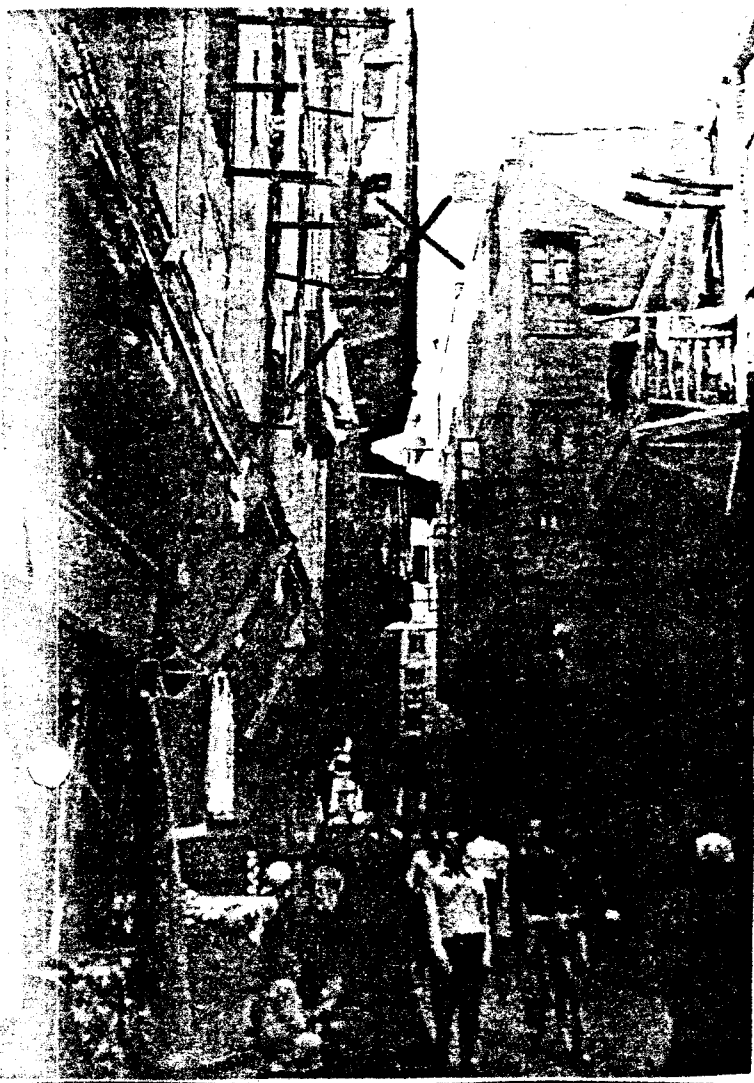
Into Sharah el Makasis - small shops, cobbled streets - shaded sections - focal point, an old house, decaying in its grandeur - low buildings, garage-fronted shops, closed today - turn into a narrower, winding alley, a shanty town of wooden huts, a silver and metal-work area, hidden from the street by a wooden door - a tree and birds singing - out again - an old street lamp, obsolete in its corner - boys bashing a soft plastic ball to each other - into a large complex of work-shops and jewellery shops, which winds its way through to the main street. - old and dilapidated, sky seen through wooden boards spanning across, moving in the breeze - back to Shar el Maqasis - more large doors, hiding great complexes behind - sharp smell of burning - clatters and thuds and bang, bang, bang - an open space, where once was a building - through a gate - a beautiful old house, loggia still in tact, stands silent and empty - a tea shop, no thank you - keep walking, a hotch-potch of hideous modern flats mingling inbetween old falling-down ruins - we hurry along now, hoping the scene will improve, but no - all much alike, more modern apartments, only ten years old, and already slumish, washing hanging in every cluttered balcony. faces peering down at us - dirty littered streets - a sound of rubble - enter a residential street - more balconies, more washing, more faces - a fascinating wicker-work pigeon loft, taking up the whole facade - a minaret, seen through a crooked gap, what a contrast - kids, kids, kids, imshi, imshidi, imshi - let's get out - back up the street - dirt and slime, and mud and people - mangy dogs and skinny cats - pots and pans of copper and tin - we reach the main street, and hurry down it - retreat into the cool interior of Kalawone Mosque, to regain our cool!



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OLD CAIRO.

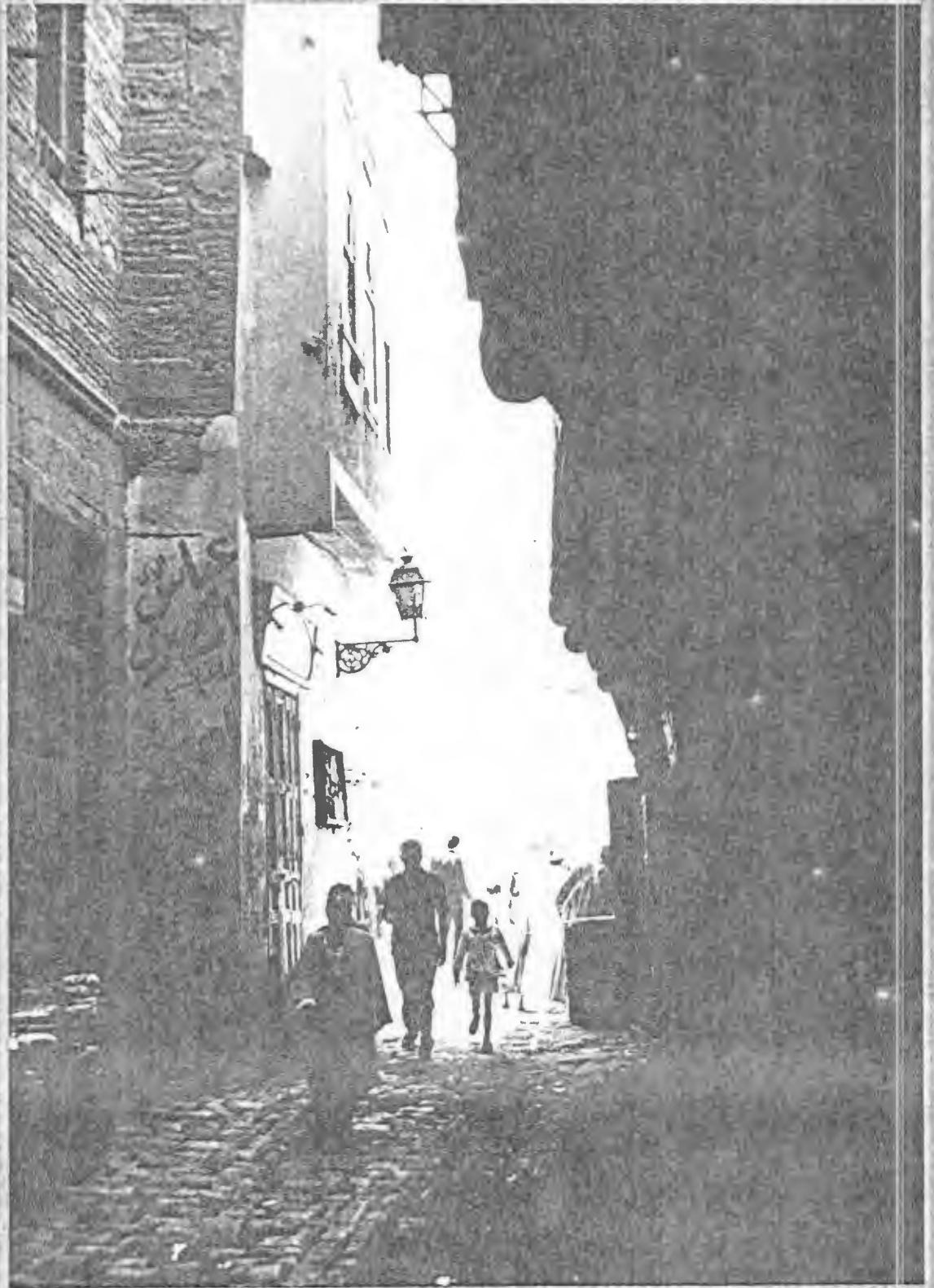
DESIGN CONCEPTS

The Town Plan

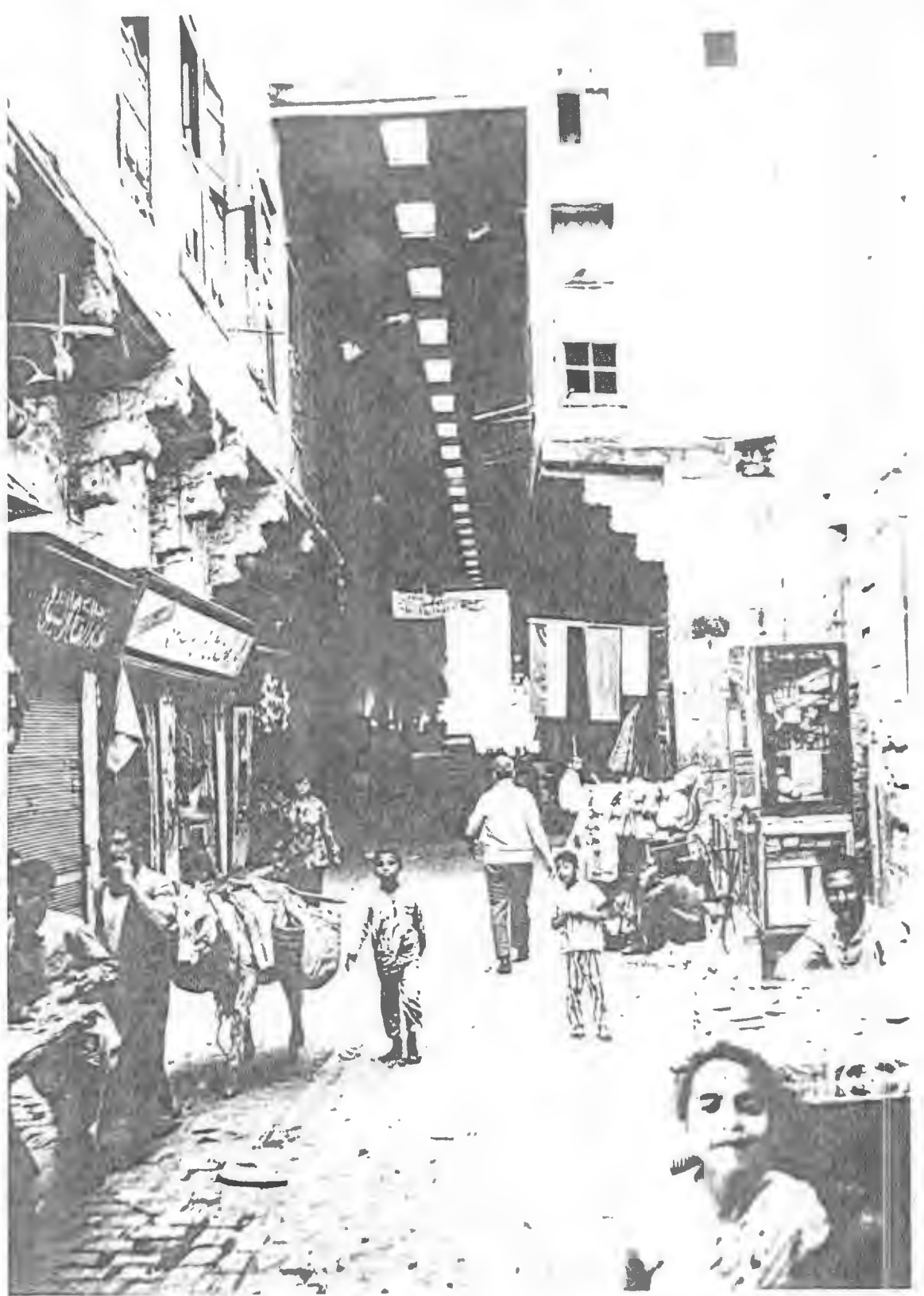
All old Arab cities were planned in a similar way - narrow winding streets and the same arrangement of buildings, which go back to the time when urbanisation first started. Although they may look haphazard, there is a structural unity underlying them. There is a distinct physical social pattern in the location of various quarters and public buildings. The areas are related to one another and to the market and the streets devoted to various trades. This tradition was maintained throughout the growth of the city, retaining the original character and concepts in a natural response to the local environment.

The Street

In the design of the streets climate was a prime consideration. A wide street heats up more rapidly than a narrow one, and there is little shade. A straight street allows the wind to remove the cool air of the night very easily. The solution then is a narrow winding street with a closed vista, which in fact, works like a courtyard in a house, to regulate the temperature. Parts of Old Cairo have been remodelled, the streets straightened and widened, and the difference can clearly be felt. They are hot, dusty and very uncomfortable. The narrow winding streets create interesting situations, and bring the immediate surroundings into human perspective. In Old Cairo the longest straight section of any main street is 300 metres, and much less than that in the side streets of the residential quarters. Each section has its own identity and individuality, and consequently more interesting. A total conception of the whole can be grasped, and buildings made to blend in with that particular section. The irregularity of the streets provides opportunities to the architect to enliven the architecture of individual buildings and the street itself, using the ingenious methods of the earlier builders. Each section has a focal point which dominates, maybe a mosque with its towering minaret, an interesting house, or unusual facade, giving a sense of direction to the street.



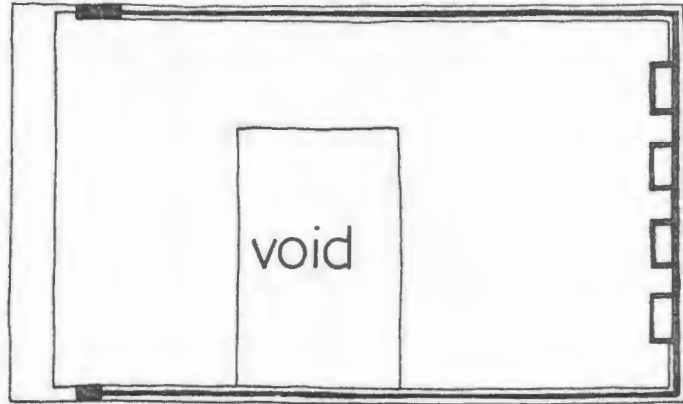
OLD CAIRO 'Street "overhang"'



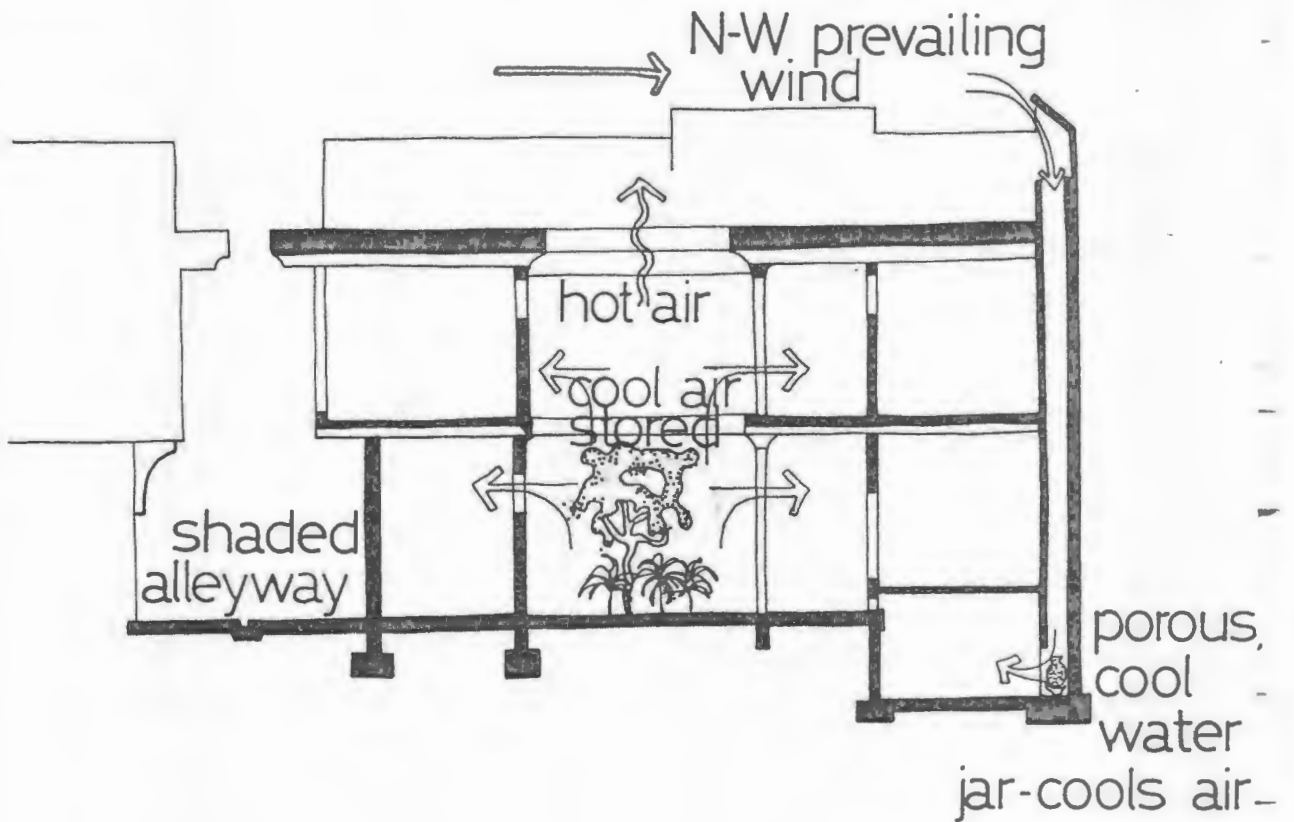
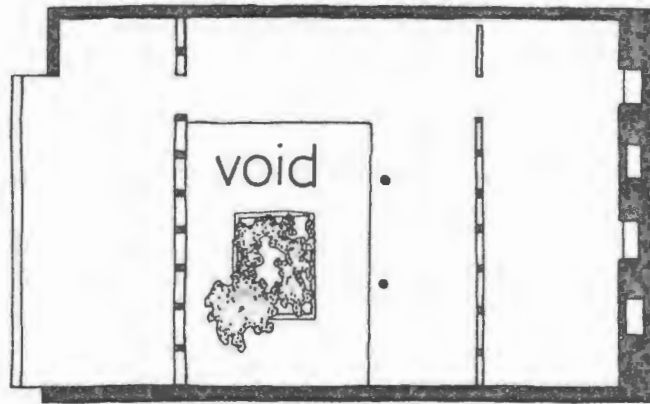
OLD CAIRO
RADWAN :
old solution to low cost housing,
200 yrs. flats above shops below.

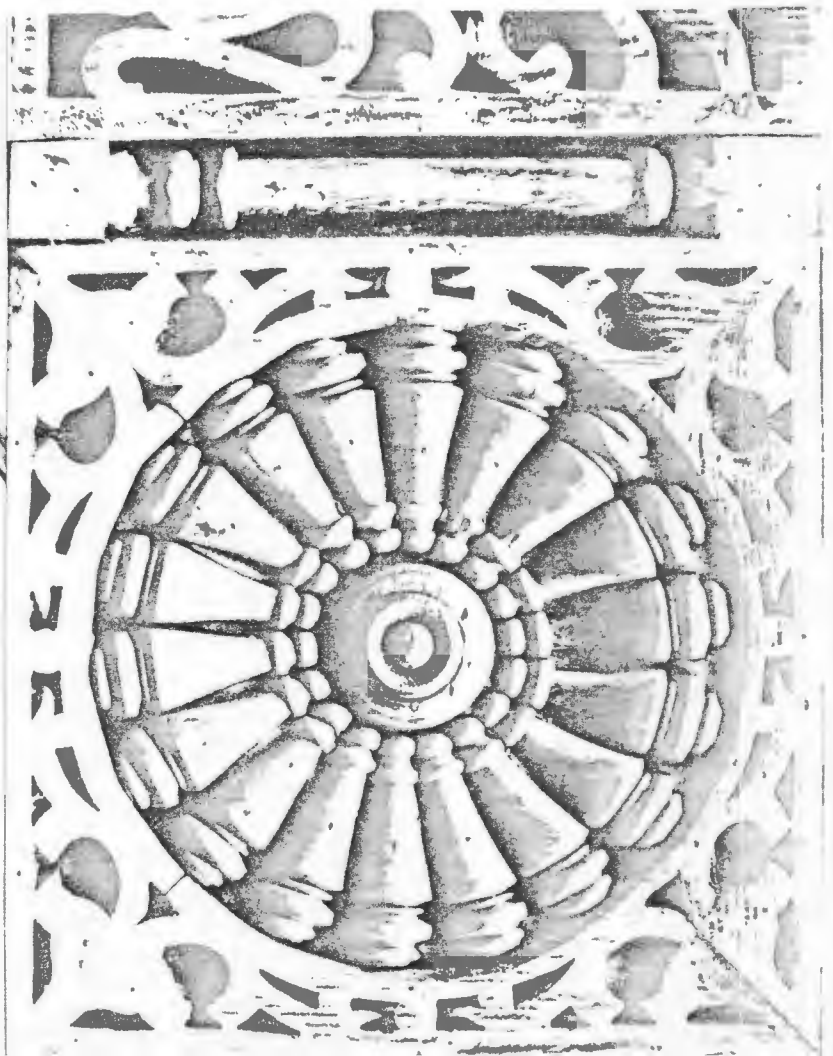
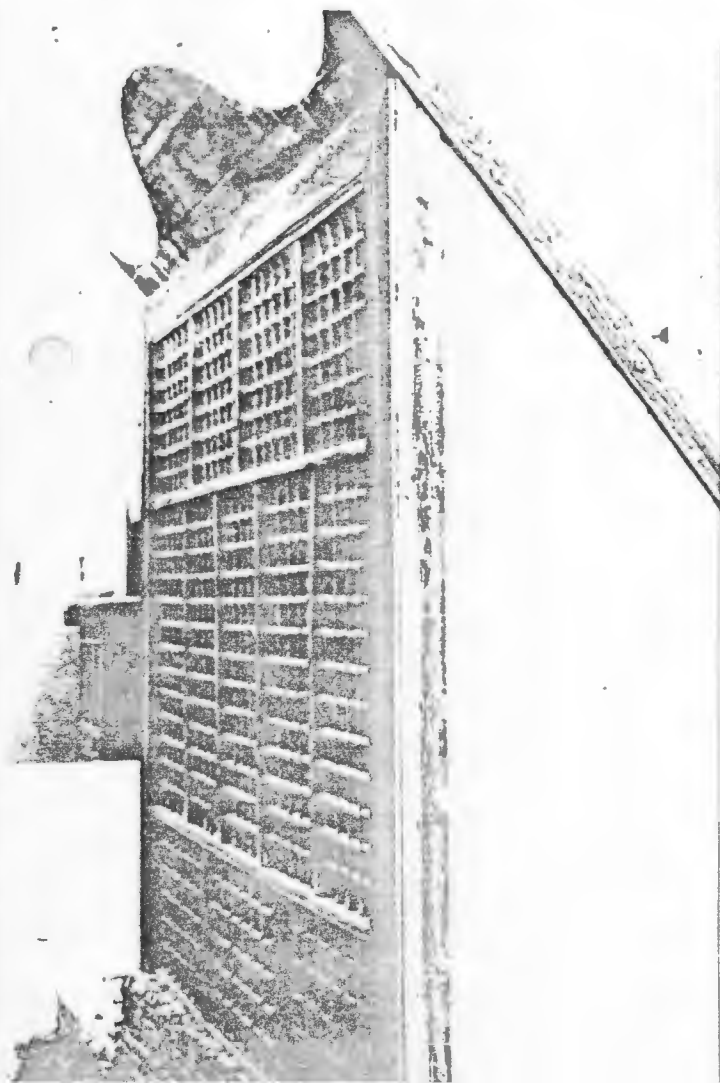
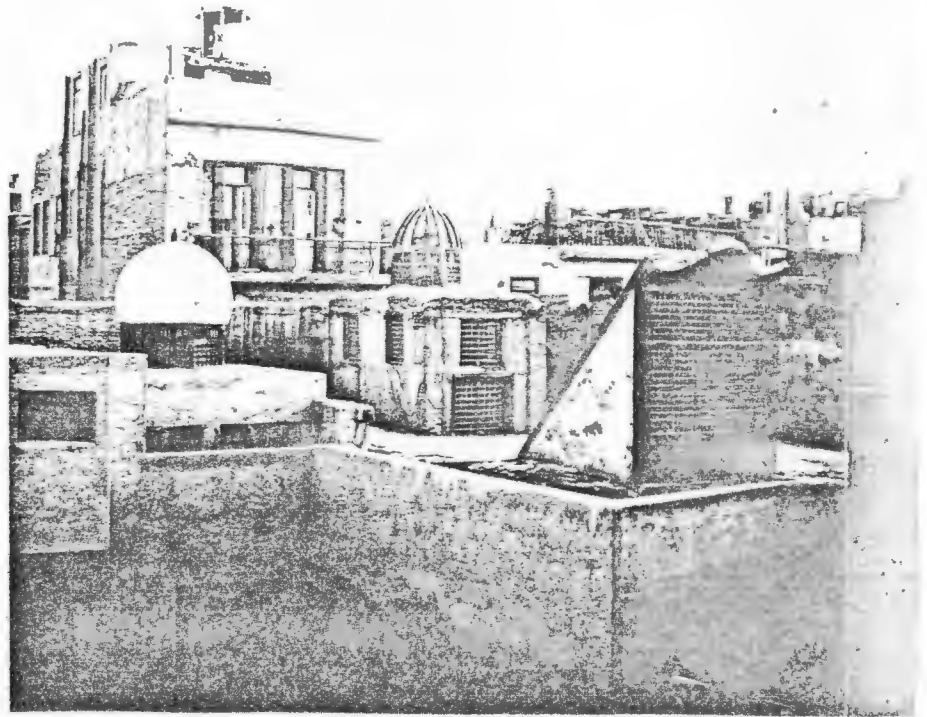
COURTYARD
HOUSE (IRAQ)

ROOF



FIRST FLOOR





DESIGN CONCEPTS

The Arab House of the past

THE PLAN.

All the Arab countries lie between the latitudes of 10 degrees and 35 degrees North, in the land stretching between the Arabian Gulf and the Atlantic Ocean. The desert has formed the Arab culture and has shaped the style of architecture.

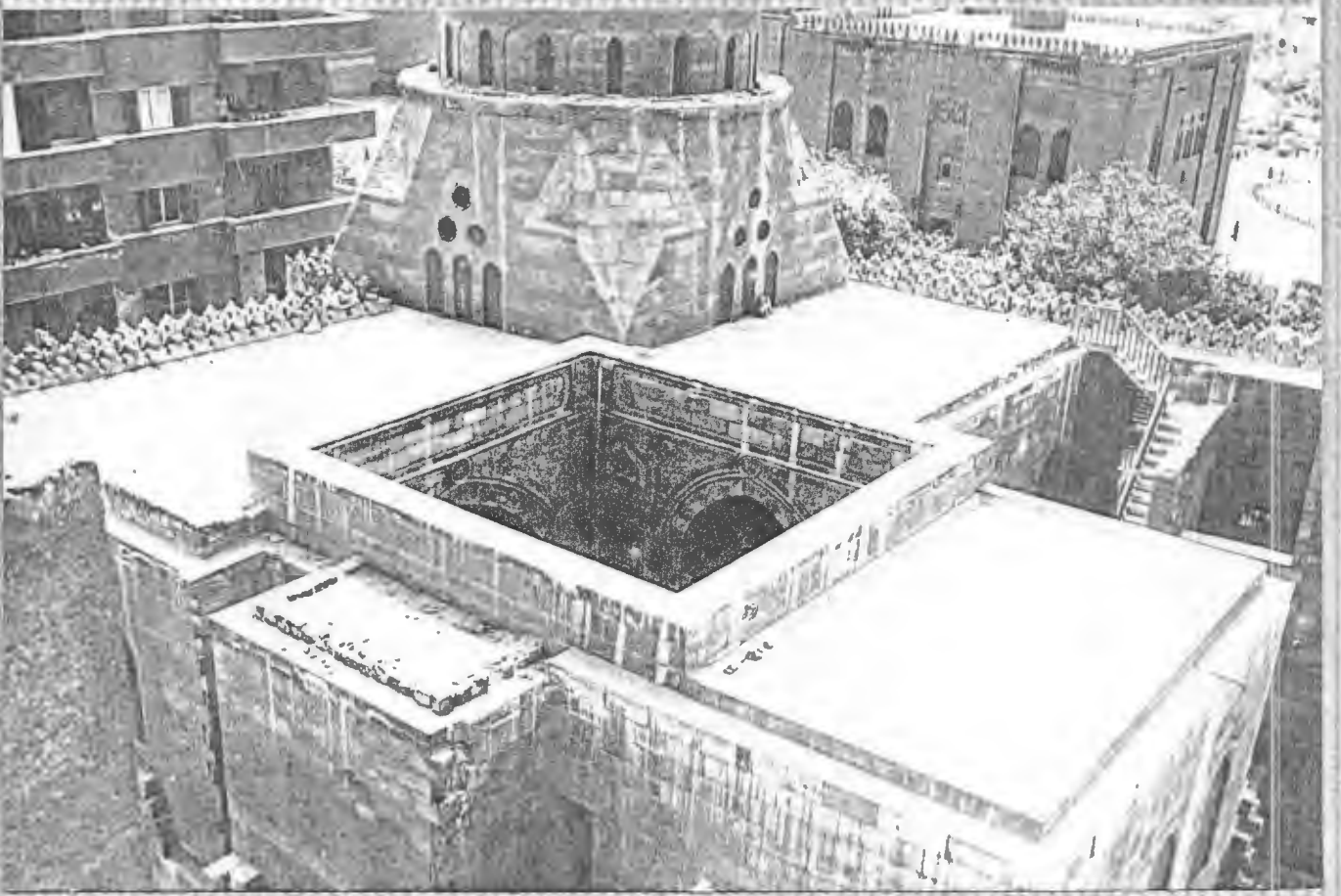
The desert is the Arab's enemy, hot and dusty and glaring, and the sky his friend, providing coolness at night. In hot dry climates, where the sky is usually clear and heat is readily lost from the ground, the temperature may fall by as much as 40 degrees f. at night during the summer months.

The solution was to have a plan that opened inwards to an open courtyard, roofed by the sky, which was the house of God. The courtyard acts as a temperature regulator. At night the cool air in it flows into the rooms, and during the day, it acts as a reservoir of cool air. The plants in the courtyard act as filters for the air before it goes indoors.

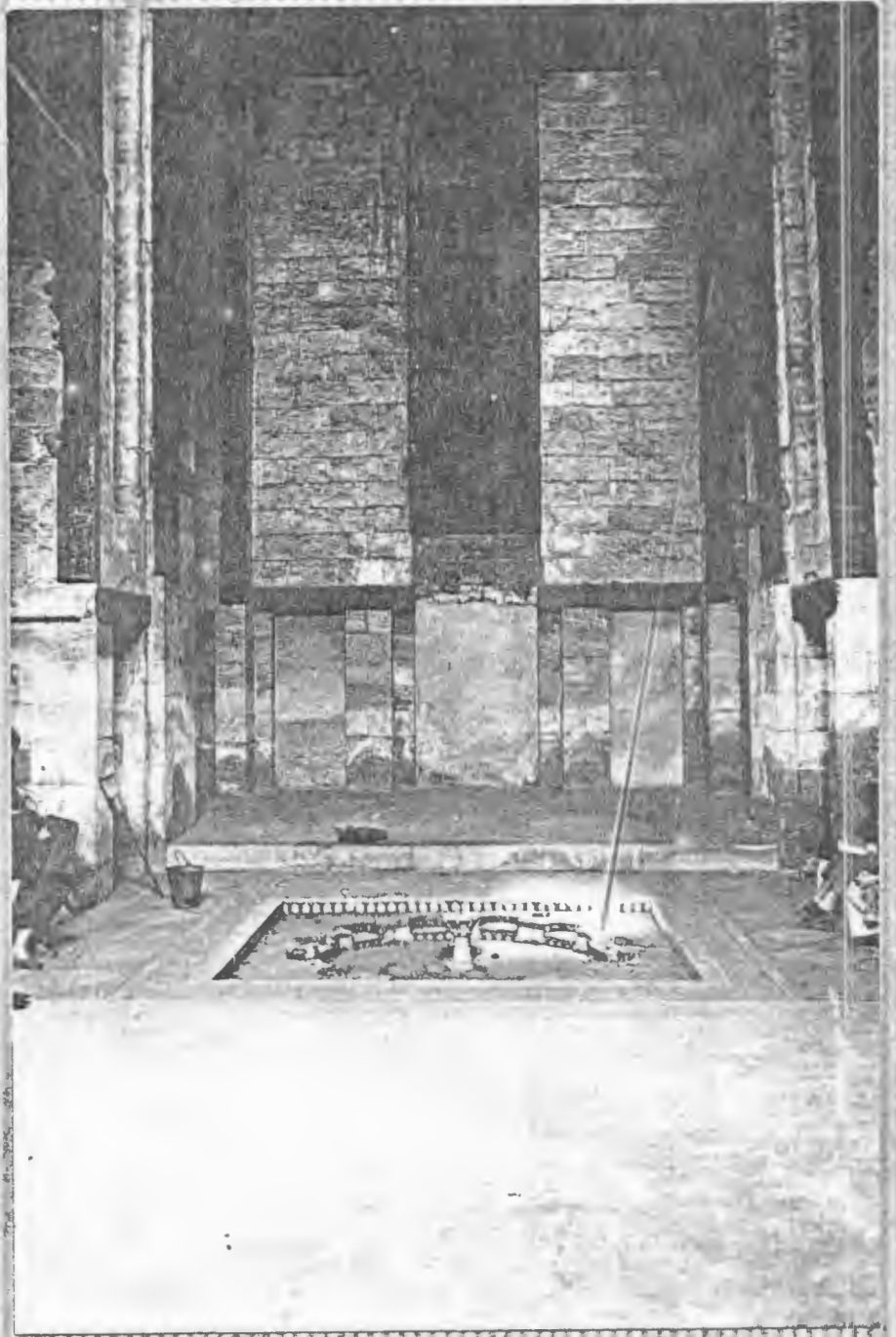
The living quarters of the house were planned with the courtyard in the middle, and with iwans (alcoves) leading off it. Normally there were two iwans, one to the north and one to the south, which opened onto a loggia. The loggia allowed the occupants to sit in the shade under the open sky, as their ancestors did in their tents. The iwans gave complete shelter in the hottest hours of the day.

In the middle of the courtyard was a fountain in a basin. Originally this basin was square at the top level, and the corners cut off at a lower level to form an octagon. From each of the sides of the octagon, a semi-circle was cut so that the whole basin seems to be a geometrical projection of a dome on squinches, representing a man's view of the sky from the middle of his house. This shape was symbolic in that it represented the Arab's view of the universe - the four walls of the courtyard representing the four columns carrying the dome of the sky. The sky is then drawn into the living rooms by reflecting it in a basin which has the form of a dome on squinches. Nature is thus brought into the house through architectural forms and symbolism.

As early as the 10th Century the arrangement of the living rooms and reception areas of the house were replaced by the Qa'a or reception hall, retaining the original characteristics. The Qa'a has a central area called the dorq'a, which serves as the main hall, with the iwans leading off it. The dorq'a is a covered courtyard, paved with marble mosaics in geometrical patterns, and its floor is one step lower than the floor of the iwans, as if it were open to the sky and necessary to prevent water seeping into the iwans. The ceiling of the dorq'a is raised high above the rest of the house, surmounted by a wooden lantern, of which the top is a low dome or cone on squinches, retaining the symbol of the sky. This is reflected in the traditional basin in the middle of the dorq'a, so that someone in one of the iwans appears to be looking outside the house.

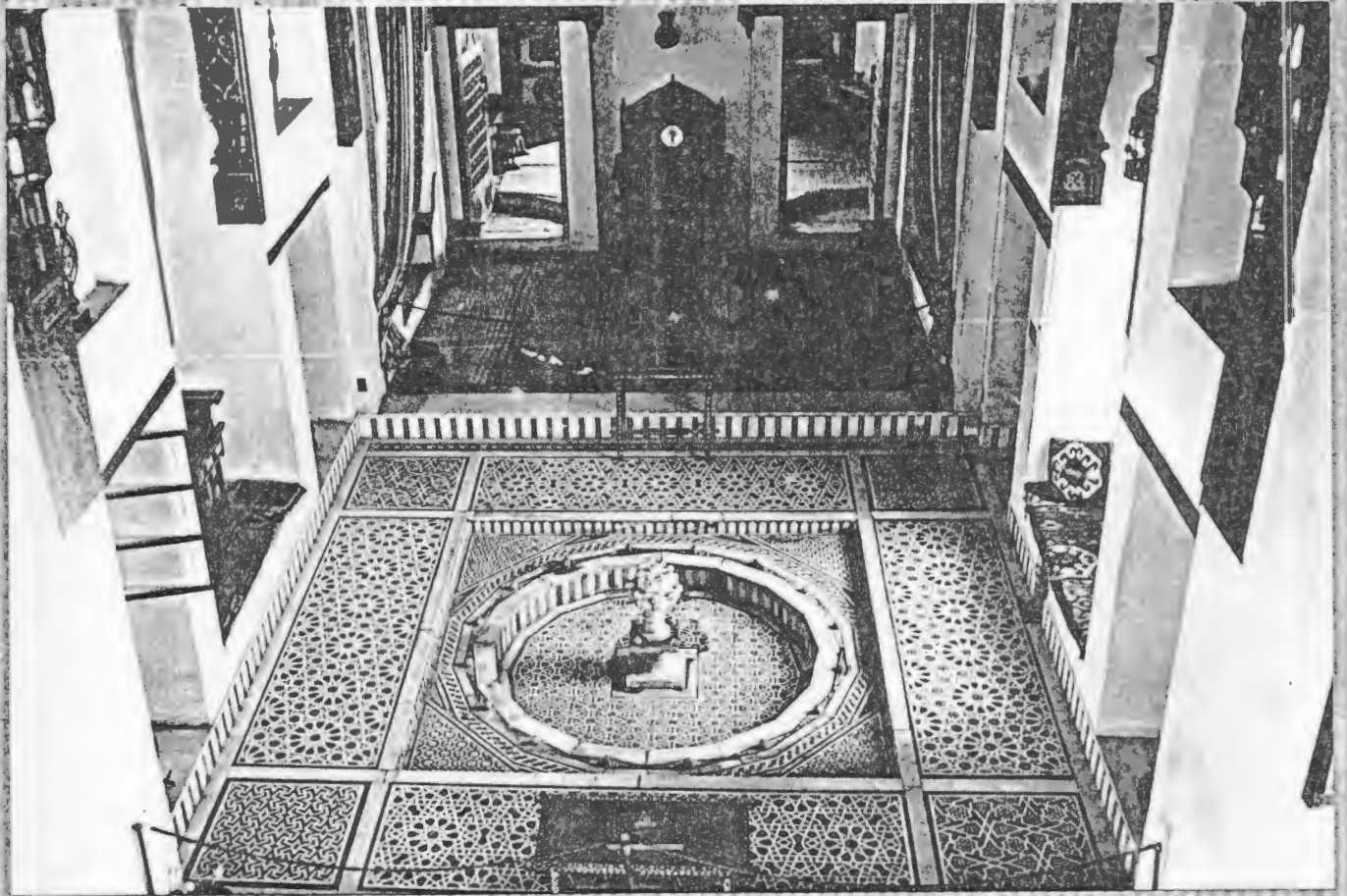




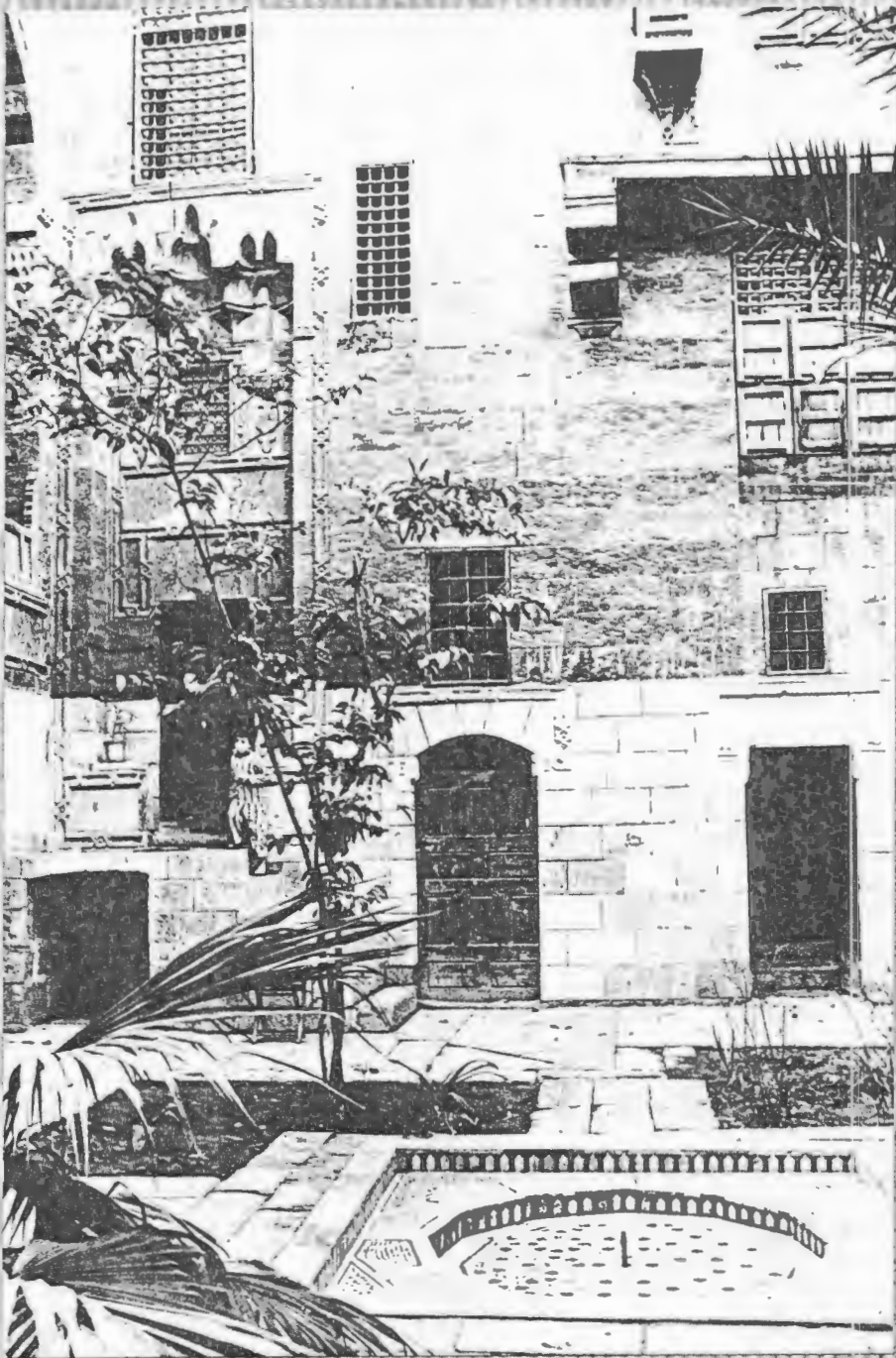




OLD CAIRO - Ka'a Moheb Eldin (high ceiling dome)



OLD CAIRO furnished Udorga's and Iwan



OLD CAIRO - Traditional wealthy man's townhouse

OLD CAIRO

DESIGN CONCEPTS

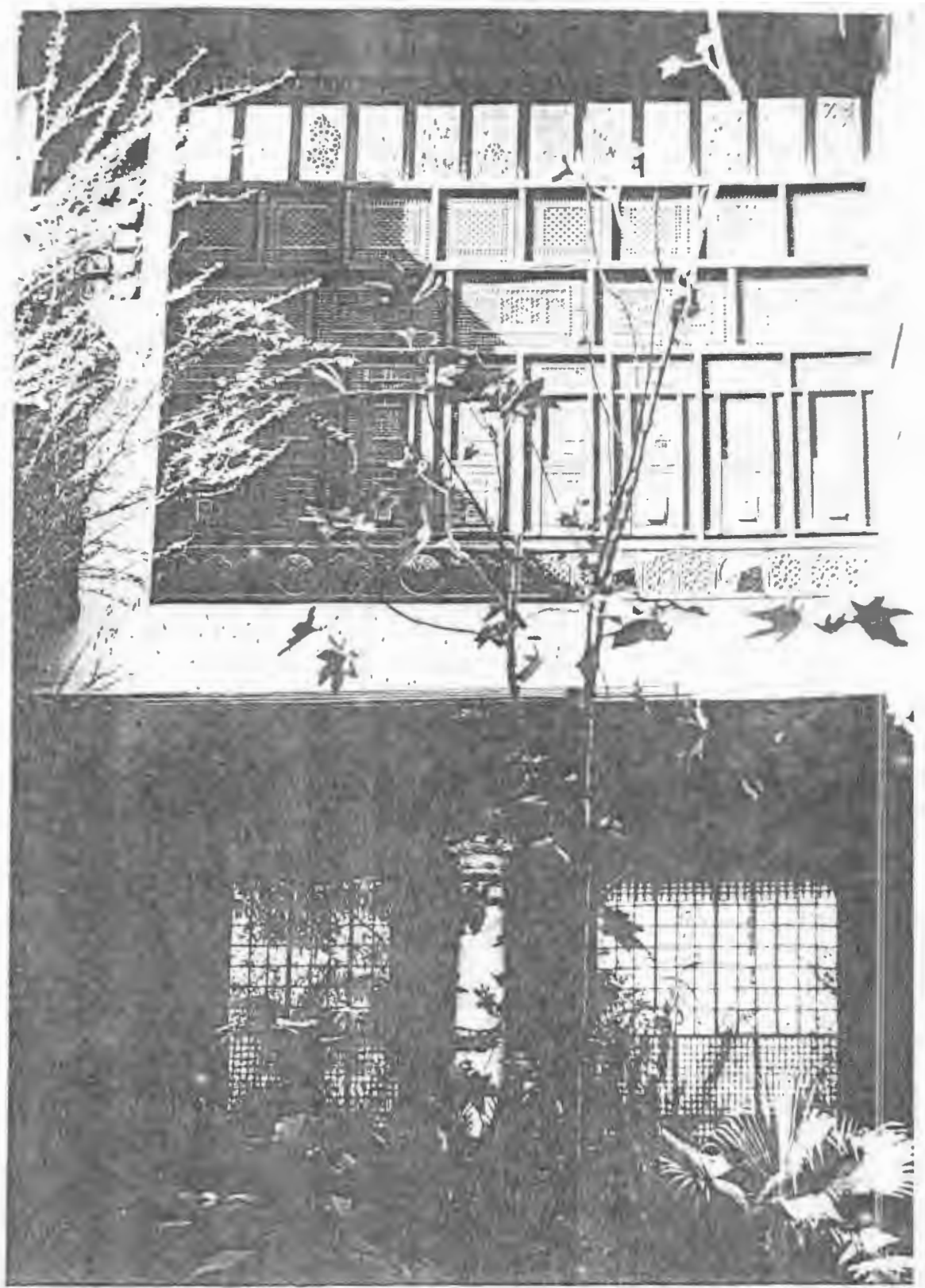
THE MALKAF.

The requirements of design for the flow of air conflict with those for light. Strong light call for small openings above eye level, but ventilation for thermal comfort, requires large openings at a low level. The Arab builders solved this problem by separating the functions of the window, and designing a special structure for each.

For ventilation they created a malkaf, a wind-trap. It is a shaft rising above the rest of the house, placed in the northern end of the Qa'a. The north and west sides of this malkaf are left open at the upper end to catch the prevailing cool breeze, from the north and northwest, and to funnel it down into the Qa'a. Hot air escapes through the lantern on top of the dogqa'a, and is replaced by the fresh air coming in through the malkaf, creating a draught even when there is no wind outside. The malkaf is small in area, and towers over neighbouring houses, so the air flow is not obstructed. This method of ventilation meant that the Qa'a could be placed in the middle of the house, surrounded by the other rooms to protect it from radiant heat from outside, and thus increasing the thermal comfort to the maximum.

MUSHRABEYA.

To reduce the glare without reducing the movement of air, the window was fitted with a latticed screen called a mushrabeya, made of small wooden bars. These bars are circular in section, and have the effect of breaking up the light that falls on them. Thus, there are no harsh edges visible, and the contrast of the bright light and dark lattice is reduced, softening the glare and not dazzling the eye. The characteristic shape of the lattice-work produces a silhouette which carries the line of sight from one bar to the next across interstices, so that a decorative pattern is superimposed upon the whole view from the window. The intensity of the lattice-work changes at different heights, thus increasing or decreasing the view through the window of the outside. Where the mushrabeya was used, the opening in the wall had to be larger than that for an ordinary window, to compensate for the dimming effect, and this was an advantage for ventilation purposes. The large openings require that the outer walls on the ground floor of the house are screen walls and not load-bearing walls.



traditional arab
house, courtyard

OLD CAIRO - SEHEMI HOUSE - loggia and



BLOWN-UP SECTION OF MUSHRABEVA ($\times 25$) +

