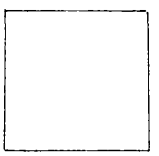
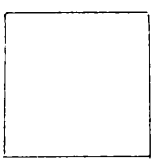
PLEA FOR A COURTYARD HOUSE

Thesis presented by FARIDA SETTOUANE
for a Master's Degree in ARCHITECTURE
(Urban Design)
To Mackintosh School of Art





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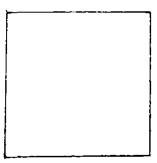

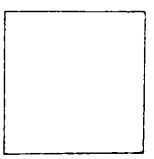

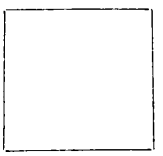

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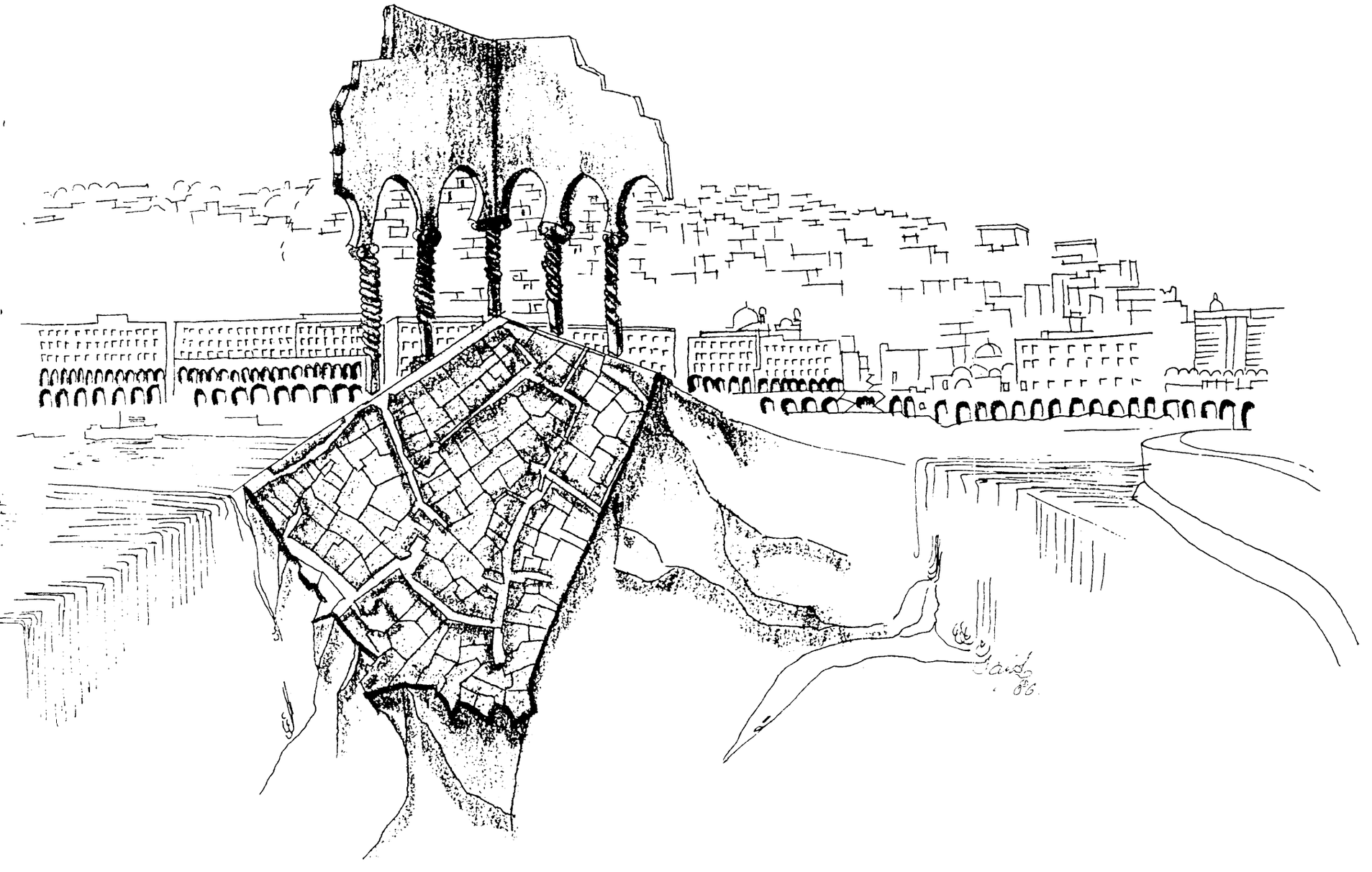

To my parents 'Vava the Yemma'
My brothers - inlaws - and sisters,
Nephew and nieces.

To all my friends.

And all those who here and there
directly or indirectly helped me
carry on.

ACKNOWLEDGEMENTS

I am most grateful to those whose assistance helped this work take form.

The tutors team:

- Douglas Niven for his constructive criticism
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SUMMARY

History has shown that the courtyard house (wast-ad-dar) is primarily an urban house form with a considerable potential for change. Its widespread existence in different climates and societies can testify. It is an ancient dwelling form that was used by many urban civilizations of antiquity as well as classical Greek and Roman City dwellers. It is still the traditional house form of many Asian, North African, South American and European countries.

In algeria though, as in some of these countries, in spite of its endurance, the future of the urban courtyard house is seriously threatened by a new urban housing form: the high rise apartment building. This neglect of the courtyard house in fact started long ago during the French colonial period with the promotion of the "Immeuble de Ville" or tenement building from the 1830's to 1950's.

In both the latter periods, it was generally believed that the courtyard house:

1. is not adequate to modern life style.
2. does not use land efficiently.
3. cannot be modern.
4. is expensive to build.
5. takes too long to build.

This work will examine some of these accusations in order to find out to what extent they are true.

I am fully aware of the importance of the two last accusations (4 and 5) but, the difficulty of collecting

information in the Algerian context makes any thorough investigation in these aspects impossible to be carried out by me at present.

Consequently, my work will mainly focus on the three first accusations and try to show:

1. if a courtyard house can be adapted to modern life.
2. if it can use land efficiently.
3. if it can be modernised.

In order to achieve this:

CHAPTER ONE will deal with a history of the dominant three urban housing types in Algiers;
i.e. the courtyard house
the tenement building
the point block
their characteristics and the publicity that nowadays surrounds them and will discuss their adaptability to modern life (i.e. changes in social composition and technological needs).

CHAPTER TWO will be concerned with the second accusation and on the basis of comparison with the existing types to show their relative efficiency in terms of land use and therefore situate the performance of the courtyard type in this field.

CHAPTER THREE will show an actual site in Algiers,

through setting on site of the three considered types and comparing results, their relative performance of responding to site constraints.

Finally, the potential for an urban system that will insert the courtyard unit will be examined.

TO THE READER

If you don't think you "will be wiser"
There is no need for you to go further

Cause what I intend to consider
is what to planners is so "Cher"
but which people cannot bear

Yes you guessed it's the Tower
that 'social killer'

But what I intend to defend
is that small "Garden of Eden"
which today is just forgotten

Indeed it is the hidden Garden
copy of heaven

I have not the power of decision
but own the one of conviction
and intend to use it to seek
rehabilitation

Now, if you think it's worth it
WELCOME - I thank you for it.

FARIDA

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INTRODUCTION

Creating homes has never been an easy task. The difficulty of satisfying people's aspiration of a 'Decent Home' lies in the fact that the true meaning of design process and building environment is usually misunderstood. In terms of domestic production especially it cannot mean self expression or justification for the designer's personal approach. Nor can it be the pure result of economical arguments.

In Algiers as in many cities, the shape of our environment is subject to the decisions of planners and architects (often foreign) very often insensitive to social and cultural traditions of the users.

At a time when domestic popular architecture is being swept away by a wind of "INTERNATIONALISM" in the form of industrialisation, when the first symptoms of rejection - as in any transplant operation - begin to appear. It is, as for every professional, concerned with the future of his "Home at Home" difficult to sit back and just observe. This, for as designers, we are and will be judged not only for what we have done but even more for what we have not done.

Dealing with this issue, we always tend to be confronted with the dilemma of 'Quality and Quantity'. With an economical standpoint, we are tempted to favour Quantity to Quality but should not designers be able to balance both

aspects in their decision making process?

Quality with regard to housing environment lies in my opinion in the recognition of the specific character of the matter and the awareness of the danger of the widespread movement that claims its universality.

Human needs such as eating, sleeping, cooking, working and socialising may be universal but then those cultural ingredients specific to each climatic, economical, social context make these basic needs accomplished in very different ways and as Anne M. Meistersheim says:

> "It is not the act of eating which is interesting to us but the way of eating and cooking" 3

Under a particular sky, some people will eat on the floor, others will need all kinds of environment (furniture, etc..) some will have their meal with all members of the family united while others will see necessary that men and women will have their meals separately. Similarly, this can be applied to other needs.

I, therefore, strongly believe that housing is a very cultural matter which cannot and must not be subject to 'universalism'.

With regard to this work however, my concern with this field has two main sources:

Firstly, the slow erosion of the traditional house type:

the 'Wast ad Dar' house or patio house.

Secondly, the growing "remise en question" of the typological solutions brought into our environment in an attempt to solve the housing crisis: The Point Block.

From this, serious questions may arise therefore bringing out the delicate aspects of 'tradition' and 'modernity' in contrast.

SENSE OF TRADITION

Tradition does not just belong to the past but is cyclical and renewing. Traditional forms are fundamental components in a constantly evolving and coherent expression of cultural identify. Tradition carries within it that, to paraphrase those decision makers, 'that little something', that small ingredient that imported types often lack. Traditional Architecture embodies that kind of 'wisdom', that knowledge and understanding of both human and nature. In its spatial structure it has developed the mastery of scale and hierarchy that are thought to influence human mental well being. Hierarchy deals with the relationship of the micro to the microcosm and reversely. Scale above all is related to how people are related to their environment.

MODERNITY IN OUR CONTEXT

Modernity on the other hand is more concerned with numbers and large scale operations. Modern forms are consequently the reflection of quick mass production of buildings, for speed was seen to be what the housing crisis needed most. Modernity is about, always in the context of present Algeria, prefabrication and towering*. But has this speed race we entered helped answer the housing crisis?

The building of 250,000 housing units per year was thought to be necessary to eliminate the deficit but the present rate of building only reaches half of this figure.

While prefabrication was about importing new building systems, towering on the other hand was about spreading the city with high rise flats. It is then in this context that 'modernity' tends to be seen. For its foreign origin, it tends to break the continuous flow of the building tradition.

It is true that in Algeria today's problem of housing takes an alarming proportion but it is not particular to our

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* The word towering is here used to express the widespread alienation to massive developments of tower blocks.

country. Many developing countries and others of the third world have shared the same situation:

> "A society cannot exist without a housing crisis... when people are rushing to big cities in a speed rate higher than the building rate....in such a society, the crisis is not a hazard, it is a necessary institution." 7

Similarly during the post war period, western countries such as Britain and even the United States have been swept by the 'ville radieuse' tide and as any tide does, it has not left without traces. The dynamiting of Oak and Eldon Garden in 1979 in England and the blowing up of the so called 'Social Prisons' of the Pruitt Igol's Estate in St. Louis are still remembered as images of failure.

As far as we are concerned, taking the same way is, using the words of Engels, postulating that towering is as necessary as the housing crisis. We would then assume that it is an 'institution'.

> "We would have a better chance to survive if we adapt to this world and consider it favourably instead of acting as scepters and dictators." 8

As a professional concerned and contributing to the shaping of our urban environment, my work aims to stimulate a re-examination of the options concerning the housing matter in general and the typological choice in particular. Thus I am fully convinced that in Algiers, the opportunity for change is at the typological level and that it is there where lies both 'ache and remedy'.

It is my belief that a good relationship of man to his environment must start from his domestic environment, in his house unit as well as its immediate environment which must:

- Possess social and cultural values (those that are embodied in the notion of intimacy - openness - closure) all those characteristics that cannot be universal.
- Ensure the well being and climatical comfort of its inhabitants (aspect that has traditionally been successful)
- Provide full responsibility to householders for maintenance.

If, on the other hand, the spirit of the traditional type and its qualities are understood and its potential of accommodating modern life stand and are recognised, our attitudes towards domestic patrimony will hopefully change. A "so desired" reconsideration of the actual housing type options will then follow.

To achieve this, three steps have been considered necessary.

Firstly: Outline the qualities and characteristics of the traditional domestic type and the unsatisfaction that surrounds modern types.

Secondly: Prove through a comparative study the competitiveness of the traditional type with the two other types - colonial tenement, the point block.

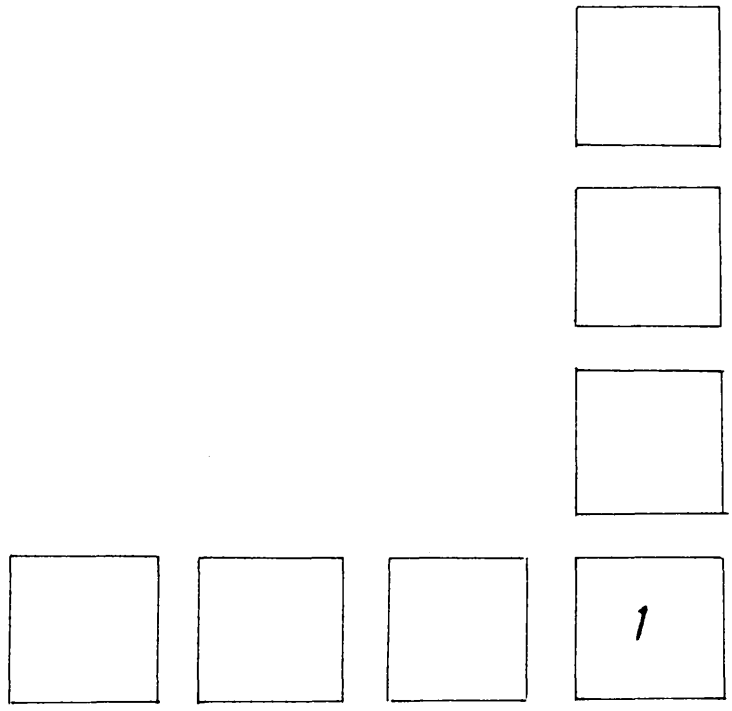
Thirdly: Give a practical and theoretical testing of the type as a possible application.

This work is in a few words then concerned at the root with the "restoring of the design of our cities". 9

The remainder of this chapter will give a description and gather some subjective reactions to the three types of urban housing existing in Algeria today. This account accepts a certain subjectivity and in the time available cannot be considered as a social survey which ideally would have occurred before the start of the work. At this stage I am mainly setting the scene. The following chapters will deal with the comparison as objectively as possible.

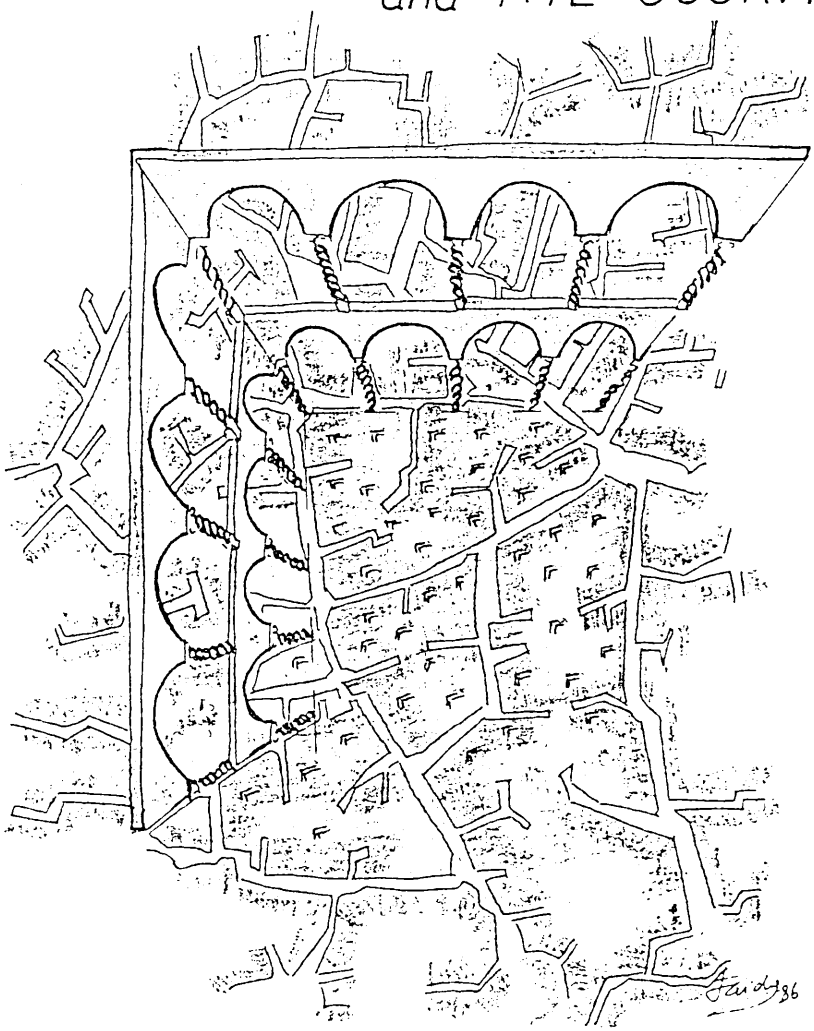
THE COURTYARD HOUSE

A HISTORICAL TYPE.



1.2 MEDIEVAL ALGIERS

and THE COURTYARD HOUSE.



During the Turkish period of the 16th and the 18th Century, the Casbah of Algiers was an important centre within the Mediterranean region. It was at that time, composed of 50,000 people[10] when commerce and crafts dominated urban economics.

Confined within its fortification, the Casbah in terms of public services comprised numerous places, military bases, 159 mosques, schools on 'Medersa' (Coranic schools) generally located around the port. The general organisation of the old town showed 2 different zones. One mainly residential and a second which regroups principal activities of the city. This latter, located in the "Basse Casbah" nearby the port, supported trade with other countries.

Despite this, the notion of centre at a local level in the Casbah was not its main characteristic. The structure of the medieval town denied the conception of a unique pole dominating the urban space but contrarily spread it over the city. The souk even did not seem to have known the same level of architectural expression as in most Islamic cities. In medieval Algiers, each mosque, fountain, public bath, or souk, was in itself a centre and held an adequate ambience.

Enclosure or more precisely 'INTROVERTION'* centred on the

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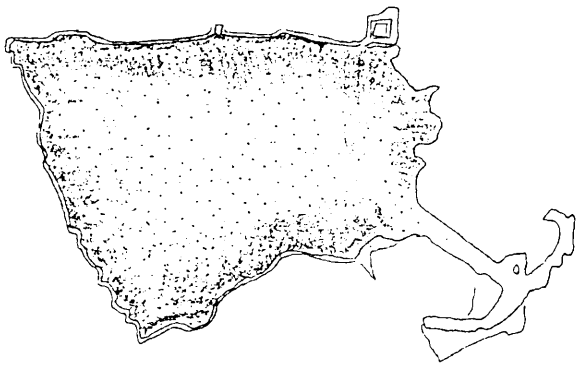
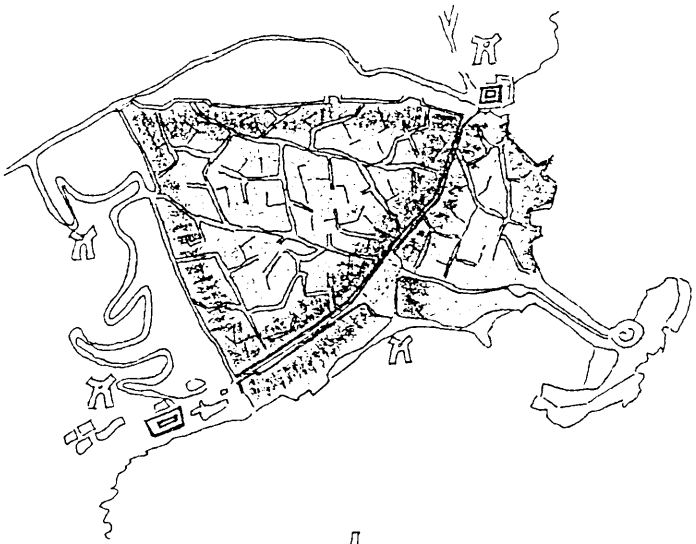
*Word expressing the inward looking spirit of a space or building. A French Architectural vocabulary.

ALGIERS. DEVELOPMENT



—.1830.—



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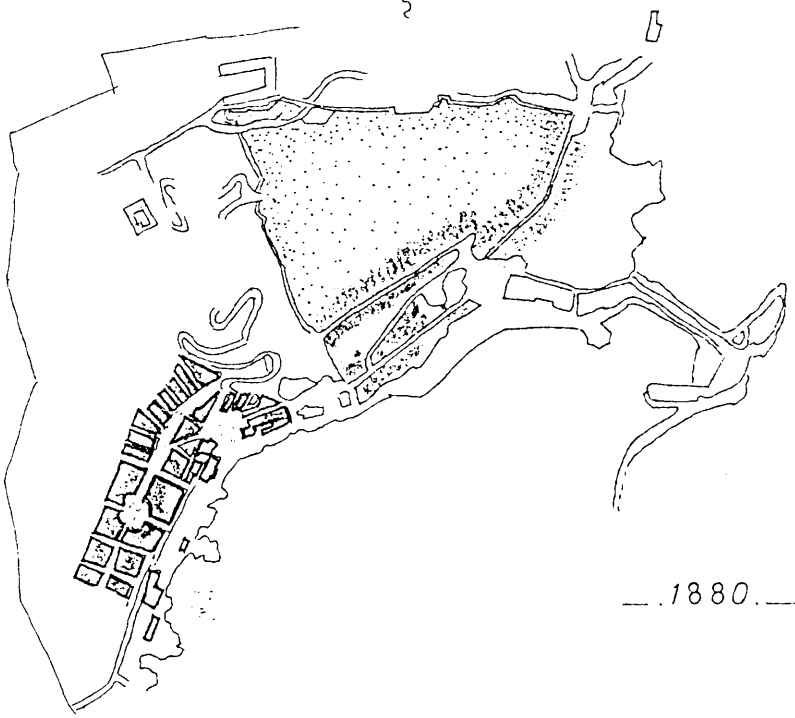


—.1880.—

Pl 1

heart of the house units and common to most of Arabo-Islamic countries is here present. It is as P. Pinon states, talking in Fez. in Architecture d'Aujourd 'hui no. 167 pp. 6-15.

> "An expression of the impact of a type of social organisation where family, social needs, customs as well as practices are defined. These imperatives command the mode of intervention up on the environment and the production of space and are therefore to be read in both the (houses) urban configuration and the architectural conception of the house".

The exclusion of the exterior led to a system of streets ('Zenkas') and cul de sacs 'Dribas' at an urban level and to the principle of inner courtyard at the house level.

The urban network participates in this way to the climatic protection of the house unit as well as its immediate exterior environment, i.e. public spaces. This composition of densely grouped houses can be seen as firstly concerned with climate and the adaptation of architecture and urban space to its condition.

The main characteristics of the Casbah lie in the homogeneity of its components as well as in their fidelity to the whole structure. In order to better understand this phenomena a morphological review of both urban and house units spaces is necessary. The former consists of 'Dribas' or Cul de Sacs and units of narrow and winding public streets the 'zenkas', the latter of introverted courtyard house the 'dar'.

THE PATIO HOUSE: THE DAR

> "While the street is a channel of violent movement, your houses know nothing of it: they have closed the walls which face the street. It is within the walls that life blooms."
>
> LE CORBUSIER

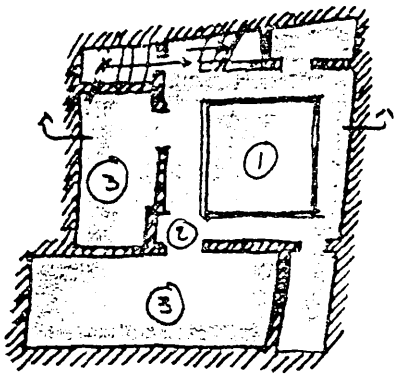
In its simplest form, the dar is a rectangular or square with an open court called west-ad-dar in its centre. Facing the three or four sides of the open court are the main rooms, each having a central doorway which also allows light to penetrate. These rooms are often long and narrow and their width seldom exceeds 10 feet (3m).

On one of the corners of the property in the entrance hall which is variably shaped in such a way as to impede a view of the interior of the 'dar' from the street, even when the door is open. Secondary spaces such as stair cases leading to the upper floor (stah), kitchen, bathroom and toilets may occupy the other corners of the 'dar'.

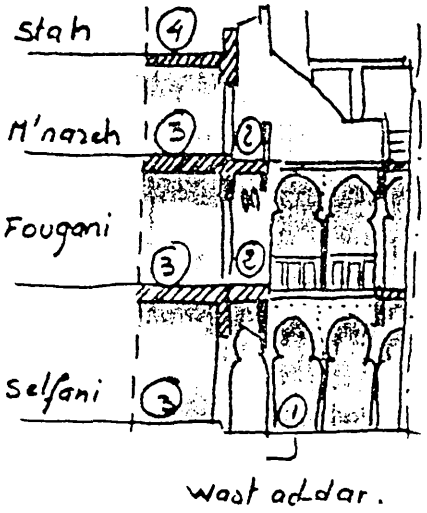
External windows are only provided where they cannot overlook or be overlooked by a neighbouring court or terrace.

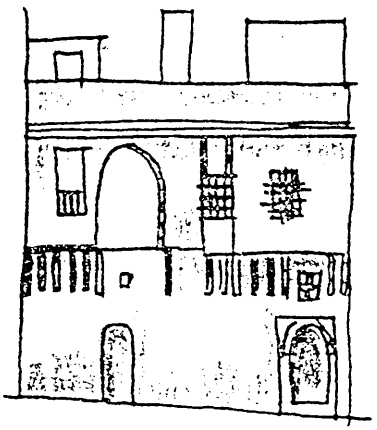
"Toute lecture quine voit dans l'aspect exterieur des maisons arabo-musulmanes qu'une "Facade Aveugle" se refere a des models inadequats. Il ne s'agit pas en fait d'une facade sur rue mais d'un mur."

Adjacent to two or three neighbouring houses, the residential unit, the dar offers to the street its blindwall



1. Courtyard - Wast.ad.dar
2. Gallery - Es hine.
3. Bioute - Rooms.
4. Terrace - Stah.





A typical Courtyard house.

The appelation of the spaces in relation to their location within the house unit: wast ad dar centre of the house.

selfani	lower level.
fouqani	upper level.
m'nazeh	top level.
stah	roof level.

flanked with a unit opening: the 'Bab' or door.

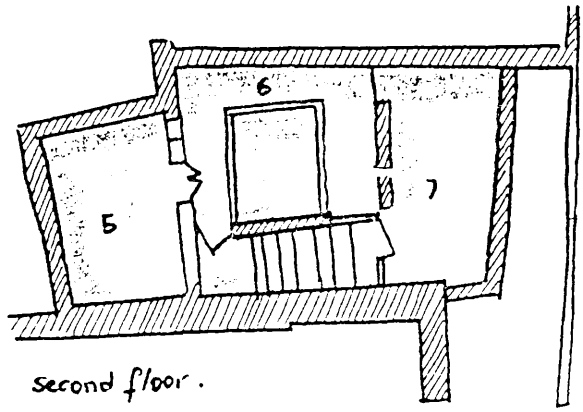
It is evident that the type of enclosure that is formed by the residential unit is the expression of the impact on housing of a social organisation within which the family is defined. Translated in the ordonnance of the spaces, in elevation, as in plan it is as well materialised by an organisation that will isolate the private spaces from the public spaces.

From the outside, nothing of the internal ambiance of the family activities is discernable. Even the door open, the sight seen as an intrusion to the family privacy is blocked by the device of "Chicane" or bent entry (plan typical Casbah house).

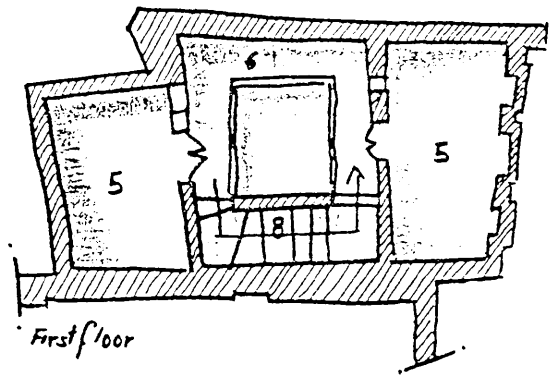
Depending on the nature of the house, common, bourgeoise or a palace, this system of privacy protection becomes more complex, reinforcing therefore internal intimacy by the multiplication of doors, vestibules and corridors in "Chicane". A sub-division of differentiated accesses to different parts of the house completes this subtle arrangement.

The traditional dar of the Casbah is generally composed of two to three stories (Pl. 2) and its spaces named according to their situation within the building.

. Typical Casbah house - Plan.



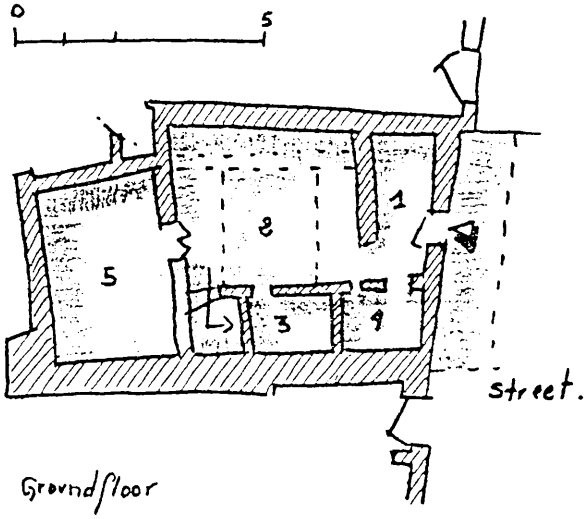
second floor.



First floor

1:100

0 5



Ground floor

1 - Es Kiffa (entrance).
2 - Wast addar (Patio)
3 - Kitchen
4 - Lavatory
5 - Bioute (Rooms).
6 - Es-Hine (Gallery).
7 - STah (Terrace).
8 - (stair Case) droJ.

THE 'SKIFFA': THE ENTRY WAY

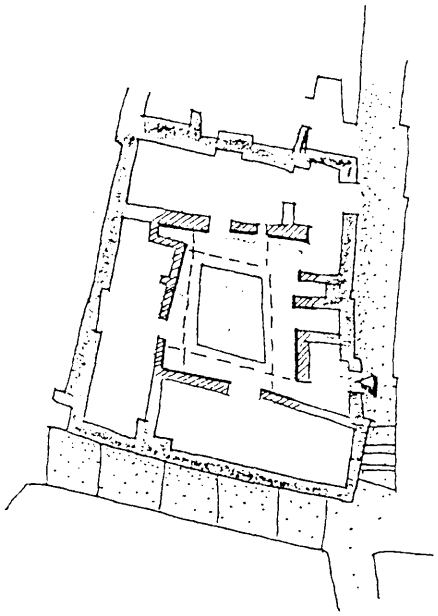
In order to enhance privacy and security of the family, the medieval urban house the dar) developed a complex of spatial relationships. The entire disposition of the house was thought out to preclude a possible visual intrusion into the intimacy of the family. The design of the (entryway) skiffa (plan 3). It is the space of reception of strangers to the house before introducing them to the hospitality of the private realm. It plays in a way the role of a spatial filter. This has been clearly described by Thomas Show in his book of observations on the countries of North Africa. [12]

> "If we quit then the streets of these cities - usually narrow and bordered with shops - and enter into any of the principal houses, we shall first pass through a porch or gateway with benches on each side, where the master of the family receiveth relations, having admission any further except upon extraordinary occasions."

THE WAST-AD-DAR: THE PATIO

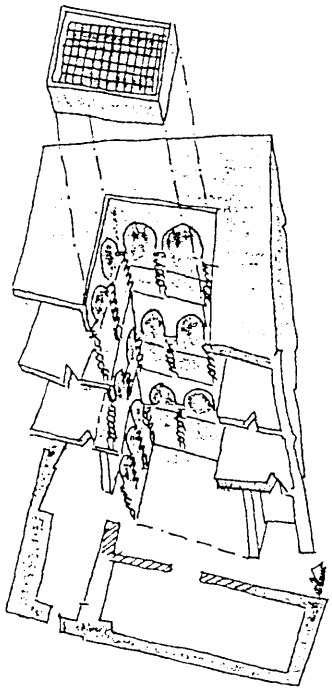
Literally, 'Wast-ad-Dar' means centre of the house (see plan 2). Its relation to the public street complies into different forms. It may be at the same level as the public street or slightly elevated accessible from the skiffa by a run of steps which again contributes to enhance the spatial seclusion needed for privacy preservation. Closed to the rest of the city, retrenched behind its walls, the enclosed space - that is the house unit - opens to the sky. It constitutes on the one hand the central space of the

THE WAST-AD-DAR The Courtyard



- 'Closed' central open space.
- surrounded by rooms accessible by galleries.
- constitutes the unique source of light.
- allows air mouvement.

—o— Enclosure of the COURTYARD is completed by the Openess of the ROOF TERRACE.



family life and on the other its architectural composition and the support of its decorative expression (Plate 4).

Son "Oeuvre plastique qui se deploie sur les facades que l'on ne decouvre qu'une fois franchis toute une serie de dispositif d'eloignement".

Its elementary organisation is uniform: it consists of covered walls "Bioute" defining a central open space: The Wast-ad-Dar (the court). Various characteristics of this configuration may appear within the structure but these variations always turn around the same architectural theme common to most of Arabo-Islamic countries: the residential unit around a courtyard (Illust. Plan 2).

The Wast-ad-Dar as a climatic regulator:

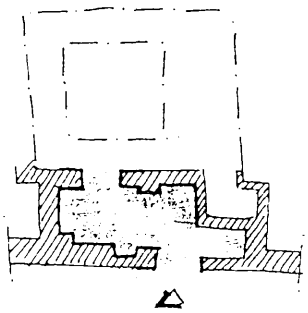
"O inspiring image!
Arabs, are there no people but you
who dwell in coolness and quiet, in the
enchantment of proportions and the savor
of a humane architecture?" [31]

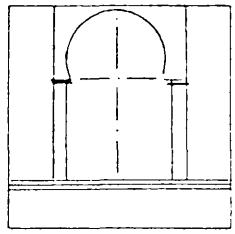
La Corbusier

"Fouaras" or water fountains, basins through evaporation humidified the air and cooled it (Picture 3). When the size of the Wast-ad-Dar permitted it, plants and trees were introduced to contribute cooling the ambience of the courtyard and the main source of water, "El Bir" the well is located on the ground floor.

THE DAR ITS SPATIAL SUCCESSION.

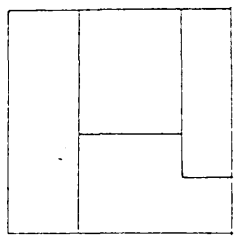
House

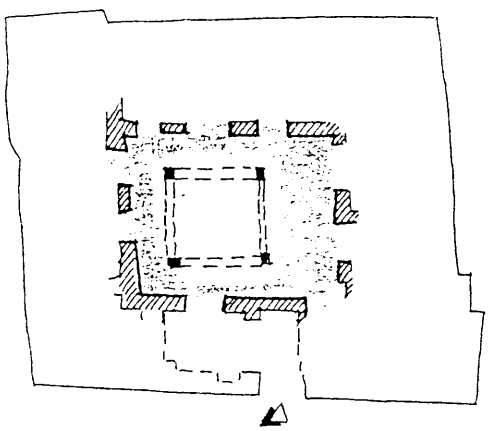




The `CHICANE`

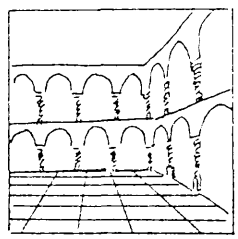
Bent Entrance.

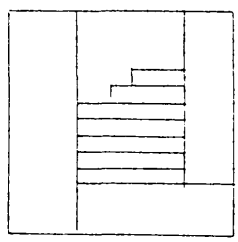


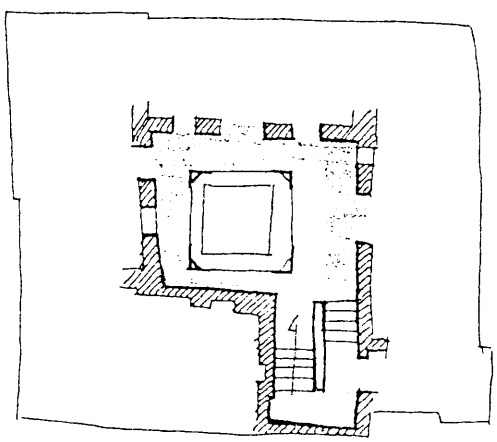


The `Wast_ad_dar.`

Patio







The `Drodj`

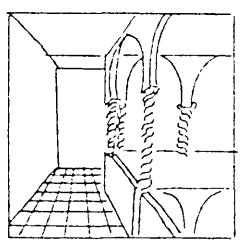
Staircase

The `Shin`

Gallery.

The `Stah.`

Roof Terrace.



The Wast-ad-Dar in a house acts as a light well as well as an air shaft, bringing both daylight and allowing air movement to the rooms around it (Illust. 4). It is thus a very effective form of climatic regulator.

ES HEINE: THE GALLERY (Illust. 2)

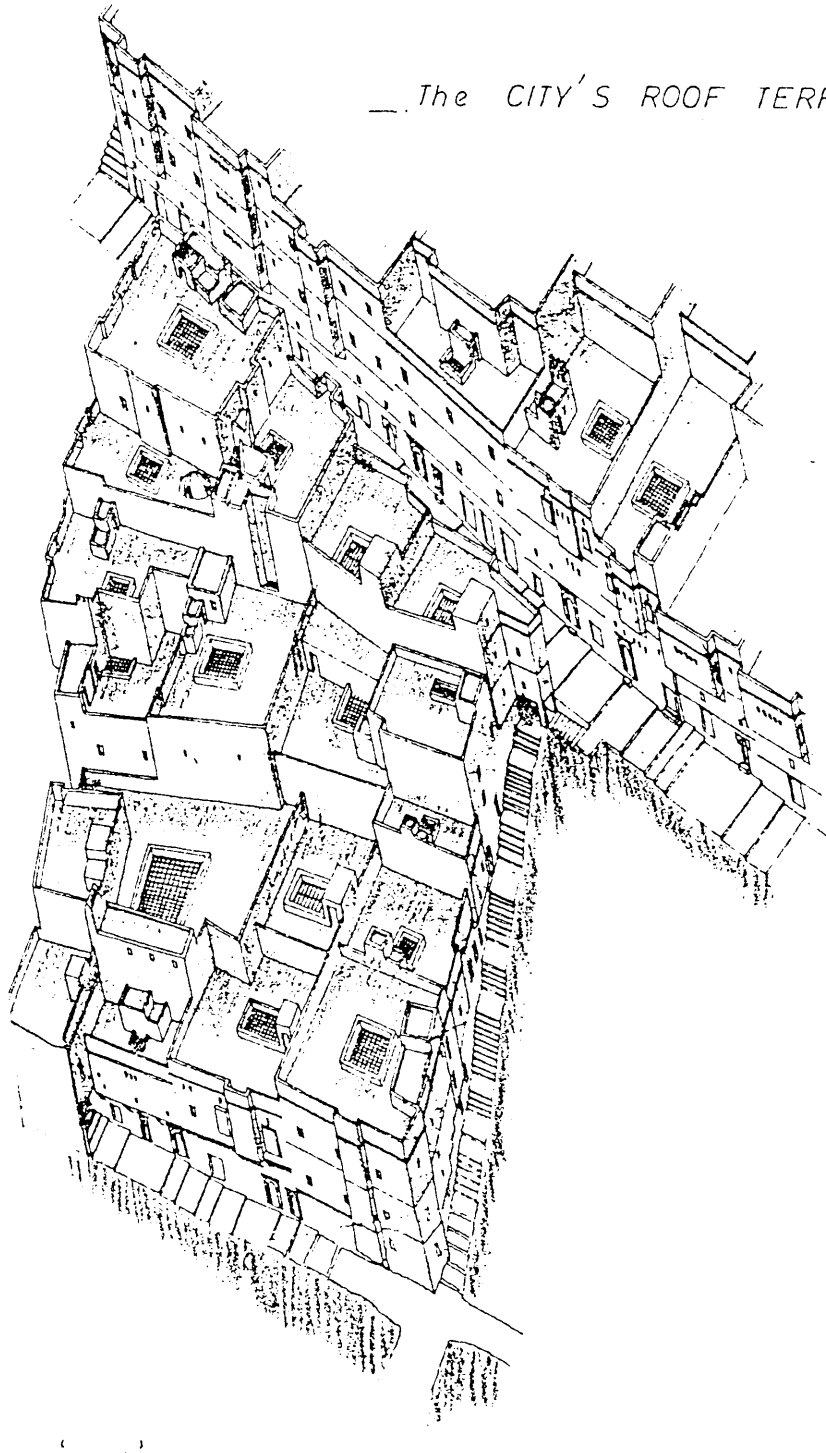
Located on the upper floor (and around the patio on the ground floor), it serves the rooms and overlooks the courtyard. As well as giving access to the rooms around the courtyard, the gallery protects them from direct exposure to sun and rain.

Depending on the size of the house, the gallery can occupy two, three or four sides of the courtyard and as well as a space for circulating, it is a kind of balcony overlooking the Wast-ad-Dar.

THE 'STAH': Or roof terrace (Axonom. View)

Part of the process of spatial hierarchy, the terrace located on the top floor constitutes the only opening of the house unit upon the urban space. The 'stah' mainly a female's space, permits a discreet relationship between the neighbouring houses without any interractions with the public space: the street. This characteristic of the medieval city has always been the most remarkable feature of the Casbah. Early travellers to Algiers have always

The CITY'S ROOF TERRACE



The roof 'Stah' as an urban space.

shown their admiration in their descriptions of the striking atmosphere that animated this upper level of some Islamic cities. Brouty[31] in the drawing described that ambience and so did others in their poetic style when at sun set, women gathered on top floors of the city.

> "Au crepuscule, lorsque les rayons roses quittent a regret les tuiles vertes du patio, les femmes mon. taient en hate a la terrace....
>
> .....sur toutes les terraces, on apercevait des caftans abricot, des caftan couleur de pierre, des caftans "soieil couchant" et des caftans couleur de sucre dont les longues manches s'agitent lacite crepusculaire appartient aux femmes et aux oiseaux; l'air est tout fremissant de leur ramage et dumouvement de leurs ailes." 13

Holding most of the domestic tasks, the terrace constitutes the external expansion of the internal spaces.

> "Upon these terraces, several offices of the family are performed such as drying of linen, preparing of figs and raisins; where likewise they enjoy the cool refreshing breezes of the evening converse with one another and offer up their devotions." 8

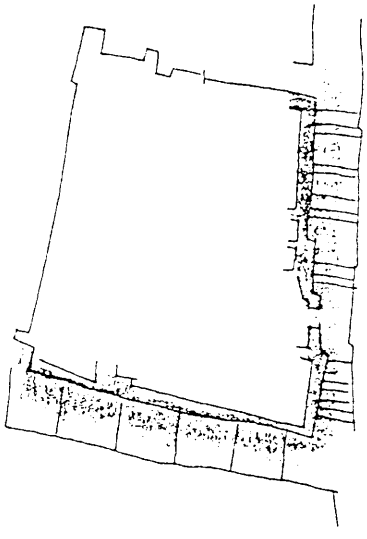
The openess of the 'stah' comes to complement the enclosure of 'Wast-ad-Dar' which may be regarded by many people - especially western for their different experience of space - as too extreme ('assez pour eveiller toute claustrophobie'). Western conception of space attributes openess to horizontal openess while Arabs opt for vertical openess: the vertical infinity. This can be clearly seen in the names of the spaces on the terrace and their significance. It is then

---

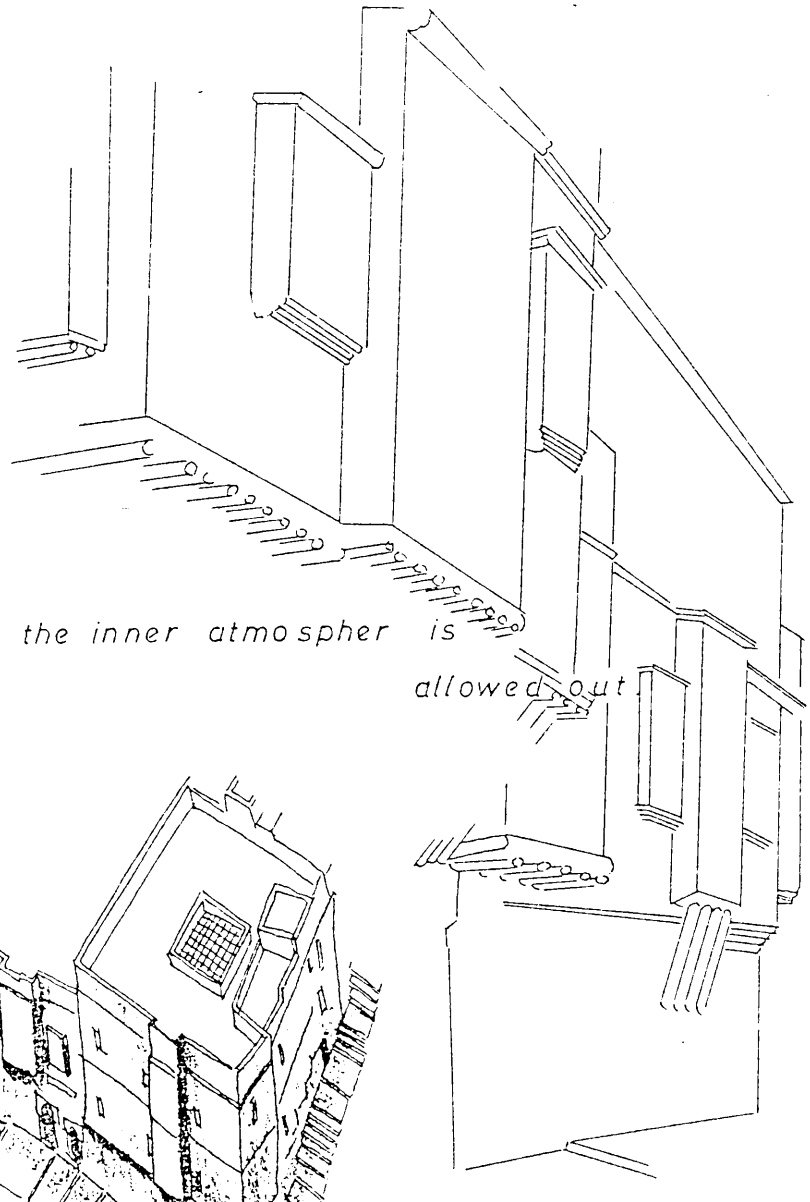
*I have used - the top floor - of the city, to emphasis upon the unity that lies in the whole structure although rich in diversity.

not surprising for instance that the rooms on the terrace are attributed the appelations of "Manzah" which literally means spectacle or even 'place of entertainment'. It is the Casbah, in addition to the view of the whole city, the panorama of the whole Algiers down to the port is offered to each terrace with no exception. (Naturally again the sloping nature of the sites helped considerably the resulting effect).

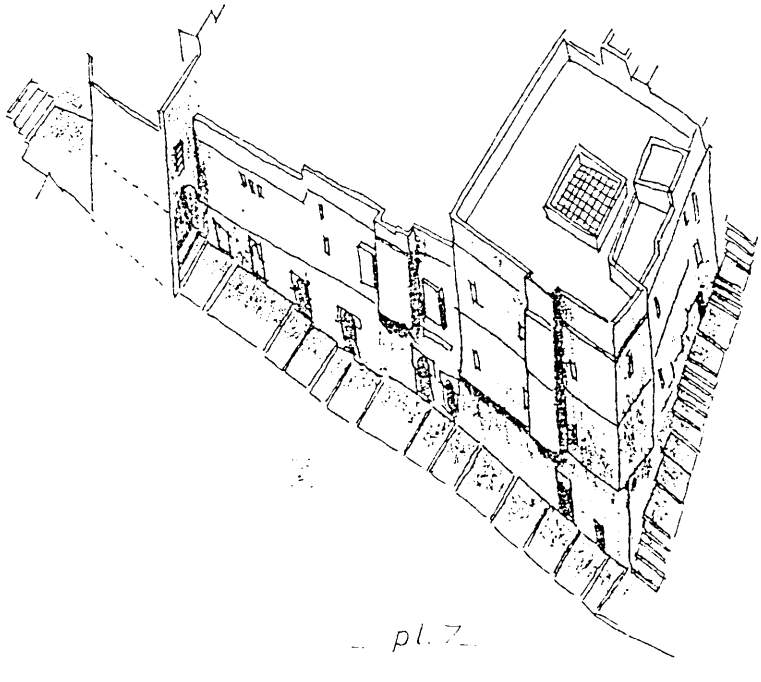
THE EXTERNAL WALL:
the FACADE.



encloses the internal spaces
within the house unit.
protects the occupant's privacy.



—o—Nothing from the inner atmospher is
allowed out.



pl. 7

The Dar, as well as guarding the family's privacy acts as a climatic moderator. It then not only shelters its inhabitants from the public disturbance but also from external climatic conditions. There is, as Norbert Schoenauer put it a,

> "Remarkable contrast between the nakedness and heat of the outside and intimate narrowness, deep shade and coolness of the Dar's interior." 12

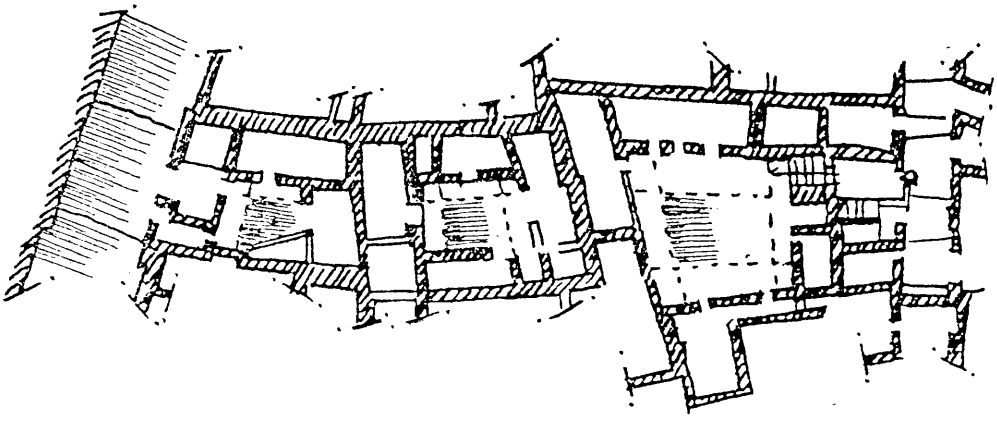
Closed to the rest of the city, behind its walls, the space of the dwelling unit opens to the sky, an event that takes place in the courtyard. In short, its elementary organisation is: covered spaces determining a central open one the Wast-ad-Dar or courtyard.

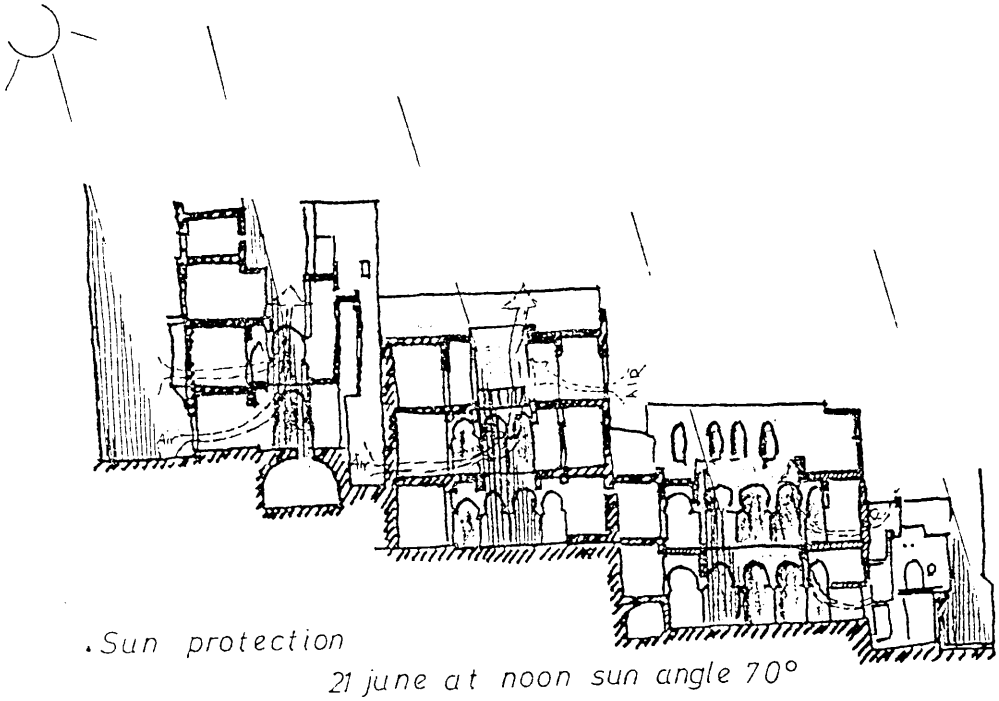
The various characteristics of this configuration proper of Arabo-Islamic cities can vary from one region to another but the general principle: the dar around the Wast-ad-Dar (the house around the courtyard) is their common feature.

If practices and customs modelled by Islam have contributed to give the house unit a relative unity, the organisation of built space to respond to climatic conditions that affect most Islamic countries (heat and light) have purely reinforced it. The medieval house was thus designed to create microclimatic conditions in its interior by controlling to a certain extent both heat and light and rain.

CLIMATIC REGULATION.

in the COURTYARD HOUSE.





. Sun protection

21 june at noon sun angle 70°

. Ventilation.

THE MEDIEVAL PATTERN

> "....On all the shipboards, all the men rushed to admire this Corsars nest finally revealed on its triangular shaped site. White its basis swam in the water, its top hung up on the Casbah....Suddenly, they forgot their exhausting month sailing journey....There it was, the Medieval Algiers.....with its sugar like houses coming down to the sea...." 14
>
> Jules Roy, 1830

As most medieval Islamic cities, the Casbah in its sophistication in relation to privacy surpassed that of their occidental medieval counterpart.

Enclosure centred on the interior of the house units is carried beyond the boundaries of the dwelling into the residential environment to the whole city. This is best illustrated by Berardi's description of the Arab City:

> "At night all the gates are closing. The city's on the outside world, the doors of the cul de sacs on the public streets. These in turn can be secluded to permit the quarters to close." 15
>
> "Just as the oriental urban house has private and public areas, the oriental neighbourhood itself has a similar order that is at least as sophisticated. Accordingly, the blind alleys or narrow local streets giving access to semi-private areas." 12

This hierarchical subdivision of the public network originally dictated by defensive purposes of the medieval city knitted this whole organic network of closed semi-private alleyways (the dribas) and the public streets (the zenkas) together. This was expected to bring security for its inhabitants by excluding all strangers and unwanted

THE MEDIEVAL URIBAN PATTERN.

_ Its components:

_ The public street: the 'zenka'.

_ The semi private st. the 'driba'.

_ The private 'skiffa'

_ The private courtyard the 'wast-ad-dar'

keyword:

semi private space 'Dribas'.

inner filter the 'Skiffa'.

passers-by, this spatial organisation seems to work perfectly in terms of privacy preservation of both the public spaces and the house unit.

> "O inspiring image: Arabs, you are at home within the hospitable and charming house, so clean, so measured, ample and intimate" 31
>
> La Corbusier, 1933

The Public Street - (The Zenka):

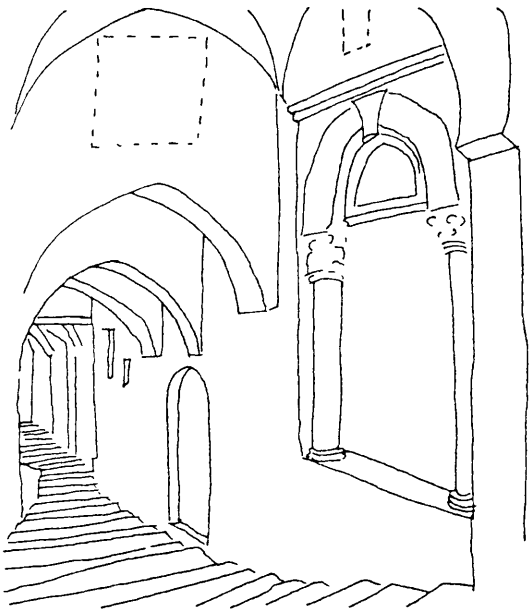
appears in different forms and assumes various functions but generally it links the residential quarters together and with the main axes. The most interesting feature is the dimentional relationship that exists between the different components of the city, i.e. the house unit and the street.

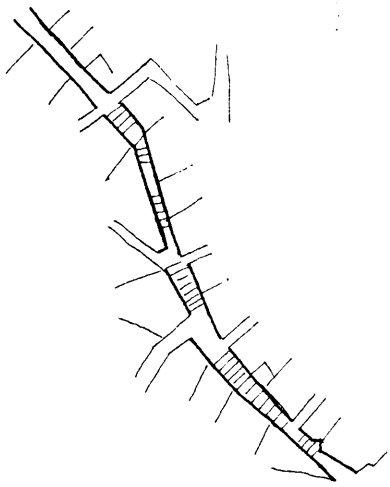
The Semi Private Street - The Driba:

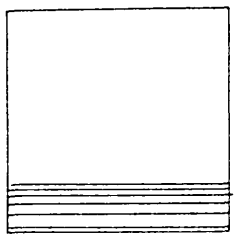
A narrow cul de sac shared by a limited number of families (8 to 3).

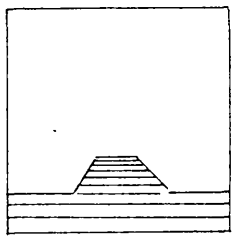
Narrowness of these streets is determined by the blind perimeter of the courtyard house units strongly linked together and closed on the alleyways. This spatial configuration as well as the ambiance that dominates the space constitutes a perfect example of what Oscar Newman called 'Defensible space'.[16] The strong sense of territory that is in this way favoured, stems from a desire of exclusion that will permit a feeling of ease and freedom in its own

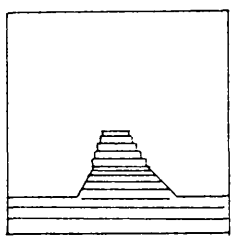
THE PUBLIC REALM ITS SPATIAL SUCCESSIONS.

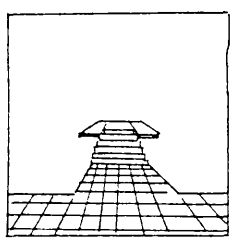


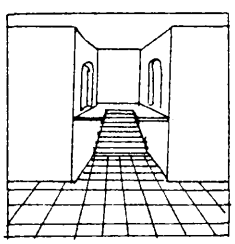




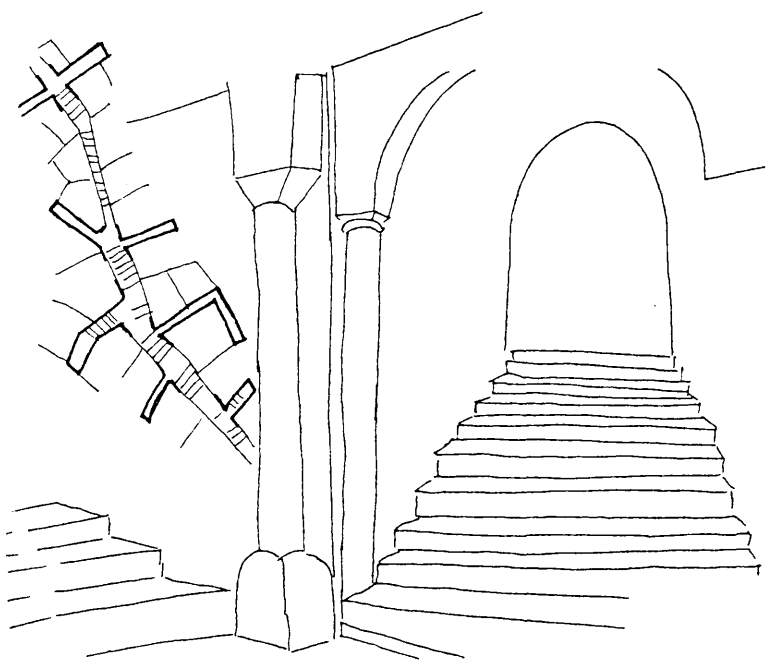








The 'ZENKA'



The 'DRIBA'

Plate 10

environment more than by pure rejection.

> "When walking along these silent ways bordered by blind walls with occasional closed doors and hear the echo of your own feet on the floor. It is a sign that you are in a residential area." 17

These public spaces of streets and cul de sacs, straight or bent, covered or open to the sky are usually deep and narrow, their width ranges from 1.5m to 4m enough to ensure a pedestrian circulation and support local activity (commercial and meetings).

Consequently, both their dimension and formal configuration contributed considerably to diminish the exposure of the public space to summer heat.

It can then be assumed that the Introversion, basic spirit of the Casbah patio house has developed a recognised climatic comfort of the outdoor spaces. Well shaded spaces even during the summer season permitted their use at any period of the year creating then a constant activity in the urban outdoor spaces.

LAND USE:

In the context of a medieval fortified city it was characterised in its growth by a land shortage due to the reduction of the city walls' length to a minimum. Land was then to be well used in order to accommodate the growing population. No waste was tolerated and much of the land

was consequently to be built restricting the open spaces to just narrow passage ways.

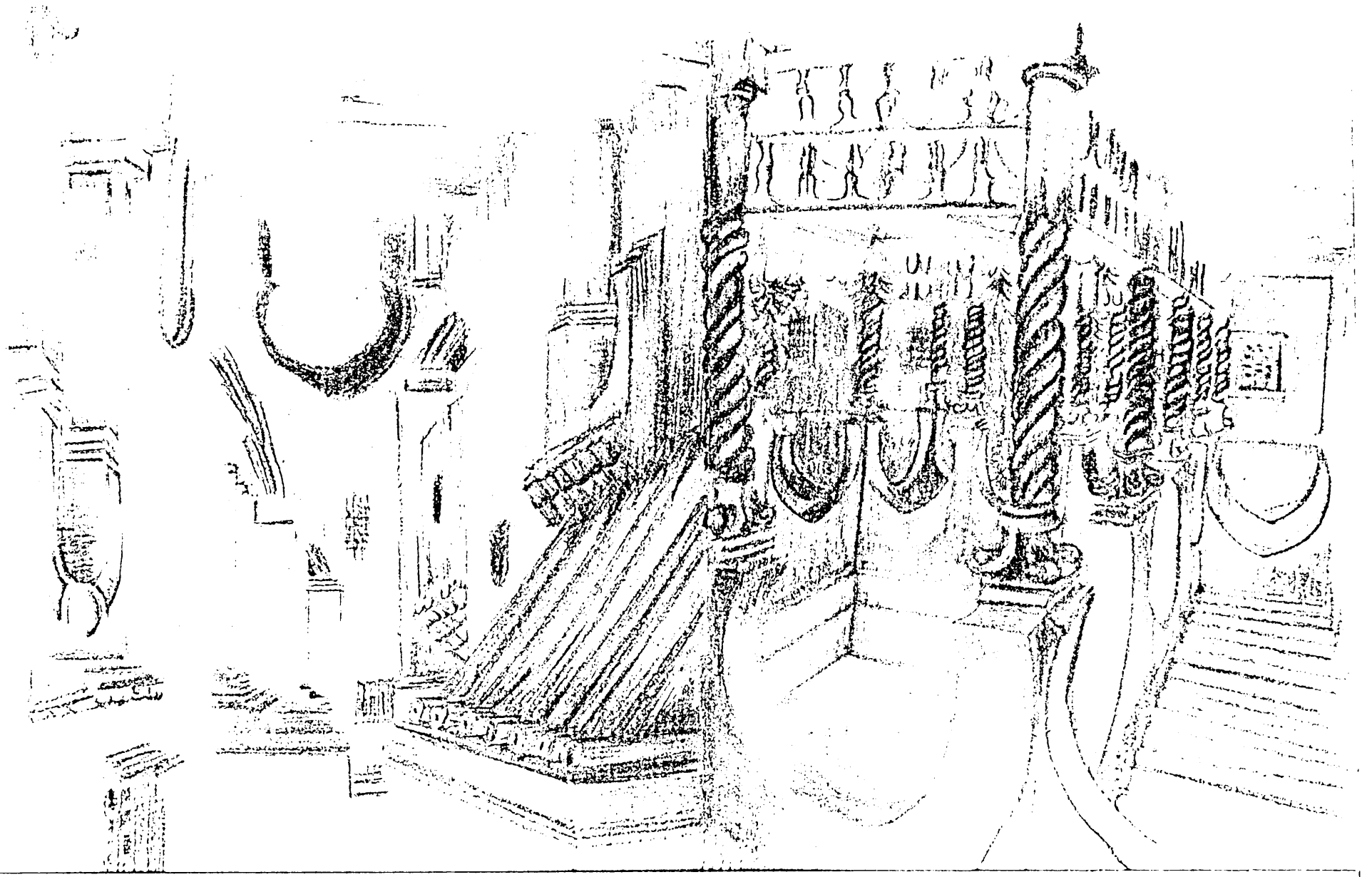
It is not surprising then, after a close look at the land use pattern of the medieval city to note that:

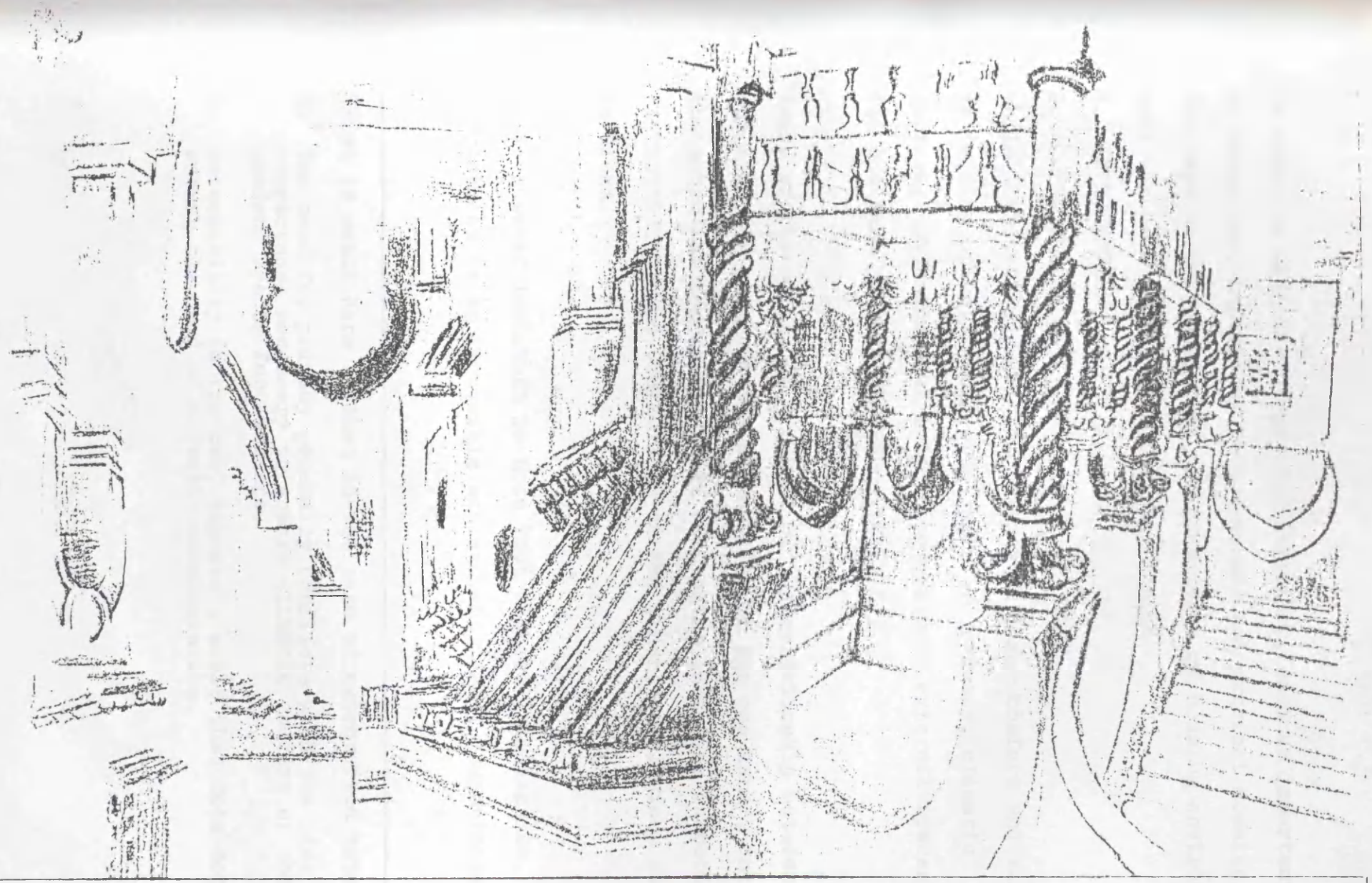
77% of the land represents the built up area while only 07% is devoted to open urban space.
16% is attributed to private open space. This is very significant when compared with public open space.

Although very revealing of the efficiency of the courtyard type unit with regard to land use, it would be fallacious and even dangerous to consider these numbers without question. The reasons lie in the fact that they are representative of a structure that cannot be reproduced today as such and in that they relate to a way of life and movement that is to a certain extent difficult and even unfair to reproduce today.

But, on the other hand, it cannot be denied that in general, by its principal characteristic - introvertion - the courtyard type unit can achieve compactness (without disturbing the inner domains) of the urban structure.

* Land use. In the Casbah
  - built up area 77%
  - private open space 16%
  - public open space 07%





In order to meet the range of constraints, each as important as the other, imposed by both internal and external domains, the aspects to consider in the conception of housing environment can be summarized as follows:

1. INTROVERTION
2. COMPACTNESS

while introvertion will aim to provide inner comfort and all it implies of well being with regard to privacy, climatic comfort, compactness will be concerned with external spaces for the same purpose plus accessibility.

Aware of the conflicting nature of the relationship between the dwelling unit and its surrounding on the one hand*, and the potential for solving this compromise that lies in both 'INTROVERTION' and COMPACTNESS on the other, conclusions can be drawn.

It is however important to note that without Introvertion, compactness is an impossible achievement. For, compactness

---

*What is meant here is that in the case of extroverted types:

A. The need for privacy generally conflicts with the idea of compactness necessary to ensure climatic comfort of the outdoor spaces for instance.

B. Accessibility (motor car) imposes a scale that does not answer the need of climatic consideration.

seen as the concentrated arrangement of buildings (in a city) unified with a consolidation of land uses in close proximity can have serious implications in terms of livability and thus lead to social distancing. Naturally, this is not what anyone would want to realise.

With 'Introvertion' of the dwelling units however, compactness can bring people together both physically and socially bringing interesting solutions to deal with the different issues of housing environment in the following ways:

- It can meet theproblem posed by climate (sun, rain...) by creating good microclimate
- Helps saving energy for heating or cooling being subject to less heat exchanges than a dispersed city
- Use land efficiently

Introversion also;

- Meets the exigency of inner spaces and their need for privacy preservation
- Provides private open space that can be freely used and be the complete responsibility of the owner
- Bring peaceful private space away from public disturbance
- Can help considering the problem of housing unit extension and modification without harming the coherence of the external spaces

AZZIZA House - ALGIERS -

THE COURTYARD

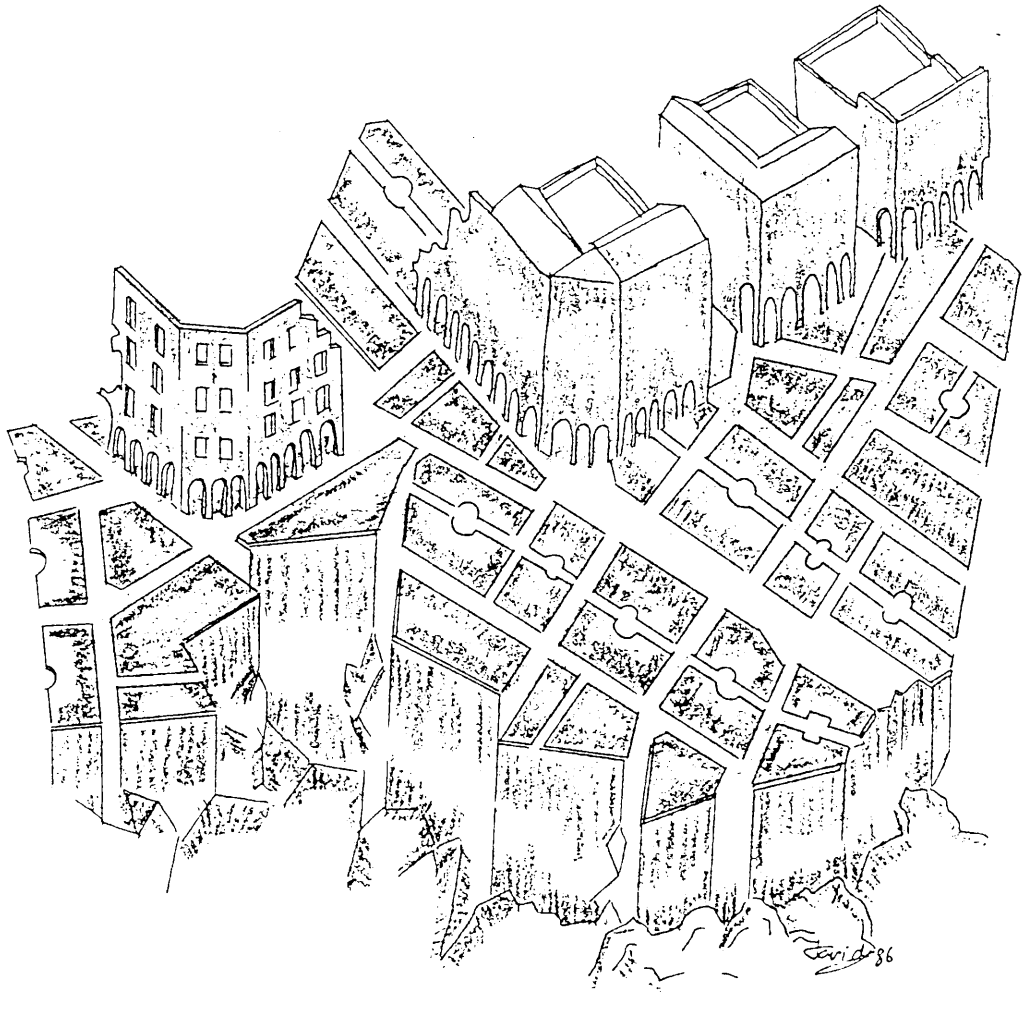
- WAST. AD. DAR -

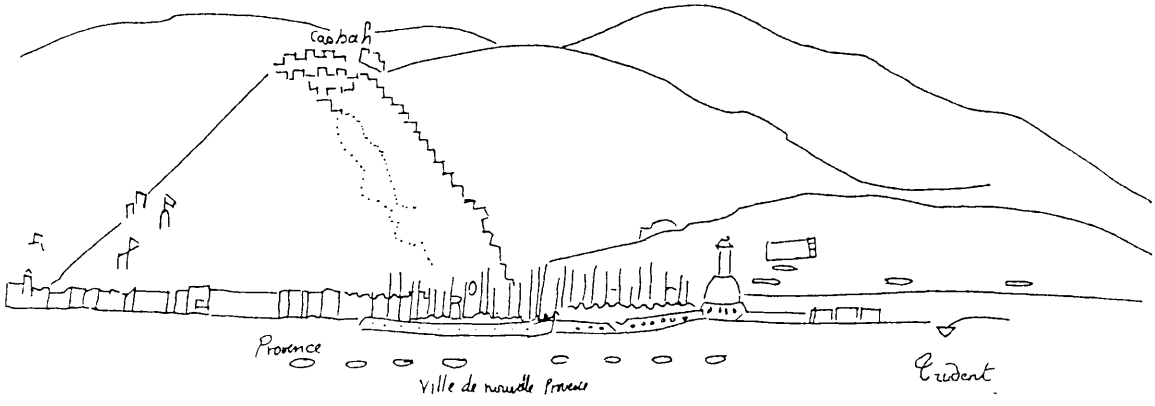
BARDO Museum - ALGIERS -

'ES HINE' : THE GALLERY

AZZIZA HOUSE ALGIERS.

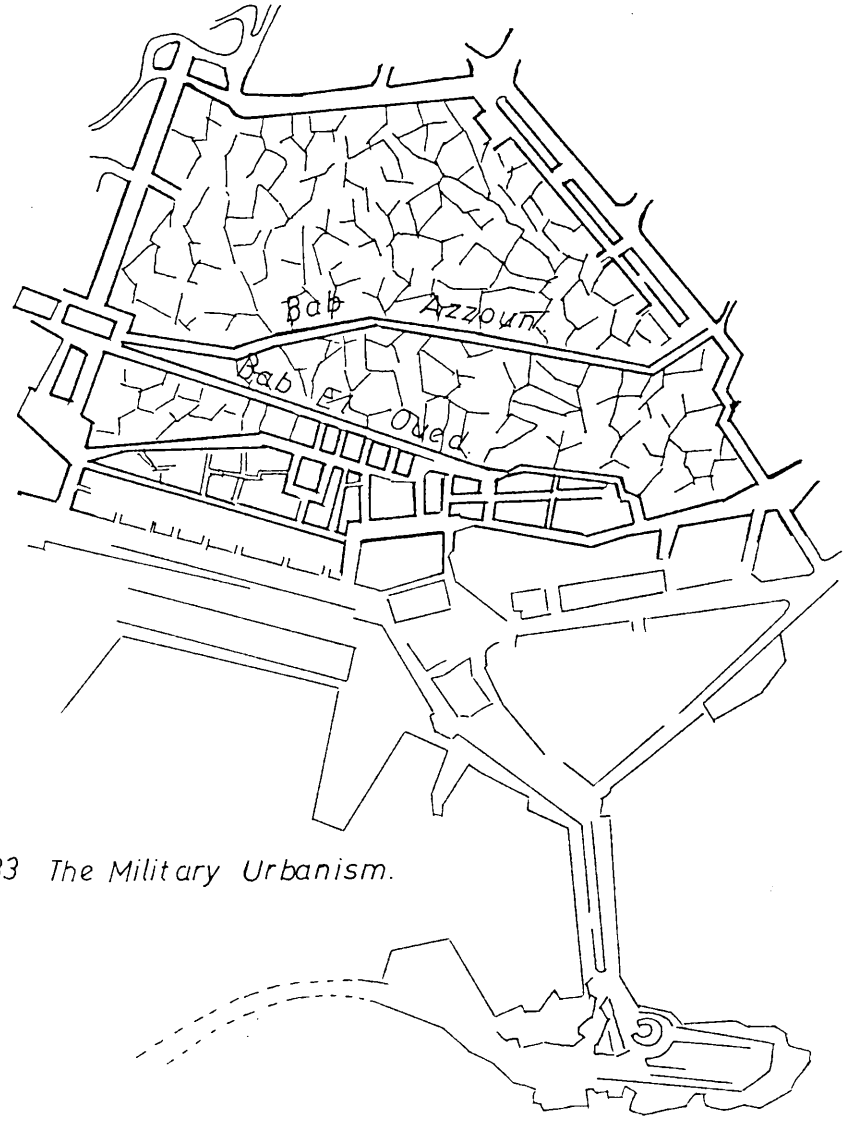
1.3 COLONIAL ALGIERS and THE TENEMENT





.1830 s ALGIERS.

by a French saillor.



_.1933 The Military Urbanism.

COLONIAL ALGIERS AND THE TENEMENTS: "IMMEUBLE DE VILLE"

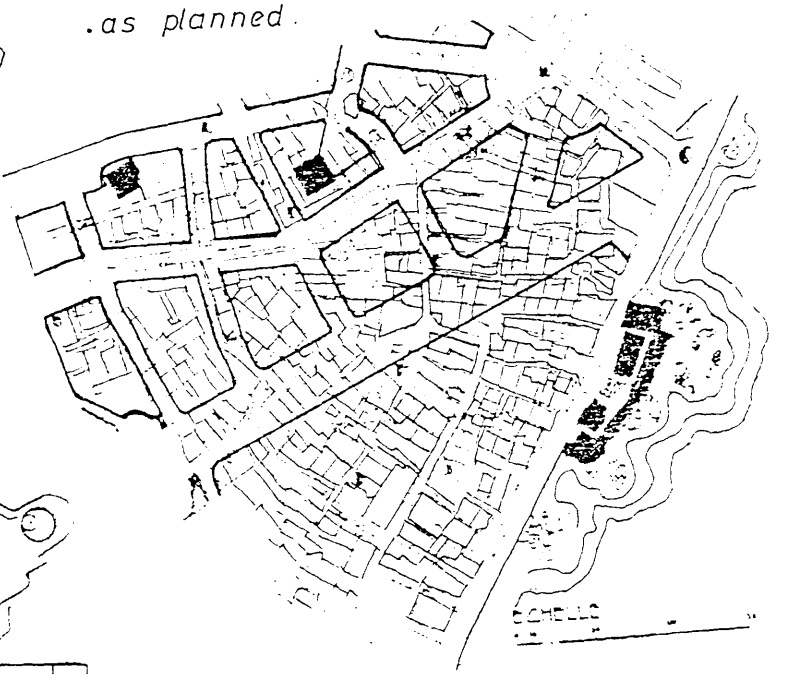
> "Where is this contemporary 'Urbanist' who will dare impose to a society as cosmopolitan as the Algerian a planning structure conceived for a French City....." 18

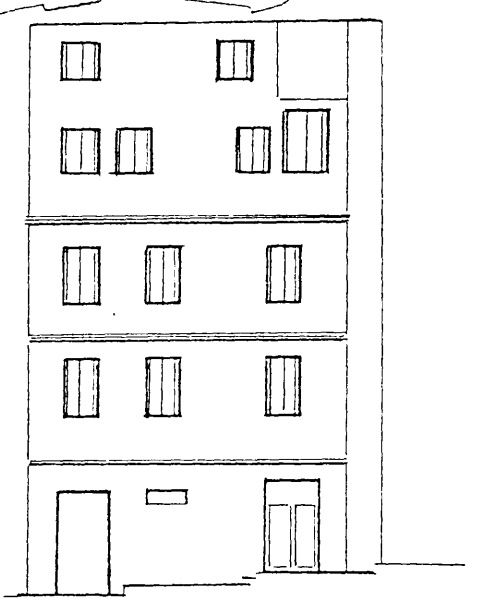
The history of colonial Algeria began in 1830 after the French victory over their Turkish predecesors.

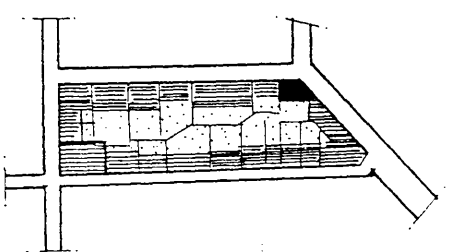
French 'urbanism' in Algiers started then as a 'military urbanism'. A domination of the conquerors over the local population was to be expressed physically and marked by a voluntary "misunderstanding and total rejection of the "dominated"society and vanity of the military power"[19] the whole existing structure was then to be transformed. The first intervention of the French colonization was of a Haussmanian type. Cuts through the medieval fabric were made for military purposes: the governmental square, together with the two main axes (Bab el Oued Street and Bab Azzoun Street) both 20m wide[19] were achieved with the same aggressiveness of the French urbanism of the 19th century (Plate 7).

As impressive as this intervention might have been, it has broken the established relation of the 'medina' to the Port. This despotic attitude towards the pre-existing environment was to start the destruction of the ancient equilibrium that strongly marked the history of urban Algiers.

• COLONIAL URBAN PATTERN.
.as planned.

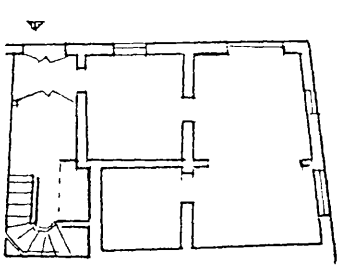




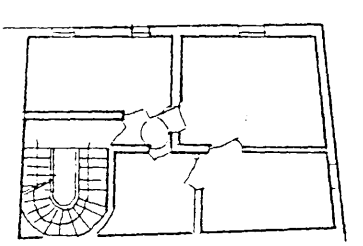


• 'ILOT'
Tenement block.
as a result of land speculation.

• TENEMENT BUILDING.



Ground floor



Upper floors.

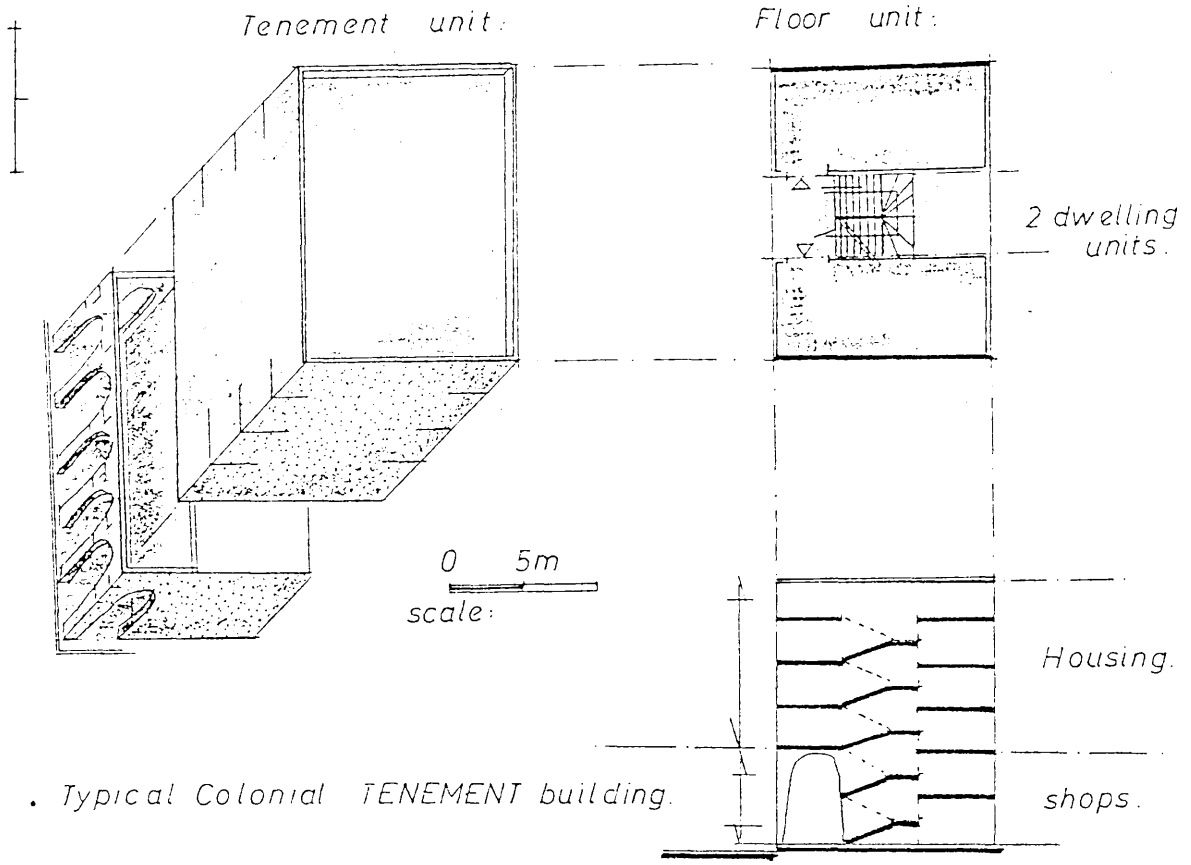
Plate 15

A second period was going to mark the French presence in Algiers. A shift of the French intervention upon the space was going to take place. 1924 was the year when the military urbanism became bureaucratic. From then on started the expansion "Extra Muros" of Algiers. Plans for new towns were considered. Urban centres responding to overseas urban standards and reflecting the new power were needed. Algiers during that period became an interesting field of experience "at many occasions, it was at the Avant-garde of French urbanism".[19]

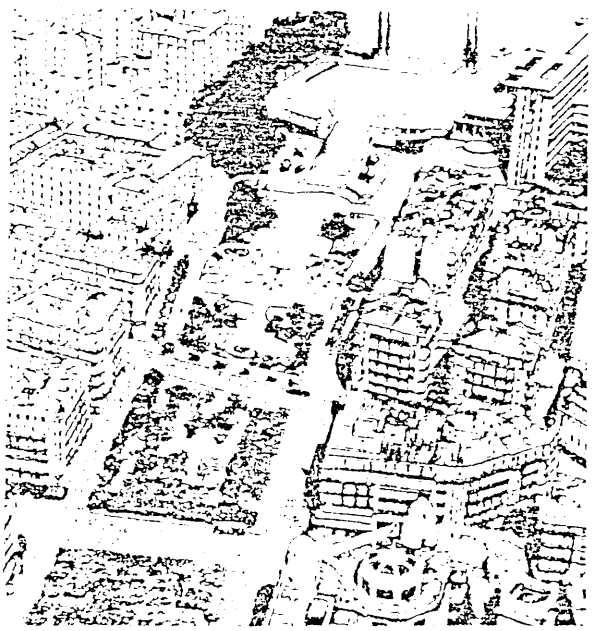
In terms of spatial input at the urban level, the French period was marked essentially by the regular grid layout conditioned by both the military need of control and free movement within the city on the one hand, and the land speculation on the other. These conditions then produced the urban component of colonial Algiers: the so called: "Ilot" or block. (Plate 8). This was derived from plots "parcelles" and consequently gave birth to what was known as "Urbanism -d'alignement" of the 19th century.

In terms of architectural type (primarily housing), the most representative input of the French colonial period was the "Immeuble de Ville" or tenement building (which today constitutes 18.5% of the housing stock) and still is a dominant component of the urban fabric of central Algiers.

The tenement building (plate 9), a three to five storey



. Typical Colonial TENEMENT building.



Colonial ALGIERS.

The 'ILOT': TENEMENT BLOCK

part of the:

'URBANISME d'ALIGNEMENT'.

high building is composed of one to three flats per floor and served by a staircase (usually central). Adjacently arranged with the neighbouring tenements, it shows two sides to the external space.

The main facade: "Cote, Jardin or Rue" opens upon the main urban space of the street.

Its characteristics are generally large openings, riche decorations, balconies, etc. (See Picture: The Colonial City.)

The rear facade: "Cote,Cour" that faces a rear yard shared by other tenements (See Picture: The Colonial City.)

LAND USE:

Military or civil, French urbanism during their presence in Algeria adopted the grid for the spatial development of the city. Military urbanism preoccupied by the free movement of their forces as well as their housing set wide avenues for further control of the city. Civil urbanism, on the other hand had to accommodate the increasing European population and its exigencies. Urban space was from then on taking another sense and what's more another scale. An observation of the land use pattern of the colonial fabric shows that:

72% built up area

28% open space (public)

0% private space

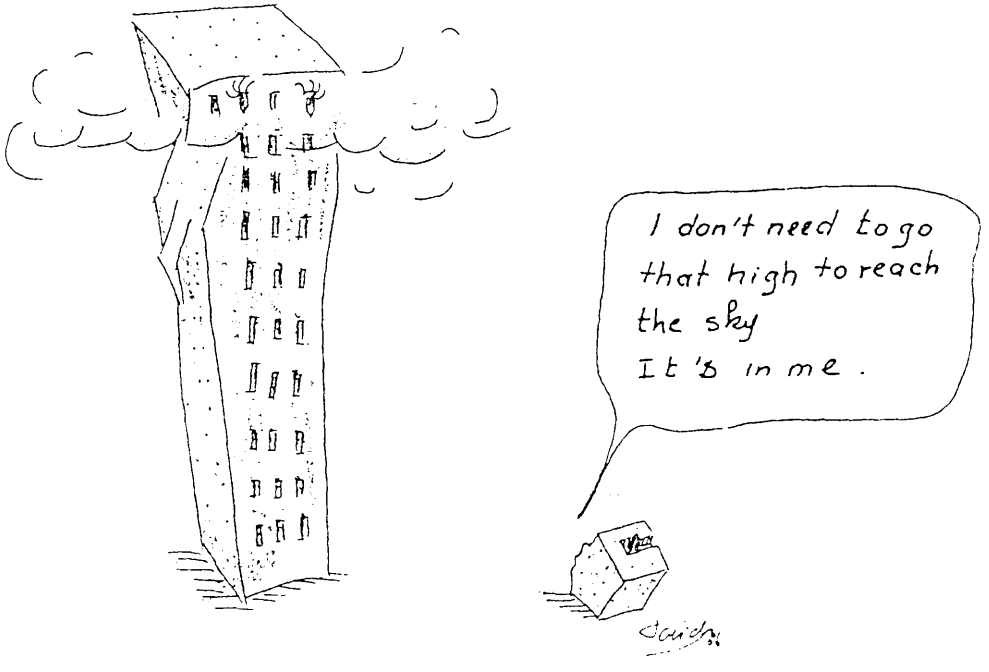
72% of the land is allocated to built area while 28% is attributed to open public spaces. One can see here the concern that is given to open space in comparison to the medieval fabric with its 7% of public open space. Private space on the other hand, was given no concern at all within the inner city area.

_ COLONIAL ALGIERS. _

_ COLONIAL ALGIERS _

1.4 POST WAR ALGIERS.

and THE POINT BLOCK.



"If we ask ourselves why modern housing in the world is so often "just wrong" instead of "just right", we shall discover that the failure is mostly caused by the fact that the decisions which control the form of houses are often remote from the immediate people and site to allow reasonable and careful adaptation to specific details of everyday life." 20

Christopher Alexander

After the independance, 1962 confronted with the demographical "Boom" due to both natural growth and rural exodus,

Algerian cities started going into a sharp housing crisis. The urban population which represented the third of the rural population in 1954 reached the two fifth in 1977 and about the half in 1982. For Algiers, the growth rate increased from 8% between 1954 - 66 to 17% between 1966-82.

THE QUESTION OF HOUSING IN ALGERIA

In Algeria, the housing crisis is first of all the expression of a demand, socially felt, in relation to the National production which is limited by the constraints of building industries capacity.

The housing deficit is in fact in Algeria, the result of various factors of historical, sociological and economical nature.

Historically: both the inherited structure and organisation of building activity from the colonial period and which relied upon an economical help from the metropolitan (France) turned out to be inadequate.

Socially: the continuous growth of urban population as well as the slow changes in family composition and size: (the reduction of the extended family of up to 20 persons to a nuclear family of 5, 6 and 7 persons) undoubtedly caused the considerable increase of the demand.

Economically: the priority was given to other sectors such as heavy industry focusing on the construction of infrastructure in relation to that industry.

These factors then contributed to increase the housing deficit. In 1966 for instance, the housing deficit was evaluated at 217,000 houses. In 1977 it reached 558,000. To deal then with this growing housing crisis, the government set a target of 100,000 houses to be built per year.[5] In this context then the government opted for the ZHUN (Zone d'Habitat Urbain Nouvelle) as "an efficient and rational organisation of land use". In an aim to control the alarming extension of cities planning authorities instructed,

> "That the development of urban centre must not be perceived in terms of extension of the existing urban pattern but as an improvement of the build environment." 21

Part of the PUD (plan d'urbanisme director) came then the ZHUN a totally new approach to both the development of urban settlements and to the housing form.

For Algiers as for many cities of the developing world at one time or another in their development, the question of housing became based mainly on facts and figures. A relentless surge of technology started in which human feelings were forgotten[3]. "The socialist orientation of the country" indicated as a first solution to deal with the crisis stipulating that it should be "Du fonctionnel pas

de luxe". [22] The debate was thus animated by the quantitative aspect which gave total priority to an industrial production of houses. [23] This highly centralised and standardised effort resulted in the production of large urban areas of monotones and uniform buildings driven on by industrialisation.

Five to ten floors high buildings, set in rows on open areas for parking and recreation became part of the landscape. The blocks were usually placed at equivalent distances based on factors peculiar to the project such as a ratio of car parking spaces units as determined by regulation and outdoor recreation requirements. Within the block however, the apartments are all identical and very little or hardly anything is done to respond to the local way of life. In fact, it dangerously distorted it.[26] People found themselves in a huge anonymous environment in which they were not families but numbers. The architecture, if architecture there was, was violating both social and physical environments. Consequently, the apprehended side effects of mass production, so badly experienced in Europe [27] and the United States[25] are today beginning to emerge in Algeria.

Dissatisfaction with the Tower Blocks

Both isolation and insecurity appear to be the main subjects of complaint. Isolation is especially felt by women who, in

• MODERN DEVELOPMENTS.

Un tableau qu'on peut, helas ! contempler un peu partout.

La dégradation des nouvelles cités d'habitation ne saurait être imputée aux seuls offices de gestion immobilière ou aux collectivités locales : les citoyens sont également impliqués, pour une grosse part d'ailleurs, dans la détérioration des cités immobilières qu'ils occupent parfois lorsque ces mêmes biens appartiennent à l'Etat.

On ne saurait, en effet, ignorer que la principale cause de ce fléau provient essentiellement du comportement des locataires dont nombre d'entre eux passent outre aux règles les plus élémentaires du civisme et de la vie en société.

Un constat lourd de sens : on a vu des citoyens déverser leurs ordures aux portes même des immeubles, d'autres jeter de leurs fenêtres des seaux d'eaux sales sans se soucier des graves conséquences de leur acte... Il y a même ceux qui « permettent » par leur passivité à leur progéniture de regrettables actes de vandalisme, tel l'arrachage des boites à lettres, le saccage des espaces verts entourant les cités et pire, les jets de pierres contre les vitres.

On n'oubliera pas aussi la détérioration des ascenseurs, des minuteries ou encore l'étalage du linge sec ou mouillé sur les rampes de balcon et de veranda. La liste de ces actes est longue, trop longue, et elle ne peut s'expliquer que par l'indifférence des locataires (du moins d'une certaine catégorie, majoritaire malheureusement) quant au respect des règles de police urbaine.

Les règles de cohabitation non respectées

Pourtant, dans les contrats de location, il est fixé un certain nombre de règles et de devoirs auxquels le locataire doit se soumettre.

Le contrat de location de l'OPGI rédigé conformement aux dispositions du decret présidentiel No 76-147 du 23 octobre 1976, stipule, entre autres, que le locataire est tenu de respecter la quietude et la tranquillité des voisins, d'éviter que ses enfants salissent les murs extérieurs, qu'ils arrachent les boites à lettres, qu'ils détériorent les ascenseurs ou qu'ils portent atteinte aux espaces verts... En outre, il est exigé du locataire un remboursement integral des dégâts occasionnés par lui ou par un membre de la famille à une quelconque partie commune de l'immeuble qu'il habite. De plus, il lui est formellement interdit d'entreposer des matieres inflammables ou toxiques, ceci, évidemment, pour sa propre securite et celle du voisinage...

Les obligations sont nombreuses « mais malheureusement les locataires font fi de règles de cohabitation qui, pourtant, ont été conçues pour leur garantir le maximum de confort et de sécurité».

Plus grave, certains locataires vont jusqu'à refuser le paiement du loyer. « On ne sait que faire avec ces citoyens, me dit un directeur d'OPGI. Faut-il faire appel aux tribunaux, à la force publique pour les obliger à s'acquitter des sommes dues ?

Ceci est impensable vu le nombre effarant de locataires se trouvant dans cette situation ».

Ce même responsable me fait part d'un cas où un locataire a refusé aux agents de l'OPGI l'accès à son domicile pour la réparation d'une grosse fuite d'eau, fuite qui a causé d'énormes dégâts à l'habitation se trouvant en dessous. « Nous étions obligés de faire appel à la force publique pour effectuer cette opération ».

« Certes, des cas semblables se produisent rarement, mais toujours est-il que nous trouvons énormément de difficultés pour intervenir en matière de réfection de badigeonnage, de réparation». Un autre directeur d'OPGI, celui de Blida, me fait part de la situation d'une cité située au chef-lieu de wilaya : « Nous avons effectué des travaux de réfection et de peinture pour 300 millions de centimes.

« Deux jours après l'achèvement des travaux, j'ai constaté de ma propre personne que la cité est redevenue à l'état premier, c'est-à-dire complètement salie... ».

De fausses idées

L'état de dégradation des cités est considéré comme l'une des principales causes de défection des citoyens quant à l'acquisition du bien qu'ils occupent. Dans les grands ensembles immobiliers, les locataires alléchés par la cession des biens de l'Etat ne sont pas aussi nombreux qu'on le souhaite. « Nous en comptons peu à Blida. Les gens, intéressés sont généralement ceux occupant des villas ou des appartements ' standing », m'indique un chef de service de l'OPGI.

Dans les cités neuves, le même phénomène de rebut est constaté vis-à-vis du logement collectif ; les candidats à l'acquisition ne sont pas très nombreux, malgré le prix modéré de la cession.

Le décret Numéro 83 666 du 12 novembre 1983 précise les règles relatives à la copropriété et la gestion des immeubles collectifs et énonce dans son article 10 : « Tout propriétaire sera responsable à l'égard des autres des troubles de jouissance, de fautes ou négligences et des infractions (...) dont lui-même, ses préposés, ses visiteurs, les occupants à quelque titre de ses locaux seraient directement ou indirectement les auteurs. Aucune tolérance ne pourra même avec le temps devenir un droit acquis ».

Le même décrét ajoute : « Les co-propriétaires devront veiller à ce que la tranquillité de l'immeuble ne soit, à aucun moment, troublée par leur fait, celui des membres de leur famille, de leurs invités ou des gens à leur service ».

Même avec ces garanties, les citoyens hésitent à acheter leur logement. Cette défiance aurait-elle une explication ? Un chef de service d'OPGI explique :

« Je crois que cela est dû à la nature de l'habitat. Les citoyens en majorité préfèrent la maison individuelle, la maison traditionnelle... Par exemple ici à Blida, nous avons remarqué que les villages agricoles sont nettement mieux entretenus que les cités urbaines ». Ainsi part en miettes l'idée largement répandue que « la dégradation des immeubles en milieu urbain est imputable aux familles provenant d'un milieu rural ».

La part des offices de gestion

On ne peut mettre sur un pied d'egalité l'ensemble des locataires. Certains ont réellement pris conscience de la necessité de mettre un terme à ces désagréables situations vecues dans les cités. Dans beaucoup d'immeubles, il existe une entente parfaite entre locataires : Les règles de propriété sont respectées à la lettre. Mieux, des locataires ont pris l'initiative de créer des comités de cité, des syndicats d'immeubles dont le rôle est de veiller au strict respect

Le spectacle qu'offrent nos grands ensembles résidentiels a de quoi rebuter plus d'un regard tant s'y assemblent les manifestations les plus criardes de l'indiscipline, de la negligence et du vandalisme. Il suffit de visiter quelques immeubles récemment occupés pour constater la très rapide dégradation de certains equipements tels que cages d'escaliers, dispositifs d'eclairage brisés à coups de lance-pierres, boites aux lettres arrachées ou éventrees. La liste de faits et de méfaits impunables aux occupants des lieux et à leur progéniture pourrait être allongée à l'envi.

Le vandalisme aime à s'exercer generalement contre les attributs du bien-être communautaire et les signes apparents et distinctifs d'une société organisée et harmonieuse. Dans nos cités, l'entreprise de dégradation commence bien avant l'occupation des lieux. Il en est ainsi de ce qu'on appelle généralement la finition des logements. Ceux-ci doivent être en principe livrés « prêts à l'usage », mais dans la plupart des cas, le nouvel attributaire doit lui-même se charger des travaux d'aménagement intérieur comme la peinture, les installations sanitaires, électriques, etc. Le plus indécent est que les entreprises ou artisans qui proposent leurs services aux nouveaux locataires ne sont autres que les veritables responsables du mauvais état des logements n'ayant pas respecté les clauses du marché qu'ils ont contracté. En règle generale, le nouveau locataire doit se résigner à payer le prix fort pour rendre son logement habitable.

Le mauvais état des lieux explique souvent, mais pas toujours, le fait que certains appartements demeurent inoccupés plusieurs mois apres avoir été attribués. On ne s'explique pas cependant comment dans un pays confronté à une grave crise du logement, une minorité de citoyens puisse se contenter d'une plaque d'identité sur la porte et de visites périodiques et souvent furtives pour faire valoir ses droits de locataire. Ainsi certains appartements attendent tranquillement que le fils mine ait de la barbe au menton ou contracte mariage.

Il y a par contre une catégorie de locataires qui est tellement presente qu'elle en devient insupportable. Il s'agit de ces individualistes forcenés qui procèdent à leur gré à des travaux de transformation pour changer leur cadre de vie et emprisonner celle des voisins. C'est le cas de cette sage-femme qui n'a pas hésité à détourner l'entrée principale d'un bâtiment pour en faire la porte d'entrée de sa clinique. C'est aussi le cas de ces locataires, soucieux de se protéger des voleurs et sans doute de valoriser le statut de femmes cloitrées de leurs épouses, qui posent systématiquement des grilles en fer forgé à toutes les ouvertures de leurs appartements. Comme chacun dispose selon ses goûts et l'inspiration du forgeron, certains rez-de-chaussée et étages inférieurs ne sont pas loin de ressembler à un décor de cinéma où l'on tournerait un remake d' « Essilene ».

Fort heureusement pour l'environnement, certains locataires prennent des initiatives autrement plus interessantes. Ainsi l'action d'un groupe de locataires de Bab-Ezzouar, harangues et stimulés par un fougueux défenseur de la verdure, pour boiser et créer des espaces verts, semble faire des émules. Dans chaque nouvelle cité, des individus tentent d'organiser leur vie en collectivité, mais leurs efforts risquent de demeurer vains si la majorité se contente d'observer et d'attendre... en piétinant quelques plates-bandes par-ci par-là.

Ahmed HALLI

Their present status.

L'hygiène dans les cités est avant

order to carry on their lives of housewives in the new type of space need a complete cultural mutation.

> "We are almost 140 tenants in this building and we hardly know each other..."

notes a tenant of a flat in a tower block. Talking then about insecurity he adds.....

> "Everybody talks about the Casbah being insecure but I have never had to use locks and safety chains, here I do."

Although they occur more sharply within the point block, these aspects of inadequacy can as well be observed in the 'Immeuble de ville' of the colonial period. Both with regard to aspects such as privacy, climate and maintenance they are the subject of unsatisfaction.

Process of Rejection:

Part of a new system, the apartment or flat suggests to its occupants a certain life style. It supposes new practices such as new relations between members of the family.

The modern dwelling, as opposed to the traditional, appears therefore as a system of constraints that have to be fulfilled since it does not respond to the life style of its occupants, the dwelling becomes a strange world with which no dialogue is possible.

Faced with the difficulty of communicating with this new type of space or even of trying to live at the life

standard it imposes, the householder will modify his environment (despite regulations) to suit his own aspiration and his family's. These physical modifications qualified as 'Deterioration' taking the form of accusation of destroying the quality of the environment. These so called deterioration as planners and authorities will call them, are however only the struggle of the occupants against this imposed new life style, his own expression of discontent as well as a plea for a reconsideration and understanding of the missing ingredients.

Screened balconies or constantly closed bays, testify that privacy is still a determining aspect of well being for people in their domestic environment. Indeed the large openings exposing the 'private realm' to public exterior sights still disturbs the well being of many in their house unit.

This lack of understanding between man and his new environment slowly leads to neglect and social irresponsibility often described by the phrase:

> "My home starts and finishes once my doorstep is passed and beyond that it is not of my concern.."
> "....each one in his own flat. It is the only way we can live here, the only possible condition." 26

This "laissez-aller" towards the common spaces (mainly semi-private) leads naturally to their physical degredation (see plate): staircase lighting, lifts are subject to vandalism acts. This, consequently rises the issue of maintenance and concern with the outdoor spaces either

built or open.

In terms of climatic comfort on the other hand, the traditional type developed to a certain extent, the quality of creating a favourable internal micro climate. Some undersized patios brought uncertainty to the climatic efficiency of the traditional house. We may then consider the condition of growth of the Casbah which made it impossible to always control the size of some of the courtyards. Generally however it dealt successfully with some aspects of climate. It is then these devices related to the type that have to be considered for possible exploitations.

> "In his continuous struggle for life, shelter takes for man a supreme importance. In his effort to protect himself from the climatic variations, he elaborated over time various types of dwellings, among them the patio house." 28

In the Algerian context, like its predecessor, the colonial tenement, the modern type is far from giving satisfaction, showing very little concern for climate.

> "Our modern solutions towards climatic problems are bad and our dwellings are made bearable using ingenious technical means of a cost than can sometimes overstep that of the building." 29

It is not my purpose here to idealise the traditional type represented by the courtyard house but to show as well some weaknesses which if well understood and exploited can certainly contribute to avoiding any dependance upon those "ingenious" and very expensive "technical means".

Nor is this a condemnation of the modern types as such.

It is simply a demonstration of their inadequacy in the Algerian context, (socially - climatically - physically) significantly expressed in the physical modifications brought by users to their housing environments. Consequently, in the context of Algeria and Algiers particularly, what can be considered as quality determining criteria of the housing environment are similar to those cited by the New York State Urban Development Corporation and the Institute for Architecture and Urban Studies, the crucial aspects of climatic comfort and privacy.

The present study has developed the response to housing quality criterion of each type, this with regard to their spatial characteristics and can therefore provide us with a range of conclusions towards housing forms as they appear in our context.

Changes in Social Structure and Technology:

For the disruption of the building continuity, the three (3) types do not appear simultaneously in historical succession. The description of the three types is therefore, unfortunately not comparing houses of a similar period in time.

The courtyard houses are mainly pre-1830. The existing tenements are 1830 to approximately 1950 and the point blocks are from 1950 to present-day. Consequently, the

social and technological considerations are different in each case.

The main social change that has been observed is the change of family relationship and size. During the period pre-1830, the extended family of three generations was the norm. During the colonial period, 1830 - 1962, the extended family, although present, was not catered for. This, together with the general world-wide change has led to the rise and general acceptance of the nuclear family as the housing unit.

Technological changes also have followed the world pattern: car ownership is rising slowly (at the moment it is around 30% in urban areas), but the government has laid down a one family one car ratio for all future housing developments: The other technological changes of significance since 1830 include sewage disposal, electricity and power distribution and provision for delivery of consumer goods.

Many other changes have obviously occurred but these are thought to be the ones most affecting housing provision. Taking the three types in turn:

The prime limitations that the courtyard type is subject to are very often related on the one hand to the fact that it is associated with the medieval context from which it originally sprung and with the restrictions to the so

called modern life. Contemporary household amenities such as refrigerators, television and modern convenience as well as the motor car for instance appear in people's minds (including experts) to be exclusively linked with the occidental (modern) house types. 'Occidental' for in the context of Algeria they come from 'outside'.

As far as electricity, sewage and the modern "apparatus of life", they can simply be added to the courtyard house to adapt it. There is still a problem related to car access and movement in the traditional structure. On the other hand, the size of the nuclear family means that the housing unit is greatly reduced in size. These are problems which will be subject to study.

The tenement building can be more easily updated. This, because originally denying the extended family, it catered for the nuclear. In this case the main problem is related to car parking.

The point block built to today's standards obviously presents no problem with regard to these aspects.

GLOSSARY OF WORDS USED

1	Bab	Entry door
2	Bioute	(plural of bit) rooms
3	Bir	Well
4	Chicane	Bent entryway
5	Dar	House - home
6	Driba	Semi private space distributes usually two or three private dars
7	Drodj	Word for stairs or staircase
8	Extroversion	French architectural word expressing the outward-looking spirit of a building
9	Fouara	Fountain or water basin
10	Introversion	French architectural word that expresses the inward-looking spirit of a building
11	Ilot	French word for a block of buildings surrounded by four streets
12	'Immeuble de Ville'	The French equivalent of tenement building
13	Manzah	Name attributed to the rooms located on the top floor (terrace). Literally means spectacle or place of entertainment
14	Medina (AL)	Arabic word for city
15	Parcellaire	Division of land into plots
16	Parcelle	Plot of land
17	Shin (ES)	Gallery overlooking the patio. Permits access into the domestic spaces

18	Skiffa (ES)	Hall or filtrating space that insulates the private space of the patio from public disturbance
19	Stah (ES)	Roof terrace
20	Wast-ad-dar	Courtyard space, literally means centre or heart of the house
21	Zenka	Public street. Used as well to outside.

LIST OF PLATES

CHAPTER I

References

Algiers and stages of development redrawn from Plan d'Amenagement Preliminaire Project de revalorisation de la Casbah. Atelier (Asbah 1981)

Typical plan house. Plan elevation out (P...) from Lesbet D. Le Casbah d'Alger OPU

Typical plan house of the Casbah (P....) Benevolo the History of the City. Cities of Islam.

Extracted from Plan d'Amenagement Preliminaire de la Casbah - ATELIER CASBAH 1981

As above

As above

As above

Top: Sketch of the Medieval Algiers by a French (P...) Officer 1830. Source ALGER-Deluze JJ. EPAU 1979

Bottom: map Casbah d'Alger and the French intervention

Source: Lesbet D. La Casbah d'Alger. OPU

Top: Colonial Algiers. Auger - un upercu (P...) sur l'Architecture - EPAU 1979

Bottom: A typical tenement building

Source: Lesbet D. La Casbah d'Alger. OPU

Bottom: Algiers Colonial Urbanism (P...)

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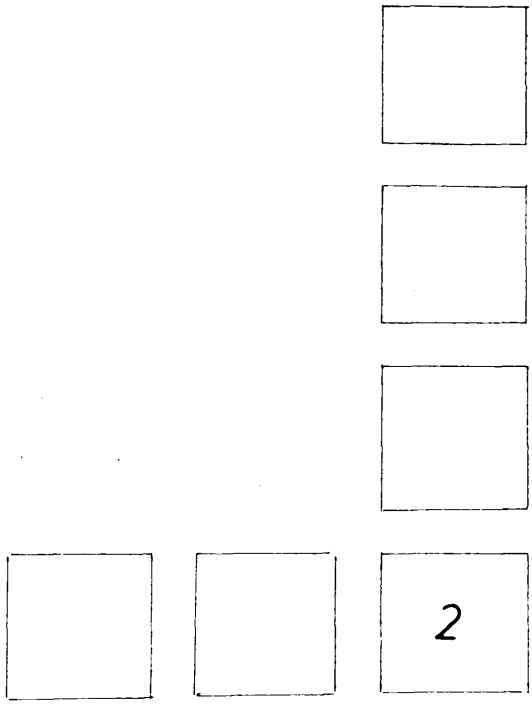
THE COURTYARD HOUSE

AN EFFICIENT TYPE.?



CHAPTER II:

- THE COURTYARD
  TENEMENT
  POINT BLOCK. Tested against the Criteria

THE COURTYARD TYPE, THE TENEMENT BUILDING, THE POINT BLOCK: AGAINST THE CRITERIA

INTRODUCTION:

As the 70's were in Algeria the period which saw through the big objective of"PERSPECTIVE DE DEVELOPEMENT DE L'HABITAT"[5] and the "zone d'habitat urbaine nouvelle", zhun[4], the full promotion of the collective prefabricated point block building, a whole new era started breaking even more the process of adaptation of people to the previous types: the Tenement and the Courtyard.

As a reaction to this, the present chapter intends to show the fallacy of the passionately held belief that the point block is a responsible form to the issue of land use efficiency. This will be sustained by the assumption that in order to be fully responsible (socially, physically, economically) in the context of Algeria other criteria than just the strict compilation of a maximum number of dwellings on a minimal area of land have to be considered as determinant of the quality potential of any form of housing.

On the other hand, because what could come under the heading of 'Quality' is often subject to disagreement, criteria for its evaluation had to be set beforehand. Having seen where most of the dissatisfaction for each

case lies (privacy and climatic conditions for both the point block and the tenement and accessibility to the historical patio house in its present context).

While the social aspect (developed in the previous chapter) through the nature of the discontent of the occupants provides us with what quality is about, the physical analysis will help assess the potentialities of each type to fulfill these criteria.

The present aspect, which is here to be developed, can be seen as a quantitative assessment that will compare the performance of each type considered. It will mainly be concerned with the evaluation of the potentialities of each type in terms of land use and density.

In order to achieve this, different steps have been considered but the general method can be summarised as follows:

1. Definition of the criteria which will be: Privacy, Accessibility, shared space generation, sun protection. These are defined under point 2.2.
2. Once set, the criteria will be applied to each type.
3. The amount of space required for each type to function with regard to the defined criteria will be assessed.
4. A combination of all the criteria will provide a total usable space for each type to respond fully to all the aspects considered. From here, the first significant

conclusions in terms of land use efficiency can be drawn.

5. Density evaluation will follow on the basis of the required amount of space defined for each type.

THE TYPES MODELS

> "A model is a representation of a reality in which the representation is made by the expression of certain relevant characteristics of the observed reality and where reality consists of the objects or systems that exist, have existed or may exist." 6

To carry out this study, I have considered necessary the establishing of models which are considered here to be types dis-associated from all unnecessary components. The type models intend here, in terms of space, to define the characteristics of the types considered and on the other hand, fix the dimension or size of the house unit. The usable space is then equal for all the dwelling units of the different study types. This dimensioning is based on the Algerian standard[7] defined as a floor area unit of $20m^2$ per person. This is in order to come out with reliable conclusions upon the potentialities of the types considered.

2.1.2 The Courtyard Type A: (fig. 2.1.1 and 2.1.2)

From observations of the traditional type, up to three floors high is permissible and the courtyard as narrow as

Model A

THE COURTYARD TYPE MODEL:

- VARIANT 4 :

KEY WORD

L : Living

B : Bedroom

C : Courtyard

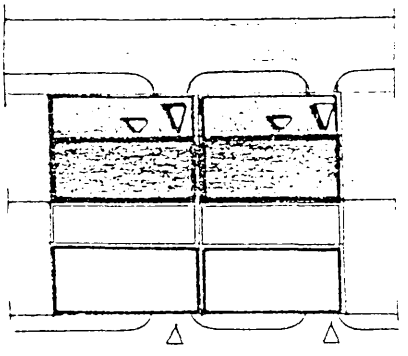
E : Entrance.

T : Terrace

K : Kitchen.

b : bathroom

w : wc



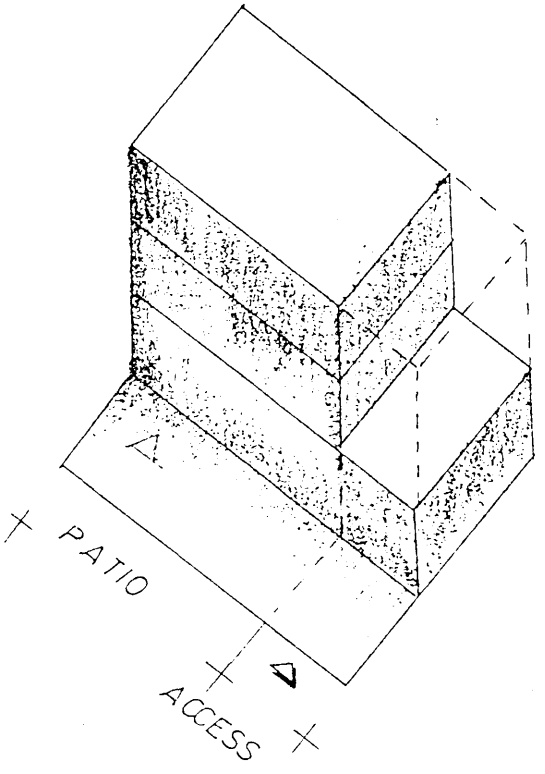
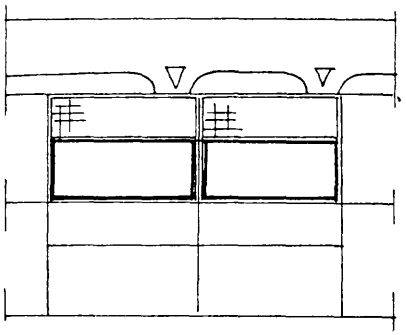


fig 2.1.1.a

MODEL A



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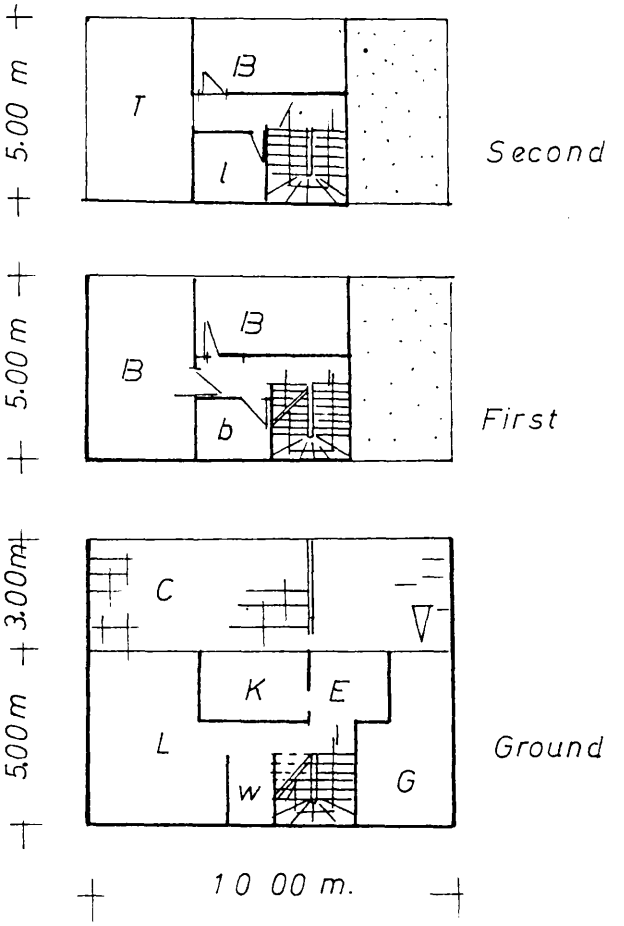
VARIANT 4



Scale: 0 2m.

EVALUATION.

Ground floor 5 x 10m = 50 m^2

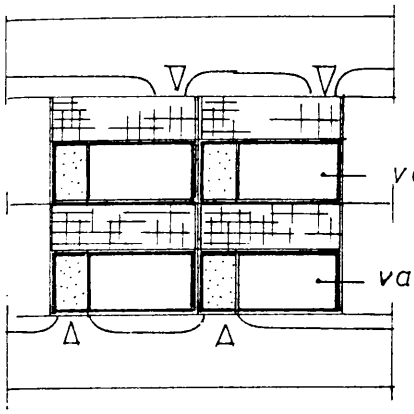
First floor 5 x 7.5m = 37.5 m^2

Second floor 5 x 7.5m = 37.5 m^2

Tot. Usable Space 125 m^2

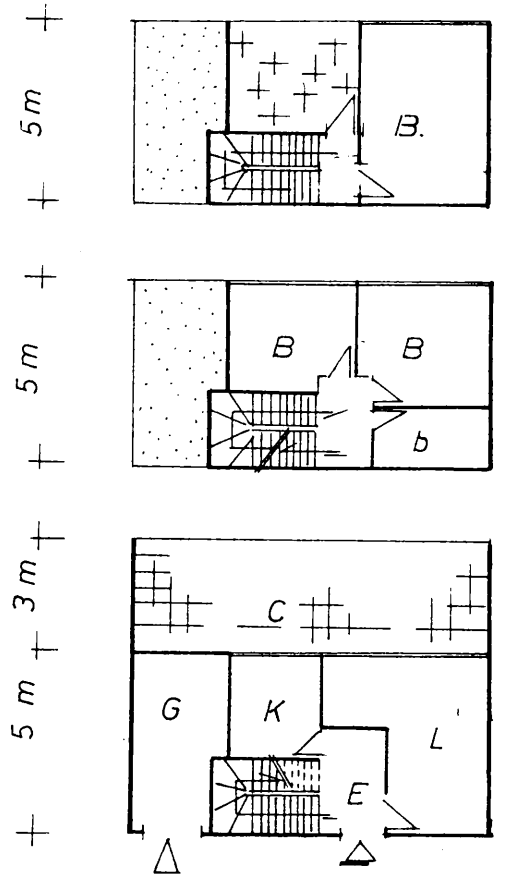
fig 2.1.1. b

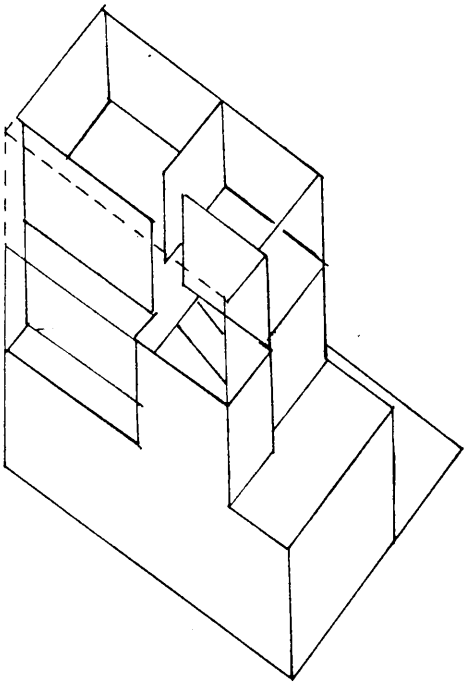
MODEL A



0 10m.
5m

VARIANT 1





EVALUATION,

usable space.

ground floor	50 m^2
first floor	40 m^2
second floor	35 m^2
Tot	125 m^2
Land plot	80 m^2

fig 2.1.1 c

3m in its least dimension. This type is designed here to accommodate the Algerian nuclear family of 6 persons and preferably the car. Obviously, a range of house types can be produced (these are available in Appendix I) but for comparative purposes, the average Type A is considered. (Fig. 2.1.1)

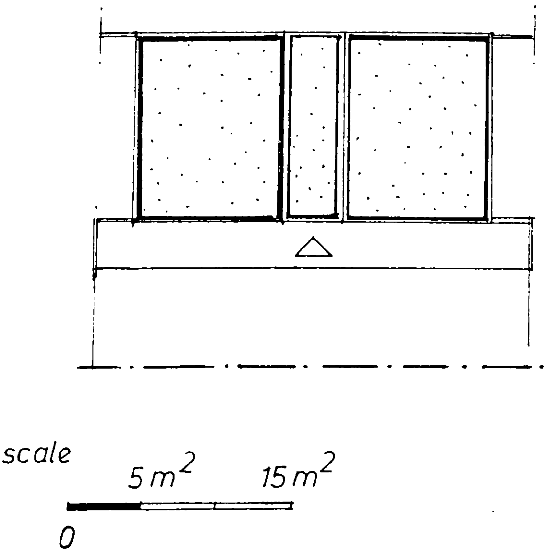
Two varieties are given Type 1 and 2 showing the unit with garage (variant 2) and without (variant 1). Variant 1 considers the possibility of the extension of the house unit over the garage space if needed. Other alternative variants 3 and 4 in relation to alternative access types are also designed (fig. 2.1.2).

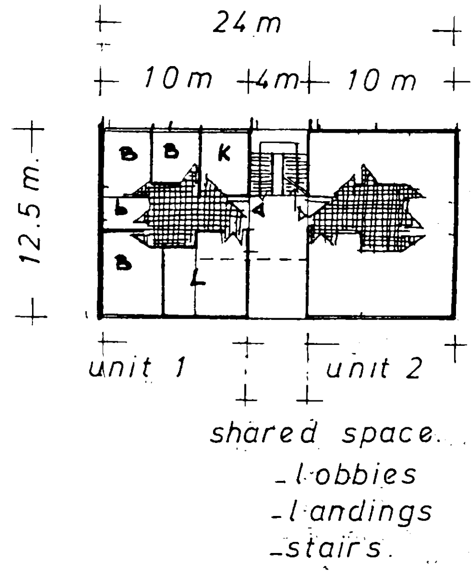
From hereon, variant 1 of Model A is used for comparison purposes. This (Variant 1) has:
a housing area of $125m^2$. (Usable space)
a courtyard area of $30m^2$ and
a plot size of $80m^2$
a shared area of none

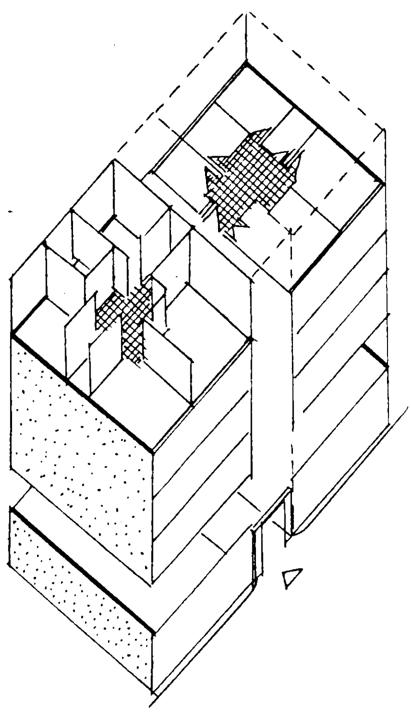
2.1.3 The Tenement Type Unit: Model B (Fig. 2.2)

Here again, the model is extracted from observing the existing examples which are normally four storey buildings with two dwelling units per floor. Each dwelling unit has:
A housing area or usable space of $125m^2$
An equivalent plot size of (300 ÷ 8) $37.5m^2$

MODEL B







∘ EVALUATION.

Per house unit

usable space	10	12.5	$125 m^2$
shared space	2	12.5	$25 m^2$

Per floor

house units.	$2 \times 125 = 250 m^2$
shared space	$2 \times 25 = 50 m^2$

PER Tenement Building

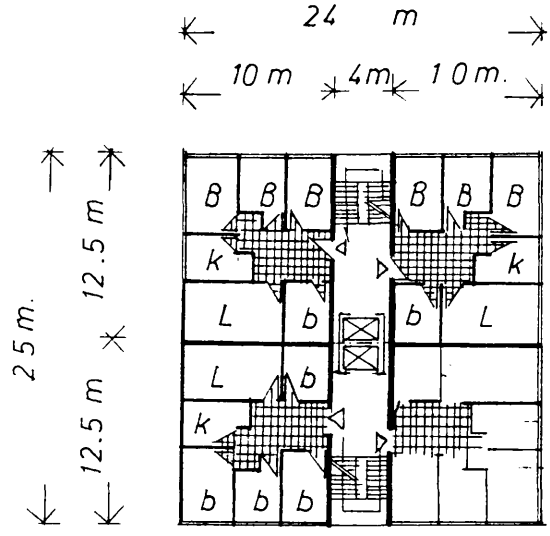
floor area $4 \times 300 = 1200\ m^2$

Tot built shared sp. $4 \times 50 = 200 m^2$

Plot land Area $24 \times 12.5\ m^2 = 300\ m^2$

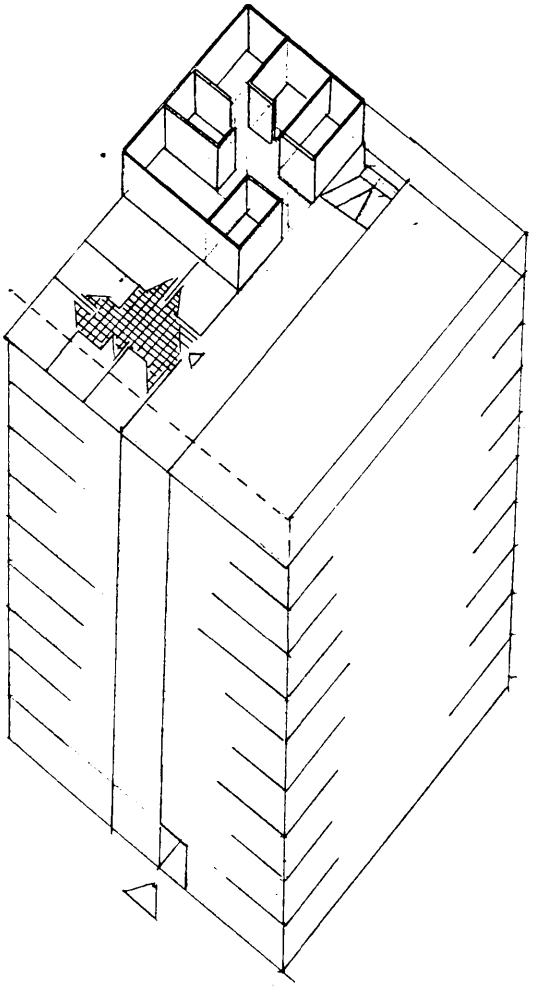
— fig 2.1.2. —

MODEL C.



scale

0 10m.



EVALUATION

PER DWELLING UNIT:

Usable Space : 10 x 12.5m = 125m^2

Built Shared Sp 25m^2

Per floor.

house units 4 x 125m^2 = 500m^2

shared space 4 x 25 = 100

Per point block unit.

total floor area

600 x 10 = 6000 m^2

total built shared space.

100 x 10 = 1000 m^2

built plot unit.

24 x 25 = 600 m^2.

fig 2.1.3.

To support a shared area of $25m^2$

2.1.4 The Point Block type Unit Mode C (Fig. 2.3)

This type in use usually varies from 7 to 10 (10 is the maximum fixed by the governmental regulations). The maximum of 10 stories has then been considered for this study with a number of dwelling units per floor of 4.
Each dwelling has a housing area in usable space of $125m^2$.
Each dwelling has an equivalent plot size of (600 ÷ 40) $14m^2$
Each dwelling has to support a shared area of $25m^2$

It is on the basis of this simplistic comparison that the point block is usually said to be efficient. This quick judgement is at this stage avoided; the following papers will investigate more thoroughly in this matter of efficiency.

2.2 HOUSING ENVIRONMENT CRITERIA

The prime concern of the study comparison is with the physical nature of the study types (the courtyard, the tenement and the point block types) and their potentialities with regard to criteria that are thought to be basic to determining the quality within housing environments. These are here considered to be:
Privacy - Accessibility - Shared space generation
Climatic consideration

The next step will be to look at these different aspects, their meaning and more significantly their impact upon each study type in terms of space requirement.

2.2.1 Privacy

Privacy is in me
It's in you
It's in us
So why is it not in our house

FARIDA

Privacy has been considered for it is strongly believed that in countries like Algeria, privacy still is an important aspect of quality within housing environments.* And yet, never has it been seriously considered either in terms of design or in planning processes in Algeria.

As a housing environment benefit, privacy is of several kinds: visual, aural and social.

Privacy can be seen as the freedom from what is seen to be unwanted thus freedom from any intrusion by outsiders to internal spaces. It is of three kinds but I will be more

---

* As seen in Chapter I, most of the dissatisfaction of people with both the colonial tenement building and the post war point block lies in the lack of privacy.

concerned with its visual aspect. This, for visual privacy is definitely a precious matter.

Privacy and Spacing

In terms of design however, by its nature of exclusion, privacy is in constant conflict with other aspects of housing environments. The need of daylight for instance which necessitates large openings reduces the possibilities of any space to be responsive to privacy. Similarly, compactness which is a physical arrangement that favours climatic protection (from both sun and rain) of inner and outer spaces conflicts also with privacy. This naturally occurs in the case of 'EXTROVERTED' types.

These various aspects such as spacing standards, generally respond to elements such as accessibility, freedom of movement for both pedestrians and motor cars rather than privacy.

For its prime importance within the Algerian context, this criterion has been given particular attention in the study. Remoteness or building spacing is the first response to this issue.

We must therefore try to define an acceptable distance between openings (windows - doors..) that will ensure an adequate privacy in the Algerian context. We need to note

however that visual privacy in the context of Algiers is ensured at the point, in distance, at which it is not possible for a person to distinguish what another on the other side is doing.

Lynch defines:[9]

- 25m as the distance at which we can recognise a particular human-being. I will therefore consider this distance as a minimal building spacing.*

On the other hand, having considered the 24m spacing of the traditional tenement block of Glasgow still unsatisfactory for an Algerian need of privacy and after some simple experiments, the building spacing is set to a distance of 35m. This is considered as achieving a tolerable level of visual privacy in that it has been determined (by the experiments) that at 35m it is not possible to distinguish what a person is doing. This is in the case of buildings facing each other.**

---

* One must also note Lynch is an American of Irish descent - i.e. not of the Arab/Islamic culture.

** This is a complex subject where precise definitions are difficult. The Scottish Building Regulation operates on 18m and has an elaborate formula for angular vision. One would also like to see such research completed in Algeria on this subject as it is highly culturally dependent.

2.2.2 Accessibility

This concerns the provision for persons and vehicles whose departure point is outside the residential area, the possibility of circulation.

In housing environments, access is necessary for 4 different categories: residents - emergency services - removal and delivery and finally visitors.

For the purpose of comparison however, three types of access roads have been considered; those which relate to residential access. See fig. 2-4.

- The distributor road type A 13.5m wide (O.A. Pavements) carriageway 7.5m
- The minor road type B 12 or 17m wide when side parking is considered carriageway 6.0m
- The access road type used for access only defined as carriageway 5m wide

The major road is defined as the road this distributes to residential parts or neighbourhoods. Its dimension is defined by the nature of traffic it will accommodate (Fig. 2.4).

The minor road is defined as the road that distributes

among residential parts or neighbourhoods. Its dimension is defined as well by the traffic it accommodates.

Evaluation

With regard to this aspect, the evaluation will be expected to assess the efficiency of the different cases in terms of land consumption for access purposes. This then will be carried by:

Firstly defining the type of access road used in relation to the nature of approach to each type.

Secondly determining for each building type the amount of access needed for the purpose of circulation.

The access roads considered were:

- the major road which consists of the area of road that will be required to join neighbourhoods together.
- the minor road is considered to be the road that links the major road to the building.

The aim of the study is not concerned with the relationship of road standard to building form but with the relationship of road consumption to building form and consequently to be able to conclude on the efficiences of the study types. Once this is done the land used for access road will be expressed in terms of road area/dwelling units for

for each building form.*

---

*The question of parking however is included within this aspect and considered for each type considered with regard to their functioning.

For the courtyard unit for instance it is included within the house unit for the tenement unit type on the other hand, it is added to the Access Road Area.

For the Point block it has been located as it usually appears around the building.

2.2.3 Climatic Consideration (Provision of Shade) (Fig. 2.3.2)

Being an important aspect of the complex of micro climate or climatic comfort, shelter against extreme conditions of climate must be, in my opinion, introduced as a housing quality determining factor. Shelter is here used to denote protection from the natural elements such as wind, rain and sun. As far as I am concerned, I will be focusing on the aspect of sun protection (provision of shade) as this aspect has the most stressful effect in the Algerian climate.

Today's concern for Shade Provision:

There is a noteable contrast between the past and present day practise in providing shelter against sun in both internal and external environment.

Traditionally, as developed in the Casbah, concern for shelter from sun and its effects was reflected in the relationship of building forms and outdoor spaces. In this field, we must admit that there is a great deal we can and must learn from past experiences.

Sun Protection in Housing Environments

We all know how important the immediate environment is to the dwelling: it is its extension and as well as including

means of access for vehicles and persons it provides space for relations and encourages social interaction if well protected from the stress of climatic conditions (sun, wind or rain).

This aspect may indeed have a considerable effect on both the external environment and the ways in which it is used and experienced. The lack of protection can also inhibit people's use of their environment and cause annoyance and discomfort. Excessive sun can, during some months (June-July and August in Algeria) when the heat and sun reach their peaks, external spaces can be unused if not shaded.

It can then be recognised that there is an important relationship between quality of space (internal or external) and their protection against climatic conditions (sun). Although it often (if not always) conflicts with other factors, for which space requirements have contributed to open up the spaces, it is vital that this criteria comes into my concern. Often, for instance, while the need for shade depends upon compactness, therefore on small building spacing, privacy implies remoteness. But then both aspects have to be considered when concerned with the provision of environmental quality.

My strict concern with sun protection in a sub-tropical Mediterranean zone such as Algiers may be open to question but then if we are to be widely heard, we have to bear in

mind that of the total Algerian area,
10%, the North part, belongs to the climatic zone of the Mediterranean
20% is a semi-arid zone
while 70% of the territory belongs to the arid zone;
sun protection therefore appears as an issue within the whole country.

Within the comparative study, this aspect will develop the efficiency of the different types according to the relationship of building form and provision of shade therefore provision of climatic comfort.

For the purpose of the comparison only the worst case is taken as this is all that is necessary to gain comparative results as opposed to a full study to determin the total effect.

2.2.4 Shared Space Generation: (Fig. 2/3/4)

> "....The personal rhythms of maintenance and repair are central to the well being of any part of a community..." 2
>
> Christopher Alexander

As irrelevant as this aspect may appear, it is however indeed very determining of housing environment quality. Such reaction (of surprise) is not unusual, but then in a system of building maintenance as it occurs in the Algerian

context is another matter. There, all the shared spaces, from the lobby to theoutside public lighting are the responsibility of local authorities rather than Government.

Let me then explain how this aspect intervenes. I have mentioned previously the kind of publicity that surrounds the new housing developments in terms of degradation caused mainly by neglect on the part of theusers which leaves then these spaces in the hands of the 'vandals', those universal 'monsters'. But then, neglect is brought by a lack of satisfaction (within the built environment). There is then this continuous chain of dissatisfaction - neglect - deterioration. Can we then in this case talk of quality?

Considering the above, we can then assume that in terms of evolution, the less shared spaces a building form produces the less these are to be subject to this form of deterioration.

These shared spaces are those which are defined as those spatial elements that complete the house unit, i.e. lobbies, landings, staircases, which are for maintenance and repair the responsibility of the Government. In this way the user is brought to reject any concern with those areas. We then start to recognise how heavy the burden can be on the Government or Local Authorities. A possible way of dealing with this aspect is to consider a form of building

that reduces to a minimum these spaces. By 'Privatisation'* more concern may be brought for,

> "Now in a town, the processes of maintenance and repair hinge on the fact of user ownership." 2

In other terms, wherever people are user owners, the spaces are kept in a good state, while places where they are not tend to become run down.

With regard to this criterion, from an economical standpoint and as far as building form efficiency is concerned: the more a type generates a shared space to function, the less desirable it is. For it will cost the Government a considerable amount of money in maintaining these spaces.

2.3 THE COMPARATIVE STUDY

The comparative study will hopefully provide us with some revealing conclusions. In general, it will be carried following three successive steps.

1. A comparison of the three study types (i.e. the courtyard unit type - the tenement building type and the point block type) witt a fixed criteria will be assessed separately.

---

* Privatisation is used to qualify the idea of shifting the responsibility to the residents not by forcing them to repair - this has already been tried and never given any long term results - but by inserting those spaces within the users private realm we then contribute to responsibilitise them, for they will feel that the space belongs to them.

2. A combination of all the separate testing on each type should come out with conclusions upon the efficiences of each type to deal with all the aspects. These of course again relate to land use efficiences.

3. The third level will be, once the final results are achieved and the land requirements for each type established, it therefore becomes possible to assess them in terms of density.

2.3.1 The Thee Types and Privacy

In order to make the comparison as significant as possible, the evaluation is given per dwelling unit.

For reasons related to the aspect of extrovertion* of both the tenement type and the point block type, privacy by remoteness has been considered as the solution. On the other hand, the introverted nature of the courtyard enables the provision of privacy through the provision of a private open space: the courtyard. This space being considered as creating an acceptable level of privacy (Fig. 2.3.1a) which is accomplished by a courtyard of $30m^2$ per dwelling.

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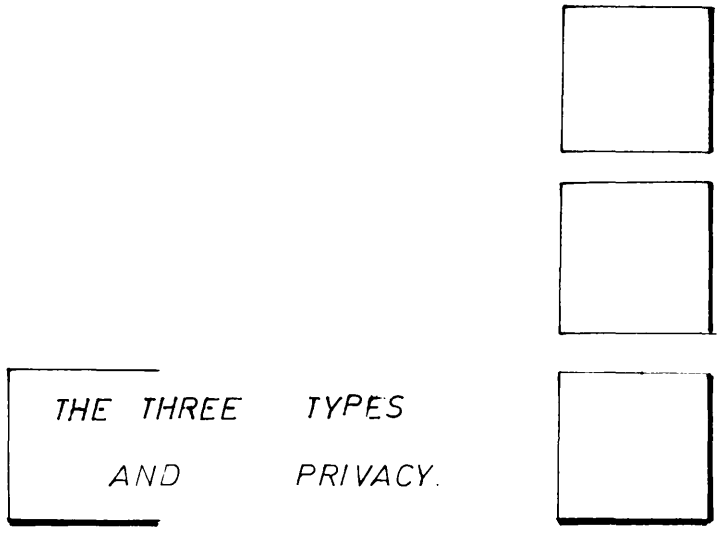
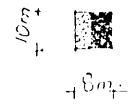
*French Architectural term expressing the outward looking spirit.


THE THREE TYPES
AND PRIVACY.

PRIVACY

• The Courtyard unit Type



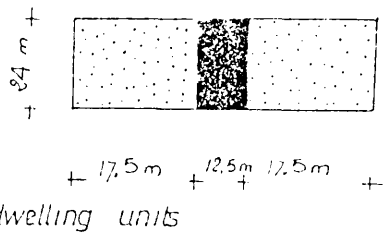
courtyard space
3m x 10m = 30m²

per House 30m²

one dwelling unit.

=a=

• The Tenemtnt Building Type.



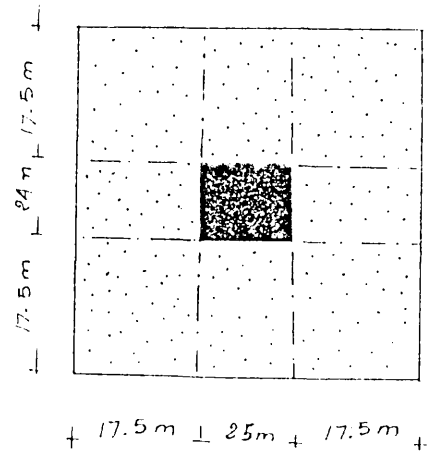
per Tenement unit.
35 x 24m = 840m²

per House unit 105m²

8 dwelling units

=b=

• The Point IBlock Type.



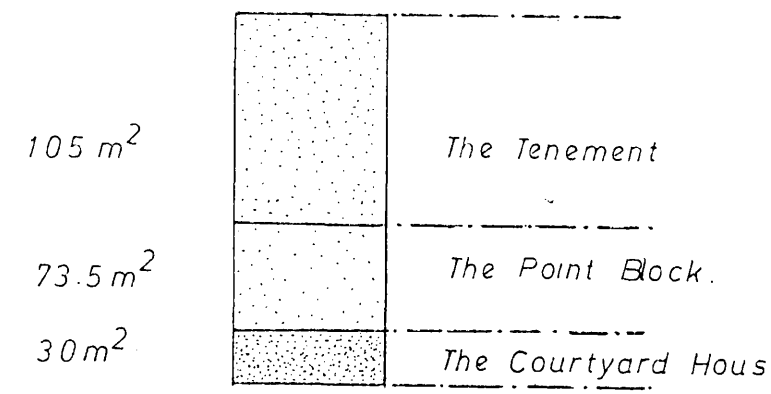
per Point block unit
60m x 59m = 3540 m²
- 600 = 2940 m²
Per House unit 73.5m²

40 dwelling units.

=c=

—. fig 2.3.1.—

Summary diagram: Privacy.



—. diagr. 2.3.1.—

—. Privacy is deltwith by :

The provison of a courtyard space.

Ensuring building spacing. 35m.

—. fig 2.3.1

Shows the required land area for each type to acheive privacy. This according each type's characteristics: introverted or extroverted.

—. diag: 2.3.1.

Summarises the proportion of land required. for privacy.

—o— The COURTYARD HOUSE performance:

42% less land needed than the Tenement.

14.6% less " " than the Point Block.

The Tenement Type:

Opening on two of its sides, it depends for privacy provision upon a spatial envelope of 35m* long free from building (see Fig. 2.3.1b) i.e. 17.5m on each of its open sides.

Reduced to metre square per dwelling unit, the performance of the tenement is 105m^2 per house unit.

The Point Block Type:

Opening on its four sides, it depends for privacy provision as the tenement type on remoteness or spacing. Considering this, this type increases considerably the amount of land used to achieve privacy. With 73.5m^2 per dwelling unit (Fig. 2.3.1c) the point block appears then to be a less economical type when regarding privacy as a housing design consideration.

It appears then that of the three different types, the courtyard unit consumes less land in favour of privacy than the other two types and therefore can definitely in this field compete with them (see diag. 2.3.1.a).

It is confirmed on the other than that there are two ways of dealing with privacy.

---

*Each tenement building will then need a distance of 17.5m on opposite sides of the construction free from any building.

- The provision of a private space introverted: the courtyard
- The provision of adequate building spacing

Architectural solutions may be considered in order to reduce building spacing for privacy. In this context, an adaptation of the 'Moucharabya' device (screening allowing the view from inside to outside but excluding the view from outside to the inside) has been suggested to deal with privacy and building spacing. It is however important to keep in mind that originally, the use of the 'Moucharabya' was combined with the opening of the courtyard. Screening the point block or Ilot would only create a totally closed space therefore a cagelike result - not socially acceptable.

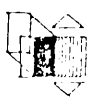
2.3.2 The Three Types and Accessibility and Parking

For the purpose of comparison, the evaluation is expressed in terms of dwelling units. It will therefore answer the question of how much access road a dwelling unit of any type will need in order to function properly.

The thinking behind the evaluation is based on the following assumptions:

a. In order to have access to each type considered it is necessary to use a major road rather than a minor one.

The Courtyard unit Type.



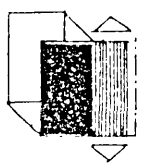
major road

minor road
10 x5m=50m²

Total usable space
50 m² per unit

—a/—

The Tenement Type.



24 8.5 =204m²

24 m x 6 = 144 m²

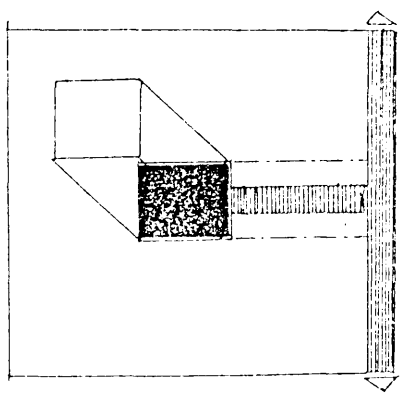
Total usable space per Tenement
348 m²

Tot. us. space per dwelling unit
43.5m² per unit

parking included.

—b/—

The point block. Type



1.7m x 5.5m = 9.65m²

17.5x12=210m²

Total usable space
per Point block. 114.5m²

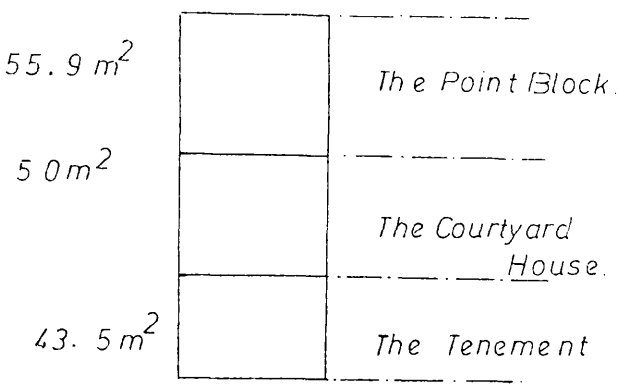
Totale usable space
per dwelling unit
28.5r

parking 18m² per dwelling
access to 9.1m²
park.
55.9m

—c/—

—fig 2.3.2—

Summary diagram : Access / Parking.



—diag. 2.3.2.b—

—fig 2.3.2

Shows the amount of land required for access and parking. This, in relation to the type of access to each building.

—diagr 2.3.2.b

Summarises the different land requirement for parking and access road.

—o— The COURTYARD HOUSE Performance:

4% less land required than the TENEMENT.

3% more " " than the POINT IBLOCK.

b. Each type will then use different amounts of road surface depending on the nature of approach to the building.

The Courtyard Unit

In the case of the courtyard unit, it is assumed that each dwelling unit is to be distributed through an inner access road of 5m width. (See fig. 2.3.2.a)

For each unit of this type the access road area is determined by both the size of the frontage and size of the road (5m).

This leads us then to a road consumption per unit of $50m^2$

The Tenement Unit

Because of its association with other tenements on both its lateral sides, the access road area is defined by both the frontage of the tenement and width of the road i.e. 3m (half a road) plus 3m parking, plus (8.5m x 21m) ÷ 8 of a major road that will distribute it.
This brings us then to $43.5m^2$ per dwelling unit, parking included.

The Point Block

Being in isolation, this type of building can only be reached through both a major and minor road. But here, unlike the two other types, the frontage does not intervene in the definition of the access roads. It depends contrarily on the size of the plot (spatial support) on which it is set on the one hand and the distance between the building and the major road (Fig. 2.2.2.c). This leads us therefore to set the access road consumption for the point block to 28.6m^2 per dwelling unit.

Parking space

As far as parking space is concerned, the amount of land allocated to it varies for each type in relation to their access system.

For the courtyard unit for instance it has been included within the house unit envelope therefore no extra space for this purpose is required.

In the case of the Tenement however, it has been included within the access road. Therefore no extra space is required for that purpose.

The point block parking space is around the building. In this case, a further 50% of the required space of each

dwelling is considered as access to parking. This sets then the total land required per dwelling unit for parking at 27.4m^2.

In summary, the usable space for access and parking: once the previous assumptions are made, the following values for the three types for both access and parking are:

50m^2 for the courtyard type

43.5m^2 for a dwelling unit of the tenement

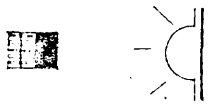
55.9m^2 per dwelling unit for the point block

It appears here for both access and parking that the courtyard type with a total consumption per dwelling of 50m^2 comes to be slightly less than the point block with its 55.9m^2 per dwelling unit. But neither is as efficient as the tenement which makes maximum use of its access roads. Due to its horizontal spreading as opposed to the verticality from which both the point block and the tenement can benefit, we tend to assume that in this matter, the courtyard unit is far from competing with the other two types. Surprisingly, the study came out with the results that are encouraging in relation to the courtyard type.

2.3.3 The Three Types and Climatic Considerations

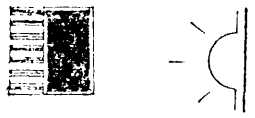
This aspect will clarify the relationship between shelter of outdoor spaces (by the provision of shade) and building type.

June 21st at noon.
α 70°



• Shaded area per House unit
50 m^2

a/_



Shaded area per Tenement
142 m^2

• Shaded area per House unit.
17.7 m^2

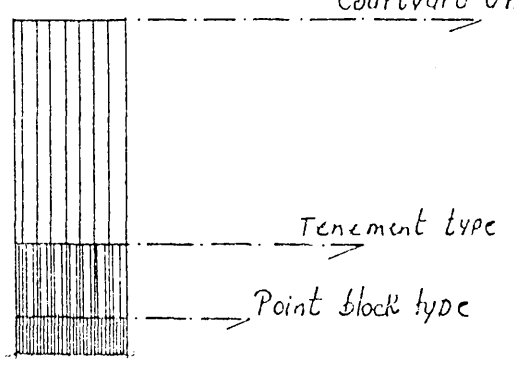
b/_

Shaded area per Point block.
320 m^2
" per House unit.
8 m^2

c/_

__ fig. 2.3.3.0 __

• Summary diagram: shows the relative efficiency of each type



__ diagram. 2.3.3.1.a. __

__ Keyword:

Projected shade: The Courtyard House.
" " : The Tenement.
" " : The Point Block.

__ fig 2.3.3.0
Shows separetly the production of shade of each type at a given sun exposure.

__ diagr. 2.3.3.1.a
Summarises the production of shade each type produces

The study of this aspect will as well bring evaluation from two stand points.

Firstly the potentialities of each type to produce shade to protect from the sun the external surrounding spaces. This will be evaluated in terms of metre squares of shade (projected on the ground) produced by one dwelling unit of each type (see fig. 2.3.3.o).

Secondly, to extend the aspect previously developed and situate it within the spatial envelope: i.e. total usable space connected to each type. It will be an evaluation of each type's potential to shelter from the sun its required space. The relationship of building form involved in providing climatic comfort of external spaces will be in this way shown.

The courtyard unit type:

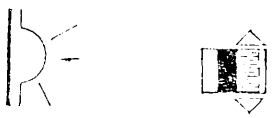
As can be seen in Fig. 2.3.3.1a the courtyard type building contributes to shade 59% of its required land. It is assumed that the worst case governs in this situation. This is a summer day at 12.00 with a sun angle of 70^{o}.

The tenement type:

It comes out from fig. 2.3.3.1b that a dwelling unit of the tenement can produce $142m^{2}$ of shade on a plot area of

21 June at noon.
$\alpha = 70°$.

- The Courtyard unit Type.



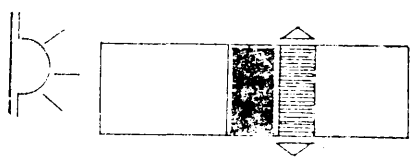
Tot. open space per unit $85\ m^2$

Tot shaded space $50\ m^2$ per unit.

- percentage of shaded open spaces. 59%

a/=

- The Tenement Type



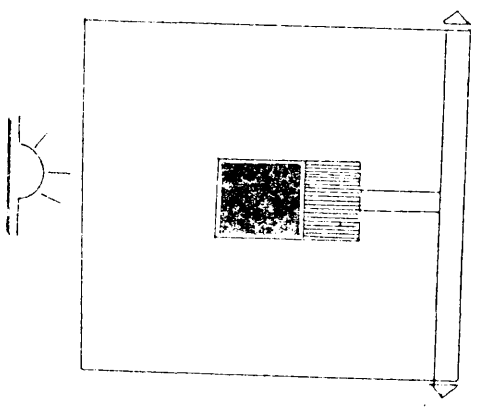
Tot. open space per Tenement unit $840\ m^2$.

- Tot. shaded space $142\ m^2$ per unit.

- percentage of shaded open spaces. 16%

b/=

- The Point block

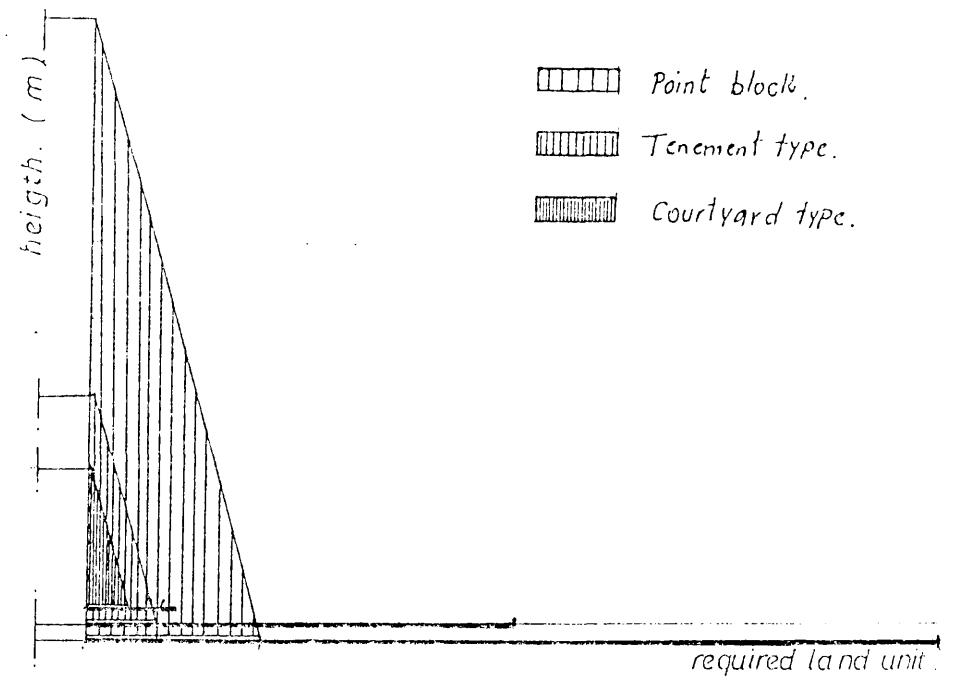


Tot open space. per point block $2940 m^2$

Total shaded space $320 m^2$

- Percentage of shaded open spaces. 10.

c/=



diag. 2.3.3.1.b.

fig. 2331

fig. 2331

Shows separetly for each type the proportion of shaded space it produces in relation to its setting.

diagr. 233.1.b.

Shows in terms of sun protection the relation-ship Heigth to plot size.

840m^2.

This then brings the percentage of shaded space to 16%.

The point block:

Set on a 2940m^2 plot unit it has the capacity of producing a projected shade of 320m^2 per block unit therefore ensuring the protection of 10% of its required surrounding space (see fig. 2.3.3.1c).

From these figures one can see that the courtyard type produces far more shade space.

Building form and distribution of shade:

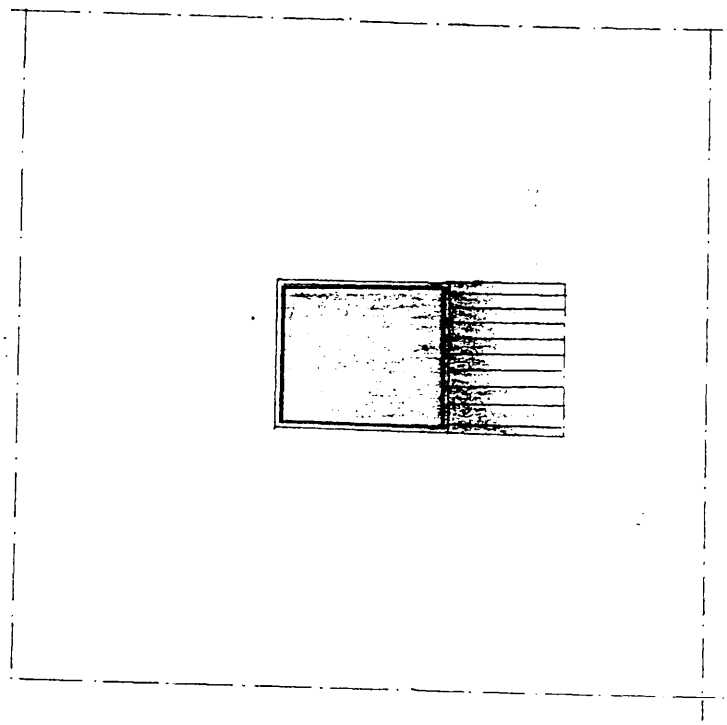
The distribution of shade on the land has in fact an implication in the way in which that land is used. A positive aspect of the courtyard unit type is its potential to produce shade immediately to the dwelling (where it is mostly needed) and consequently easily used by the inhabitants (see fig. 2.3.3.1c).

By the nature of their setting on the plot, both the tenement and the point block fail to realise a useful distribution of the shade they produce in relation to potential use (fig. 2.3.3.a and 4a-b).

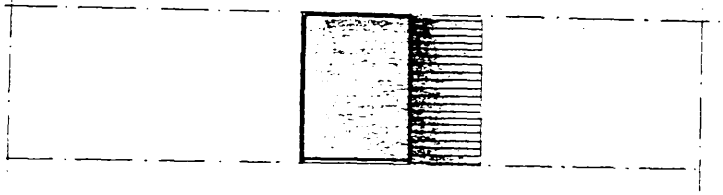
Distribution of shade.

21st June at noon

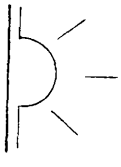
$\alpha = 70°$

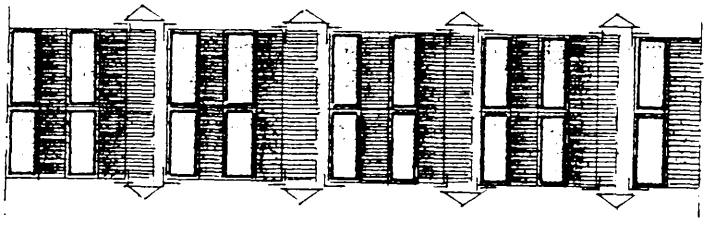


a/ The Point block.



b/ The Tenement





c/ The Courtyard

fig. 2.3.3.4

2.3.4 The Three Types and Shared Space Generation

Recognising the importance of this aspect is recognising the existence of the relationship between building types and the amount of shared spaces they produce.

It may be necessary on the other hand to remind you that this aspect of the study stems from both the strong recognition of the decisive effect that the amount of shared spaces have upon the housing environmental quality and the building maintenance system of Algeria. (See part 2.2.4). Open (including parking access roads and space required for privacy) and built (staircases, landings and halls) are then assessed for the three types.

Courtyard type:

An observation of Fig. 2.3.4.a shows very clearly and significantly the amount of immediate shared spaces it generates. In this case, it is reduced to the access road i.e. $50m^2$ per dwelling unit.

The Tenement Building

This produced $155m^2$ per dwelling unit (fig. 2.3.4.b).

The Point block

This generates a total of $3940m^2$ (fig. 2.3.4.c) which in

Summary diagram : Shared Space generation

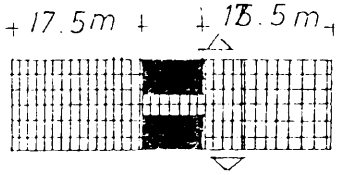
- Courtyard unit Type

Shared space produced per unit

$50 m^2$

a/—

- The Tenement Type



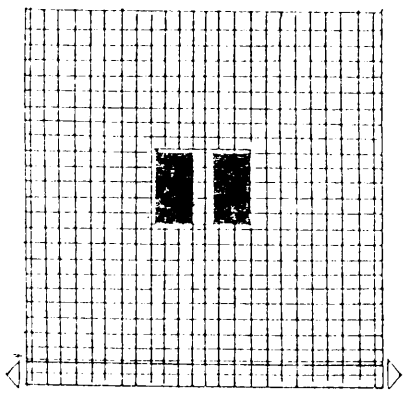
Shared sp. produced per tenement · $124.0 m^2$

b/—

· Shared space produced per house unit

$\frac{155}{m^2}$

- The Point Block Type

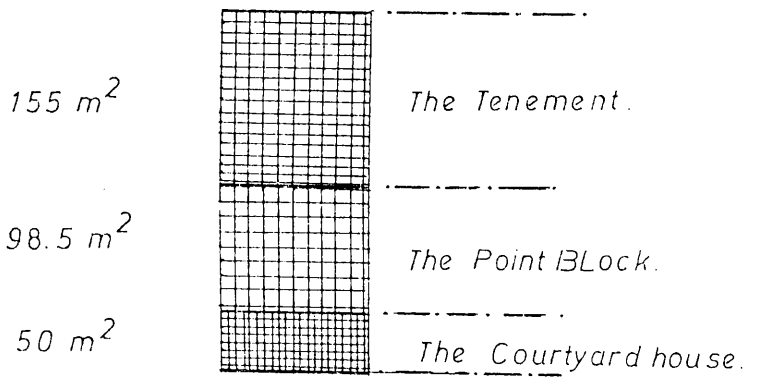


Shared sp. produced per block $3940 m^2$

Shared sp. per house unit

$\frac{98.5}{m^2}$

c/— — fig 2.3.4. —



— diagr. 2.3.4.d

— Shared Spaces —:

Concernes all the common spaces:

Internal : lobbies stairs landings.

External : parking accessroads open space.

— fig 2.3.4. —

Shows separetly for each type the amount of shared spaces it needs to fonction.

— diagram: 2.3.4.d —

Summarises for the three types the proportion of shared space as opposed to each of them.

- The COURTYARD PERFORMANCE

33% less shared spaces needed than the TENEMENT.

18 % less than the POINT BLOCK.

other words means that within the point block will be needed an area of shared space of 98.5m^2 per dwelling unit of which 27.4m^2 is required for parking.

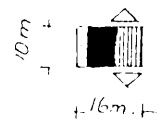
From these separate evaluations, come out very significant information which will enable even a classification of the different types if necessary. It comes then apparent again that the courtyard unit is good (diag. 234d) in terms of its non-dependence upon too much shared space. It then turned out to be a very efficient form when considering this aspect for it has been established that more a type depends on shared spaces, less its environmental quality.

2.3.5 The Three Types and the Land Use Issue

The aspect developed here is in fact the definition for each type of its usable space in relation to the area of land it uses. This by the means of a combination of the different spatial requirement of each type with regard to both privacy and accessibility and parking. The total usable space will as well constitute a more significant and objective criteria for the potential evaluation of each type.

It appears also that usable space is defined for each type by

o The Courtyard Type

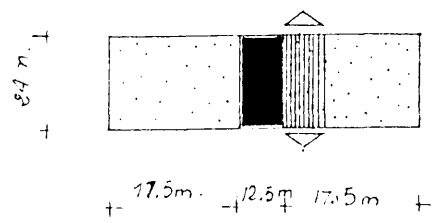


a/

built space 5mx10m = 50 m^2
access 50 m^2
privacy 30 m^2

Tot usable space per dwelling unit 130 m^2

o The Tenement Type



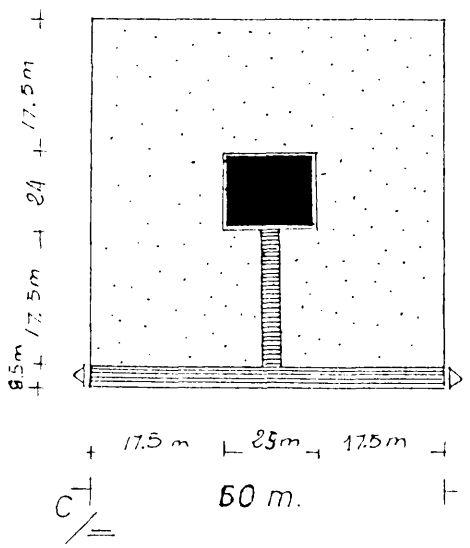
b/

built space 250 : 8 37.5 m^2
access / parking. 43.5 m^2
private 105 m^2.

Total usable space per awelling unit 186 m^2

per Tenement. 1140 m^2

o The Point IBlock Type



c/

built space per dwelling unit 15 m^2

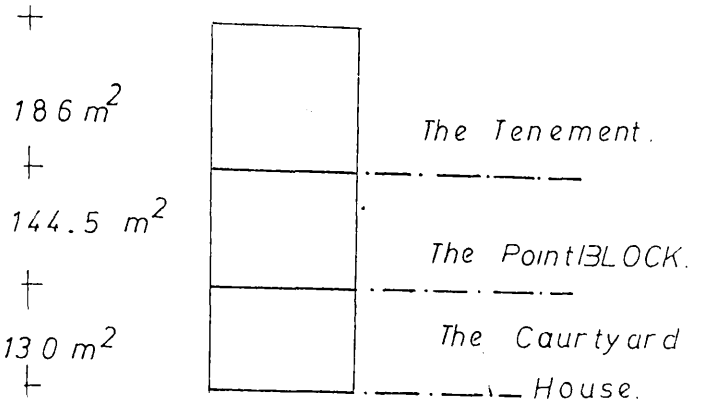
access / parking. 59.9 m^2.
privacy 73.5 m^2.

Total usable space per dwelling unit 144.5 m^2.

per Point Block. 4050 m^2

fig 2.3.5.

Summary diagram. Usable space.



diag. 2.3.5.a

fig 2 3 5

Shows thqt total of space required to acheive the different criteria.

diagr. 2.3.5 a

Sums up the space requirement for the three types.

- The COURTYARD performance
  - 3.2% less than the Point Block's requirement
  - 12.2% less than the Tenement's "

different aspects.

While for instance in the case of thecourtyard type it is defined mainly by access which constitutes approximately 25% of the total area of land used (Fig. 2.3.5.a). This will then set the total usable space for the courtyard unit to $130m^2$.

For the TENEMENT BUILDING however, its spatial envelope is mainly shaped by privacy reasons due to its extroverted nature. One dwelling unit of the tenement building depends in order to function properly on $186m^2$ of space (Fig. 2.3.5.b).

The point block building's usable space is shaped by both privacy and accessibility (Fig. 2.3.3c). One dwelling unit depends on a usable space unit of $144.5m^2$.

With regard to land required to satisfy the criteria of privacy - accessibility and parking (criteria related to functioning) theobtained results are the following for one single dwelling of each type:

$130m^2$ for the courtyard unit
$186m^2$ for the tenement building unit
$144.5m^2$ for the point block

According to thisaspect, evolution is made on the following basis:

Less land a building form requires in order to

function more efficient it is

Assuming the above and examining theobtained results, it appears that the courtyard unit shows a considerable performance in this field (diag. 2.3.5.a). It is therefore possible at this stage to conclude on its positive use of land.

2.3.6 The Three types and Density issue

Dense were our feelings
Dense was our history
Dense was our culture
Dense was our society
Then you came and said "so will be your city"
Out went our society
Out went our culture
Out went our history
So did our feeling

Farida

It is agreed that there is a relationship between building type and density but then the nature (characteristics) of the type that best achieves density is open to debate. Density is an evaluation of the potential of a building type of compiling the maximum number of dwellings on a given area of land*. It therefore provides us with the means of measuring. It is also used here as a quantificative dimension to the qualitative aspects considered.

Method

In this part of the comparative study, the method used is to

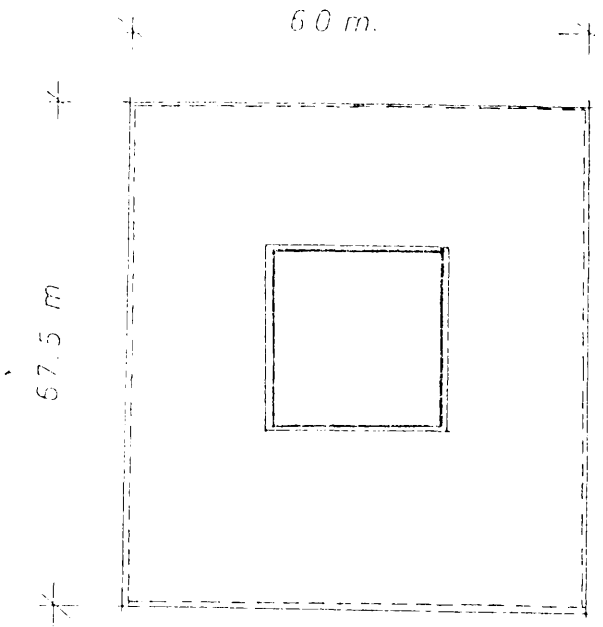
take the longest site area required by our study types (fig. 2.3.5) which is here defined by the point block unit (i.e. 67.5 x 60m) and corresponds to an area of 4050m^2. This is then laid out simultaneously with the tenement building type, with its corresponding required land, and finally with the courtyard unit type. (Fig. 2.3.6) Notes of the various density results are taken. In this way comparison and conclusions on the efficiency of each type of combining housing quality and producing good density results are possible.

The usable space has been defined as the required space for each dwelling unit to function properly as far as all the criteria that involve land consumption, i.e. privacy - accessibility and parking are concerned. This, once set, an assessment of each type in terms of density is then possible.

Fig. 2.3.6. shows this operation carried out on the point block size site. These results are now evaluated.

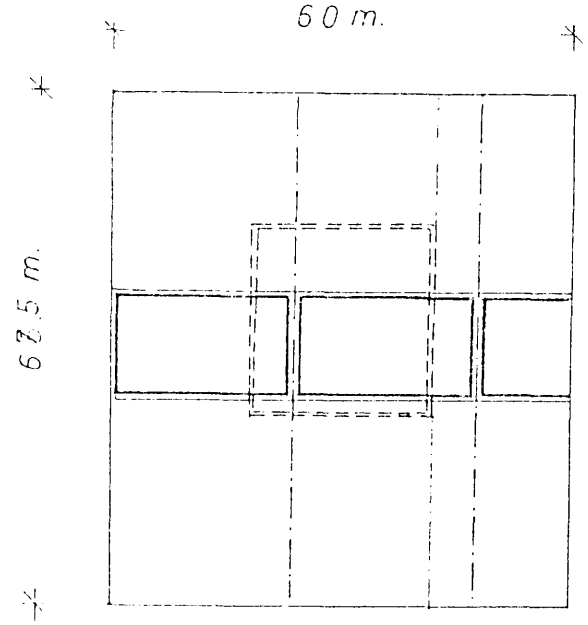
Evaluation:

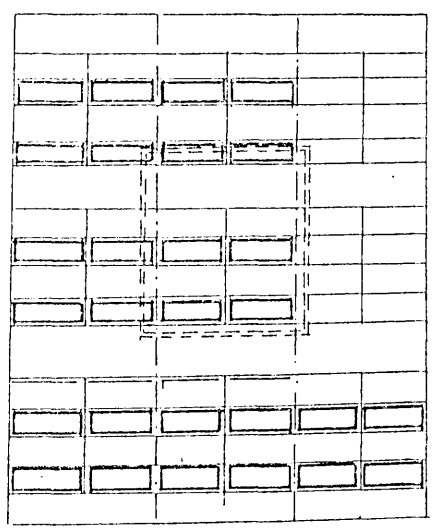
The Point block: In this case naturally as it is its site the basic land unit, the density achieved is naturally the one that corresponds to the number of units contained within one single point block, i.e. 40 dwelling units (fig. 2.3.6.a). Translated into density per hector, the performance of the point block is 92 units per ha.



40 units.

a/ THE POINT BLOCK.





b/ THE TENEMENT DEVELOPMENT.

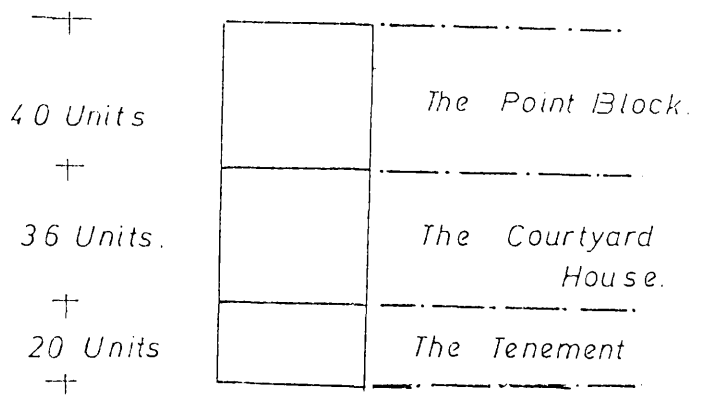
20 units

C/ THE COURTYARD DEVELOPMENT.

36 units.

fig 2.3.6.

The DENSITY Issue.



diag. 2.3.6.

fig 2.3.6.

The required site unit of the Point Block. has been taken as a basis.

Shows the density potential of each type.

diag. 2.3.6

Sums up the density potential of the three types.

- The COURTYARD HOUSE performance.
  - 16.7% more dwelling units than the TENEMENT.
  - 4.1% lesse dwelling units than the POINT BLOCK.

The Tenement building: The tenement on the other hand realises only 20 units on the same site area. (fig. 2.3.6.b) This can be understandable when considering its number of stories in relation to its land requirements. Translated into density per ha. the performance of the tenement type is very small. It can achieve only 46 units per hector, half the performance of the point block.

The Courtyard Unit: The courtyard unit although not reaching the same level of performance of the point block comes very close to it with 35 units on the site as opposed to the 40 of the point block. (fig. 2.3.6.c) i.e. approximately 80% of the performance of the point block. Expressed in dwelling per hectors, the density of the courtyard unit reaches 86 dwellings per hector.

This therefore leads us to recognise the underestimated potential of the courtyard unit as opposed to the point block which contrary to what one would have expected does not realise a far better performance than its counterpart the courtyard unit.

Confronted with the widespread idea and deeply embodied belief that only the point block type can achieve high densities and efficient land uses, the real level of performance of the courtyard unit has never been investigated in Algeria. It is now shown that the above assumption has little basis. This, despite the fact that the courtyard house (variant 1 of

Model A fig. 2.1.1) used in this study was designed as a good generous house. If a type was produced to gain maximum density an even better result might be reached (as hinted at in 2.3.5). This aspect has been given a first attempt by me and can be examined in Appendix 1).

CONCLUSION: CHAPTER II

THE COURTYARD TYPE A COMPETITIVE TYPE

This study comes as a reaction to the prevailing idea amongst decision makers when dealing with housing, that both quality and efficiency lie in high density and are only achieved by the tower block type.

In the context of this present controversy about image and factual efficiency which always attributed quality to the tower block, a clarification was felt necessary. And so was the establishment of a basis of facts upon which rational conclusions could be made.

This study made then possible the examination of:

Firstly, a series of relationships between the types considered and the criteria determining of housing quality.

Secondly, the level of performance of each type regarding these aspects both separately and combined.

It also, and most significantly, brought some revealing results that will may be reconsider the deeply embodied prenotion which claims that 'quality' lies in the tower and that in no way can a 'minuscule courtyard' stand with that 'majestic' type.

If 'quality' is about protecting its occupants from the undesirable pressures of the outside world and at the same time ensuring them a peaceful environment, in other words, enable and give the chance to people to be so near and yet so far from urban life, then the courtyard house unit has managed to do it over the world and over time. To this history will testify. It may as well if considered continue to do so.

If quality is about creating microclimate in both internal and external spaces and protecting its occupants from the stressing effects of the climatic conditions of sun and rain, then again here the courtyard unit has historically and from the results of the study proved its efficiency.

If 'urbanity' is about contributing to combat decay and vandalism and promote community life and social contact. If you think that here the tower is best, then ask St. Louis[12] (Missouri) it will prove you otherwise.

This therefore reveals that urbanity as developed today in Algiers is founded on 'images of urbanity' rather than on efficiencies in terms of land use and density.

We can then partially conclude that the courtyard house type for its spatial characteristics (as mentioned in Chpt. One) 'introversion'* and its comination with other units to generate space embodies interesting characteristics that can

---

*INTROVERTION: French Architectural Vocabulory. Opposite of EXTROVERTION. It is the inward looking spirit.

in a better way than any other types deal with the conflicting issues of urban housing.

It can consequently be recognised that:

in the case of the courtyard house;

Privacy: Is one of its key elements that allows good performances in terms of land use.

Thus, for realising privacy by the means of the courtyard, it frees the rest of the land (that could not have been totally built in the case of an extroverted type) to be used for other purposes either of common use or private (diag. 2.3.1.a)

Access: On the other hand, is recognised to be one aspect with regard to which in economical terms, the courtyard type does not show any potential that can compete with the tenement and the point block (diag. 2.3.2 b).

Shelter from

Climate: *As found in the first chapter, by allowing compactness, the courtyard unit can be an efficient solution when dealing with this aspect. It can then in these terms be considered as much

---

*In my case, this aspect has been reduced to sun protection of both the courtyard space and the public space.

better than the tenement and the tower block (diag. 2.3.3.1a/b) (Assuming that for inner climatic comfort, air conditioning is uneconomical)

Land use: This aspect of the study came out with the revealing fact that:

The courtyard unit (thanks to its introvertion) in order to function properly depends, unlike the tenement and the point block, upon a small area of land (diag. 2.3.5 a) and as a consequence, uses less land than both the tenement: 31% less and the point block: 11% less required land.

Shared space Generation: In this respect the courtyard house unit appears to be able to contribute considerably to deal with the issue of building maintenance cost and the question as to whom this responsibility should be given.

The point block building generates a considerable amount of shares spaces (diag. 2.3.4). For the non defined nature of these spaces which naturally leads (as developed in Chapter I) to neglect it is difficult to attribute the point block the economical efficiency as far as this aspect is concerned.

The courtyard unit on the other hand only requires a standard access street (as the only shared space it generates) for

which most cultures (the Algerian included) have a recognised system of shared responsibility. It has been shown that it is the ambiguity of shared spaces that creates problems.

Density:

As seen, in terms of density, the courtyard house is 42% more efficient than the tenement and as nearly as good as the point block only 6% less.

- Once this is considered, it becomes possible to conclude on the competitiveness thus the efficiency of the courtyard house unit. This study has then reached the conclusion that the courtyard unit uses land efficiently, that it can be adapted to modern life standard. Further testing will try to reinforce this.

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CHAPTER III

INTRODUCTION:

The previous two chapters have been examining the potential of the courtyard house, through a comparison with the point block and tenement building. This both in terms of accomodating changes in life style and efficiency in terms of land use. This therefore provides objective answers to the first two accusations: 1. that the courtyard house cannot respond to new life style and 2. that it cannot use land efficiently.

From these perspectives performance was generally proved to be in favour of the courtyard unit, therefore attributing to it the ability of providing housing quality in Algeria. The present chapter will mainly deal with the aspect of how the three types perform on an actual site.

In order to fully claim a revival of the 'wast-ad-dar' spirit, a need for its testing within an adequate proposed organisation and a contextual site was felt necessary.

This will be carried out in three steps:

- Firstly: from an initial examining of the site, it was realised that additional varieties of courtyard house types and point block are needed and are therefore designed.
- Secondly: without destroying any type, test the

efficiencies of the three types,

i.e. the courtyard house

the tenement building

the point block

to deal with both the physical constraints of the site and the needs of the residents for privacy, access (for pedestrians, cars) etc.

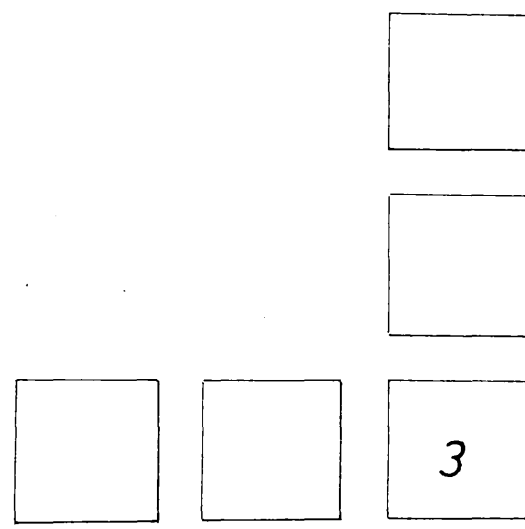
. Thirdly: If we are to consider the courtyard house unit as a design tool for housing developments then,

a. a spatial organisation within which it could be inserted will be proposed

b. This organisation will then be applied within an actual site.

THE COURTYARD HOUSE

A DESIGN TOOL ?



CHAPTER III

3.2.1 RESPONDING TO THE SITE CONSTRAINTS

The existing buildings around (and on the site) are attributed the following characteristics (See Pl. 24)

- a. The Casbah Courtyard houses of three (3) stories high along Lalahoum Street are attributed:
  middle height - INTROVERTED TYPE

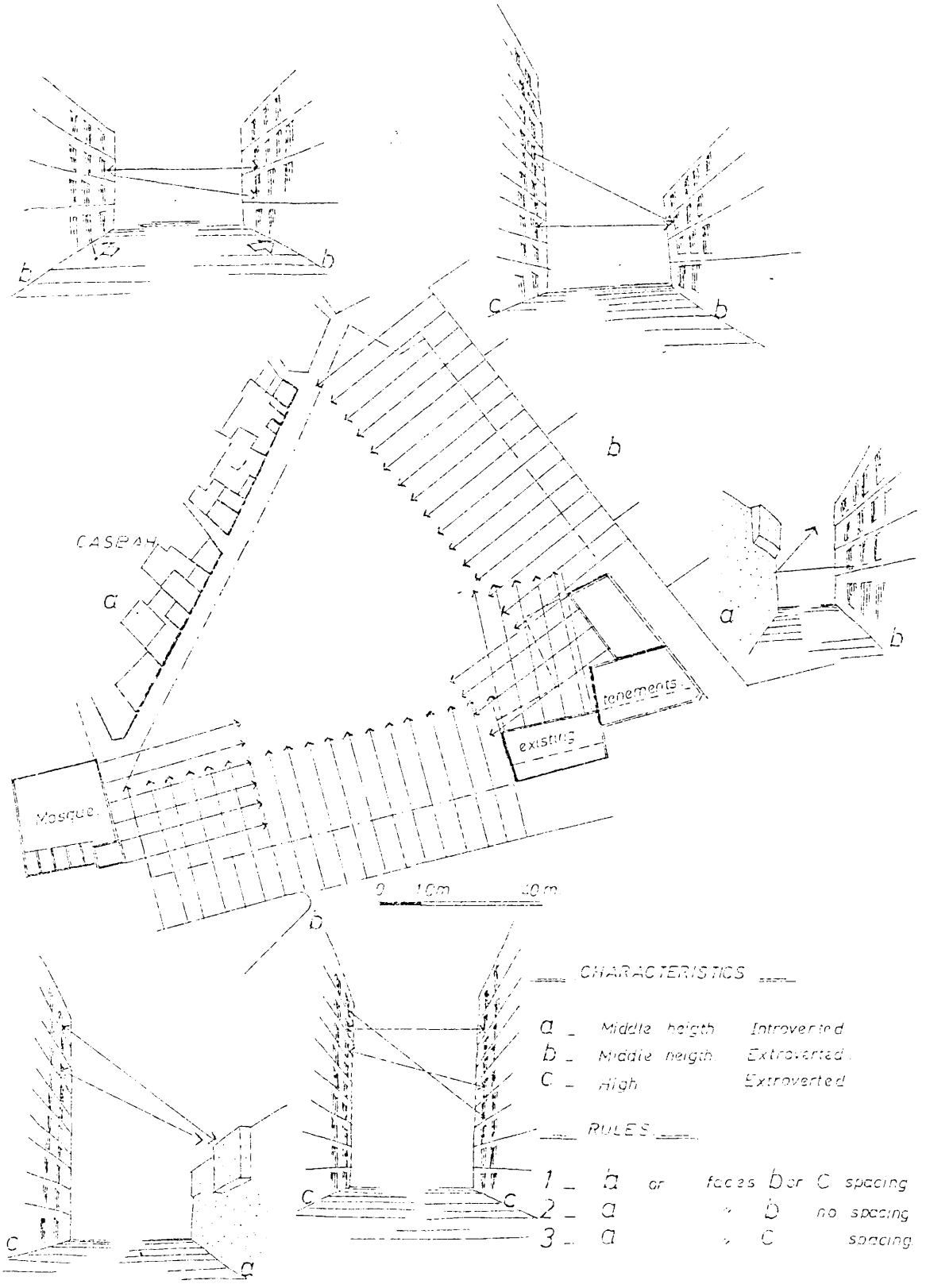
- b. The Tenement building of four (4) stories high along both Bab-elOued Street and third street that defines the site is attributed:
  Middle height - EXTROVERTED TYPE

- c. The Point block building although not present on this site, the appelation that will be attributed to the point blocks that will occupy the site during the study is:
  High - EXTROVERTED TYPE

Each type will react differently to the site characteristics depending on its character. Once the above (a, b, c) assumptions are made, we then are able to set the following RULES.

- 1. Each time a high or middle height Extroverted faces a high or middle height Extroverted type the need to apply the 35m rule becomes necessary.

SITE CONSTRAINTS



CHARACTERISTICS

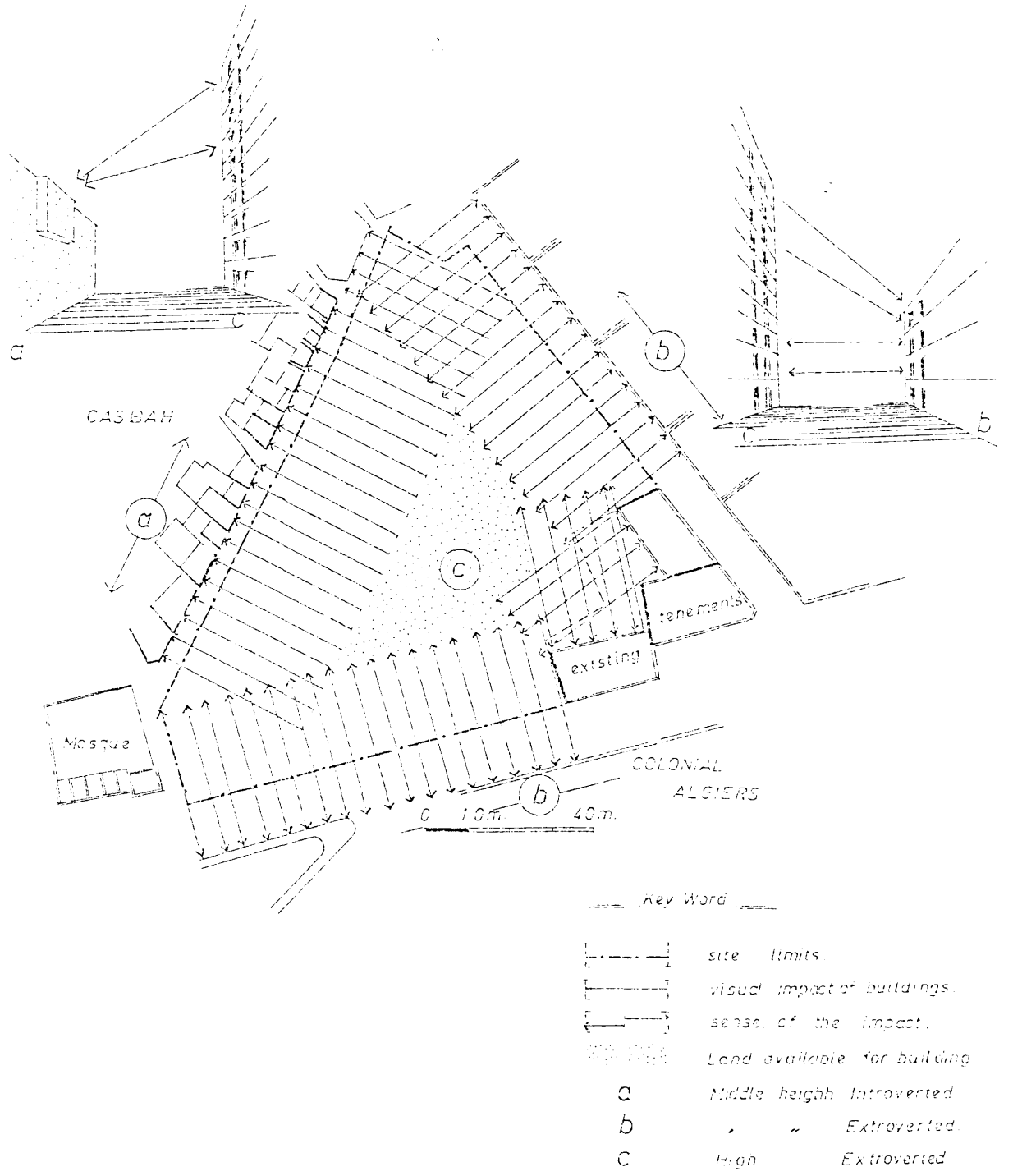
a _ Middle heigth Introverted
b _ Middle heigth Extroverted
c _ High Extroverted

RULES

1 _ a or faces b or c spacing
2 _ a " b no spacing
3 _ a " c spacing

RESPONSING TO SITE CONSTRAINTS

The POINT BLOCK.



accommodated by the site.

- The location of the types on the site.

The Point block (Pl. no. 24)

Considering the characteristic of both the point block = type C

and the surrounding buildings:

type b on Bab-El-Oued Street

type b on the street at rightangle to B.El.Oued Street

type a on Lalahoum Street

Each of these types, will have an impact on reducing considerably the potential of the site of accommodating the point block. Only 12.8% of the site is able to receive the point block without disrupting the privacy of the surrounding buildings.

The Tenement (Pl. no. 25)

- The characteristics of the tenement building are of type (b), i.e. middle height - Extroverted.
- Unlike the point block, the surrounding buildings will have a different impact on the determination of the potential of the site.
- Because of its characteristic (type b) on Laluhoum Street and for the nature of the houses (type a), these will have no impact upon reducing the land available for building (rule 2).

In this way, 20.4% of the total area can receive the tenement building without disrupting the surrounding buildings.

The Courtyard house (Pl. 27)

Its nature, of type a middle height, Introverted together with the nature of the surrounding buildings middle height Extroverted, the area of land available to accommodate the courtyard unit is 85%. The reduction of 15% is the result of the extra level of the existing tenements on the site.

From this one can clearly see the existence of a consolation between:

- the nature of the type to be developed on the site
- the nature of the buildings that surround the site
- the size of the site

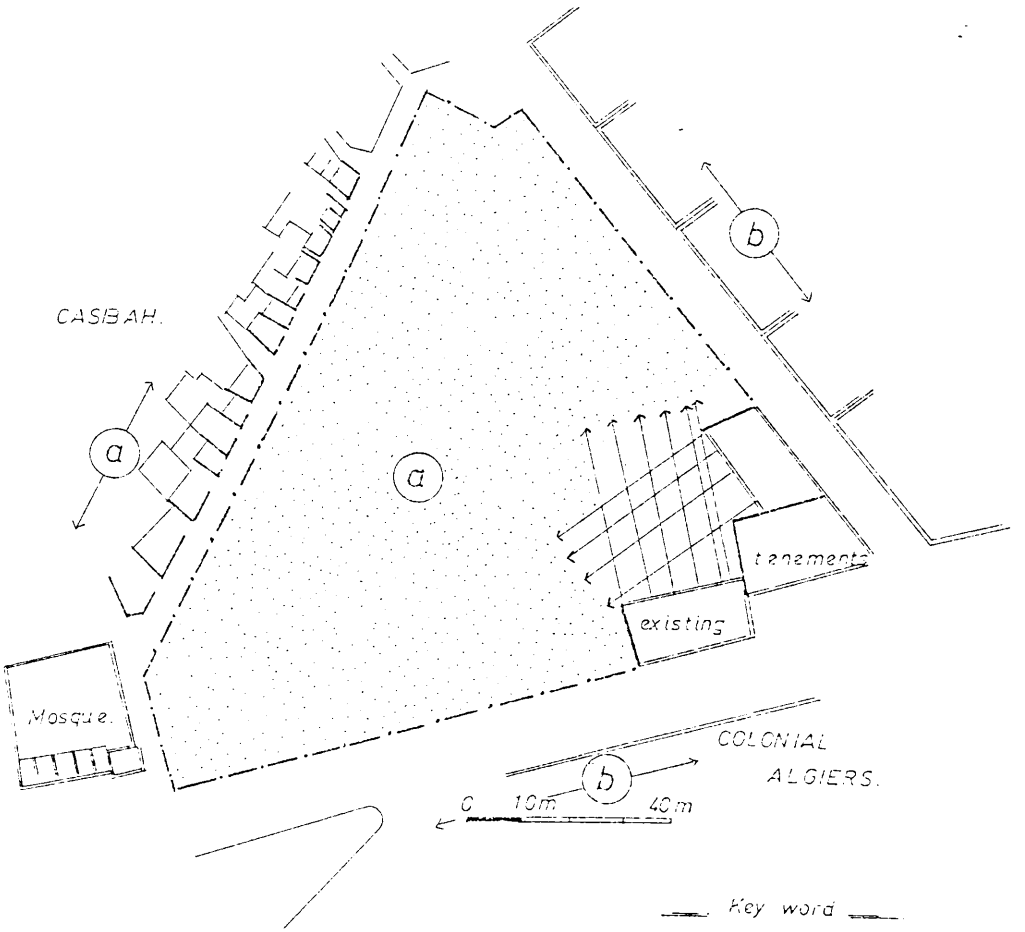
in determining the performance of the building to be used on site.

One can conclude for instance that:

- on sites where the major surrounding buildings are of type a both the types - a and b can perform
- on sites where the major surrounding buildings are of mixed a and b types, the a type will perform best.
- on sites where the buildings are of type c only the point block could perform at the condition when it keeps its building spacing.
- with regard to site size however, the smaller the site the less the point block performs.

RESPONDING TO SITE CONSTRAINTS

The COURTYARD HOUSE



Key word

site limits.

visual impact

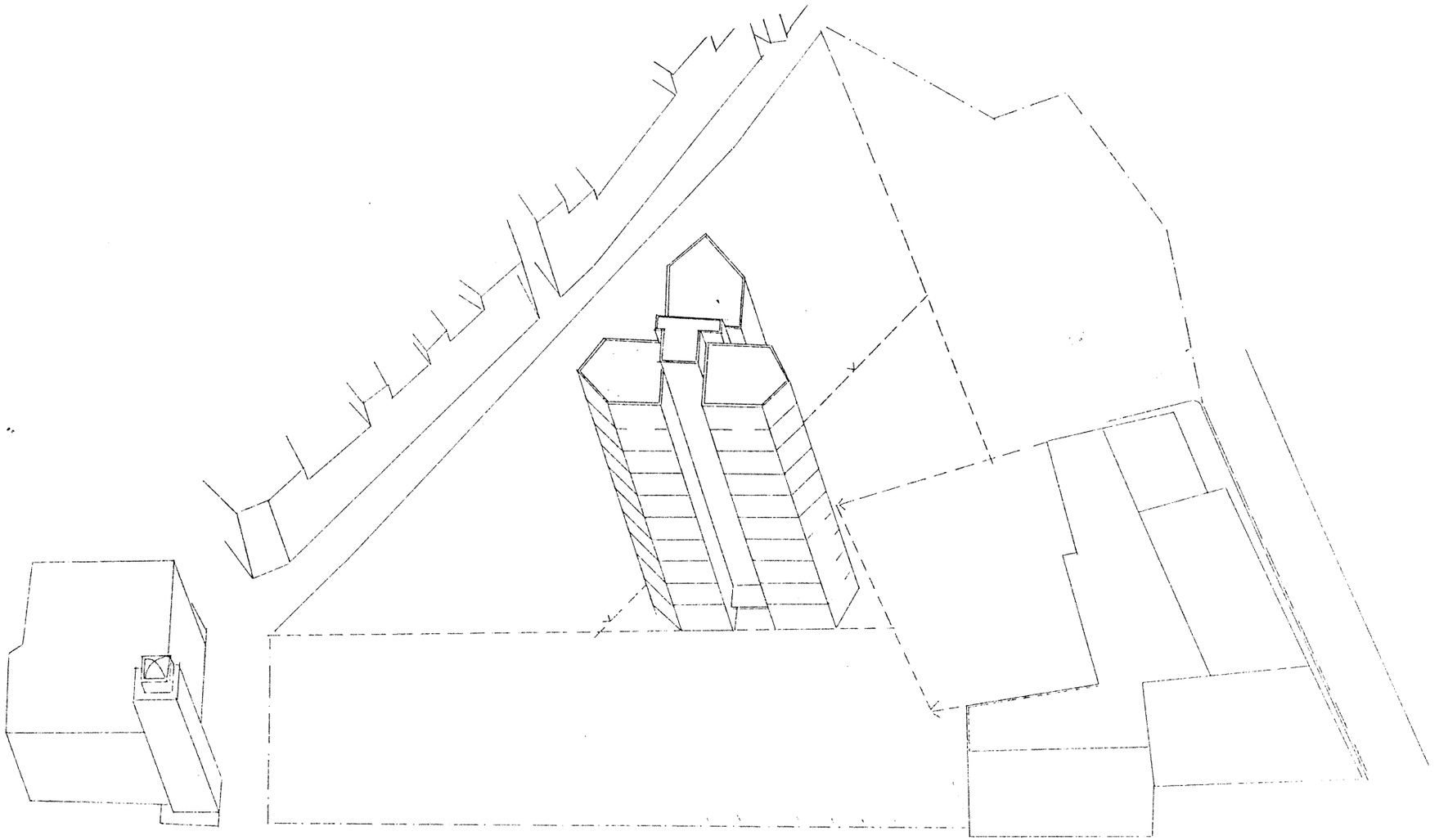
sense of the impact.

Land available for building.

a Middle height introverted.

b " " Extroverted.

C High "



Scale 0 5m 20m

regulation makes its efficiency in terms of land use and density limited.

As a rule, it could therefore come out from here that in a real context, on sites of size inferior to the required $55 \times 50m^2$ land plot (Chapter II) the point block building becomes very inefficient in terms of density and land use. Naturally, its efficiency could be increased by increasing the height of the point block building but then in Algeria the restriction of its height to 10 stories makes the above conclusion very appropriate.

The Tenement Building

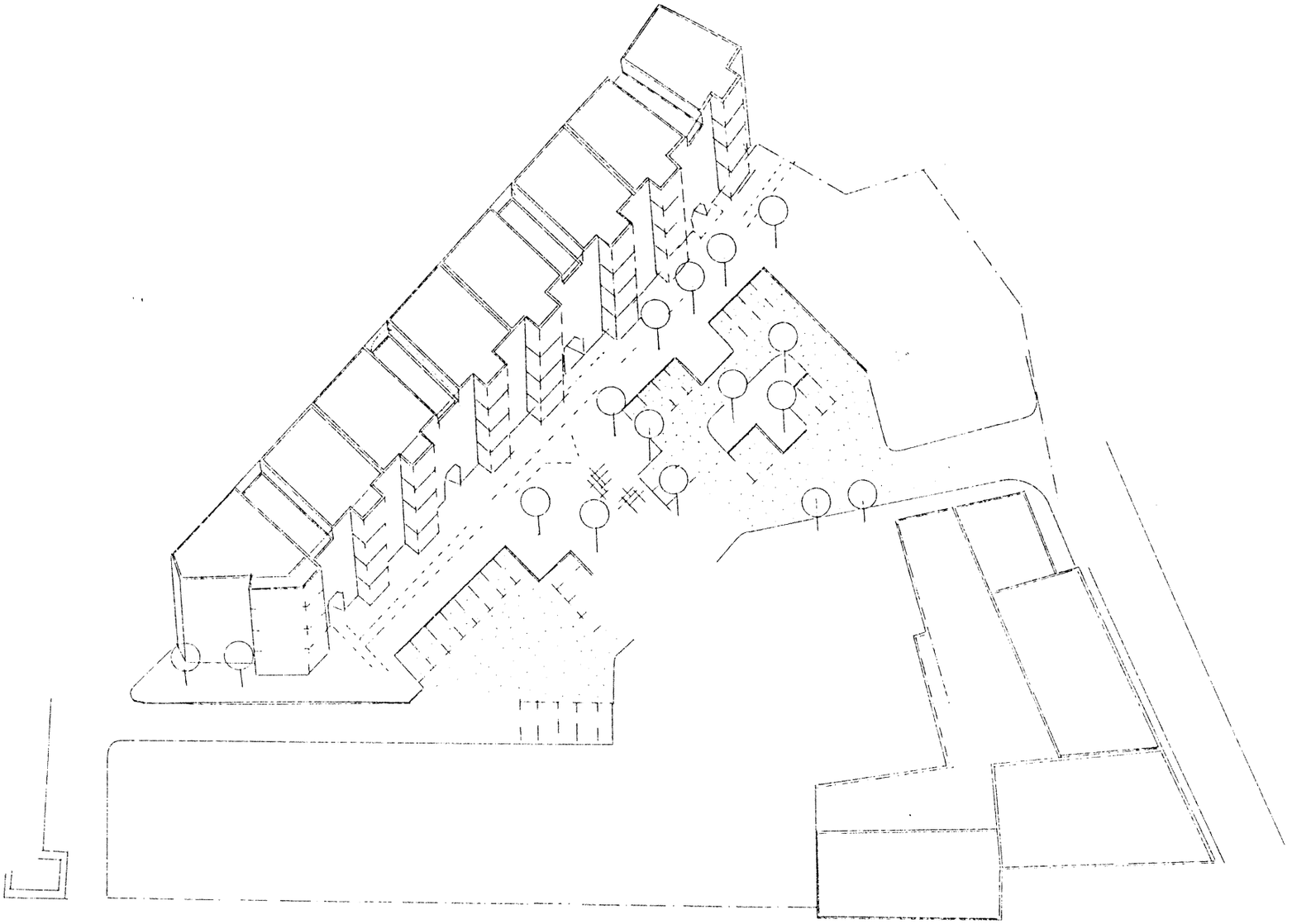
This will need the 35m on Bab-el-Oued Street as it would face other tenements too closely. Along Lalahoum Street however, the introvertion of the Casbah houses and the height of the tenement, i.e. 4 stories high makes possible the non-consideration of the 35m distance. Along the third street however it is still necessary.

This will then define the limits beyond which building is not to be considered if privacy is to be preserved (fig.) Once this is done, one can see the land area to be developed using the tenement building (i.e. the area of land that offers to the tenement the best possible conditions, with regard to its 2 sided extroverted nature. In the case of the tenement the land left to be developed is evaluated to 1600m^2 i.e. 24.8% of the initial land.

Note: naturally these figures could be improved considerably and gain more land, by changing the two side extrovertion of the tenement. Although it could be an interesting aspect to investigate, it is not my purpose here, but to keep the tenement spirit as such.

On this site then, considering both the extroverted nature of the tenement and the constraints of the site, the performance of this type is as follows:

- 36 dwellings
- built up area of 20.4% although the outside constraints



provided 24.8% of the land to be built, the action of the built row of tenements on the site reduced it to 20.4% (built-up area)

- In this context, the amount of shared spaces produced is $6560m^2$

Note: For the nature of the relationship[2] the potential of accommodating dwelling units regardless of their type can be improved in the case of the tenement building type. This by developing the land that is not possible to build with the tenement building with courtyard type houses. One can therefore note another efficiency of the courtyard unit of dealing with such a problem.

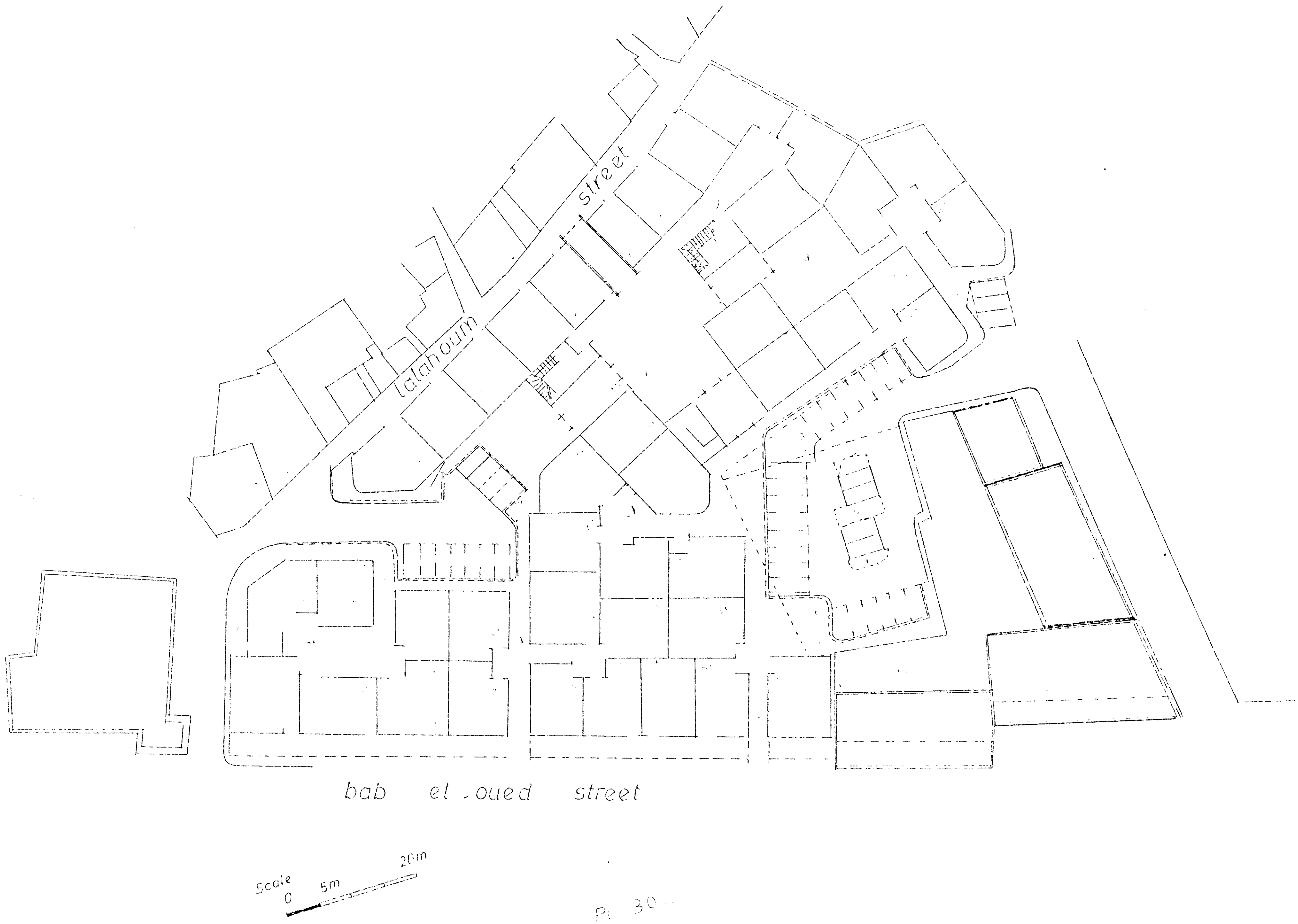
The above operation, although possible for the tenement building is not feasible for the point block. This because of its height will disrupt the privacy of the courtyard units.

The Courtyard Unit:

Due to the Introverted nature of the courtyard, its non-dependance upon the 35m rule to achieve privacy provides it with more prospect than the other two types (see fig. 30 31). The elements that can have an impact on restricting the proliferation of the unit on the site is the existing tenent's building on one corner of the site because of their exception of 3 stories height. Around them the rule of the 35m is applied reducing then the amount of land available to building from 7000 (total area) to 5950m^2 i.e. 85% of the total area. One can already see the potential offered to the courtyard type compared to the other two. In terms of density this type on site, achieved a number of dwellings of 46 units.

- a built up area of 62.7%
- and produced an amount of shared spaces of 2556m^2. But here, unlike the two other types, the shared spaces produced are mainly external.

Note: The use of courtyard unit as a design tool within this context, came out with interesting urban design solution in terms of providing a human scale to the produced space. It also permitted a readaptation to modern life, i.e. nuclear family and car access, of the traditional spirit.



Pl. 30


bab el oued street
Scale
0 5m 20 m

The Three types on site:

A comparative evaluation:

	Point Block	Tenement	Courtyard
Characteristics	. 4 units per staircase . EXTROVERTED (4 sides) . High - 10 stories	. 2 units per staircase . EXTROVERTED (2 sides) . Middle height 4 stories	.INTROVERTED .Middle height - 3 stories
Site Total Area	7000m^2	7000m^2	7000
Land left to built	900m^2 i.e.12.8%	1600m^2 i.e.24.8%	5950m^2 i.e. 85%
Built up area of the total land	900m^2 i.e.12.8%	1430m^2 i.e.20.4%	4390m^2 i.e. 62.7%
Number of units	30 units	36 units	46 units
Parking area	1096m^2 i.e. 17.9%	984.4m^2 i.e.14%	1290m^2 + access to parking
Shared space			
. Internal	490m^2	1000m^2	none
. Open space parking incl.	6100m^2	5360m^2	2556m^2
Total	6590m^2	6560m^2	2556m^2

The previous table summarises the performances of each type after responding to the site constraints imposed by the typological character of the surrounding buildings.
We can see that the courtyard within a real context shows a great potential in terms of:

- Using land efficiently:
  62.7% of built up area against 12.8% of the point block
  and 20.4% of the tenement
- Achieving good densities:
  46 units against 30 for the point block
  and 36 for the tenement
- Produces less shared spaces:
  2556m^2 produced by the courtyard unit development
  opposed to the 6590m^2 of the point block
  and the 6560 of the tenement
  This, despite the difference in number of dwelling units.

Evaluation: Relationship

- type considered and its performance
- characteristic of surrounding buildings
- site size

From the examining of the different types in an actual context, it resulted that in sites of mixed building types such as the one considered, a successful insertion of the point block is difficult. Consequently, its potential of achieving high densities and using land efficiently is in the context of Algiers very weak. Attempts could be made to increase its potential by:

- considering its screening or
- increasing its height or setting it on large sites with no different types around it

Other ways could as well be thought of and may be subject to special researches but in the context of my work, alterations to any type is avoided as much as possible.

The tenement however, sees its potential considerably decreased. Its area left to be built could have been identical to the point block's if it had not benefited from the situation of type 2 (Pl. 24) where no spacing between buildings is needed. Here again, modifications to the type could be brought to increase its potential, but then its type would change radically. My concern in this study is to keep as much as possible the characteristics (middle height 2 side Extrovertion) of the tenement.

The Courtyard on the other hand, in this situation realises a much better performance:

- It realises a better distribution of built up area
- It does not diminish the potential of the site of receiving it
- It can achieve better density results than the other 2 types.
- It produces small scale protected open spaces

We can then conclude that in the relationship between the aspects:

- site characteristics (type a, b, c)
- site size
- performance

Conclusion:

The Point block performs best in sites:

- where surrounding buildings are of type c(high extroverted)
- where the site size permits in all directions, the 35m rule. This will then set a minimal site size of 8460m^2. Under this site size limit, the point block in order to function would have to accommodate modifications as a type.

The tenement is best performing on sites:

- where surrounding buildings are of type a (middle height - Introverted)

- In this case there is no site size limit. The site size will only intervene in the number of dwellings
- when it is put on site where a very generous road system 'gives' the tenement the possibility to benefit from the road width to absorb the 25m e.g. Barcelona

The Courtyard Unit however performs best on sites:

- where surrounding buildings are of type a (middle height introverted) but can also on sites where it is surrounded by types of (middle height - extroverted) b type.
- unless the site is surrounded by buildings of type c (high extroverted) the site size does not intervene in modifying its chances of performing.

CONCLUSION:

It comes out that: The smaller the site is the bigger are the chances of courtyard unit compared with the two other types.

The contextual testing has shown that the courtyard house, as far as setting on site is concerned, offers the best performance. Due to its characteristic (middle height Introverted) it can:

- with no problem cohabit with the tenement building as well as its own type buildings
- also make use of the smallest site in urban areas of Algiers (an example will be developed in the design in Part 3.3.3).

This provided the surrounding buildings do not exceed the height of a standard colonial tenement building (4 stories).

- Make possible the development of sites under the size of the site size limit of the point block (i.e. 8460m^2).

The point block building as far as site setting is concerned is a very limited resource. If in this context accidentally its performance has approached the theoretical one, it is mainly because of the site characteristics. Although its total area is 7000m^2 therefore under the required limit of 8460m^2 the point block benefited from the spacing of the surrounding roads evaluated to around 1612m^2. The best performance that the point block type could ever realise is on sites that approach the required area of 8460m^2 minimum.

In summary, we can say that the point block in theory can achieve densities of up to 20% more than the courtyard house, but in reality - as seen in 2.3.3 - this advantage can seldom be achieved. Only in a continuous 'point block environment', hardly a human prospect, where the minimal building spacing is governed by privacy that it is best efficient.

The courtyard house unit however although in theory presented it was slightly undertaken by the performance of the point block (talking of density), reality showed, interestingly its density potential i.e. 46 units compared

with 30 for the point block. In addition, the courtyard house has the advantages of being good climatically (and relatively can help prevent vandalism).

3.3.1 Towards an Organisation: the succession of Introvertion

(The urban potential of the courtyard house)

In urban areas, quality is often associated with the idea of security of the occupants. This, if defined as the existence or non-existence of unwanted INTRUSION. This will then be where both the problem and solution lie. In order to organise space so that it fulfills its role with regard to this aspect of INTRUSION, three major questions are to be asked.

Firstly: what do we want to preserve from intrusion? This depends on the level considered: the house unit - the semi private street - the residential street, the very public street.

Secondly: what do we want to exclude or more precisely what is the intrusion? The relevancy of this question lies in the fact that it provides and identifies the nature of the intrusion which can vary from a visual to the effect other factors can have on the residential estates. i.e. the inclusion or exclusion of the car within the estate.

Thirdly: where is the intrusion? or at which level in the hierarchy this intrusion occurs (i.e. is it at the semi-private or public level. This paper through a manipulation of space finds ways of partially excluding the source

of disturbance.

> "Some people want to live where the action is others want more isolation..." "This corresponds to a basic human personality dimension which could be called: the Extrovert/Introvert dimension or community loving/ privacy loving." 2

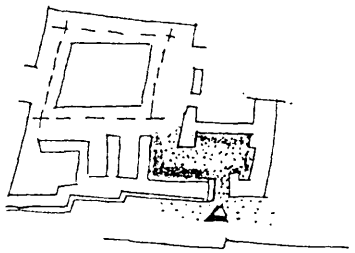
In this field, it was thought worth examining the traditional structure. From the house to the whole city, hierarchy rules and governs the interaction of the spaces consequently sustaining both privacy and security.

Traditional Space in the Courtyard City and its Organisation

Subdivision of space ruled by hierarchy itself reinforced by enclosure contributes a great deal to the creation of a sense of security within the residential areas and among its inhabitants. Moving from the whole city to the house unit (Plan) was a clear and sequentially defined movement from the very public domain to its very private. By these means, it excluded strangers or unwanted visitors. Within the neighbourhood for instance, a dense organic street fabric of 'Zenkas' (public streets) to 'Dribas' (semi-private Cul de Sacs) constitutes a genuine answer to the aspect of exclusion clearly illustrated by R. Berardi:

> "Lanuit tombee, il n'ya que portes qui deferment, les portes de laville sur l'exterieur, le portes des impasses sur les rues et ruelles, les portes de celles-ci sur les parcours principaux. Ceu-ci a leur tour present se segmenter permettant aux quartiers de se fermer les uns aux autres."

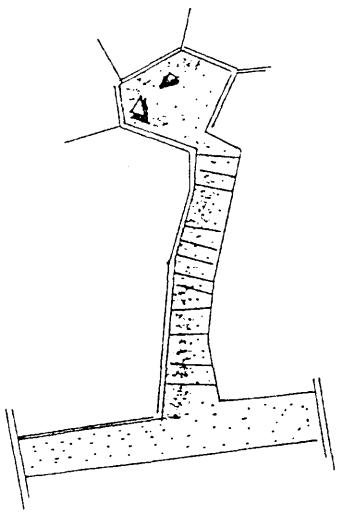
THE TRADITIONAL SPACE ITS HIERARCHY.



The house unit level

The 'SKIFA'.

The hall



The neighborhood level

The 'DRIBA'

Semi Private space

The city level

The 'DRIBBAS' and 'ZENKAS'.

The Street Network.

Plate 19.

3.3.2 The Wast-ad-Dar spirit - Presentation

Now that we have adopted the courtyard unit, let us then look to which organisational system it can be part of and relate to in order to fully respond. The following notions will therefore deal with the search for this system before applying it in an existing area.

Newman[4], in his theory of defensible space explained that the main sources of crime and vandalism within modern housing environments were the lack of physically well defined spaces. He also attributed the social failure of the tower block to its ignorance of this aspect of space subdivision which was on the other hand characteristic of the traditional environments.[1] His theory is indeed interesting for it would be as relevant to new residential areas of Algiers as it was for his study areas in the U.S.A.

We have on the other hand developed (fully during both Chapters I and II) how determining of housing environment quality was the need of privacy both at the house unit level and at the level of the neighbourhood which consequently will imply different levels of privacy.

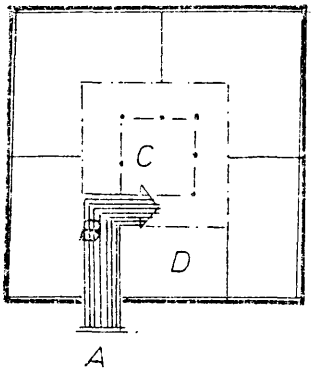
To explain this, let us take an example which very often occurs in the house unit. A dwelling unit, in the middle of every busy and noisy space, will naturally be the element

to protect from intrusion. Secondly, the surrounding space of the house is 'Where the Intrusion' lies. Finally, intrusion is the presence of people that have nothing to do with the area: 'The unknown and unwanted'. To deal with this aspect, a subdivision of the initial space is necessary. It will enclose the house utilising a smaller environment welcoming the wanted in and excluding the unwanted.

In conclusion, as the traditional house unit responded to the process of exclusion with INTROVERTION, the neighbourhood on the other hand developed the notion of seclusion through a hierarchical succession of spaces: from the semi-private 'dribas' (cul de sacs) to 'zenkas' (public streets) before flowing in the public streets of city scale.

With regard to the above, my proposal stems then from the recognition of introvertion (and the spatial organisation it implies) as a revealing asset when dealing with urban housing environment quality. This notion, so successfully developed within the introverted house unit or courtyard house unit is therefore (I believe) to be extended and similarly applied to a neighbourhood to embody a whole city and its urban network. I will then call this a succession of introvertions. (See plate no.)

INTROVERTION: for its expected role of realising exclusion the major remedy for intrusion. It is also necessary to



A PUBLIC Or SEMI PUBLIC SPACE.

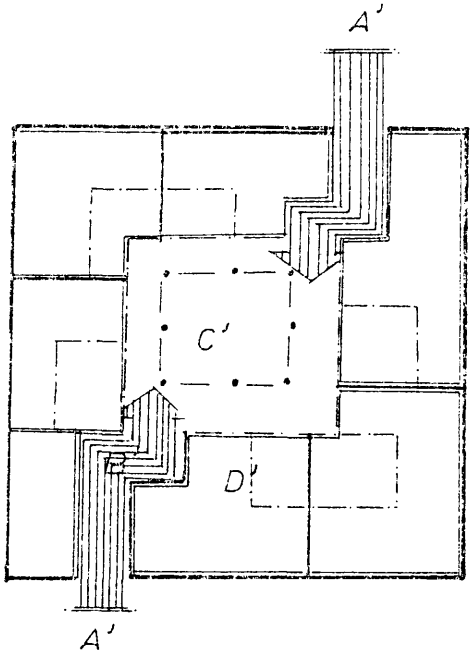
B INNER FILTER : The skiffa.

C PRIVATE COURTYARD The Wast ad dar.

D ROOMS and SERVICES.

HOUSE UNIT The 'DAR'

diagr. 1



A' : PUBLIC SPACE

B' : SPATIAL FILTER Transition

C' : COMMON OPEN SPACE. The Urban 'Wast ad dar'

D' Introverted house unit.

HOUSING UNIT : Groups of house units. Neighborhood.

diagr. 2

mention that the degree of introvertion naturally depends on the degree and nature of the likely intrusion.

SUCCESSION: for its role of intervening at the different levels that forms the urban network.

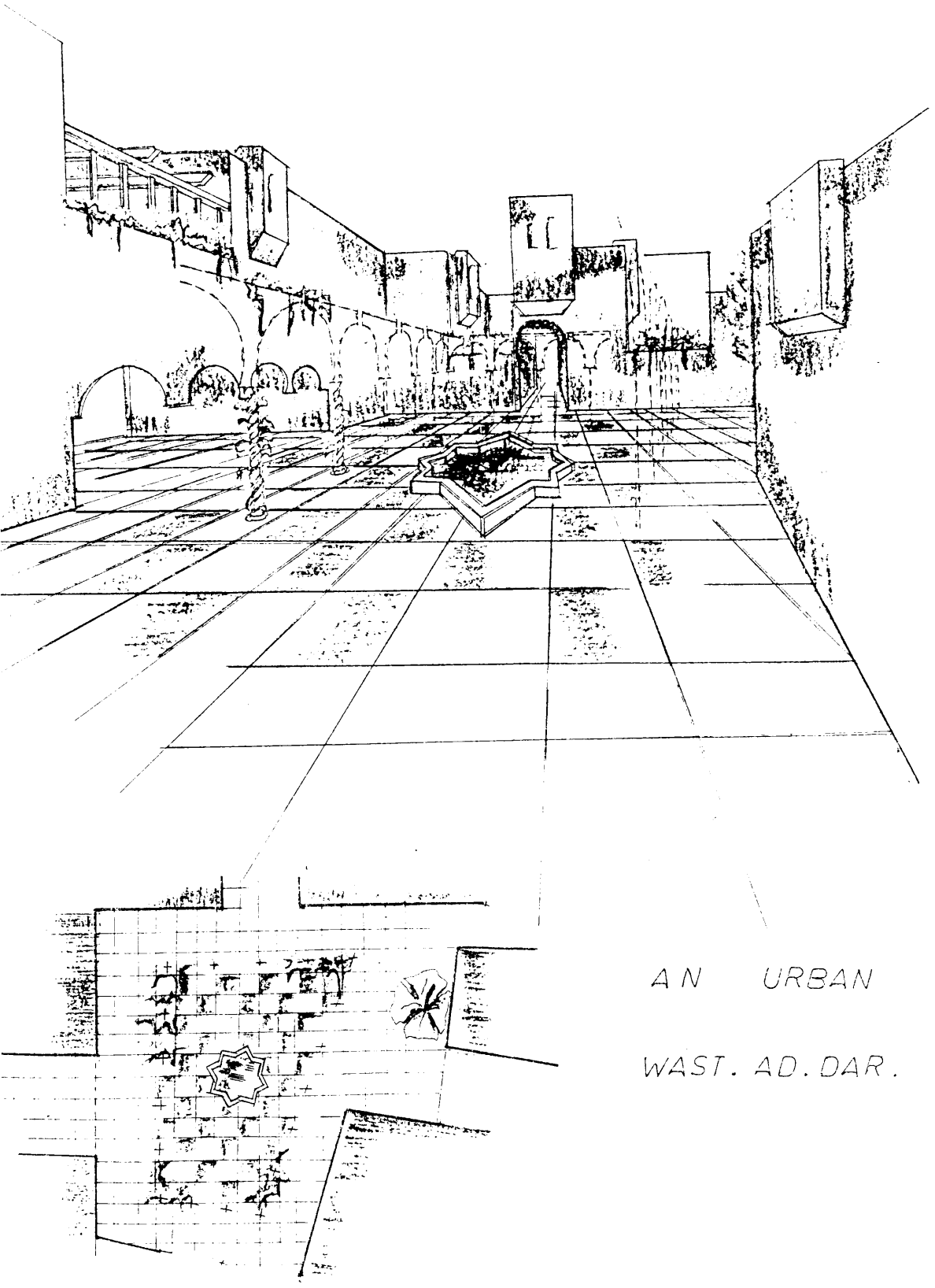
- the house unit (Plate no.20 diag)
- the neighbourhood
- urban level (Plate no.20 diag2)

As space B contributes bringing privacy to the family by filtering strangers into the private realm, space B will act in the same way but at a larger scale to bring privacy to the whole community. Keeping away any possible intrusion coming from A'. As space C (plate no. 20 diag. 1) constitutes the private 'wast-ad-dar' (literally meaning centre of home) similarly, C' (Plate no. 20 diag. 2) could be seen as the 'urban wast-ad-dar', for I believe that 'dar' (home) goes beyond the house unit envelope. D on the other hand is the individual introverted house unit; the court-yard unit.

The proposed organisation will therefore deal with two different levels of organisation:

. of the house unit in which it is defined by:

- rooms or services around an open space the courtyard (wast-ad-dar)
- protection of the wast-ad-dar through filter spaces



AN URBAN

WAST. AD. DAR.

(skiffas) from the outside world.

. of the neighbourhood or groups of units which is defined by,

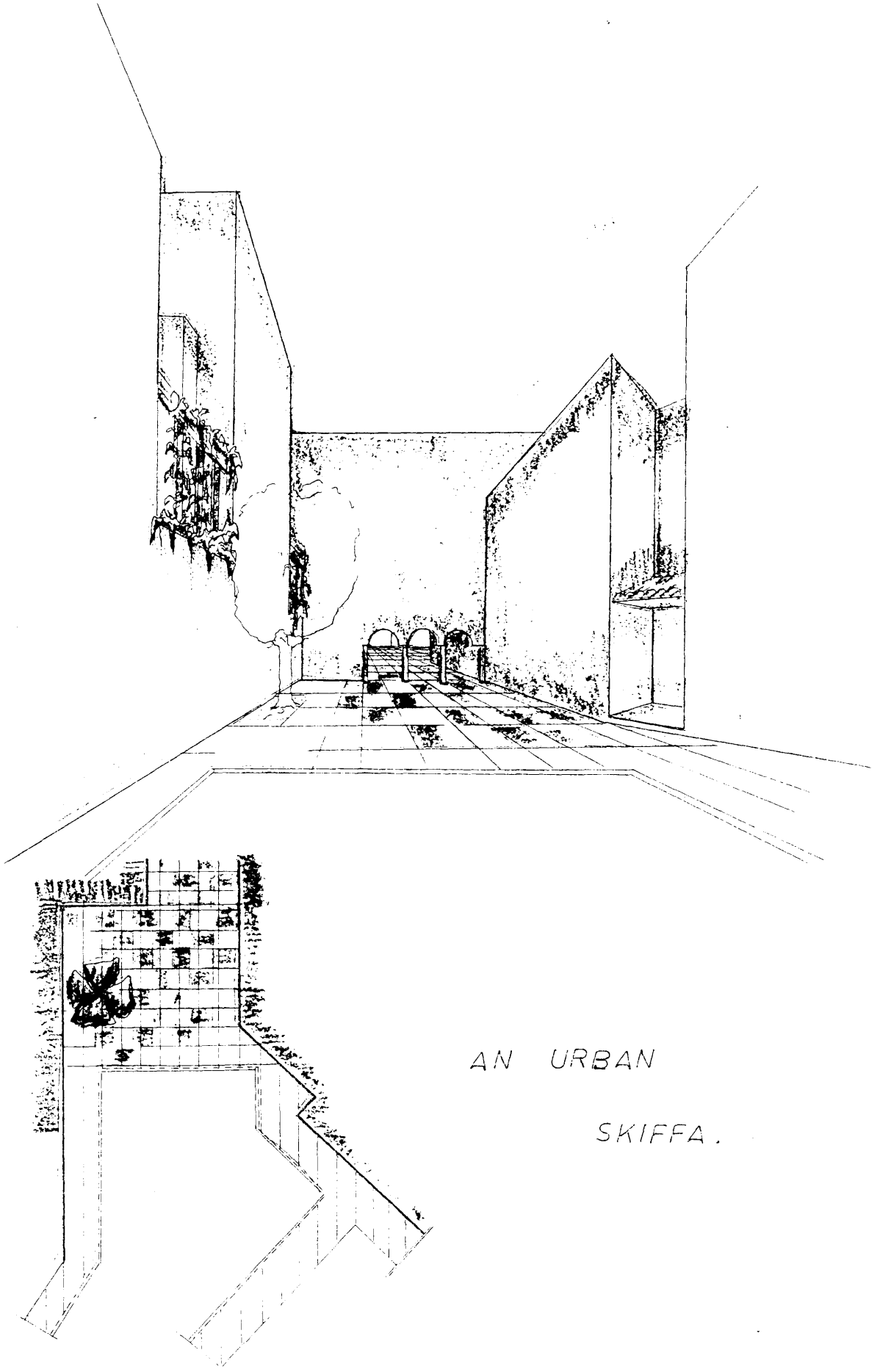
- dwellings around a semi public urban wast-ad-dar (urban courtyard)

Conclusion The 'Wast-ad-dar' Spirit

This extended use of the 'wast-ad-dar' courtyard spirit to different levels of the city where more or less larger courts, conceived for public use can provide safe and quiet areas for rest, children playing and neighbourhood meeting (when felt necessary).

A hierarchy of varied scales can develop in this 'wast-ad-dar' scale. They may also vary in character due to topography, their use and treatment as well. They may also be formal, inteimate or monumental. They may be part of small scale developments as well as large design projects.

This similarity drawn from the 'wast-ad-dar' spirit to stimulate the conception of an organisation can also be carried further. The spirit of the skiffa (filter from public to private) can be used for instance to deal with the intrusion of cars in residential areas. The 'urban wast-ad-dar' can therefore in this way branch off from both service roads and parking lots.



AN URBAN

SKIFFA.

It is also interesting to point out the prospect of such organisation in creating favourable conditions within housing environments as did the wast-ad-dar at a house unit level.

Further similarities can be drawn from the spirit of the 'wast-ad-dar' and be the subject of interesting researches once we have recognised the advantages of such organisations for creating a series of relatively private open spaces, i.e.
- private open 'wast-ad-dar' for the family
- provide a 'private' open space to the community

In this way and most importantly, this organisation provides the inhabitants with the choice of retaining in their private garden away from urban disturbances and at the same time to mix with the neighbouring community when needed and again keeping away for exterior disturbing environment and so on in the chain of spaces. It permits to be 'near and far' from the disturbance.

Finally, I would like to point out that in working on the three housing types on an actual site, the provision of the above described set of related spaces occurred with very little effort in the courtyard house example. Although one could 'force' such a system onto the other two types, they are not a 'natural by-product'.

In the context of housing being produced under pressure for speed and economy the use of the patio house would go

ENTRY POINTS.

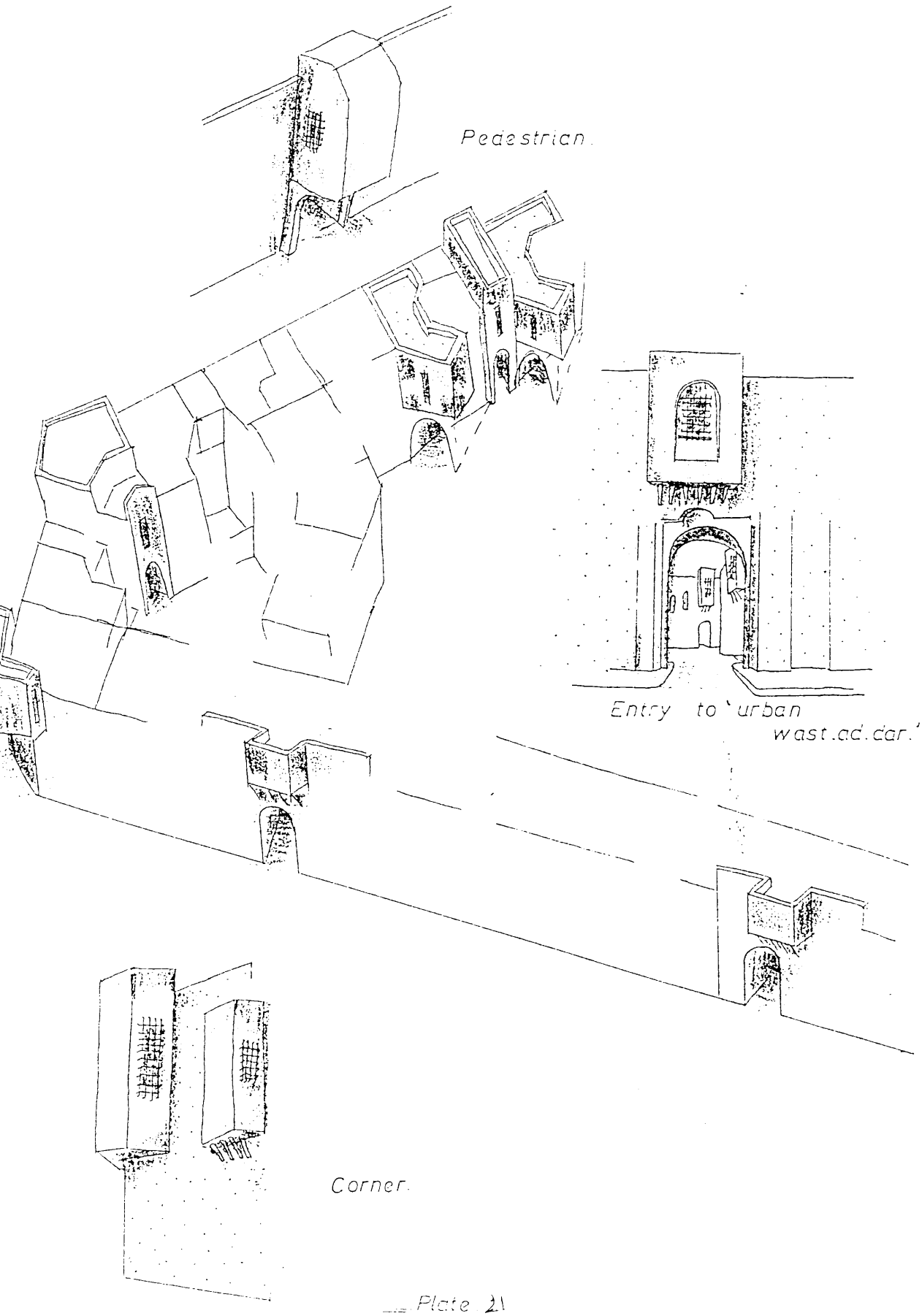


Plate 21

a long way towards a 'fail safe' system that would produce a human quality in our housing environments.

3.3.3 The Wast-ad-Dar (Patio) Spirit as a Design Tool

In housing environments, the outside space has always been considered as 'the immediate extension of the house'. In the context of my proposed 'succession of INTROVERTION' this comes out very clearly. 'Extension' in this proposed organisation is not only seen in a physical standpoint but in a conceptual way as well. These common spaces that form the immediate environment of the house, will therefore receive the extension of its spirit and significance as well.

Accordingly, major spaces of the house unit, those which form its inherent quality:
the entry door: Bab
the entry way: Skiffa
the patio: wast-ad-dar
are to be similarly found but at another scale within the outside spaces.

Therefore, this part of the study will be concerned with the use of this similarity in the design of both the house unit with its patio spirit and the outdoor space of semi-private or semi public. As the former contributed to the creation of family privacy, thelatter will contribute to

do so at the level of the community.

This, consequently, will presuppose the intervention in the design of:

1. The house unit with consideration to its readaptation to actual life style. (Plans of adapted units are produced in the contextual intervention.)

2. The design of theurban wast-ad-dar so that it fulfills its role of extension of the house unit.* I will therefore deal with important aspects of this idea. Issues such as the design of entries (doors or ways) to the cluster houses, of transitions; the so called urban skiffa, specifying its possible use, size etc...

This part of the chapter, comes therefore as a final step in my plea for the 'wast-ad-dar' (patio) spirit. It may therefore be considered as its final "mise a l'epreuve". To do so, having used the power of numbers as a convincing means, let us know use that of images. The present part is cconcerned to place the courtyard ytpe within the ordinary process of design.

I may add that my main concern is not to deal in detail with all the aspects of the project but to give an alternative to the issues of:

---

*An example of which is made on the chosen site

How can it be reinserted both into design and physical environments.

How can it take into account both the proposed organisation structure and the site characteristics (scale, orientation, access....)

3.3.3.a Testing on Site

Site Characteristics:

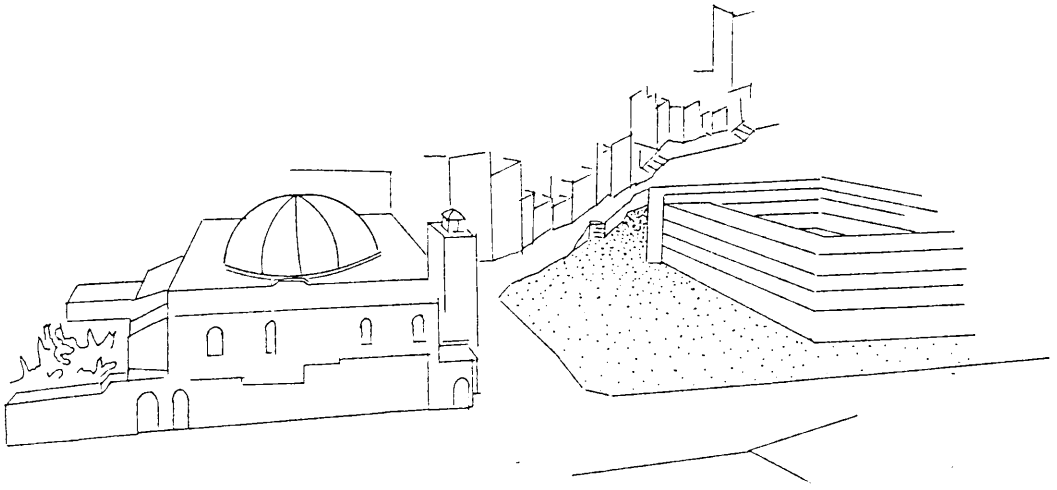
- The area is a typical left-over site sandwiched between the old town of the Casbah and the Colonial "Quartier de la Marine". It has an area of 1635m^2 and is bordered by an introverted public school and defined by two crossing streets of different character from each other.

- Lalarioum Street. Running S.W.
  It is mainly a pedestrian street (apart from the first 20m) which penetrates the Casbah. It is punctuated at its intersection with Bab-el-Oued Street by the Mosque of Ali Bitchin and small craft shops along its length.

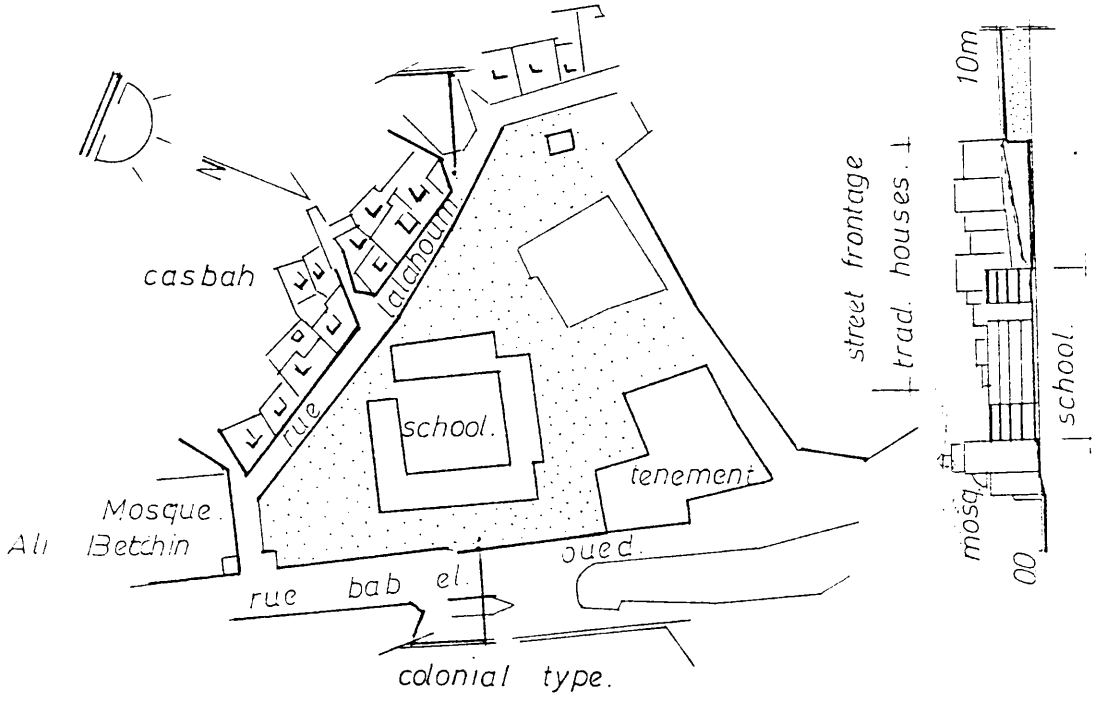
  The height of the buildings varies from one story to three but a continuity of 3 stories is kept.

- Bab-elOued Street: Running SE/NW.
  Both pedestrian and car traffic are allowed in this street and with a relatively slow flow. Its location at the fringe of the colonial area of "Quatier de la Marine" and its cohabitation with the traditional old Casbah give it a mixed character: a small scale colonial type.
  The height of the buildings go up to four stories high.

SITE CHARACTERISTICS.



View of the site.



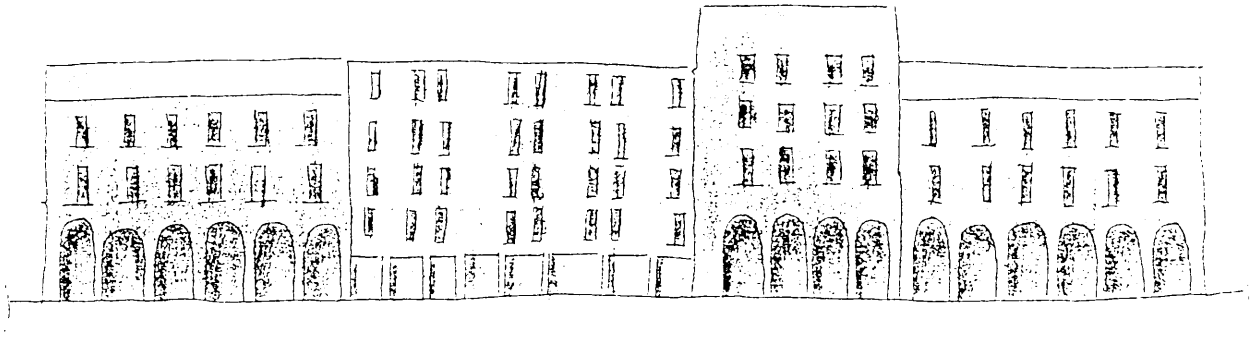
The site and its surrounding.

scale.

0 50m

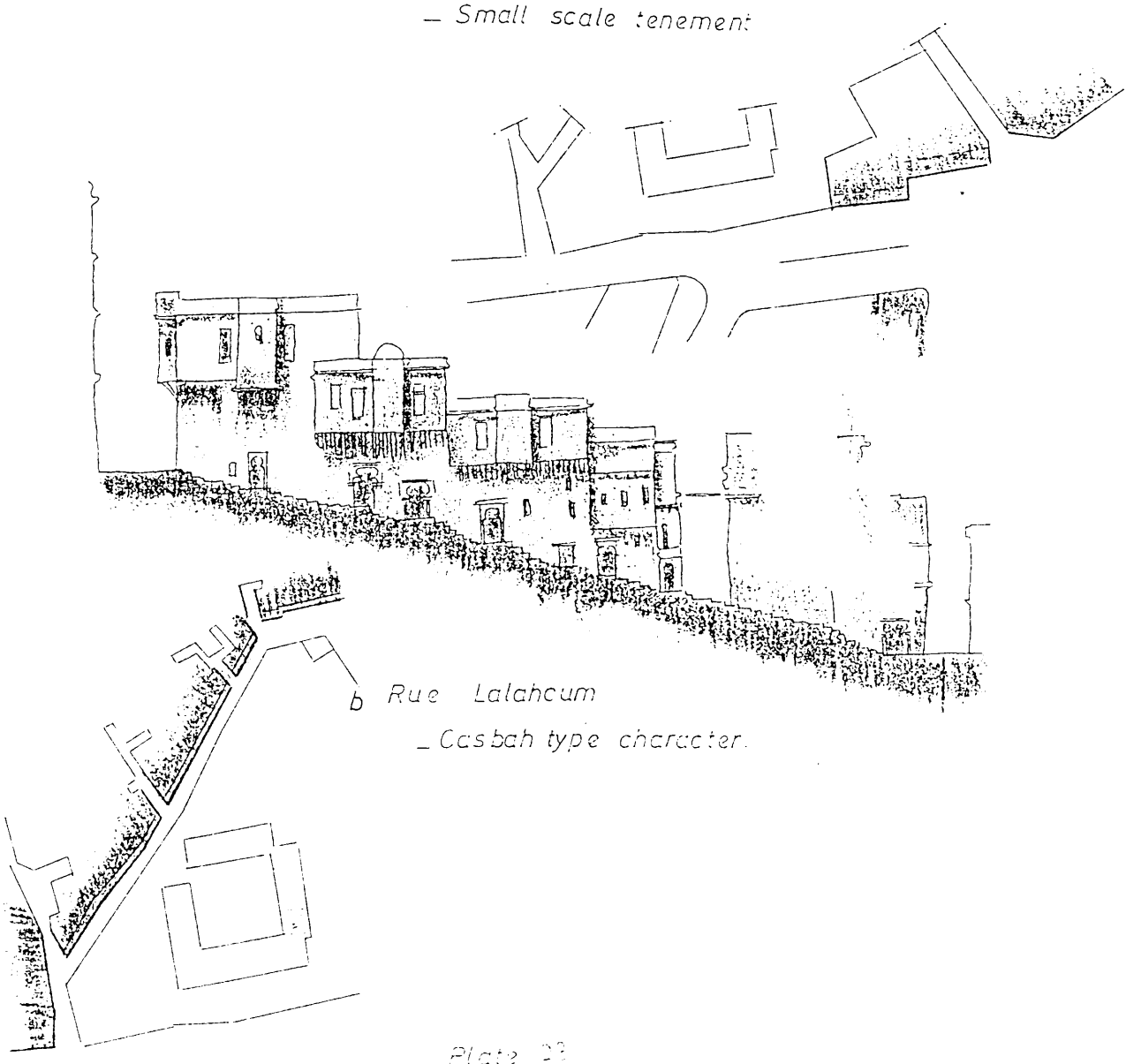
Contextual Testing.

SITE CHARACTER.



a Rue bab el oued

– Small scale tenement



b Rue Lalahcum

– Casbah type character.

Cell Design:

The design of the house units tries to respect the traditional spatial components such as:

- The 'Chicane' or bent entry preserving the privacy of the inner house
- The Courtyard: the provision of an outdoor space (private) for each unit is realised. This can be, either on ground floor or elevated when the ground floor of the unit is allocated to a commercial activity to keep the traditional character of the street.
- The roof terrace: defined as the complementary space of the courtyard is also provided to each house unit.

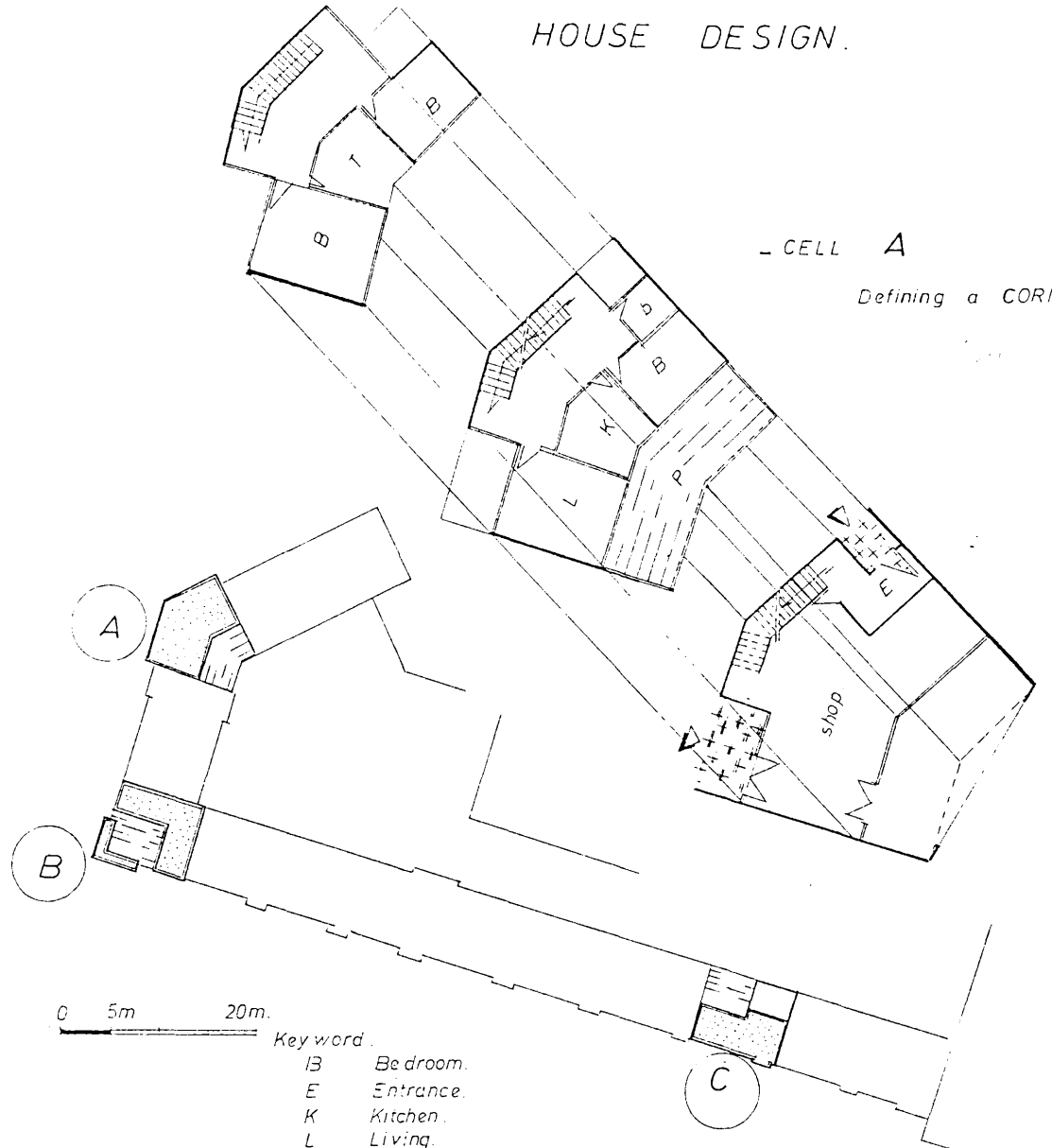
Spatial organisation:

Within the house, the rooms are organised to get light from the patio side.

On the ground level, a close relationship of both the living space and the kitchen is ensured.

- On the upper levels the bedrooms are located to preserve them from the activity of theliving areas of the ground floor.
- In order to preserve the privacy of the family, the courtyards are turned towards the common courtyard (inner space).

HOUSE DESIGN.



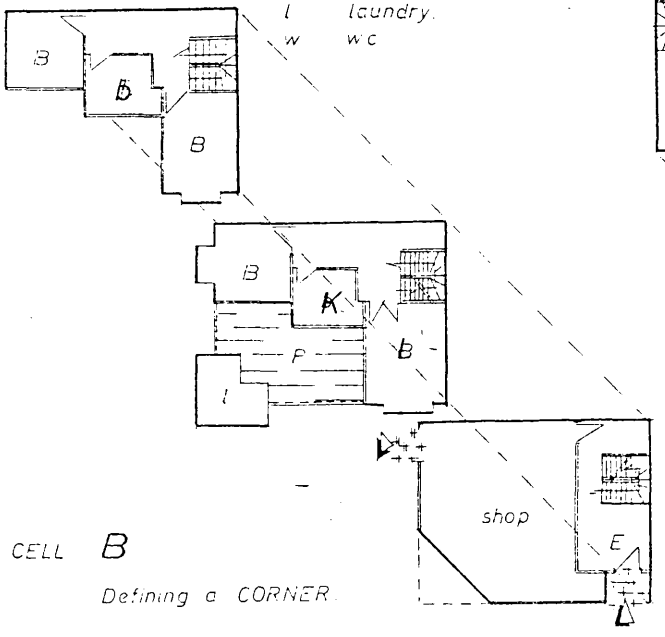
– CELL A

Defining a CORNER

0 5m 20m.

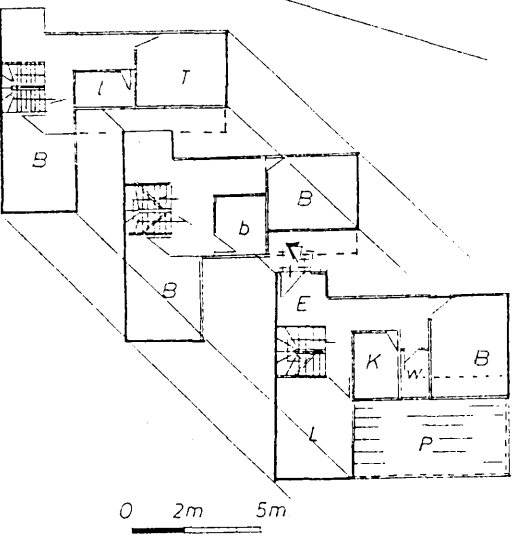
Key word.

B	Bedroom.
E	Entrance.
K	Kitchen.
L	Living.
P	Patio.
b	bath.
l	laundry.
w	w.c



– CELL B

Defining a CORNER



0 2m 5m

– CELL C

Defining the STREET

These principles to which the house unit has to respond may predict an overall monotony. But then, in order to avoid this, the house units are purposely submitted to be shaped by the context they set in.

Consequently, three forms of units result from three different physical situations:

- A house unit defining a street
- A house unit defining a corner
- A house unit defining an entry point

For each unit, a plot area is maintained as much as possible to a (9m x 7m) unit and a total usable space per unit to $125m^2$. Some exceptions occur though for the corner units with $116m^2$.
But, as discussed previously, social conditions have changed the courtyard house.

Consequently, the designed cells are conceived to accommodate the Algerian standard family of 6 persons (parents and 4 children). This naturally makes the production of a closed courtyard impossible. Partial enclosure is however sought as much as possible. That is the reason why in most of the cases, the L shaped house unit is adopted and the courtyard is closed by the blank walls of the other houses.

Housing Design

As important as the family privacy, the privacy of the community has been also considered. The provision of what has been previously (P,) called 'Urban Wast-ad-dar' and which may be here called 'neighbourhood wast-ad-dar' spatially shows this concern.

Consequently, a particular attention has been given to the question of clearly defined spaces, i.e.: entry points, filtrating spaces, central spaces (common). (See diag. P.)

The units are then arranged to create on the one hand the public realm: the street with its linearity and, the semi-public realm: the 'neighbourhood wast-ad-dar' and its centrality.

Access from the public areas to the housing area is provided:
From Lalohoum Street, covered pedestrian 3m wide ways permit access to the central space without disrupting its enclosure.
From Bab-el-Oued Street vehicular entrances to the cluster are located for both residents, emergency traffic and collection of any kind (furniture rubbish....) Within the area the width of 5m is given to the inner lanes.

Parking on the other hand is provided for each house unit and kept at the fringe of the central space in order to avoid its disturbance. The relatively small distance from house to car park space (15 - 20m) permits surveillance.

In terms of sun protection for a day of maximum heat 21 June 12 noon, a minimum of 50% of the patio area has to be ensured in order to make its use possible. (See fig.).

The continuity of the street line, permits a continuous shading of the pedestrian walkways. The protection of the central space and parking can be realised by the planting of trees and the use of pergolas.

As small as this intervention can be, it outlines the potentialities of the courtyard unit to achieve what on a small and unshaped piece of land would be difficult to achieve using other types, tenement, point block. Assessed the layout, achieved a density of about 100 dwellings per house.

GENERAL CONCLUSION

'Our context is of Crisis, of shortage, a difficult situation to deal with - a context within which no waste is affordable'. If this may justify the widespread use of the tower block as an alternative to the situation I would then add; less affordable is the price of social consequence over decision makers.

> "To take the alternative to design one house and multiply it my a thousand, as a road engineer designs a section of road and unrolls it for any number of miles is to betray his profession to sacrifice the artistic nature of a house to money and to abandon its own integrity." 1

The value of buildings lies in their capacity as buildings to generate the city and the life that is acted out inside it, mainly governed by the urgent need to answer a rapidly growing demand, urbanism has ignored this reality. Decisions about urban form are being made every day without any reference to either their physical or social consequences, therefore breaking with the typological continuity.

My position here was an attempt to remind all those concerned with the shaping of our environment that there are in our grounds, deeply rooted resources waiting to be dug. I therefore would like my contribution to be seen as a start rather than an end. A claim for change rather than a critical approach to housing forms.

HHistory has showed that Mesopotamia the Middle East, India,

Japan, China, Latin America, South and South Western United States and the Mediterranean, including Algeria, all have shared the same house type at one time or another. It sustained lives of various cultures and societies and dealt with extremely varied climatic conditions always proving its efficiencies of adaptability. It is therefore paradoxical that it has today ceased to be where it originally belongs to. Loaded with our cultural and social values, the wast-ad-dar type house needs therefore to be rediscovered, but then not out of nostalgia, but out of a genuine recognition of all its potentialities both inherent and for change.

By re-examining the type and presenting what was already there, we see its qualities of privacy preservation and climatic comfort creator. In addition, its land use efficiency within urban residential areas and its resistance to degredation.

Even when balanced with what has become the norm in urban residential design, i.e. the point block it has proved to be highly competitive in terms of density and land use.

In other words, the courtyard type is not just an adequate type, it is also a competive form and can be (must be I believe) a worthwhile design tool. Its qualities are revealing and its prospects for improvement in our environmental context unquantifiable. It can then in this

way open new horizons to deal with the housing crisis. So why don't we take this change and take it as an opportunity to a genuine 'innovation' which will naturally contribute to remaking the typological continuity by reinserting the wast-ad-dar (courtyard unit) back to our context.

Once the courtyard type is accepted as valuable housing unit in Algeria, further research should follow. This would include:

a. The privacy aspect, which could be considered in detail i.e. about which distance can we justify and what effect does height and angle between windows have.
b. The questions 4 and 5 mentioned on the summary page.

Indeed the courtyard type unit is a valuable typological patrimony that embodies a whole pattern of qualities determining of comfort and well being within our housing environments. Claiming for its revival would not therefore be utopian but indeed a wise enterprise.

The Courtyard's Prospects

Now that we have concluded on the potential of the courtyard unit in creating quality conditions (in or out of the house units), we can now, in order to raise more interest towards this type and its resources, extend the conclusion and cover its prospects as well within the context of the housing crisis of Algeria.

How then can this type contribute to win the battle against the present situation:

- It can be part of private or public housing development (policies).
- Be the product of industrialisation in order to deal with the issue of speed of building
- By considering its extendable characteristics, by expanding with the family, it can slow the demand.

On the other hand, in order to deal with land shortage,

- can be adapted to any kind of land (hilly or flat) and on any shape of site (regular or not)
- achieves high densities
- can be part of a small scale project inserted within urban renewal projects.

In terms of economy it contributes by,

- being energy efficient both at the house unit level and the whole complex
- An interesting way of decreasing government expenditure for building maintenance

These are then some of the prospectives this type could help dealing with if introduced within the housing options. Any of these aspects (surely there are more) can stimulate research and be open to investigation.

This was my plea for a courtyard house. If it reaches realisation I will then hope to see its physical reinsertion follow.

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