TRANSFORMATION OF TRADITIONAL DESIGN CONCEPTS

INTO CONTEMPORARY ARCHITECTURE

by

ORUC CAKMAKLI

B. Arch., Istanbul Technical University, Istanbul, 1976

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Submitted to the Department of Architecture, Massachusetts Institute of Technology, February 1983, in partial fulfillment of the requirements for the Master of Science in Architecture Studies degree.

ABSTRACT

The primary aim of this thesis is to explore the design concepts of traditional architecture in Anamur, Turkey, and to make an attempt to incorporate the design patterns extracted from traditional houses into contemporary architecture. First, the traditional and contemporary architectural concepts and their present conditions are explained briefly in relation to the country and the town. Second, the case-study of Anamur's traditional houses is introduced with their measured drawings. Third, an attempt is made to extract the design patterns of three traditional houses, and fourth, an experiment is made to generate a house of both traditional and contemporary concepts.

Thesis Supervisor: Eric Dluhosch
Title: Associate Professor of Building Technology

To Nil

ACKNOWLEDGMENT

My deepest gratitude to Dr. Eric Dluhosch, my advisor on this thesis, for his patient guidance throughout the past two years, and most importantly for his and his wife Katy's wonderful friendship.

I will always be indebted to Mr. Edgar Sather, without whose help with the typing and editing this work would have been far less expressive.

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I would like to thank "Mevlut" and "Candas" for their moral support during difficult times, Fernando and Moustafa, "my roommates," whose companionship saw me through the final stages of work, "Chi" and "Gwinn," for their significant contributions, and a little thank you for my good friend Moustafa Mourad whose contribution is still a little vague at this point (to me and to him).

I would also like to thank Jane and Mark, Marilyn and Semih, for their warm friendship.

I also would like to express my appreciation to my friends in the S.M.Arch.S. program for their companionship.

Omer Akin, whom I met years ago helped to shape my mind and to develop my interest in architecture, "Thank you, Omer."

Last but not one bit least, my thanks go to my family at home whose initial support made this work possible in the first place.

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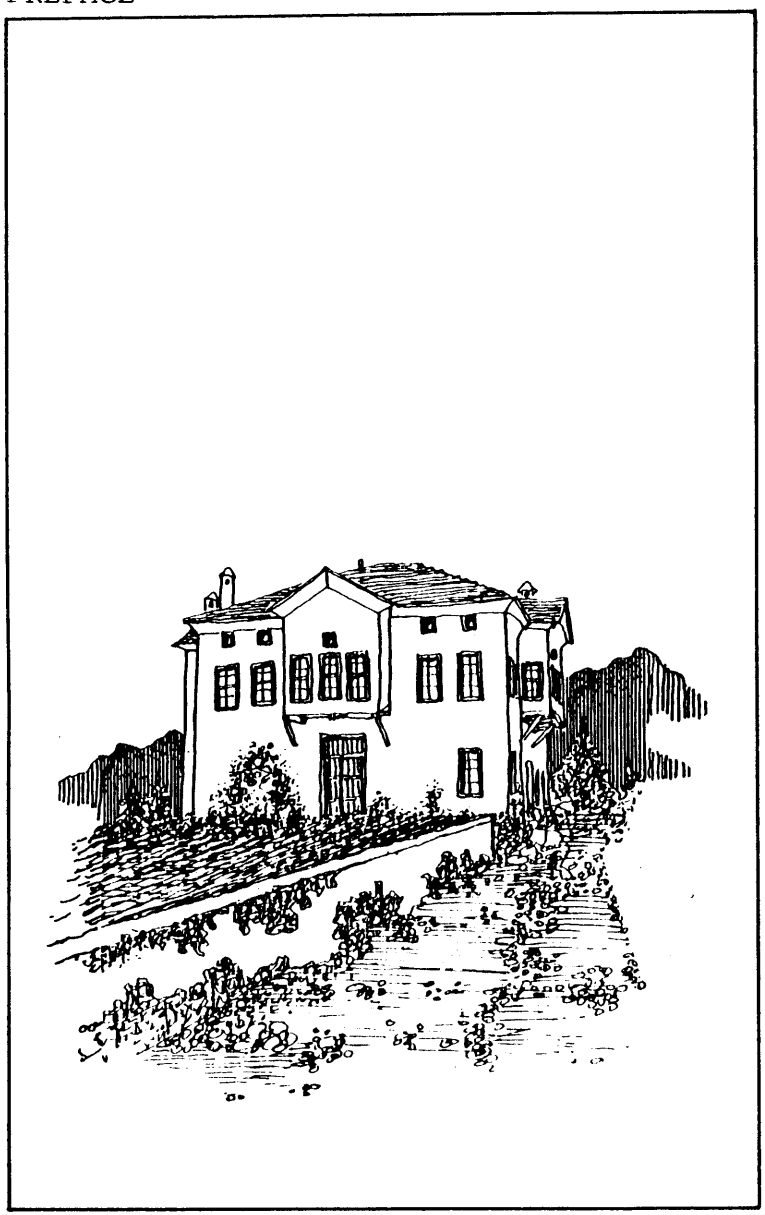
PREFACE



I have always loved drawing as a means of visual communication. This love for drawing led me along a path that motivated me to become an architectural student. I studied architecture and finally became an architect.

It was nice to be known as an "architect", but after a short period of time I started asking myself, "What do I do now?" The answer to this question was to use the six years of knowledge I had gained as a student of architecture. I took this knowledge and went to work for someone else at a job that did not teach me anything new. My only task was to ink other peoples' ideas onto tracing paper. I gained nothing from doing this and soon gave it up.

There was one other alternative: to go back to school. I did this and so now I am in a Master's program, looking forward to becoming a person specialized in the design concepts of traditional

architecture to be implemented in contemporary architecture. I hope this study will enable me to ink for myself, to teach and to share my ideas with others.

I first became aware of the complexities of the architectural profession when I started studying at the School of Architecture at the Istanbul Technical University. There, knowledge was transmitted through a variety of channels: drawing, painting, sculpture, engineering, history. On the one hand, all of these disciplines helped me to realize that architecture is a very complex issue to deal with, because of its interrelation with other fields. (Figure 2) On the other hand, I also realized that the use of this combined knowledge differs from person to person, from culture to culture, from era to era; thus, the architecture of our world shows us great diversity in terms of how pieces are put together to build

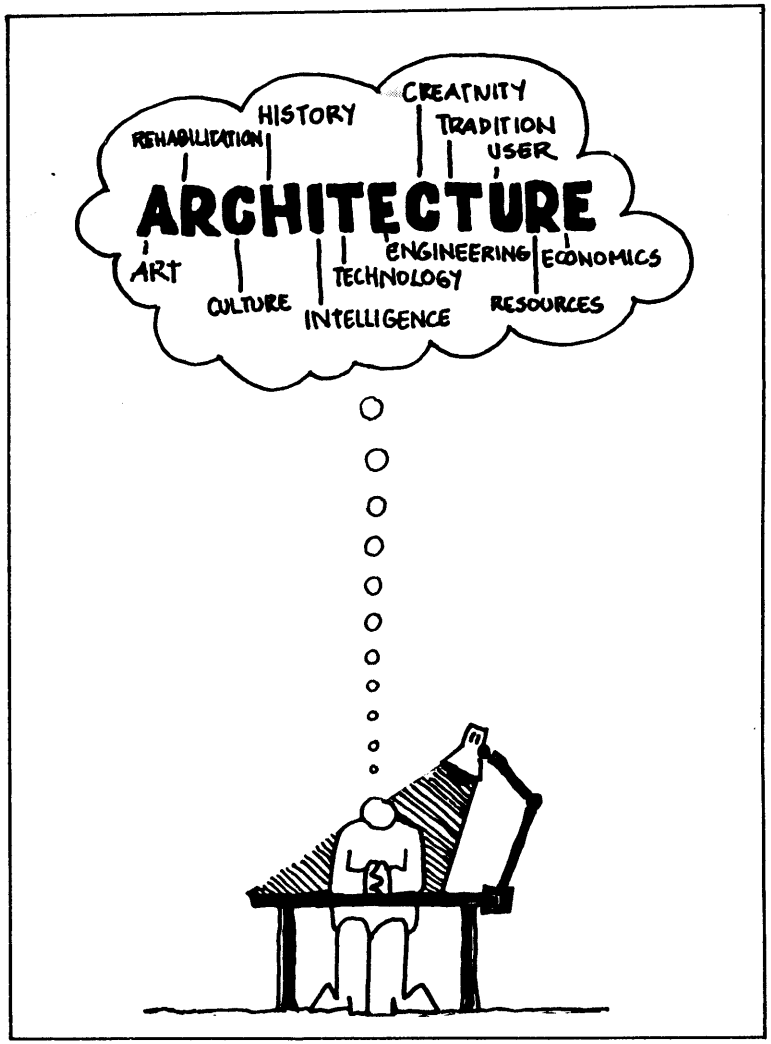


Figure 2
Architecture is a complex issue because of the other interrelated fields.

even a simple structure. (Figure 3)

Human beings combine the same materials differently, creating under the influence of their backgrounds and prior knowledge.

Figure 3 shows the same material, stone, put together in different ways to form the same object, a simple shelter. This sort of arrangement of material in our built environment helps us understand the characteristics of people's way of thinking about architecture.

Having briefly explained what architecture is in my mind, let me introduce my thesis title and explain how my interests in architecture are linked to it. My thesis title is:

> TRANSFORMATION OF TRADITIONAL DESIGN CONCEPTS INTO CONTEMPORARY ARCHITECTURE.

The development of this thesis evolved in my mind in four major steps:

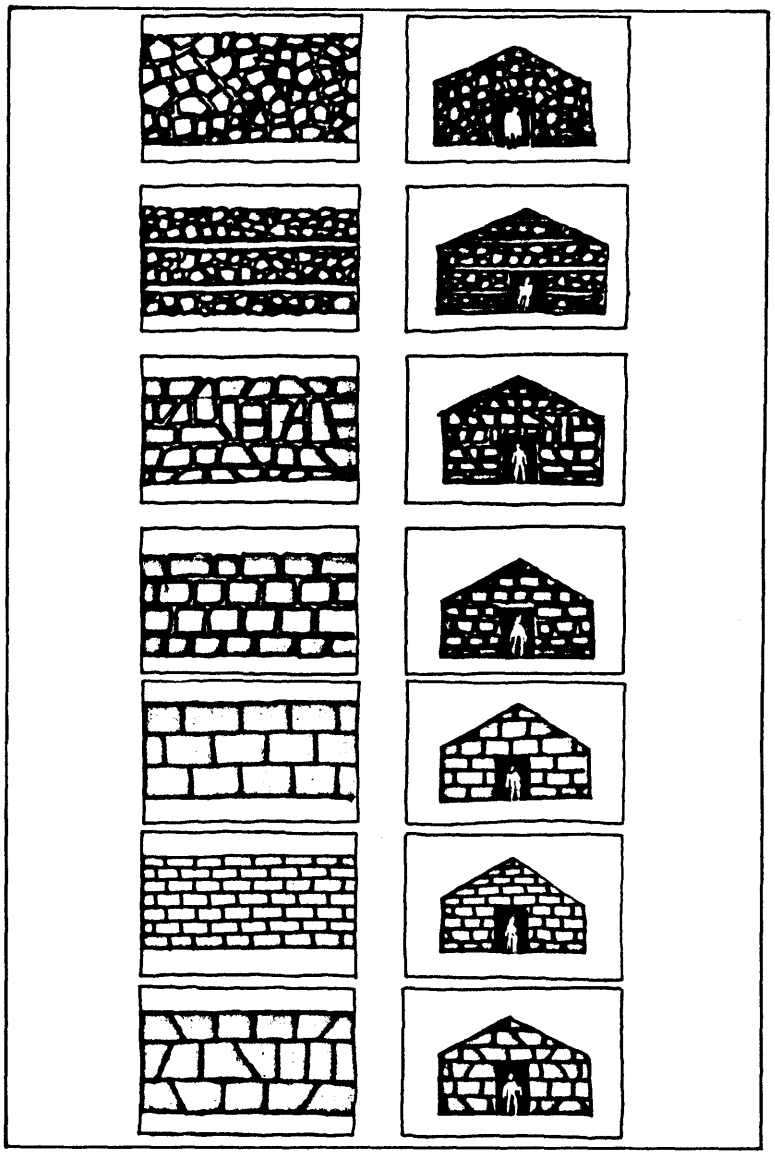


Figure 3

First, I grew up in environments like Istanbul where traditional and contemporary buildings exist side by side, demonstrating simultaneously the characteristics of old and new. In terms of interior plans and exterior facade arrangements, it was visually and conceptually very clear to me that insofar as housing is concerned, there was neither harmony nor continuity; in short, there was a sharp collision between traditional and contemporary building types. This situation seemed problematic to me and raised serious doubts in my mind about contemporary design concepts. I was thereby motivated to delve deeply into the design concepts of traditional architecture to see if there are vital principles to be discovered and to be used in contemporary architecture.

The built environment I refer to is similar to that illustrated in Figure 4 in which there is no interrelation between the elements of traditional and contemporary architecture.

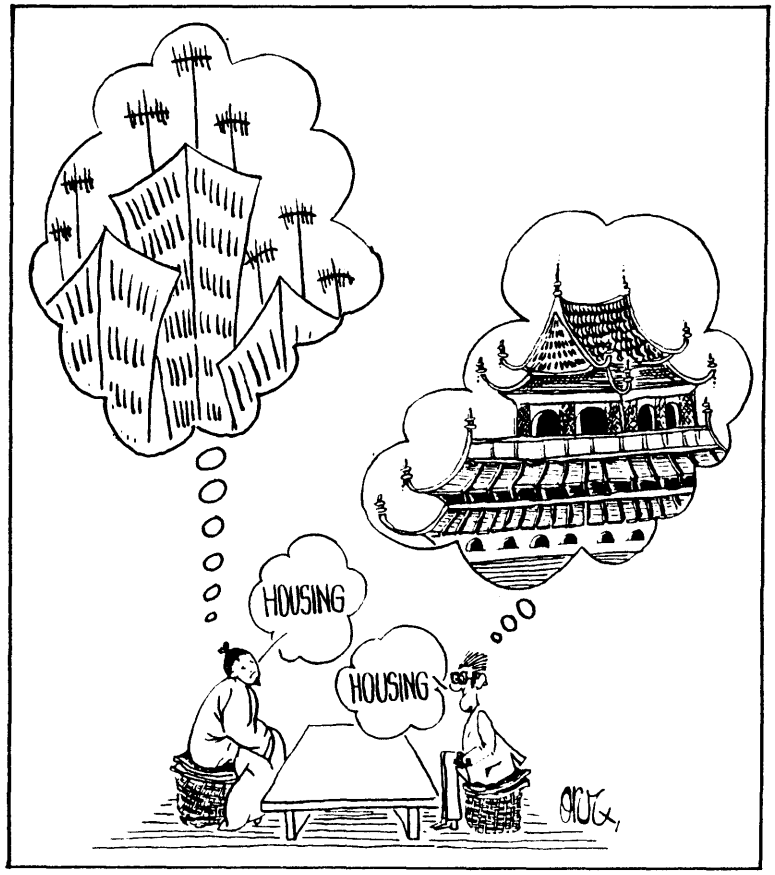
Figure 4

Second, having taken courses in Ottoman and Turkish architecture at the School of Architecture at Istanbul Technical University, I became aware of the qualities of our traditional architecture. Also, a field study trip (a complementary part of the course in Ottoman-Turkish architecture) to three cities in Turkey - Bursa, Iznik and

Edirne - helped me understand that architecture of the past can be an immense source of present architectural inspiration. During this trip I also observed that the variation of traditional house designs was extremely rich: the environment I saw was the profound reflection of the past technological, cultural and social aspects of the society. On the other hand, the contemporary housing structures I saw in these cities were familiar cubic interpretations of Western architecture without any regard for the traditional built environment.

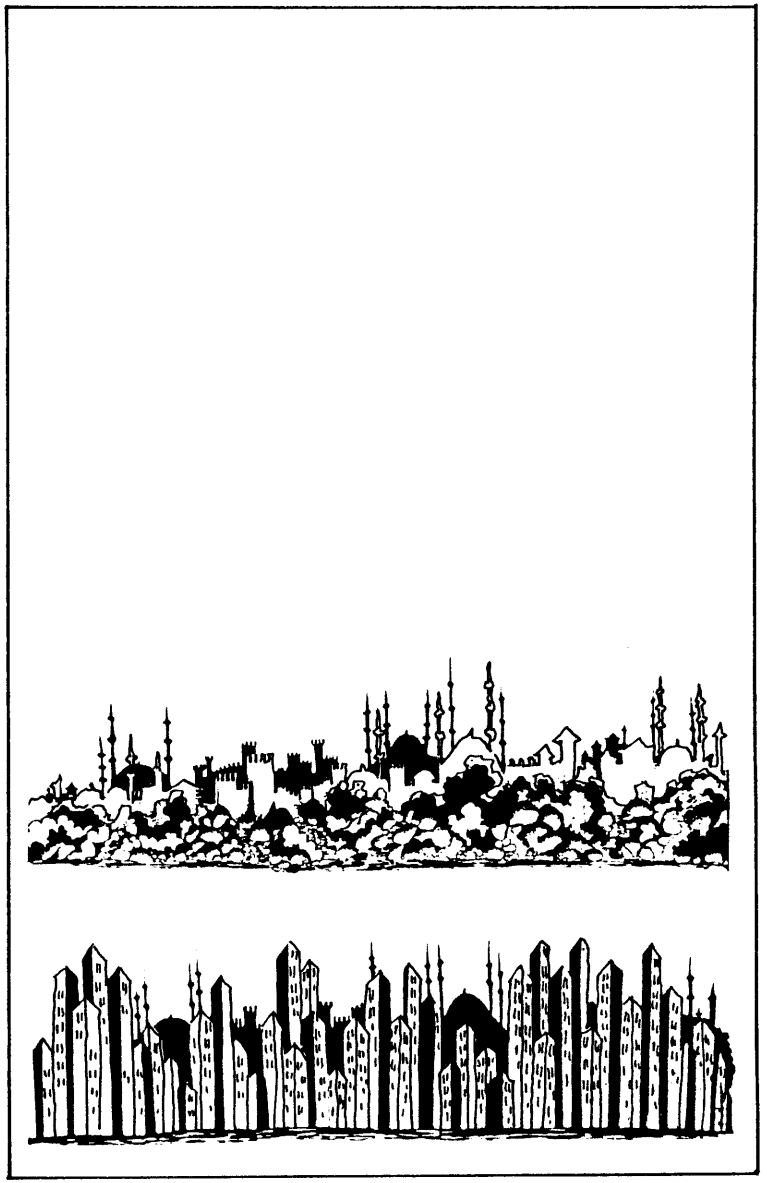
Third, during my undergraduate years I became interested in drawing cartoons to illustrate the gap between traditional and contemporary architecture. The built environment I lived in was congested and deteriorated by contemporary modern buildings. Therefore, the cartoons I drew were basically a depiction of my concern about this issue.

The following cartoon depicts my belief that "the present aspirations of architects can be at odds with those ordinary people who have come to see tall urban structures as symbols of progress!" (1)



Fourth, a grant from the Aga Khan program at MIT for the purpose of studying traditional houses in Anamur, Turkey, helped me to understand the issue from a much closer perspective. During my observation in Anamur, I saw evidence of the problem concerning me: a deteriorated built environment caused by misinterpreted contemporary building implementations. The situation was exactly the same as in other cities in Turkey: the replacement of traditional houses by contemporary buildings with no consideration for the quality of historical environment and no respect for the traditional housing stock of the town.

I have outlined the basic steps that influenced me to choose this issue for my thesis. I believe that there are living patterns in those traditional houses that can be adapted very well to contemporary design concepts in order to allow for a more humane environment,



both socially and technically.

We should strive to extract from old examples the good patterns they can offer and should make use of them in a coherent and sensitive manner, instead of just "turning the pages" of the past and attempting to come up with so-called revolutionary ideas.

METHODOLOGY

The aim of this thesis is to explore the design concepts of the traditional architecture in order to find a design pattern which can be incorporated into the contemporary architecture of Anamur.

The materials chosen for this exploration are the traditional and contemporary houses of Anamur.

I have measured three traditional houses in terms of interior plan and exterior facade arrangements. In addition, I took photographs of other traditional houses to document the actual situation accurately. (The measured drawings and the photographs will be introduced in the case-study section).

In order to convey my idea, a set of design patterns extracted from traditional houses will be shown in the observation section. In the implementation section an attempt is made to use the traditional design patterns in a new implemented modern house in order to find the degree of adaptability of traditional design concepts into contemporary architecture.

ANKARA

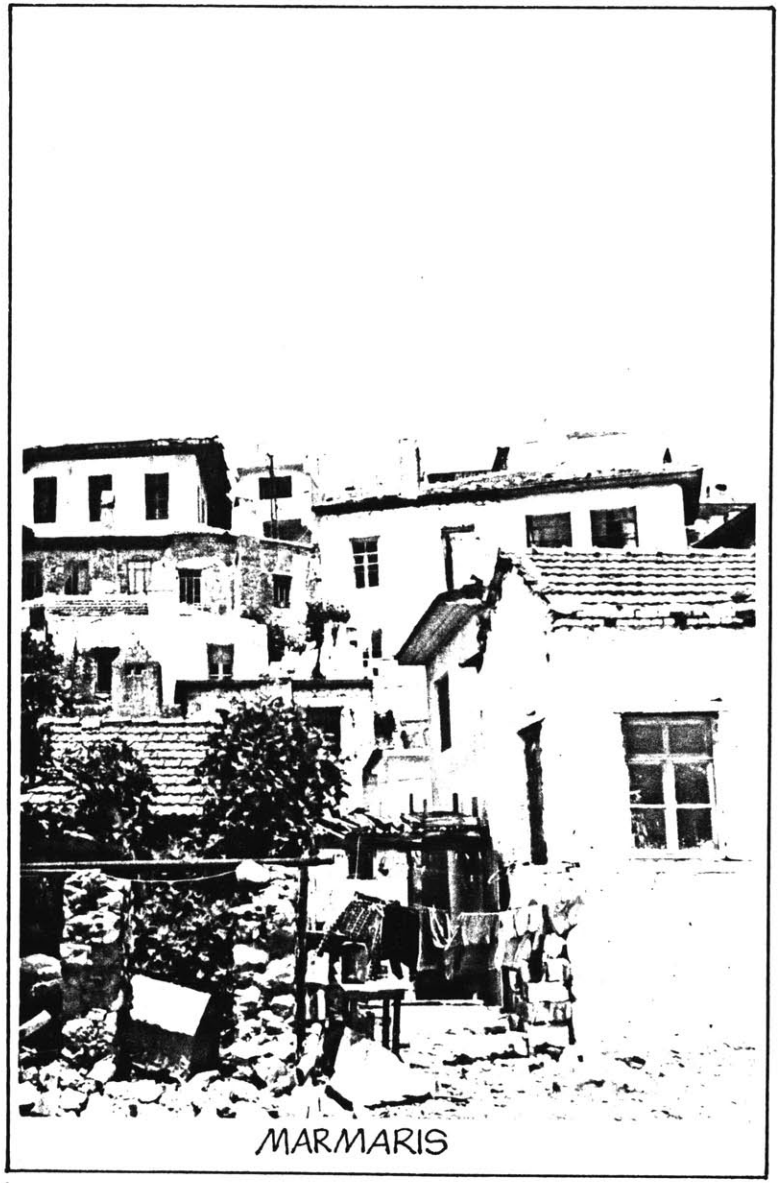
"There is something wrong with our cities and villages today. It is not merely that they have become surpassingly ugly, but that, in spite of recent technical advances and the highly expert work that our town planners and architects are putting into town and village planning and architectural design, every single building manages to increase that ugliness, and every attempt to remedy the situation only underlines the ugliness more heavily." (1)

All over the world, but especially in developing countries, rapid industrialization and urbanization have caused unexpected and often detrimental social changes such as debilitating living conditions, inappropriate dwelling standards, and congested, deteriorated built environments. Migrants from rural areas have flooded into the cities with hopes of finding better jobs and more decent living conditions than they left behind. But where and in what are these migrants to find shelter!

Neither governments nor city officials have been prepared to respond to this movement. When housing shortages began to appear, the authorities responsible for dealing with the problem introduced the latest design concepts, materials and techniques used in the West, in order to fulfill the large number of housing needs.

> "Traditional architecture has been discarded since the appearance of Western design and technology in the beginning of this century. As in the case of area planning, it has proved a mistake to discard a long-established tradition, and a more serious study of old buildings should be carried out, as regards both design and materials, for the benefit of low-income families." (2)

The attempted results have been unsuitable to local conditions in developing countries because the transferred technology and the imported concepts are, indeed, more appropriate to Western cultures and environments than to Eastern ones. Furthermore, the


MARMARIS

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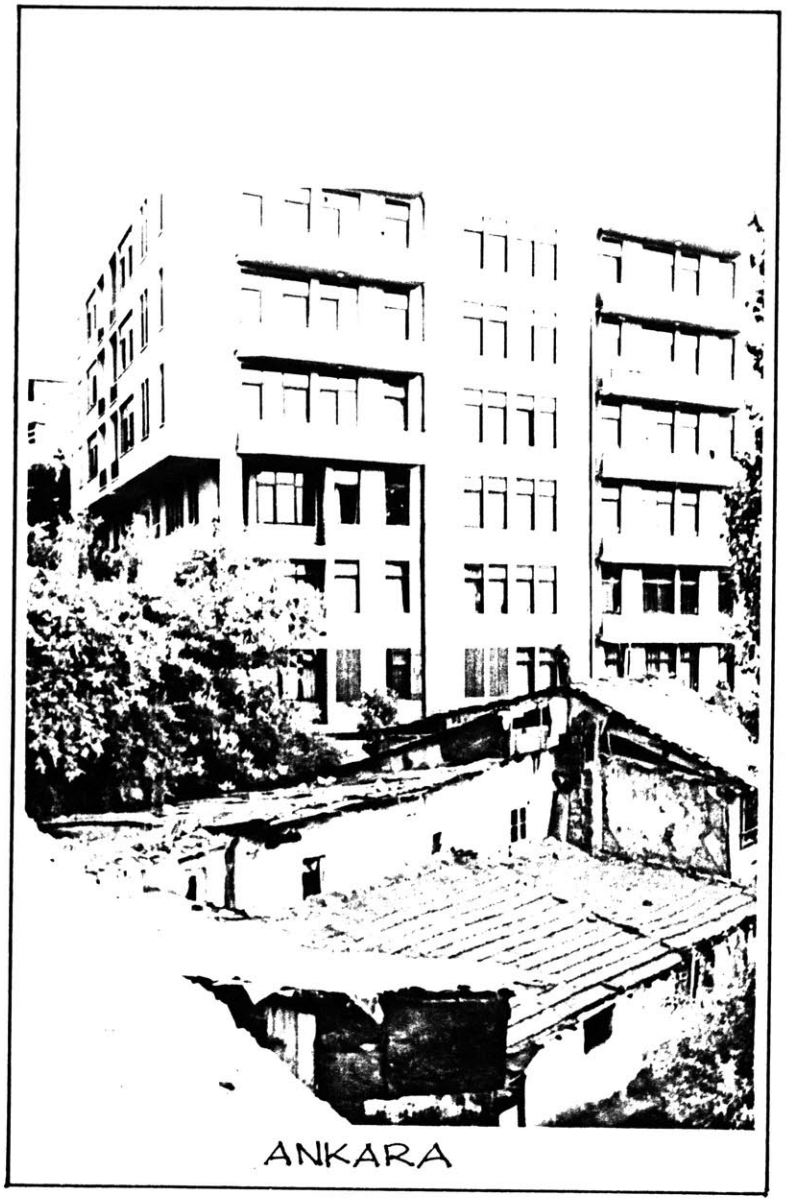
mindless process of copying these new concepts without any change has created inappropriate results with respect to the countries' long-standing social, cultural and environmental values. The most visible example of this conflicting approach is the destruction of the old by the new. Professor Kuban states:

> "It was much less destructive in the West than in our countries. The simple reason for this is that the West did not feel the necessity for Westernization. Westernization for us was synonymous with industrialization and modernization. In the West these were the natural outcome of their history. There was no discontinuity, neither conflict of values similar to ours. In their cities the old was not destroyed because of obsolete symbolism, but more for economic reasons. And comparatively, they destroyed less." (3)

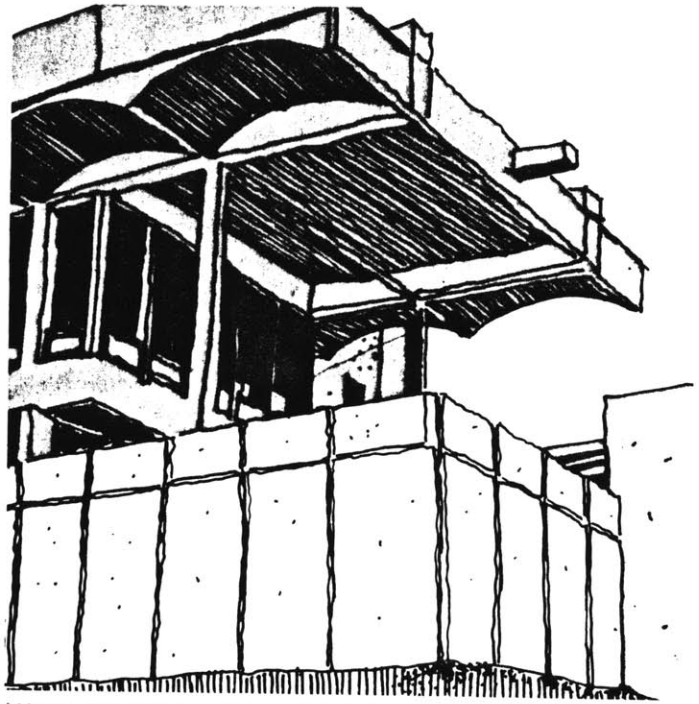
For example, many small and large towns in Turkey faced the disappearance of the traditional landscape with the implementations of contemporary architecture.



ANKARA

In terms of the number of housing units built in Turkey, one might say that the result was successful because thousands of people have been housed in a short period of time. But, however, in terms of the overall qualities of the houses, the general result is negative; they lack the appropriate design solutions to meet both the user requirements and environmental characteristics. The reason for this is that neither the social and cultural background of the people nor the environmental characteristics were given enough importance during the designing process of these houses.

There have been, however, some successful realizations of contemporary housing showing the elements of traditional architectural characteristics. For example, the buildings of Sedat Hakki Eldem reflect the spirit of traditional architecture in a contemporary sense. As a designer, he

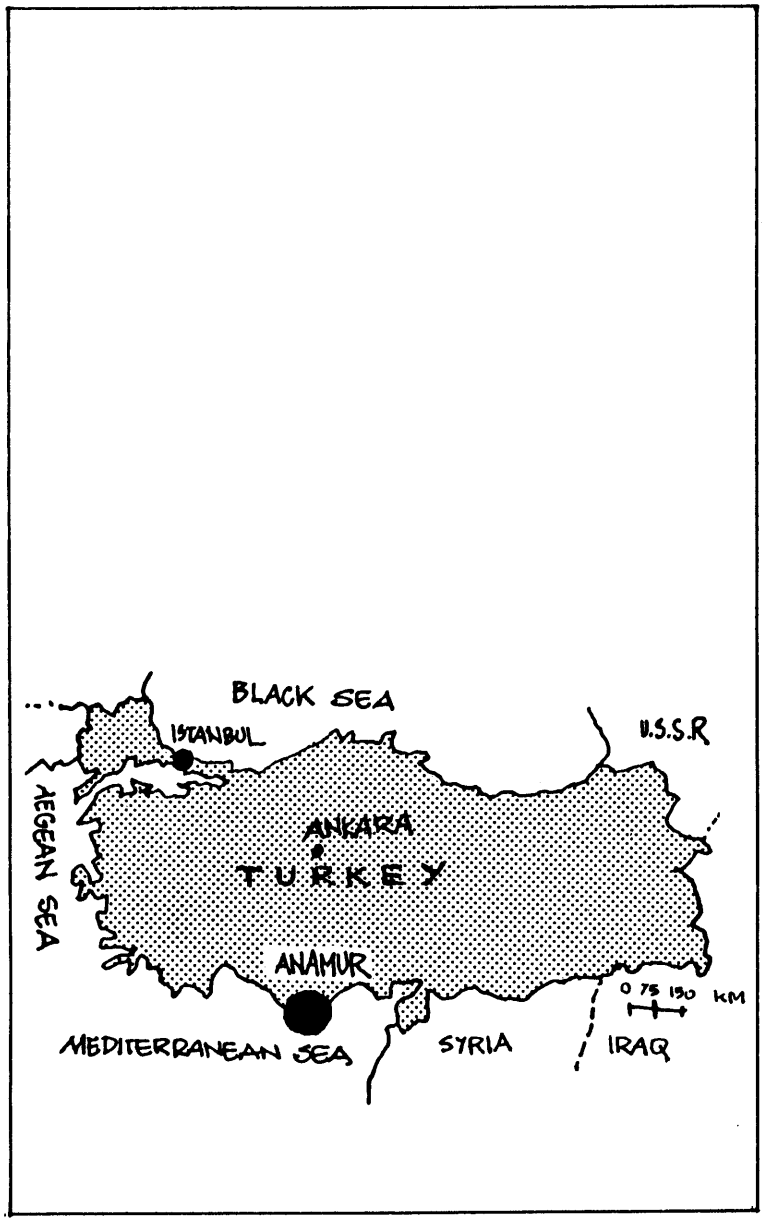


EMBASSY OF PAKISTAN-ANKARA
By Sedat Hakki Eldem

interprets the features of traditional houses harmoniously and sensitively, thus revealing the combination of old and new concepts. In other words, his implementations are an effort to establish continuity between the past and the present, based on the cultural and environmental characteristics of a given city and nation.

However, the fact of the matter is that such realizations are few in number and few architects implement them, and in only a few cities. I believe that if the underlying principles of traditional houses are analyzed carefully, and the findings from this analysis are considered while the new houses are being designed, the result will enable us to see a continuing environment integrating the features of traditional design concepts into contemporary architecture.

HOUSE OF HACI ALİ BEY_ANAMUR
TRADITIONAL



TURKEY IN BRIEF

Turkey is a republic located in the Eastern part of Europe, bounded on the West by Greece and Bulgaria, on the East by the U.S.S.R. and Iran, and on the South by Syria and Iraq. It consists of two major peninsulas: the Anatolian in Asia and the Tracian in Europe. The land area is 776,000 km^2, surrounded on three sides by the Mediterranean Sea on the South, on the North by the Black Sea and the Aegean Sea on the East.

Geographically, Turkey provides a link between Europe and Asia, and has served as both home and bridge to successive civilizations throughout its history.

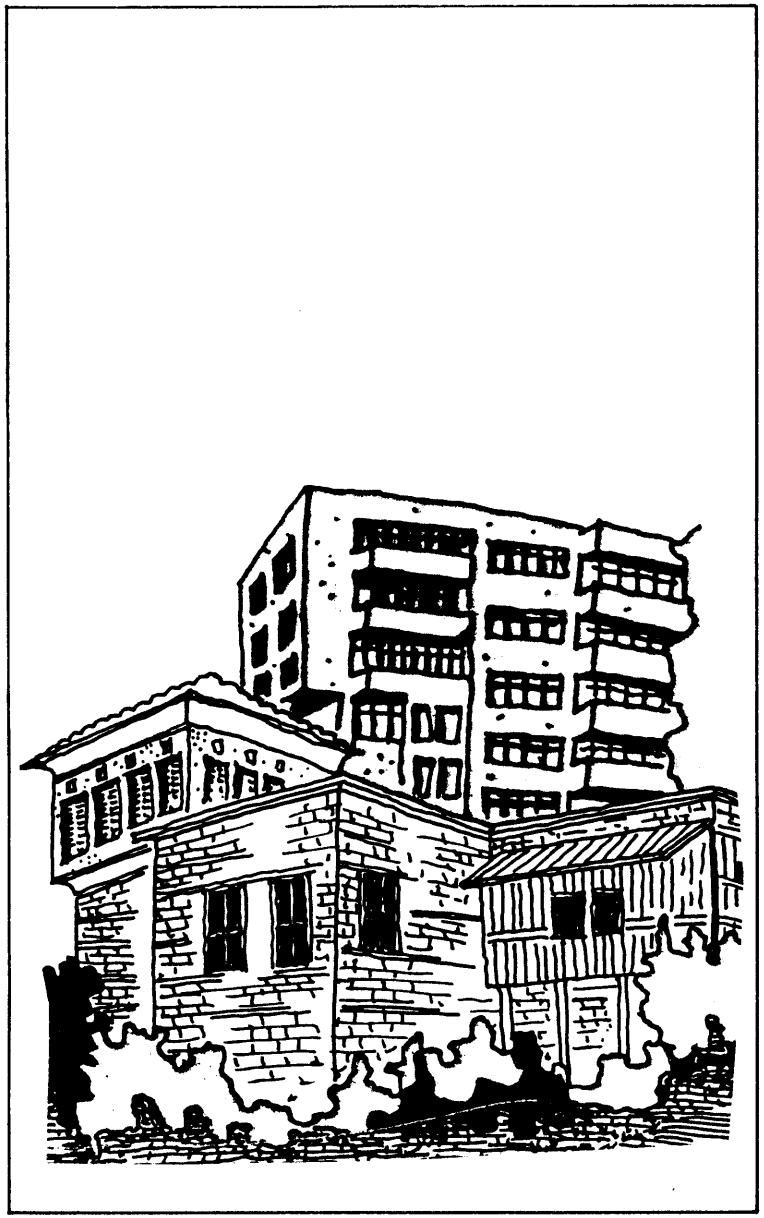
The country lies in a temperate zone, although its climate shows considerable changes from region to region. The Northern, Southern and Western parts exhibit a mild sea climate, hot summers and rainy winters. The Southeastern part is characterized by a typical Middle East desert climate, having both

hot and dry summers and winters. The central part of Anatolia has a hot and dry summer, but cold and snowy winters.

In spite of many attempts to industrialize Turkey, it still remains a predominantly agricultural country. There is a rich variety of agricultural production such as citrus fruit and cotton in the Mediterranean area, tobacco and hazel nuts along the Black Sea, and olives on the Aegean Sea shore.

The Turks started ruling in Anatolia in 1071 when Kilic Aslan I, the King of the Seljuks (Oguz Turks), overcame the armed forces of the Byzantine Empire. During the same time, they accepted Islam as their religion under the influence of Arab culture. In 1300, a small state - Ottoman - was founded in Bursa. This dynasty ruled a large part of the world for the next 600 years.

In 1923, Mustafa Kemal Ataturk, called the Father of modern Turkey, established the Turkish Republic, after the war of Independence, on the ashes of the Ottoman Empire. A new secular constitution was established in 1928. This was the beginning of many reforms toward the westernization of the Republic. The most significant change was the replacement of Arabic script by the Latin alphabet. Aside from this, the westernization of Turkish clothing styles, the modernization of the judicial system and the acceptance of the metric system were among the major changes implemented. During these reforms and changes, new design concepts, building techniques and materials were also introduced from the West. As a result, the image of Turkish traditional dwelling environments started to change, based on imported Western concepts.



ARCHITECTURE IN TURKEY

The traditional architecture of Turkey goes back as far as the Seljuks of Anatolia and continues into the early period of the Republic (1930-1940). Mosques, caravanseries, public baths, bridges and houses can be considered as the most prominent building types of traditional architecture.

Contemporary architecture starts with the establishment of the Republic in 1923. High-rise apartments, office buildings and hotels are the most characteristic examples of contemporary architecture.

Traditional architecture, insofar as the characteristics of building types are concerned, demonstrates various styles according to the different periods of history and also different regions of the country. Figure 1 on the following page shows the variations encountered among traditional houses built in different regions.

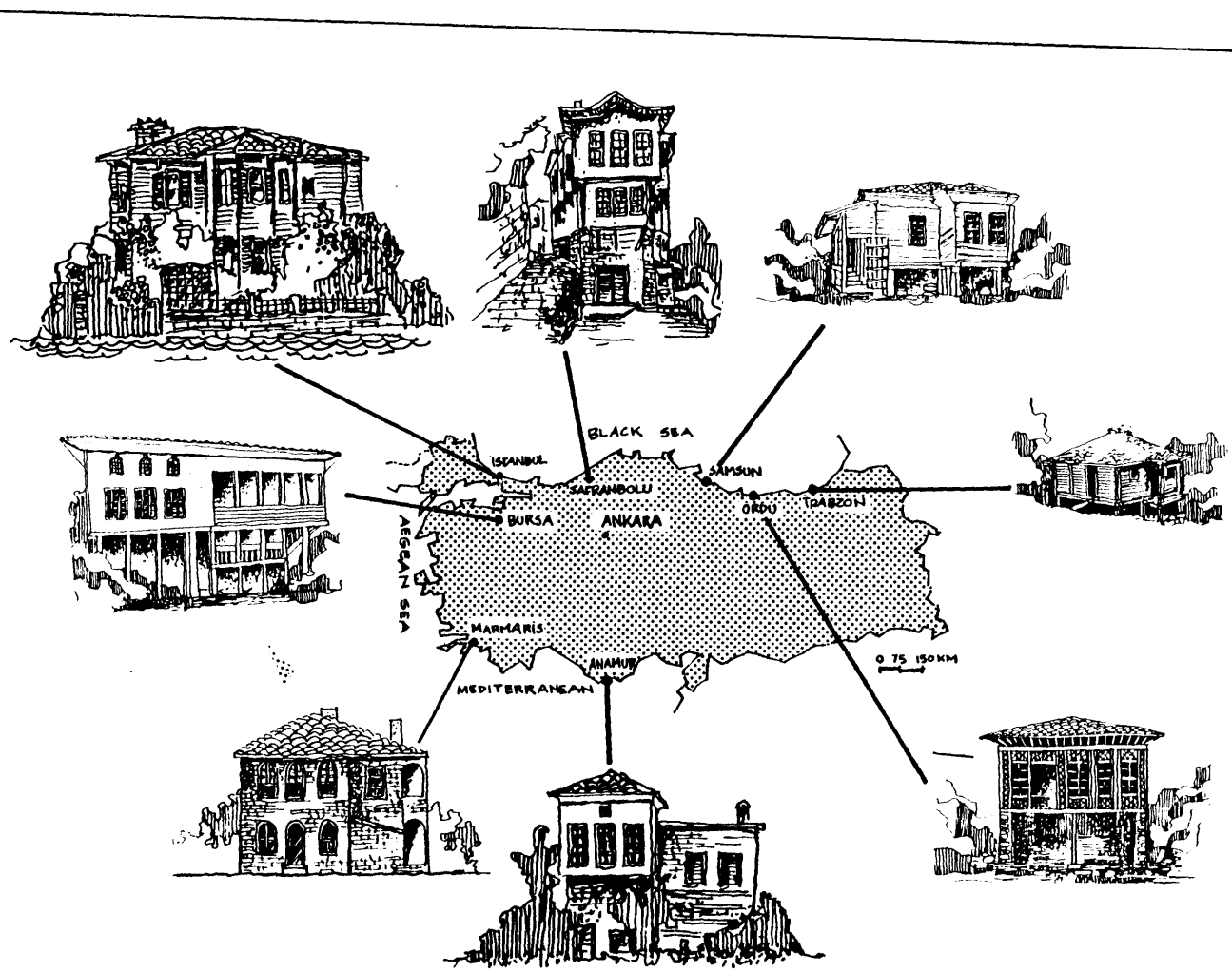

BLACK SEA
ISTANBUL
SAFRANBOLU
SAMSUN
BURSA
ANKARA
ORDU
TRABZON
AEGEAN SEA
MARMARIS
ANAMUR
MEDITERRANEAN
0 75 150 KM

FIGURE 1.

In the course of Turkish architectural development, the industrialization movement parallels that of the West in almost every aspect of the country's development. Once these concepts began to be imported to Turkey from Europe, the qualities of long-lasting traditional architecture were ignored and forgotten. The cities became chaotic construction sites filled with "Western"concepts. These imported patterns were blindly converted into various types of high-rise apartment buildings which are not familiar to the people whom they are supposed to serve, nor do they have any connection whatsoever with the cultural aspects of the country.

In his paper Professor Dogan Kuban points out:

> "When one deals with the recent architectural history of those countries where Western Culture is not an integral part of their traditional culture and where industrialization had a relatively late start, the use of Western terms in an evaluation of their architectural development may be misleading." (1)

As to the issue of Turkish traditional cities, he says:

> "The interpretation of the modern forms (locally called cubic architecture) in common building practice was rather different from its European counterpart. The International style had to be adapted to local situations, especially in the use of materials. But universal cliches such as the terrace-roof, horizontal window bands, some plan combinations, certain forms of stair-cases, new facilities especially the bath with a bath-tub in two-dimensional geometrical play by different colors of plaster were essential elements of stereotyped Modern, which, nonetheless, radically changed the physiognomy of traditional Turkish cities." (2)

However, the fact still remains that although the traditional images of dwelling environments are likely to disappear through contemporary architectural implementation, the few houses

surviving the past still exhibit those traditional design concepts in Turkey. As I mentioned in the introduction, the Turkish architect Sedat Hakki Eldem has freely interpreted the traditional spirit in contemporary style. The physical results of his "traditional contemporary" pencil have proved to be successful and have even been followed by many other architects.

PRIVATE HOUSE_VANIKÖY_ISTANBUL
BY SEDAT HAKKI ELDEM

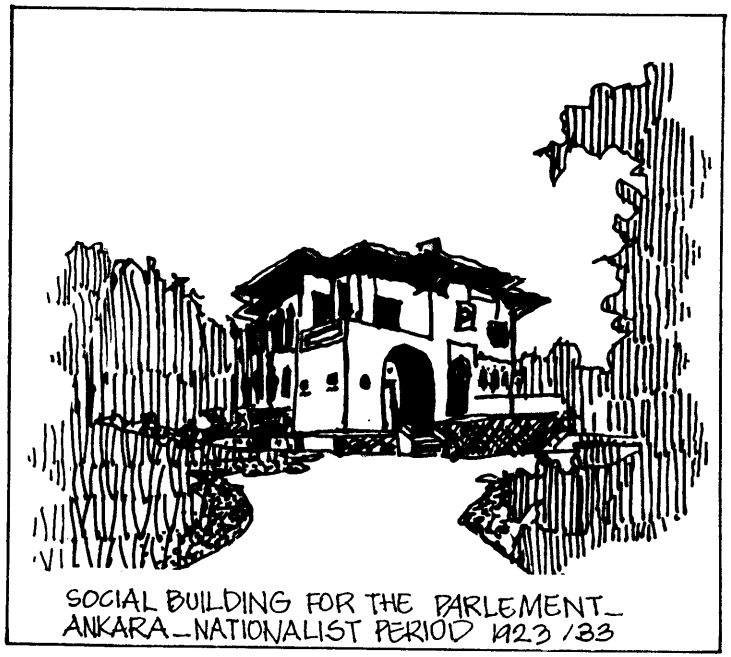
Let me present a brief summary of major contemporary architectural trends in Turkey:

During 1926, in Ankara, for the first time contemporary buildings were implemented. These, in general, were nothing other than an interpretation of Western contemporary architecture. During the short period of time after the founding of the Republic, old Ankara started changing its traditional city landscape to one that resembled a European city. The new concept was identified by the flat-roofed apartment buildings made of reinforced concrete. In 15 years the Westernized building typologies spread throughout almost every city in Turkey. As a result, every town began to lose its identity (defined by traditional building types) and acquired the "fever" of cubist Westernized forms.

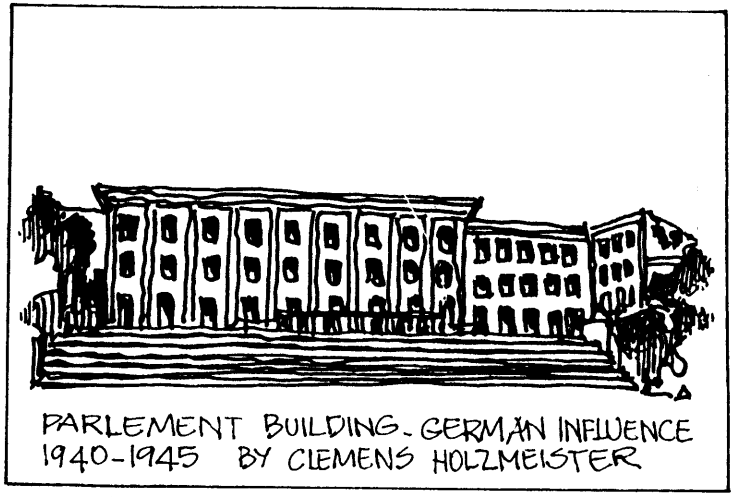
Good examples of this trend are four or five-story walk-up apartments. These are detached single blocks in which every floor has several living units that range from one to four, depending on the size of the lot. The process of development of these apartment buildings involves:

1. finding a piece of land available for construction,
2. hiring an architect to design the project,
3. contractors carrying on construction,
4. maximizing the profit.

Aside from this cubic style of European contemporary architecture, there was a movement around a national style which was to reflect Turkish culture. The impetus for this movement came especially from the newly established government which was trying to promote the concept of "Turkness." From 1923 to 1950 this nationalistic movement in architecture had its examples, especially in Ankara.



SOCIAL BUILDING FOR THE PARLEMENT_ ANKARA_NATIONALIST PERIOD 1923/33

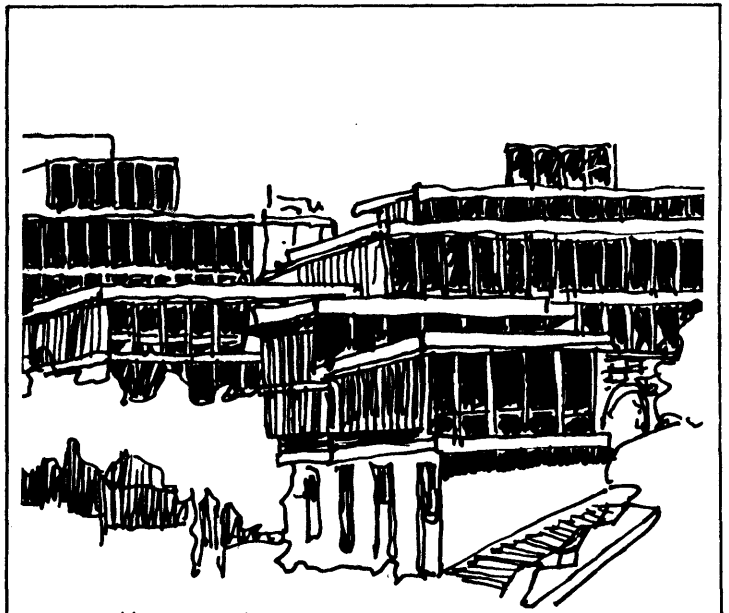


PARLEMENT BUILDING. GERMAN INFLUENCE 1940-1945 BY CLEMENS HOLZMEISTER

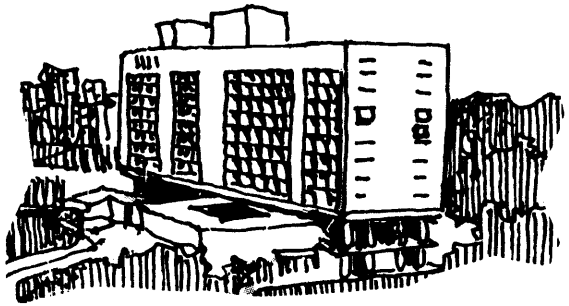
In 1935 there were some reactions against changing the face of the cities with contemporary interpretations. It was the Academy of Fine Arts that attempted to establish a Turkish style in a combinatory process based on contemporary design concepts, materials and traditional design concepts.

This attempt reaped its fruit between 1935 and 1950. The cafe house of Taslik by Sedat Hakki Eldam, Cenap And's house by Enim Onat in Ankara, and Nuri Capa's house in Bebeck by Soylemezoglu are the soundest examples of traditional housing types in modern times.

In the 1940's German architectural concepts were brought into Turkey by Holzmeister, Taut and Bonatz. Holzmeister designed the parliament building in the early 1940's. Soon after its completion Turkish Architects started to follow its pattern



THE SOCIAL SECURITY COMPLEX
BY SEDAT HAKKI ELDEM - 1962-63



HILTON HOTEL - ISTANBUL
1950-60 BY S.O.M. AMERICAN WESERNIZATION

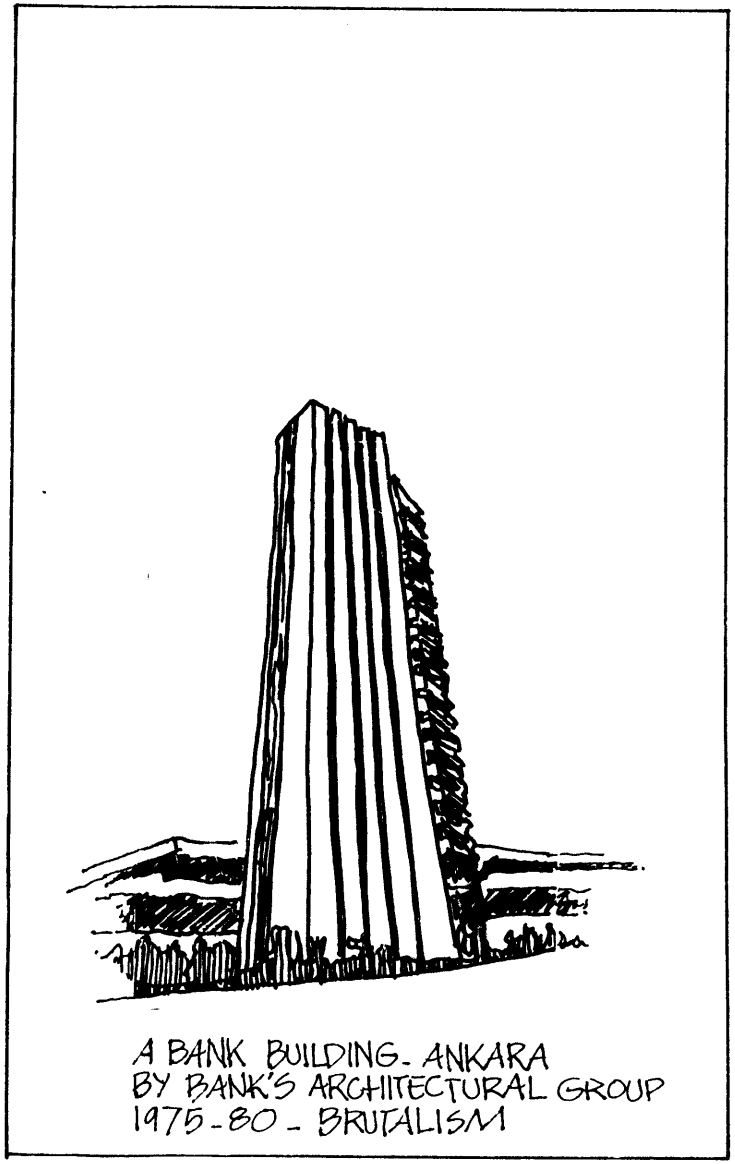
stylistically in their new projects.

Starting in 1950, American Westernization was imported to Istanbul when Skidmore, Owens and Merrill built the Hilton Hotel. Arthitect Pamir Doruk states:

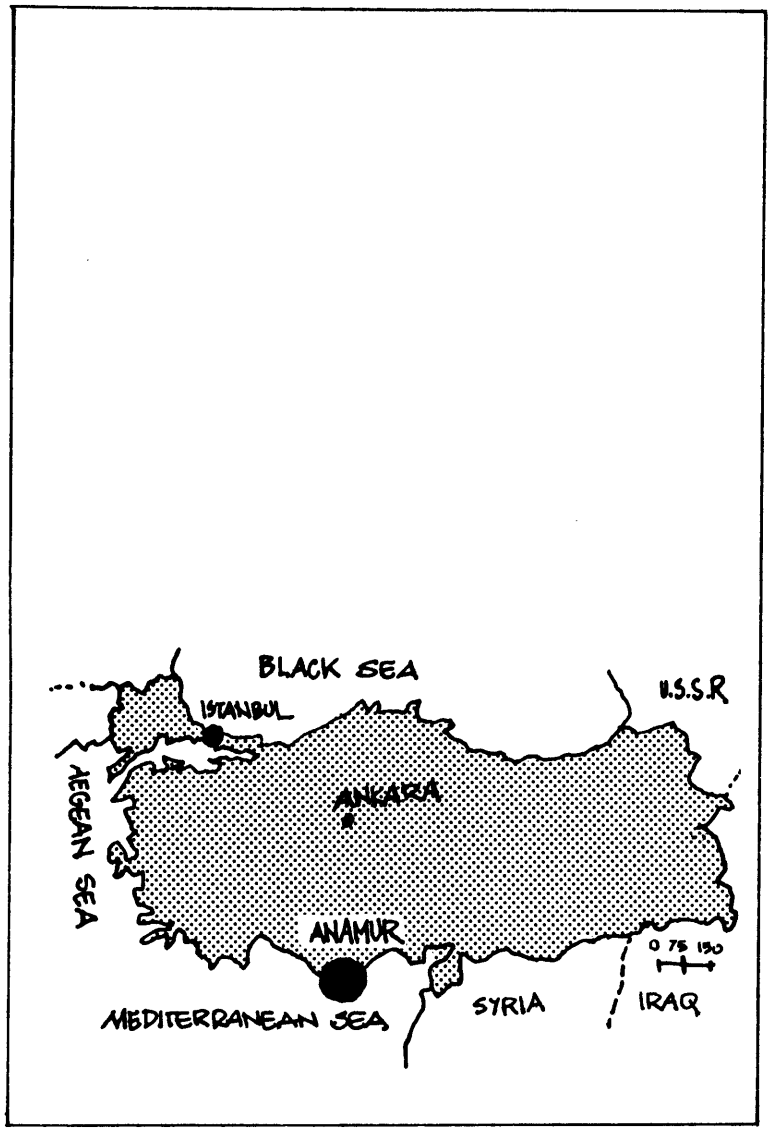
> "In the post-war years we were once again in limbo, until the fifties when the Hilton Hotel was built. That reality impressed the Turkish architects; probably nothing had impressed us more since Hagia Sophia. It marked the beginning of an era." (3)

After the Hilton Hotel was built, the "message" of its lines soon was carried across the country by architects in their design of both commerial and public buildings. Later on they turned their efforts to housing.

Presently in Turkey a great deal of construction still follows such Westernized architectural trends.



ANAMUR



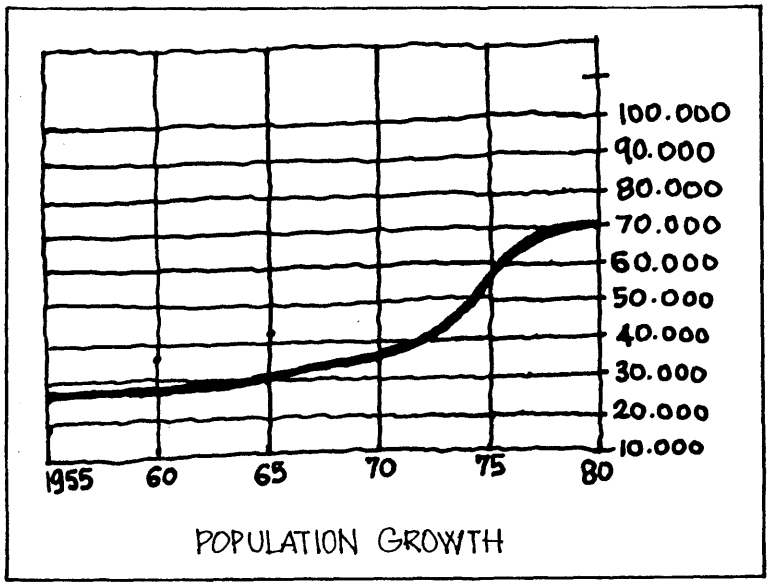
The history of Anamur dates back to 1250 B.C. The name Anamur is derived from Latin, the combination of two words:"anem" meaning point, and "omirium", wind. The town was named after the most southerly point of the Anatolian peninsula, the "Windy Point".

Anamur is on the Mediterranean coast of Asia Minor, 100 kilometers from Alanya to the East and three kilometers from the sea, between the valleys of the Taurus Mountains.

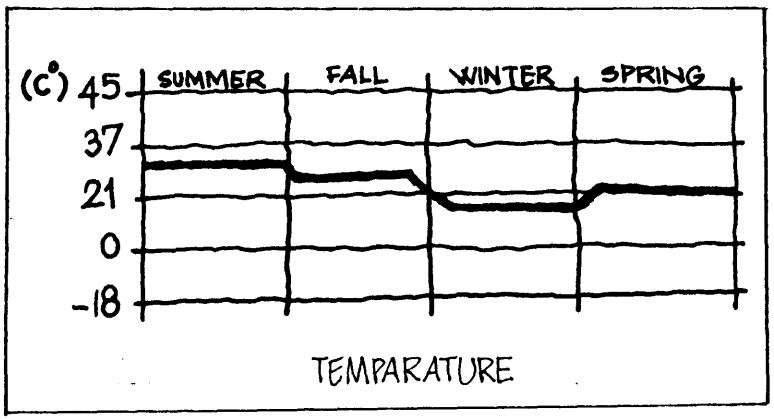
Historically, the Romans, Byzantines, Seljucks, and Ottomans were the rulers of these regions. The area is 2,005 kilometers square, with 55 villages included in the district. The town, Anamur, is 36° to 06° North and 32° to 50° East. It is 50 meters above sea level, surrounded by the Taurus mountains on three sides.

According to the 1981 census, the

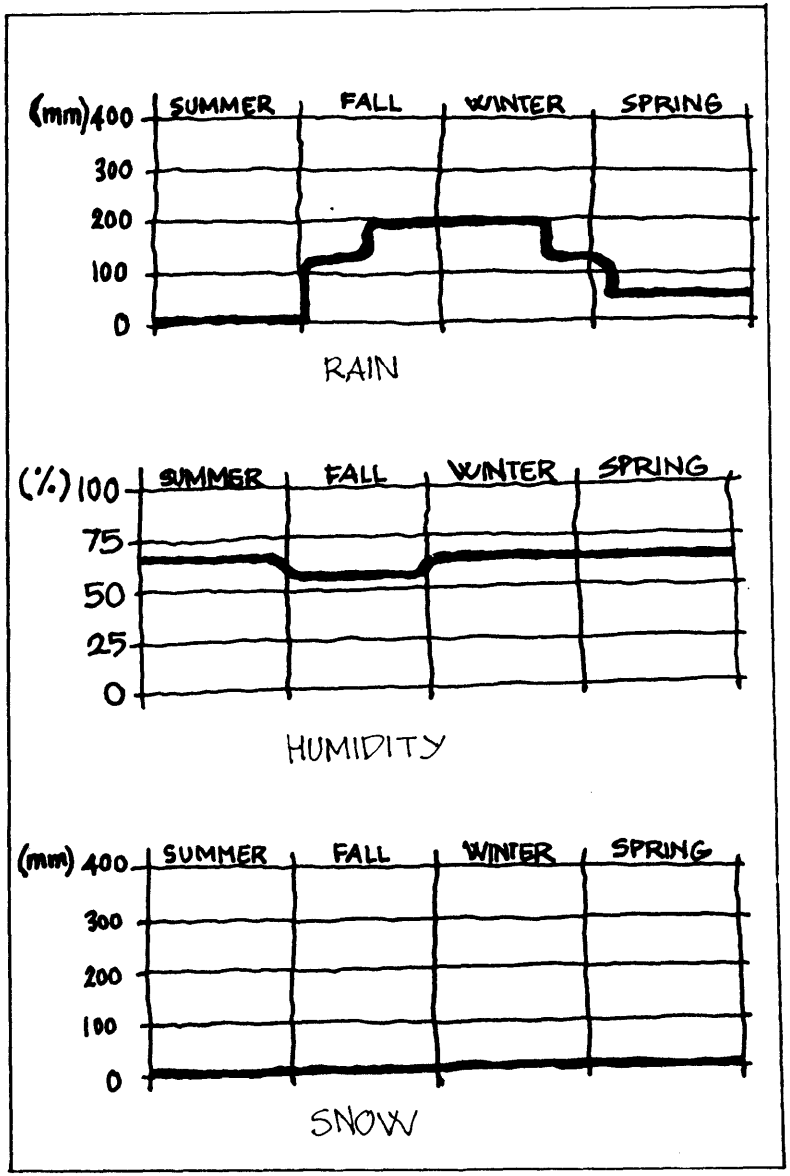
population of the district is 23,035 and the overall population with the surrounding villages is 71,551.



POPULATION GROWTH

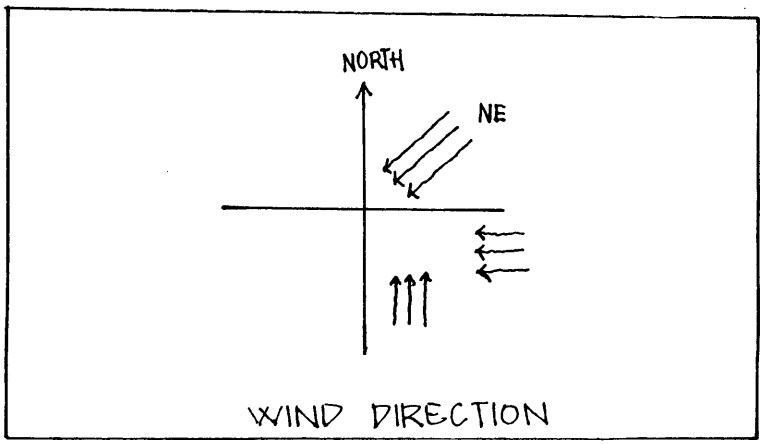


TEMPARATURE



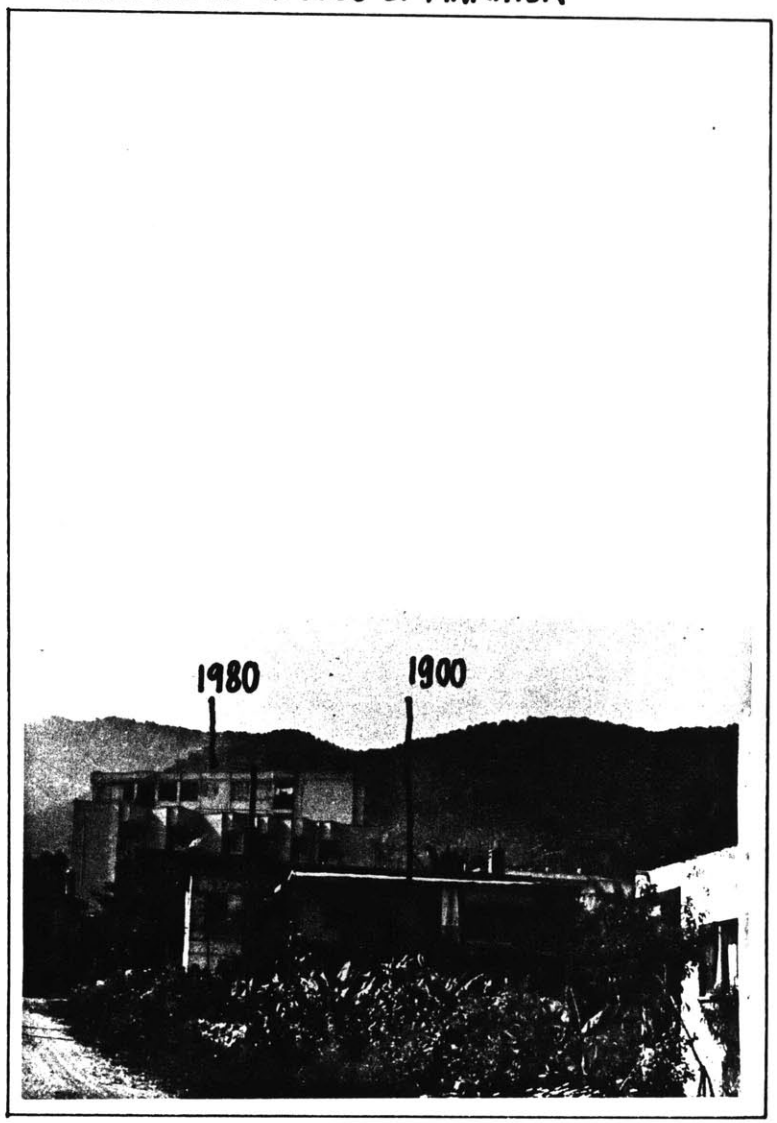
Anamur has a typically Mediterranean climate, with hot and humid summers and mild, rainy winters. The coldest months are December, January, and February. It is rare for the temperature to go below zero. The average temperature is 19.9 C° per year. The average humidity is 60 per cent per year, but it sometimes goes up to 90 per cent. The dominant wind direction is NE, and the average wind speed is 2.5 meters per second.

Agriculture is the main activity in the region, principally bananas, citrus fruit, and peanut planting.



WIND DIRECTION

CONTEMPORARY HOUSES OF ANAMUR



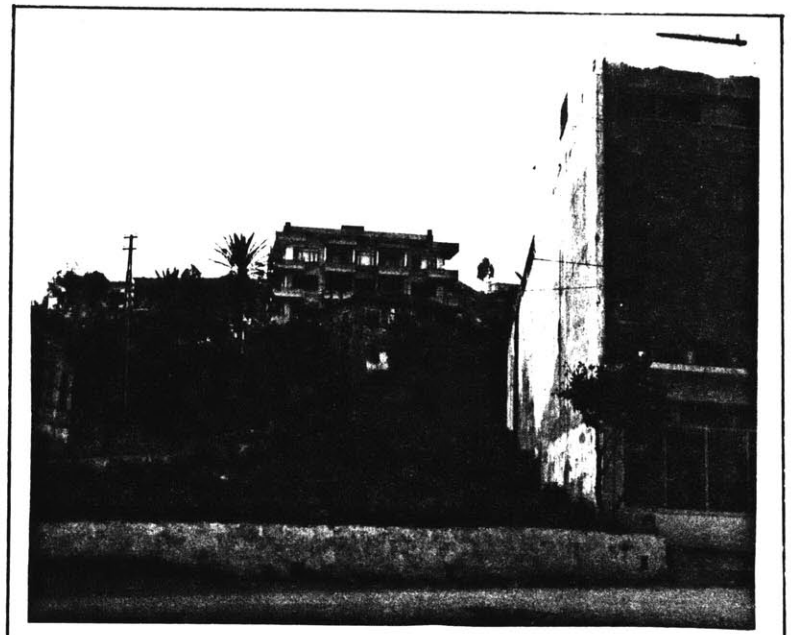
In recent times Anamur has experienced rapid population growth due to the migration from nearby villages. This migration into the area - starting in the 1940's - has created a demand for housing and extensive building construction. Gradually the town's population increased; land speculation began and the land values soared radically. The land owners divided their lands into small building lots and sold them at a profit. Later on these lots were used mostly for the construction of "modern" apartment buildings.

As a result of these new building schemes, the city's physical appearance changed rapidly. The district saw not only the reduction of open and green spaces, but also the loss of immediate areas surrounding the buildings. These apartment buildings are designed, for the most part, by small-scale contractors of Anamur. The over-all design and con-

struction process is carried out within the boundaries of municipal regulations which prescribe the height and width of houses and the distances between them. Architects and contractors must follow municipal regulations in order to get their buildings constructed.

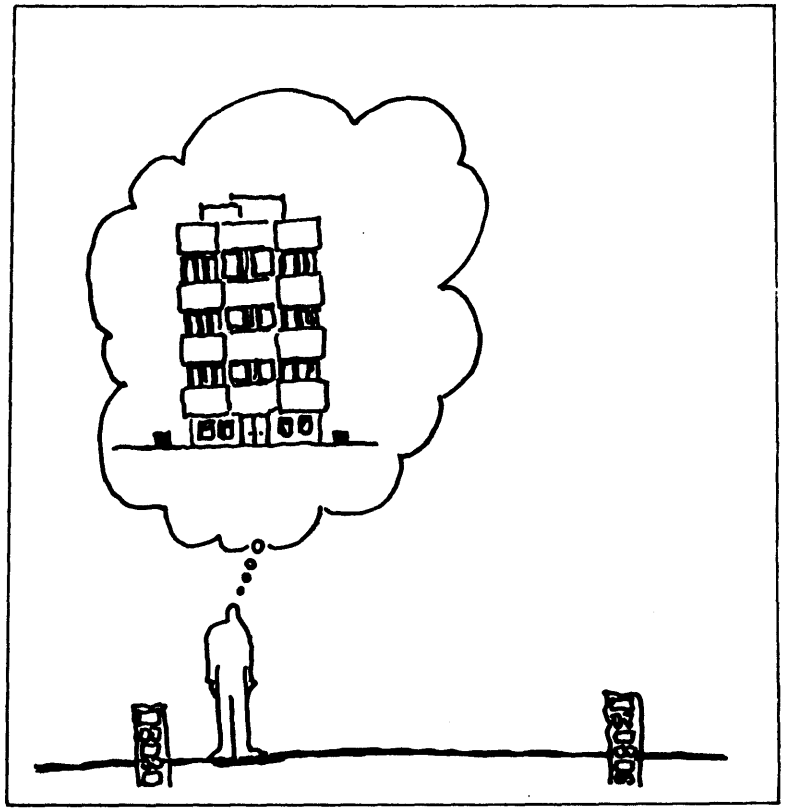
At the beginning, the client's only aim is to have a one or two-storey building, sufficient to serve his own needs. Later on he adds additional stories (according to his financial condition) until he reaches the maximum number of stories established by the municipality in Anamur today: five.

Municipal regulations are often modified to accommodate the town's increasing population rate. These modifications allow people to build up to seven stories. Since the client knows that there will be accommodations in regards to the height of the buildings, he asks the architect to design a seven-storey apartment building. The engineer calculates the over-all structure for a seven-story building even though the maximum limit is five. Here, the client has his thoughts on the future; he and/or his descendants will continue adding stories to the unfinished building. This

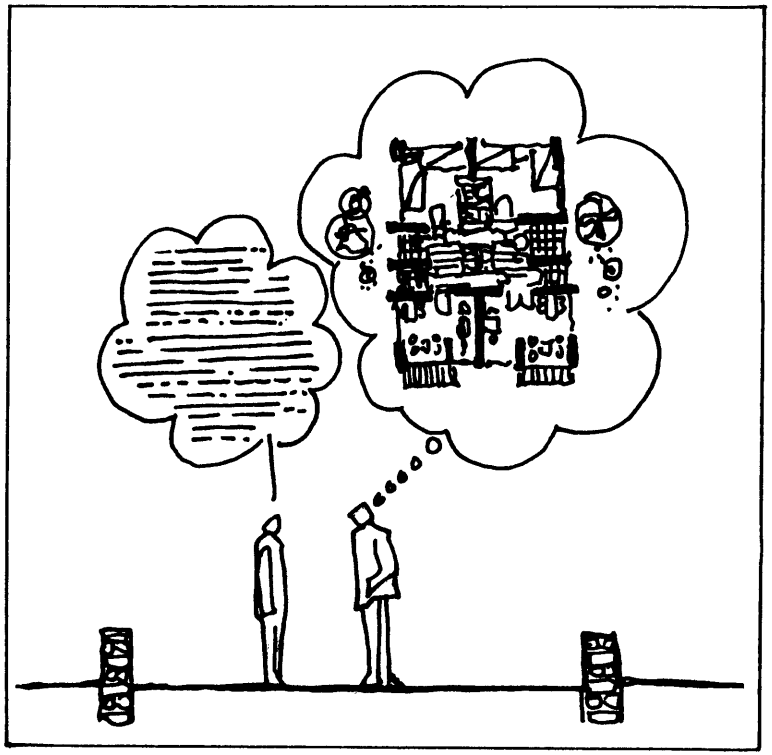


ANAMUR

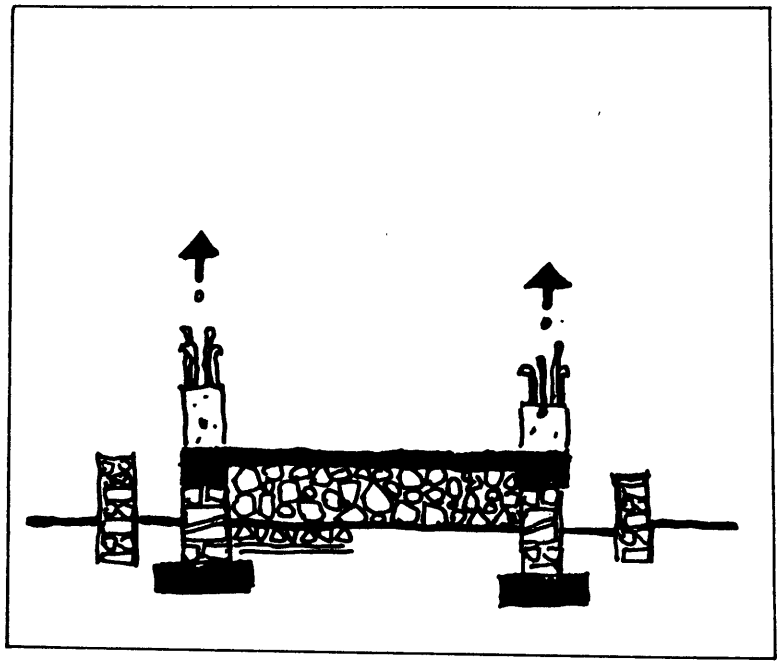
is the usual situation. Most of the buildings constructed in town are unfinished. When the municipal regulations are modified, so are the buildings. Because buildings are not completely finished,the roofs have approximately 30 to 60 centimeters high columns, skywardly projecting iron bars from their tops, symbolizing the future continuation. These iron bars have come to be known as "tendrils of hope".



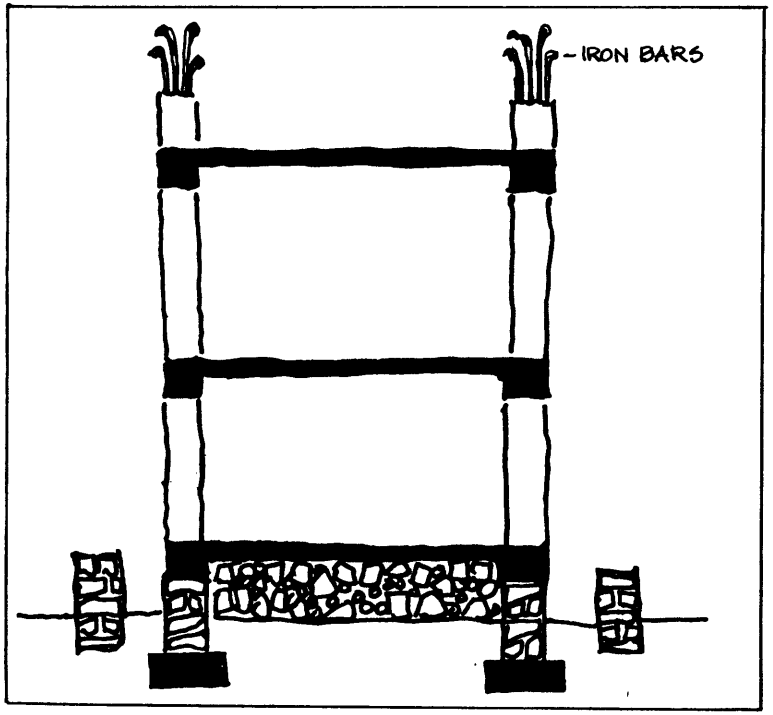
Having an apartment building is a primary aim for those who have building lots in Anamur. If the lot is in or around the commercial center, the ground floor is designated as a shopping area from which the owner makes enough profit to continue building the upper floors.



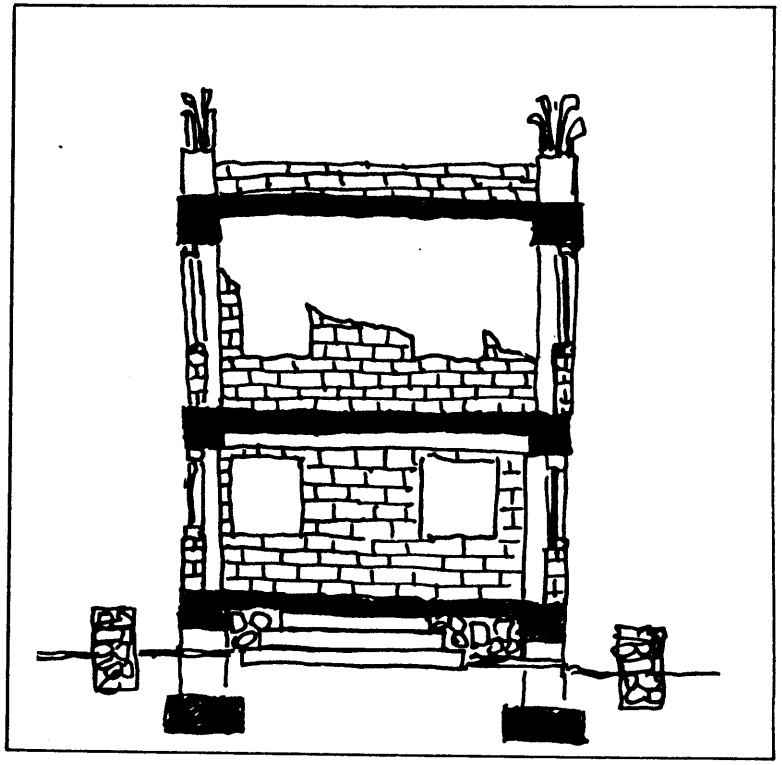
The client consults an architect or an engineer to design his building. At this stage, the building must be designed to meet municipal regulations. The architects have ready solutions to meet these requirements as the client has little control over the design solutions of his house.



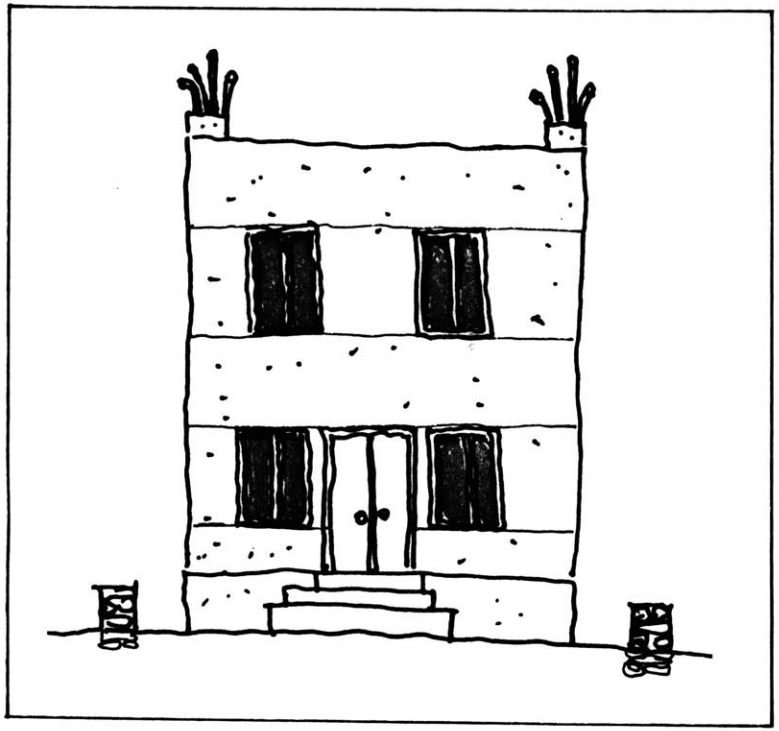
The building construction begins when the project is approved by the municipality. It is a common sight to see an 80 centimeters to one meter high stone wall between building lots. The reason for this is that the occupants of the building want to have control over their territory. There is usually a base made of stone about one meter high to protect the ground floor from rain.



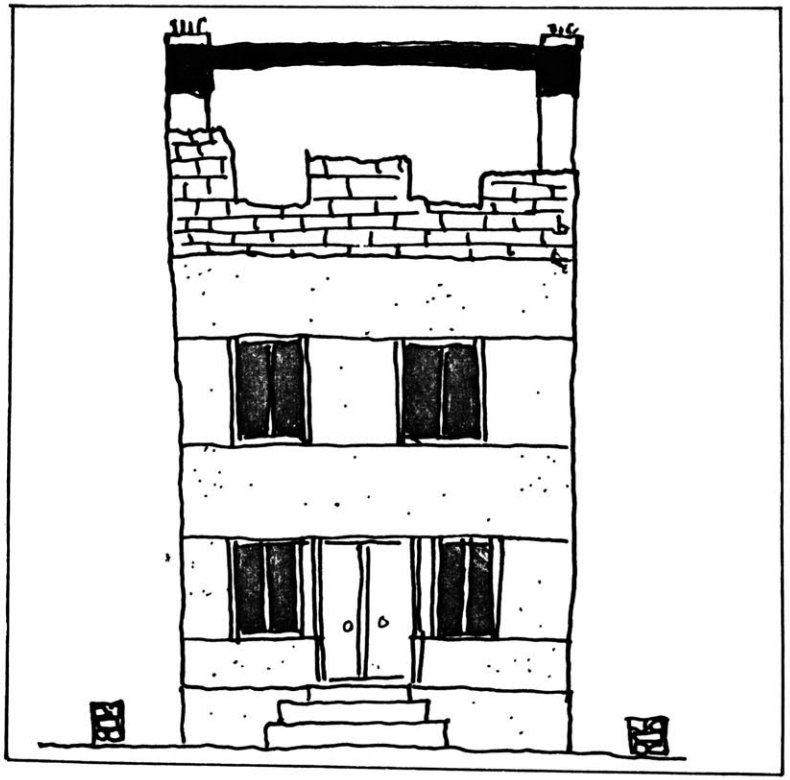
The over-all structure is the reinforced concrete skeleton system. First, the structural system is erected for the number of stories the client can afford. Wood is used to prepare the casts for columns, beams, and floors. Since the client will continue to build additional stories, the columns on top are left unfinished with iron bars.



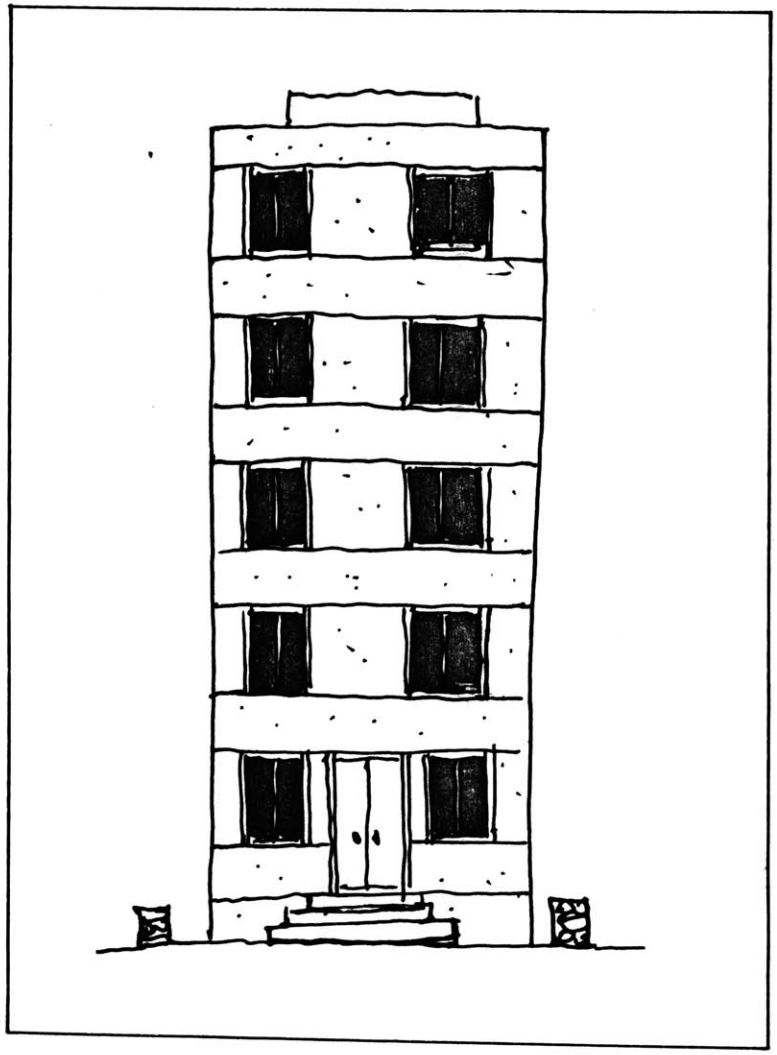
After completion of the structural system, the internal and external partitions are constructed of brick and mortar. For the external envelope, the thickness of the brick is 10 centimeters. The openings for doors and windows are left for later processing.



After completion of both internal and external walls the wooden frames, crafted by local carpenters, are put in place. At the same time the ceramic tiles (produced locally) are placed as floor covering. The next stage is the covering of both surfaces of the brick walls with plaster which is then washed with different colors.



Eventually (perhaps a year or two later, depending on the owner's financial situation) an additional storey is constructed. There is no need for a new project; the previously implemented structural system is simply repeated with the same plan types, same materials, and same techniques used before.



At last, that one or two-storey house becomes a five-storey apartment building.

The plan types of these modern apartment buildings do not show much variety in their internal plan and external facade arrangements. The most common plan is one in which the living room faces the street side and a narrow corridor has rooms on either side. (Figure 1)

It is also common for most of the apartment buildings that every floor has two separate units with the same type of plan. These two separate units are occupied by different families. Usually the owner occupies the entire floor (two separate units together) for himself. This is simply arranged by not putting the separating brick wall between two units. The floor area of a single unit changes from approximately 60 to 120 square meters. The following drawings are the plan types from recently built modern apartment buildings in Anamur.

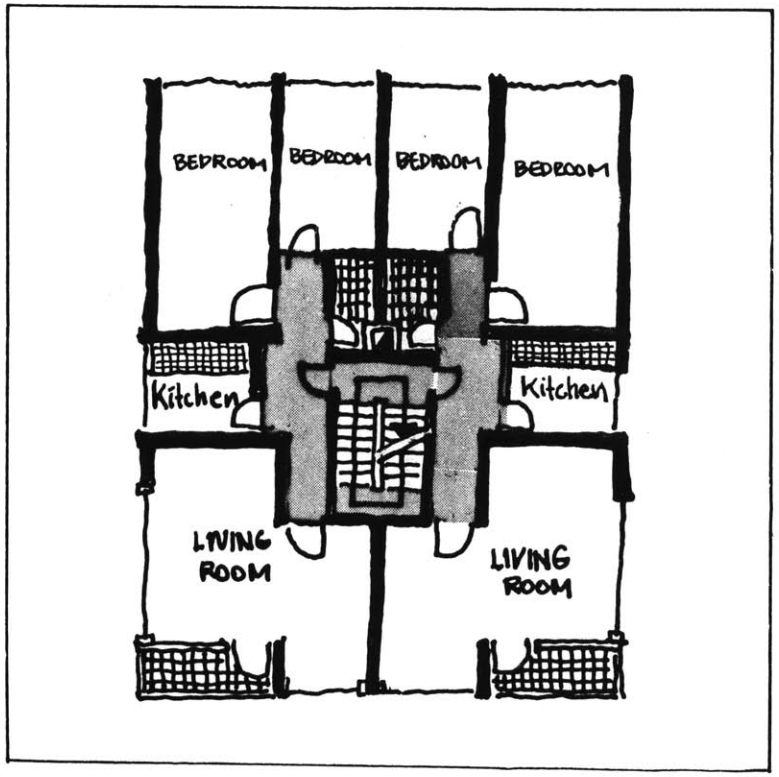
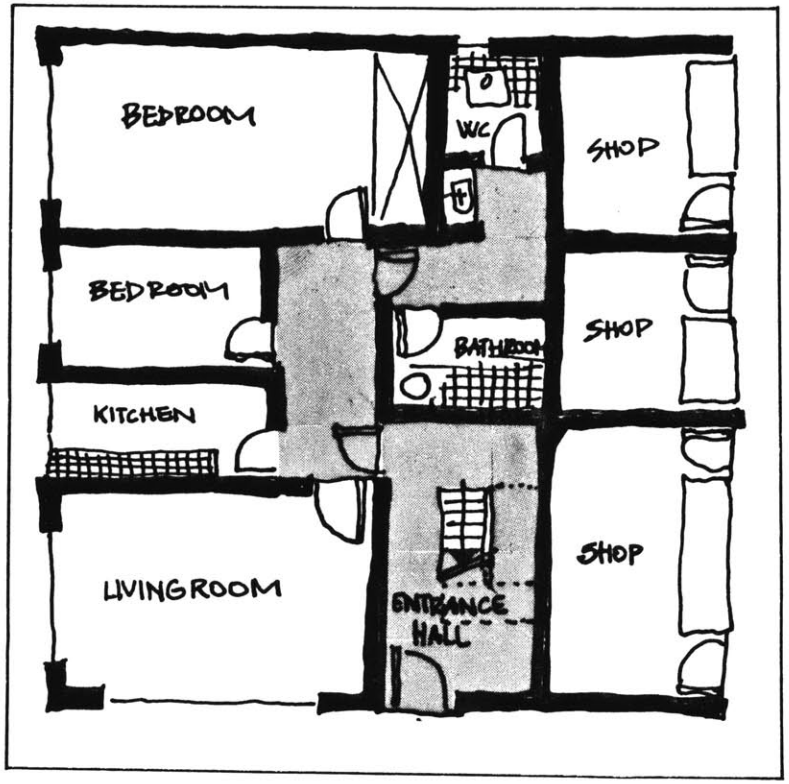
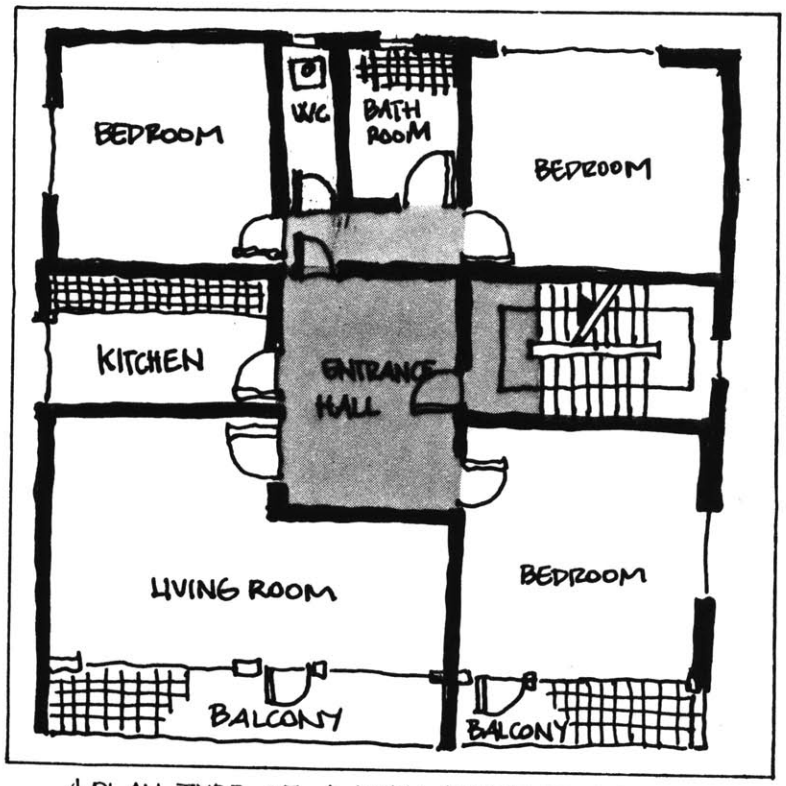


FIGURE.1. A PLAN TYPE OF A NEW HOUSE IN ANAMUR (NOT IN SCALE)



A PLAN TYPE OF A NEW HOUSE IN ANAMUR (NOT IN SCALE)



A PLAN TYPE OF A NEW HOUSE IN ANAMUR
(NOT IN SCALE)

TRADITIONAL HOUSES OF ANAMUR

Anamur used to be a small town with its traditional houses built by their occupants in accordance with their own needs and constructed with locally available stone and wood. They belong to the 19th and 20th centuries and they range from singe to two-storey houses. (Figure 1)

Because the inhabitants are agriculturally oriented family types, they build their houses within the boundaries of their cultivated lands, thus facilitating access to their field-related activities (the main activity of the household) and an easy control over their lands. (Figure 2)

Insofar as the spatial distribution of the activities is concerned, the house is divided into two main parts:

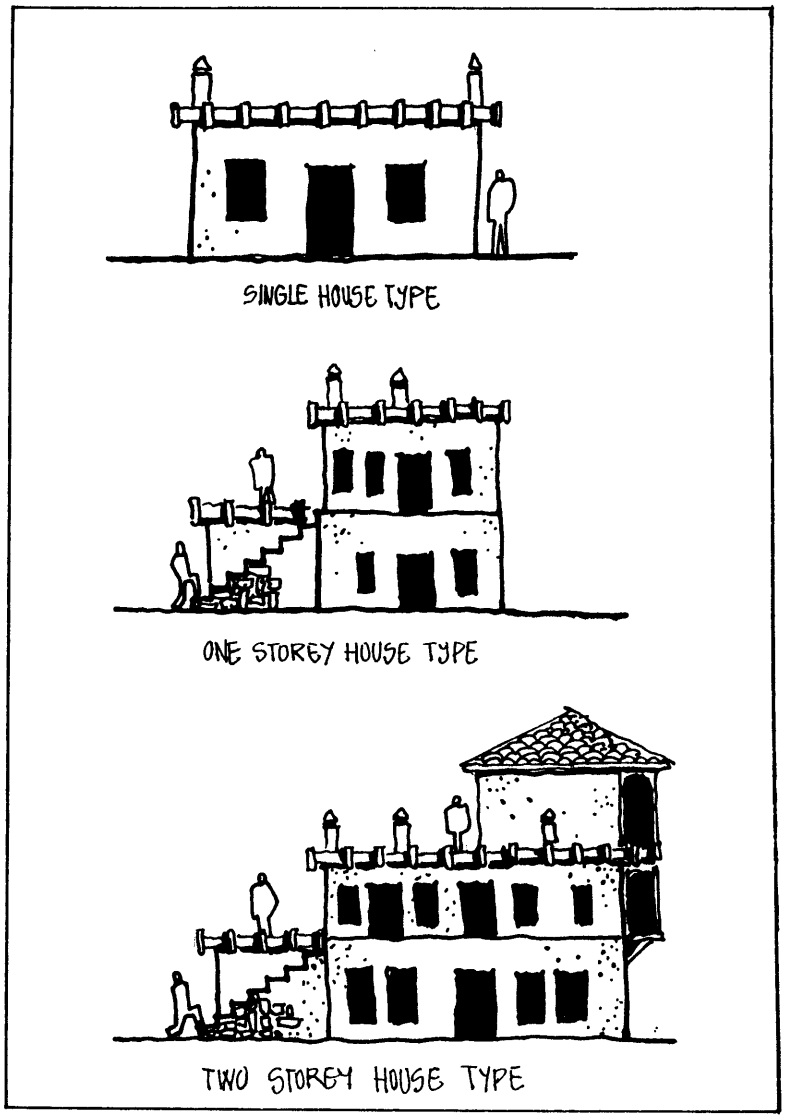


Figure 1

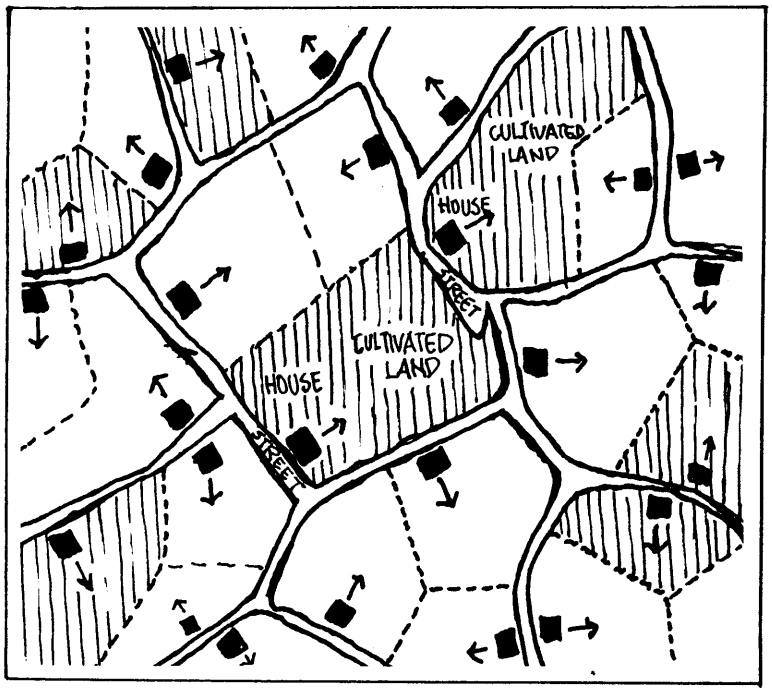


Figure 2

Showing the scattered type of settlements. The inhabitant's living and working conditions formed this type of fabric. The traditional house has a strong physical relationship to the land and to the street simultaneously.

-The part responding exclusively to the field-related activities such as storing the goods and breeding the animals (ground floor).

-The part responding exclusively to the home-related activities such as cooking, sleeping, social gathering (upper floor).

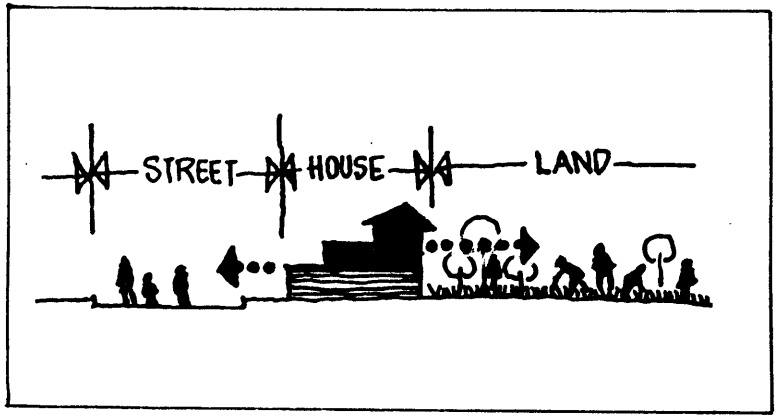


Figure 3

Field-related activities take place at the ground floor.

Home-related activities take place on the first and second floors.

In regard to the choosing of the construction site on the field, the street was a pre-determining factor in locating the house. So they built the traditional houses as close as possible to the street to provide both easy access to the house (outside-in) and easy transfer of stored crops to the street (inside-out), for transportation purposes.

Regarding the facade orientation of the traditional houses there is a clear distinction between the ground floor and the upper floors. The main facade of the ground floor is directed towards the street side whereas the main facade of the upper floors is directed towards either a good view or to a South-North direction.

Following is a description of these traditional houses in terms of their floor arrangements, and explanation of how the physical elements are put together to form these houses.

In terms of the number of stories there are two types of houses:

Type A - Ground floor and one upper floor (to be referred to as a one-storey house). (Figure 4)

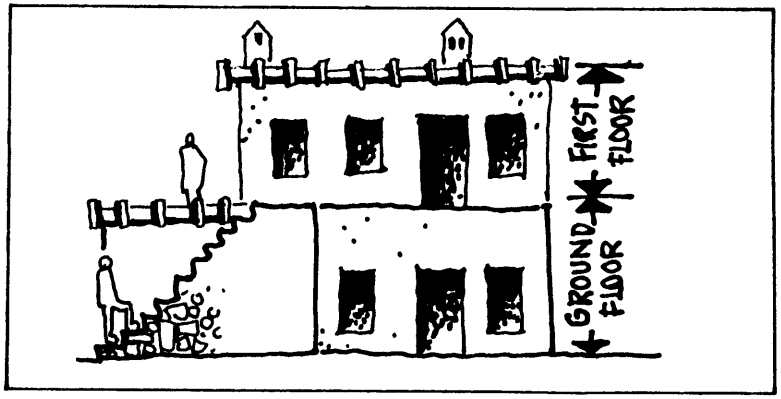


Figure 4

Type B - Ground floor and two upper floors (to be referred to as a two-storey house) (Figure 5)

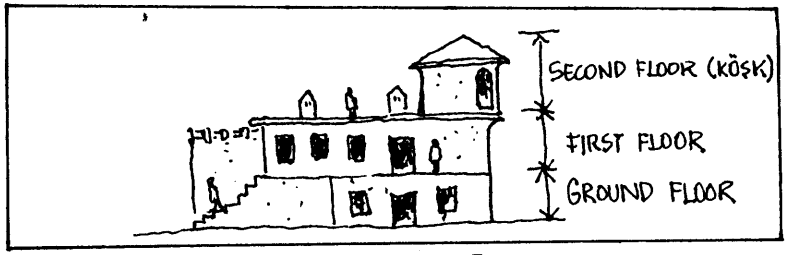


Figure 5

In the case of the two-storey type house, the second storey has a specific name in Anamur's traditional architecture: köşk. (Corresponding to the English word kiosk)

GROUND FLOOR

The first detail that strikes the viewer when looking at the ground floor is the clear distinction in entrances and, consequently, in functions. There are at least two entrances (sometimes three or four) discernible: the main and the service entrances, with the main entrance located on the street side and the service entrance located on the cultivated field side. The service entrance is especially connected to the field side in order to provide easy access for storing the crops brought from the adjacent field.

Structurally, the ground floor displays divisions separated by solid walls, while functionally it is divided into two main sections - the "service area" and the "guest* area". The central corridor, sometimes called the service hole, on the ground floor, is the coolest area in the house and as such serves as a large storage area for perishable foods. In addition there are storage rooms, and sometimes bedrooms which can eventually be used by maids serving the household. (Figure 6)

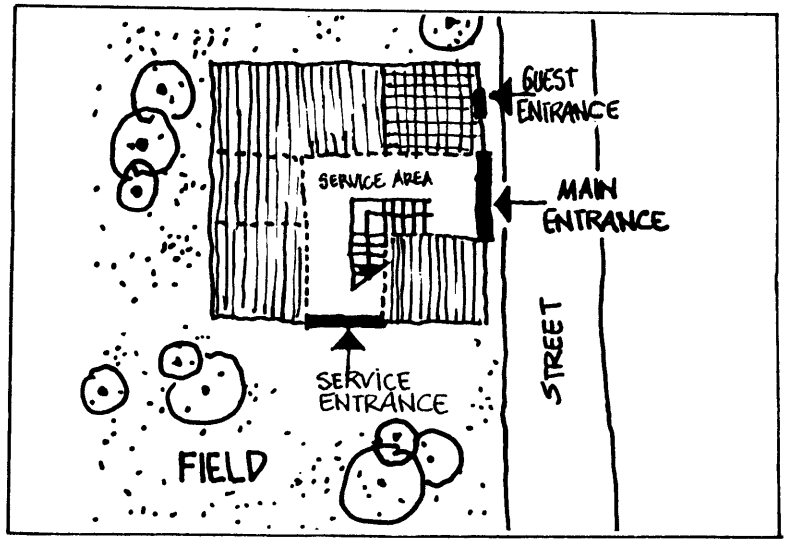


Figure 6

SERVICE HALL
STORAGE AREA
GUEST ROOM

A stair case (sometimes two or three) which leads up to the floor above, is located on the main entrance side of the ground floor. (Figure 7)

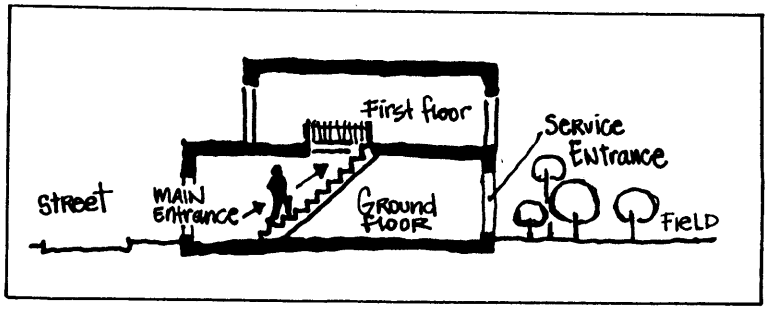


Figure 7

*The guest area, which appears on the ground floor, served out-of-town travelers. Since there was no hotel in small towns, they were welcomed by the house owners. People called these travelers "guests of God".

THE FIRST FLOOR

The arrangement of the first floor is mainly based on home activities, such as sleeping, cooking, social gathering, and working. On the first floor there are particularly three types of places:

1. Common place
2. Rooms
3. Toilet - bathroom

The common place can be seen as a large central corridor running down the middle either from North to South or from West to East. (Figure 8) The common place is a large area where the stair lands. This area can also be perceived as the largest room of the house, where sleeping, eating, and social activities could take place, just as in other rooms.

The common place has openings on both sides with small windows above the larger windows which have very low sills, allowing both the cross ventilation through the interior of the house, and external visibility. (Figure 9)

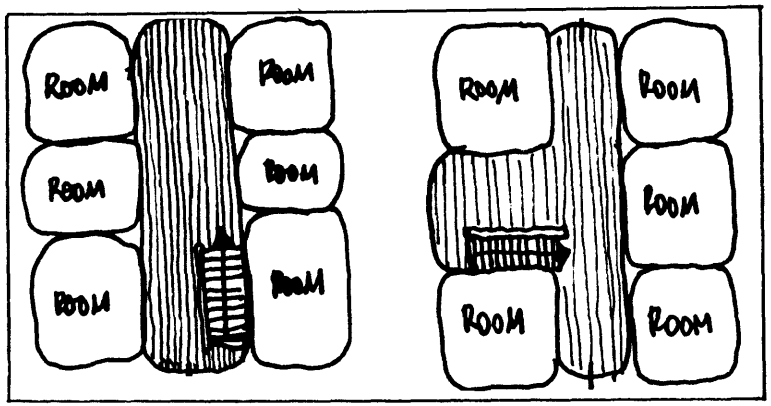


Figure 8

TWO COMMON PLACE ARRANGEMENTS. IT SERVES AS A STAIR LANDING AREA AND ALL THE ROOMS OPEN TO IT

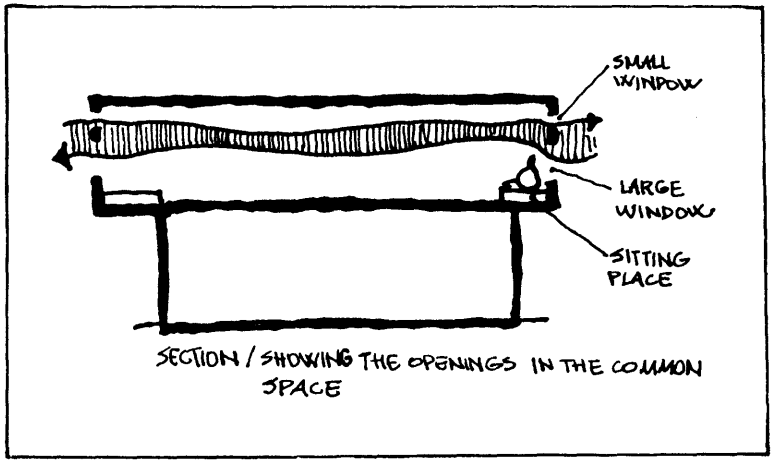


Figure 9

The rooms on the first floor are arranged around the common place. (Figure 8) In the traditional houses there is no specific name given to the rooms in which different activities can take place depending on the time of day. For example, a room can be a place to eat (dining room) during the noon time; it can be a place to sleep (bedroom) at night; it can be a place to welcome guests (living room) at various times of day. The room can respond to several activities (multi-functional use) depending on the behavioral patterns of the household. (Figures 10, 11, 12, 13)

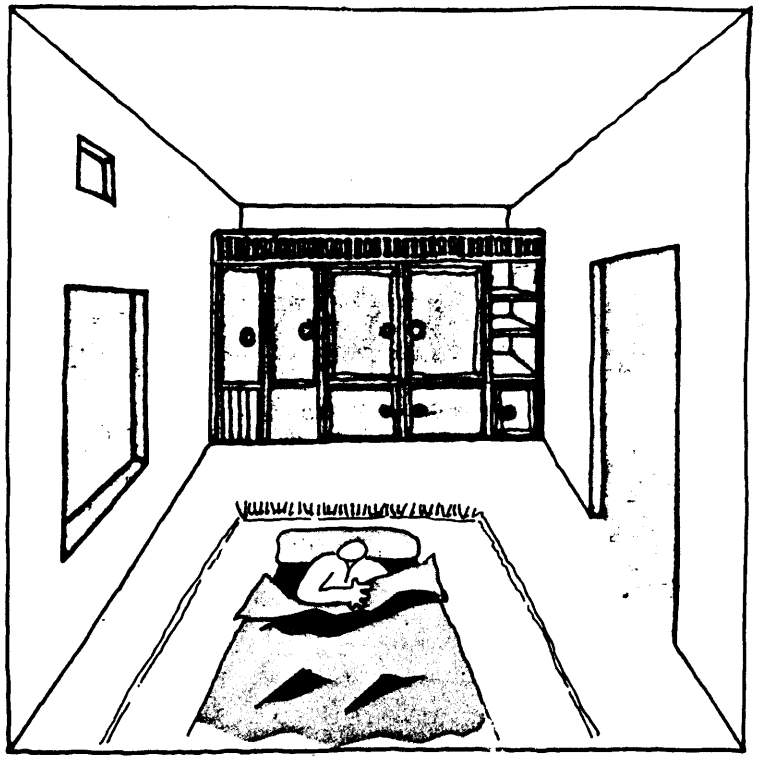


FIGURE_10

The room as sleeping place.
In the background of the above figure, there is a wall with a wooden closet where beds, blankets, cushions are put during the day. At night they are removed and spread on the floor for sleeping.

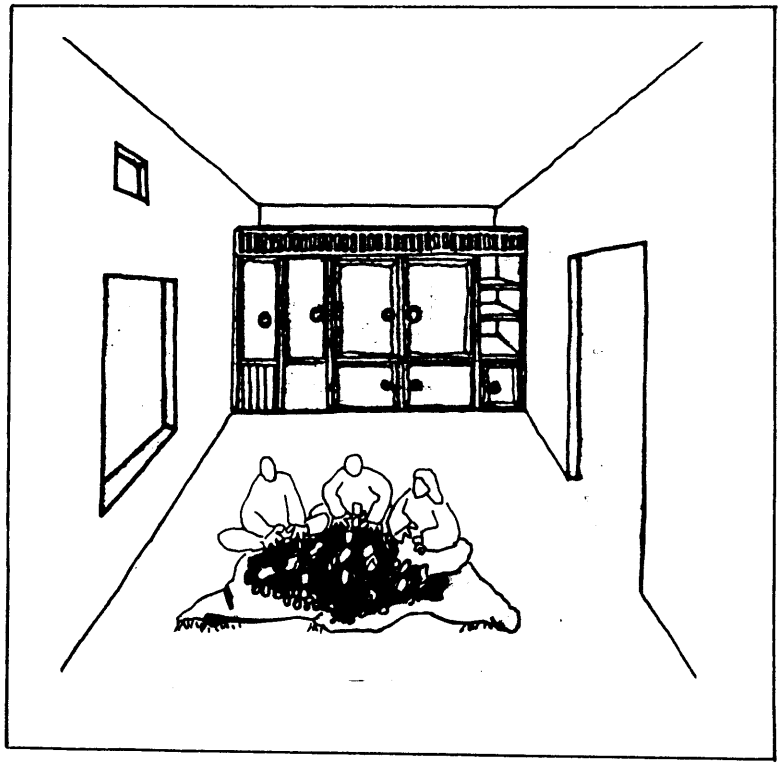


FIGURE_11

The room as working place.
Whether it is day or night time, if there is something to work on the room becomes a working area. They collaborate especially in preparing the goods that will be stored for the next season for household use.

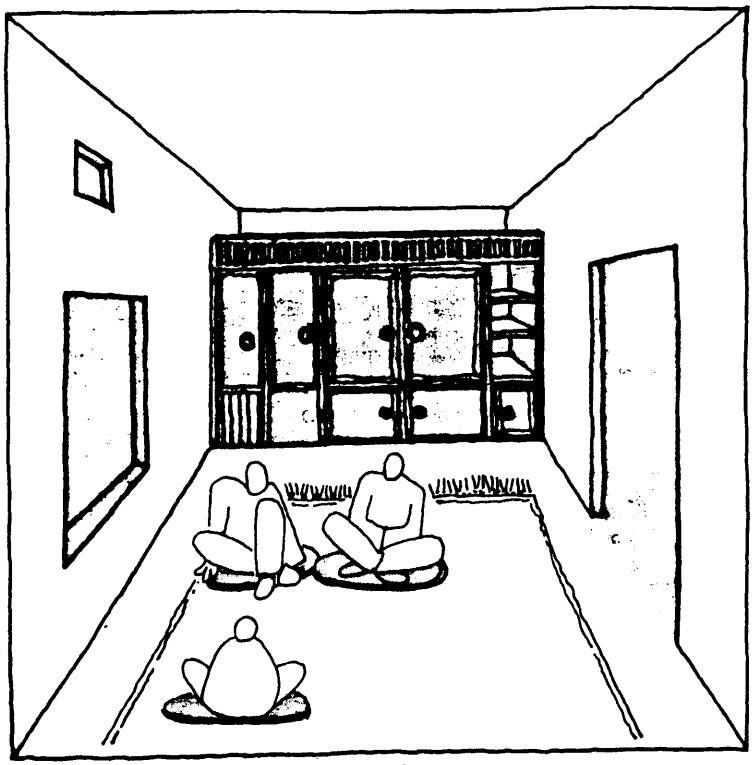


FIGURE.12

The room as sitting room.
The gathering of neighbors and friends is a daily activity, so the room welcomes the guests and becomes a living room. Cushions are placed on the floor.

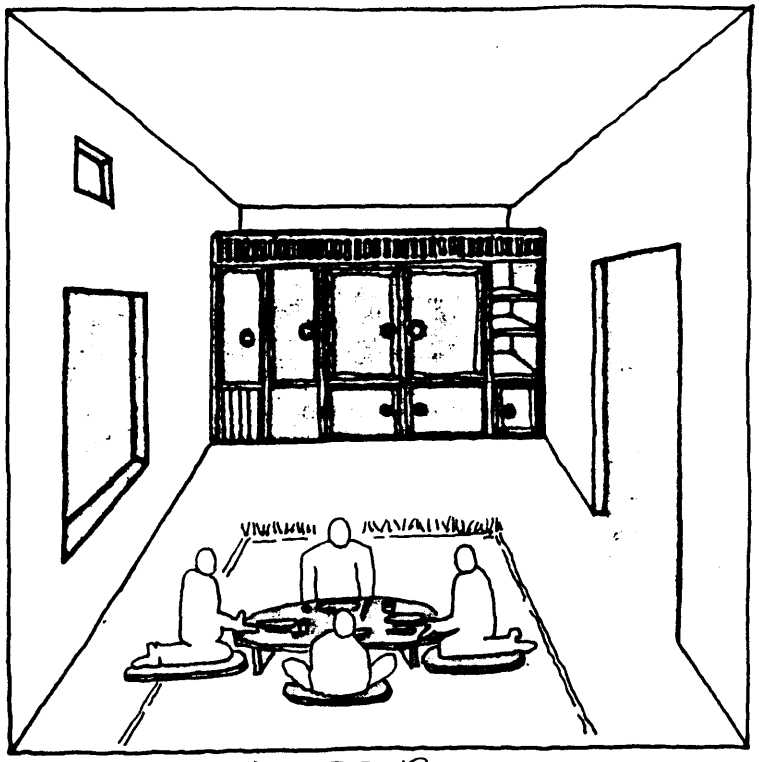


FIGURE.13

The room as eating place.
At noon or in the evening, the room becomes a dining area. It is a strong custom that the members of the household have lunch and dinner together. A round wooden piece with two legs serves as a dining table, a mobile utensil.

In the rooms, there is always a fire-place in the middle of a wall for heating the room in winter and ventilation in the summer. (Figure 14)

The openings in the room are the same as the openings of the common place: small windows above the large windows with a low sill. Sometimes there are openings between the rooms allowing them to benefit from the cross ventilation. These windows between rooms also have shutters which can be closed when privacy is desirable. (Figure 15)

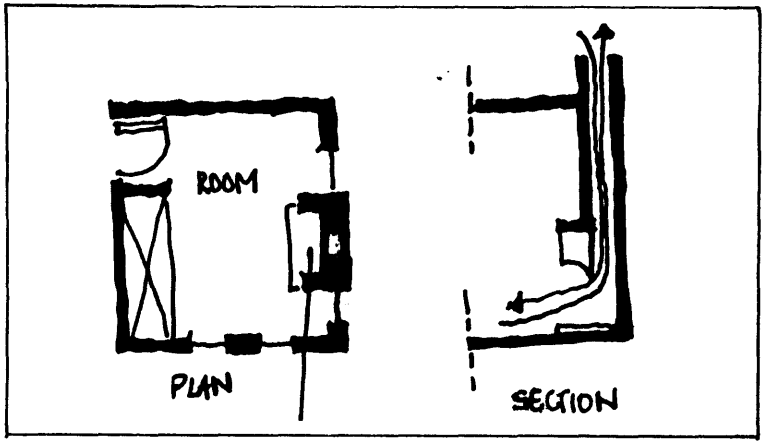


Figure 14

One of these rooms is arranged as a kitchen. It has the same dimensions, openings as the other rooms. The only difference is the wooden closet that has shelves in it to store the goods. A fire place is used for cooking and baking activities. Because of its size, this room can also serve different types of functions. (Figure 16)

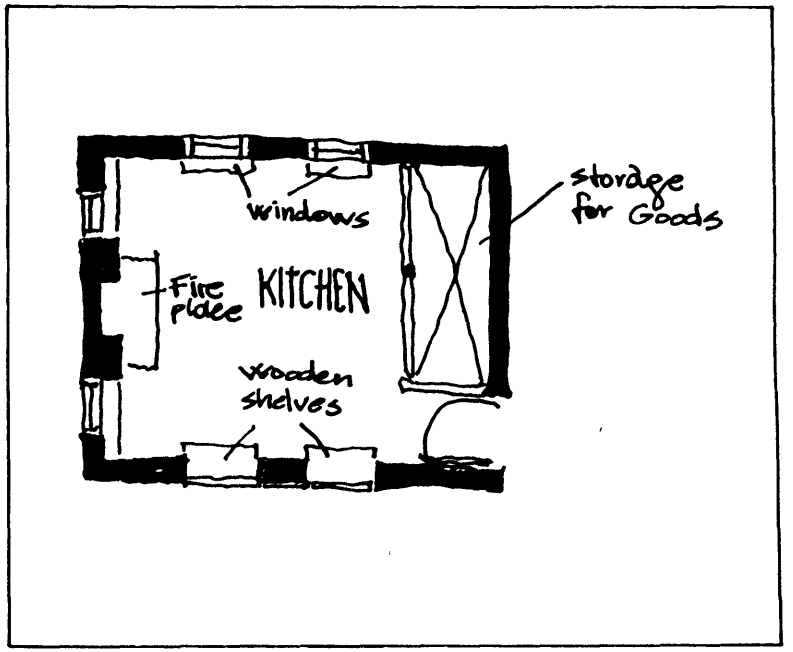


Figure 15
SHOWING THE KITCHEN ARRANGEMENT

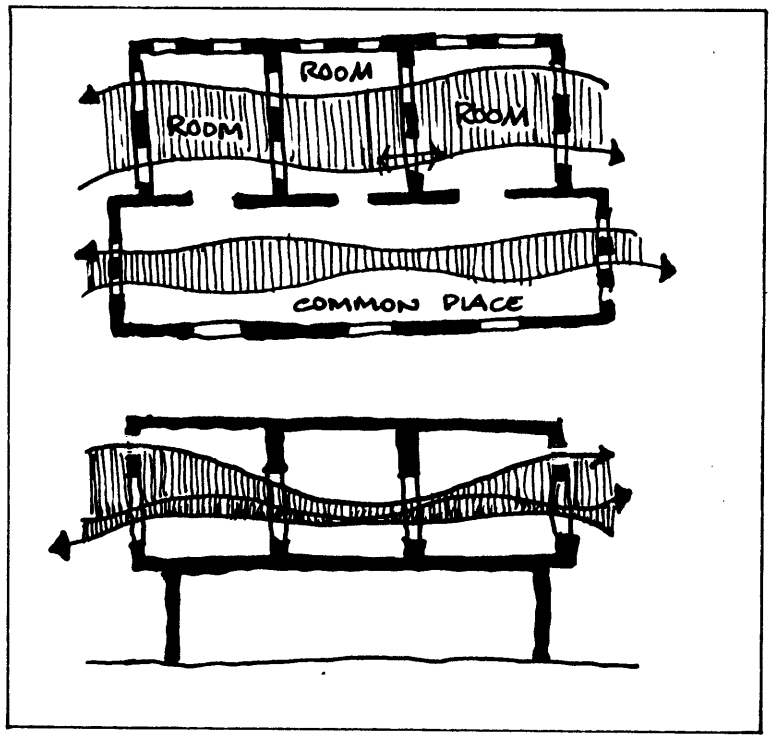


Figure 16
SHOWING THE OPENINGS
BEETWEEN ROOMS

THE SECOND FLOOR - KÖŞK (KIOSK)

The second floor consists primarily of a room that is the "trademark" of Anamur's architecture: the köşk. It is always the highest section of the house, a square space sometimes surrounded on three sides by a cantilevered and arcaded balcony that shades the room from the high summer sun. (Figure 17)

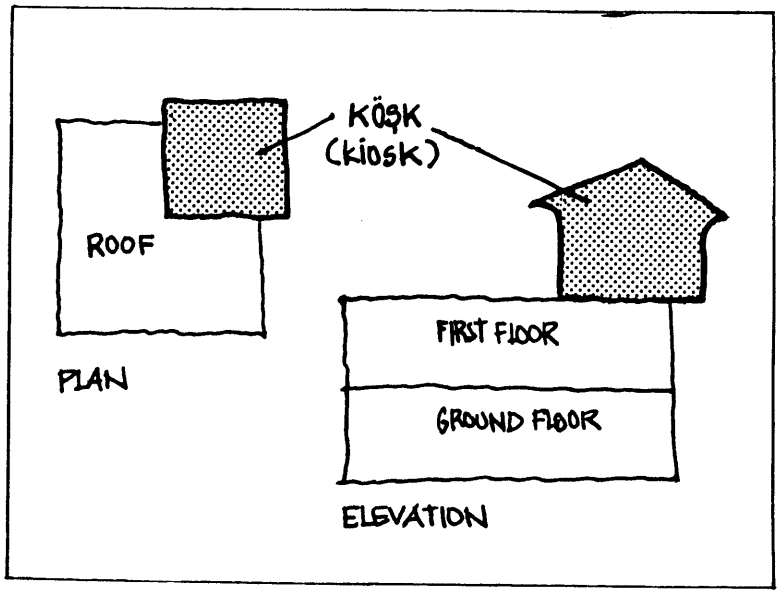


Figure 17

The activities taking place in this room can be the same as other rooms on the first floor, but social activities and sleeping are the major ones. The openings in this room are numerous, again with a small window above a larger

window with a low sill which allows people to look outdoors while they sit on the floor. (Figure 18)

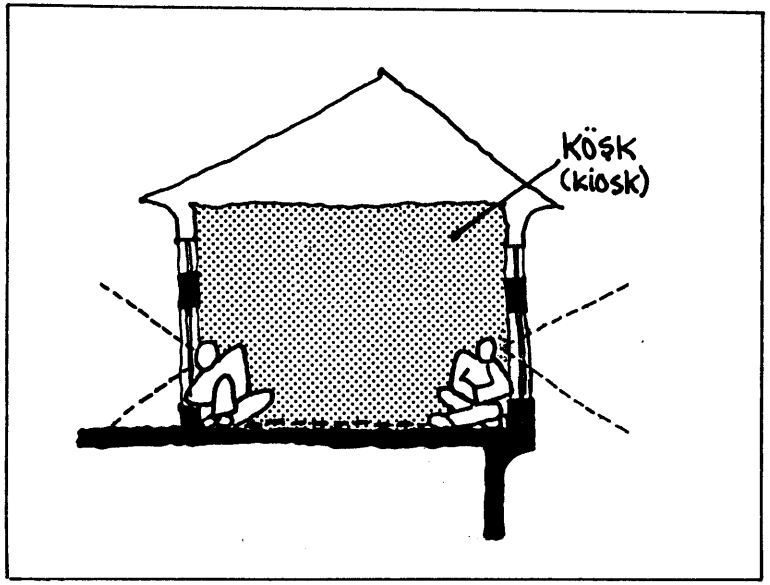


Figure 18

The double window arrangement provides an efficient level of cross ventilation, thus the room becomes cool and consequently more habitable, especially during the lot and humid summer months. (Figure 19)

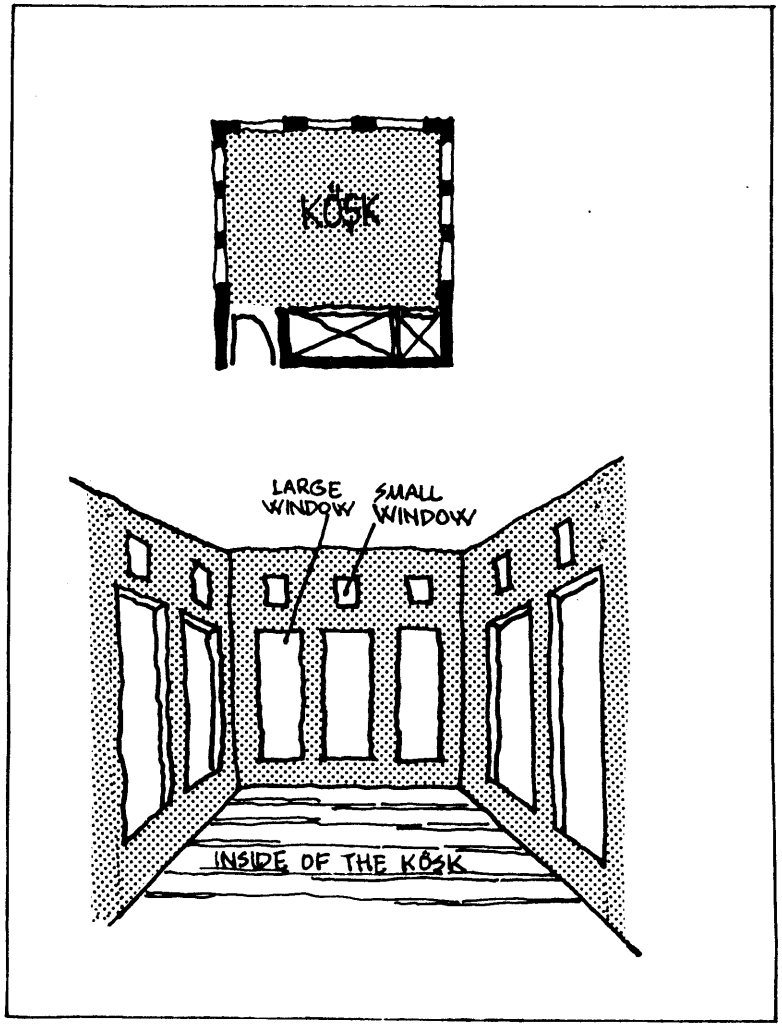


Figure 19

Two or three staircases connect the köşk to the remaining part of the roof area of the first floor. (Figure 20) The roof has a flat surface where working (depending on their agricultural productions) and sleeping (especially during hot summer nights) can take place. The need to use the roof as a working place occurs especially in the harvest time. For example, peanut planting is the main agricultural activity in Anamur, so they bring the peanuts from the field and spread them on the roof to dry. So the roof also becomes an important area serving the household. (Figure 20)

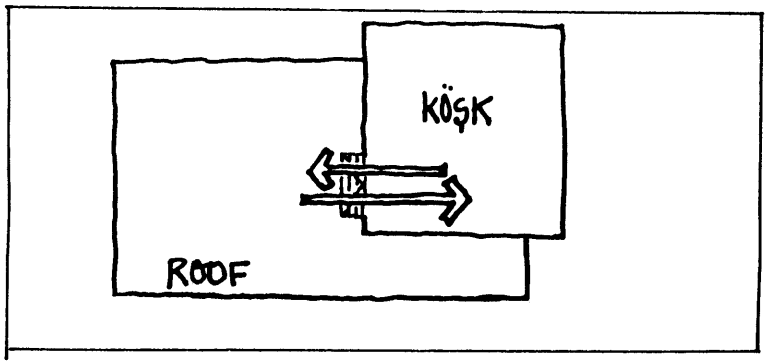


Figure 20

The roof of the köşk has "excessive" overhang projection. (Figure 21) It is mainly to prevent the rainwater from running down the exterior walls and causing annoying infiltrations. The overhanging also protects people on the balcony from sun and rain.

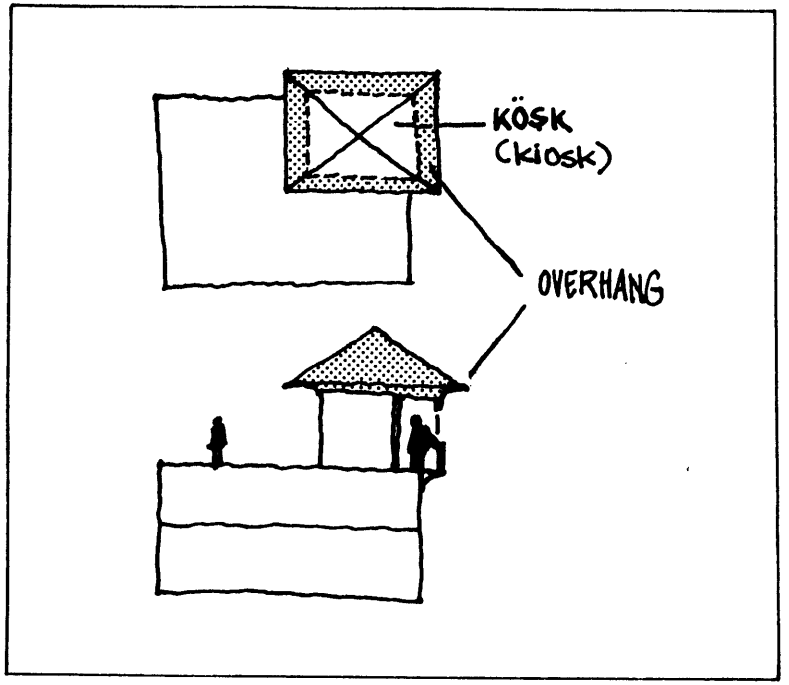


Figure 21

MATERIAL

The house is made of stone and wood, used in a manner that reveals an understanding of their properties, both structural and environmental.

The stone is widely used for both floor covering of the ground level and the walls of the ground and first floor. The thickness of the wall on the ground and first floors is approximately 50 to 70 centimeters. The layering of stone and wood in the wall as shown in figure 22 serves a number of purposes: it ties the two faces of the stone work, it prevents differential settlement by distributing the loads, and it gives the wall added bracing against seismic forces.

The walls of the köşk, as shown in figure 23 , are much thinner and employ a type of construction known locally as the "bagdadi". This wall type is not as strong as the stone walls; it is just stiff enough (only 20 centimeters) to carry the load of the roof protecting the köşk. The "bagdadi" wall type consists of timber studs covered with sand and whitewash. It is a very light construction and very efficient insofar as heat prevention is concerned; it retains little heat and cools down quickly.

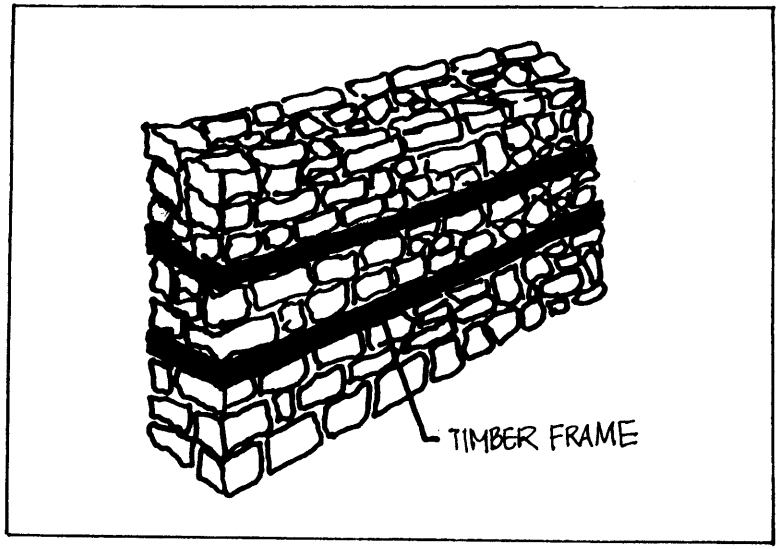


Figure 22

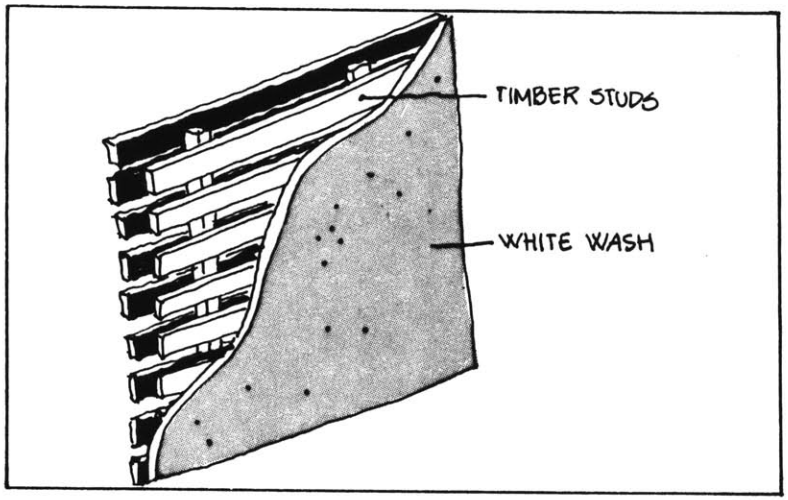


Figure 23

The "bagdadi" wall type is also used to construct the cantilivered and arcaded balconies on the first floor. These balconies are the extensions of the common place and have numerous openings on three sides, like little köşks. They provide cross-ventilation to the interior and at the same time are used as sitting places for external viewing.

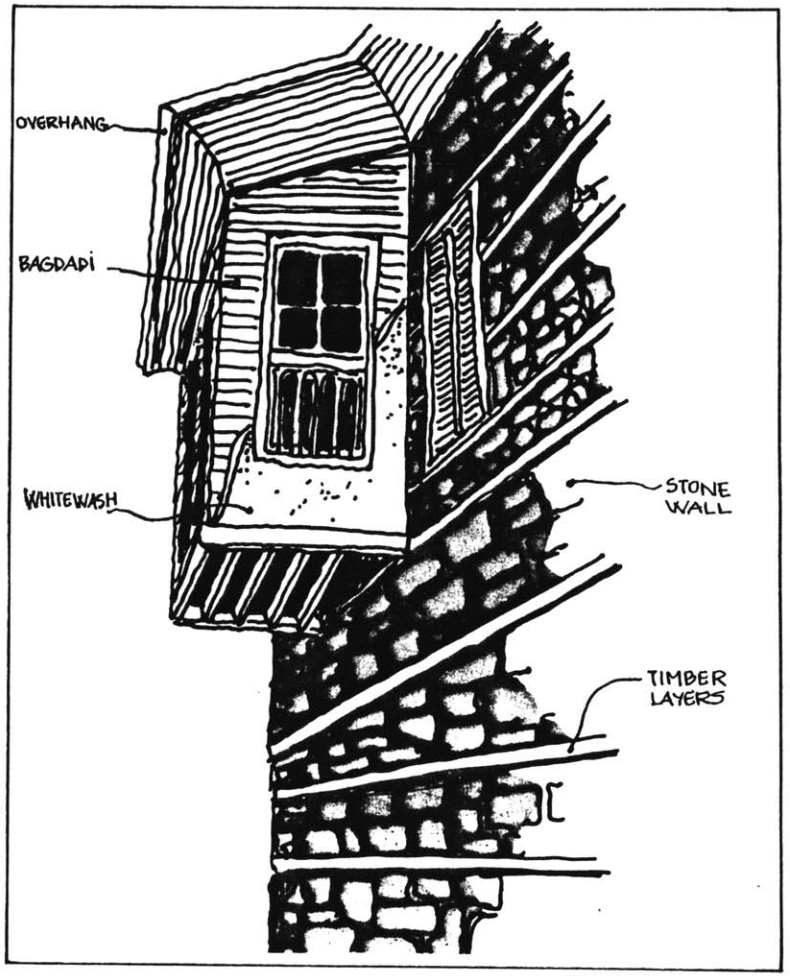


Figure 24.

SHOWING THE CANTILEVERED AND ARCADED BALCONY OF THE FIRST FLOOR.

The flooring is wood throughout the house except for the stone pavement on the ground floor.

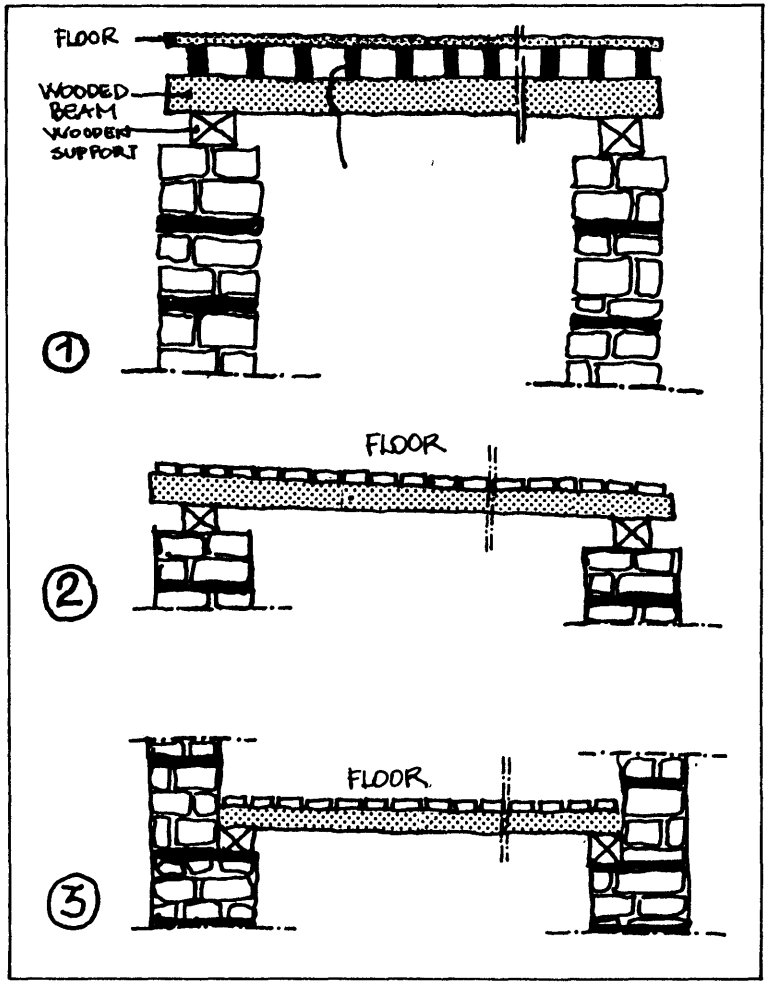


Figure 25

The roofs are mainly of two types:

1. The flat roof which is the most common type. As shown in figure 26 it is made of earth.

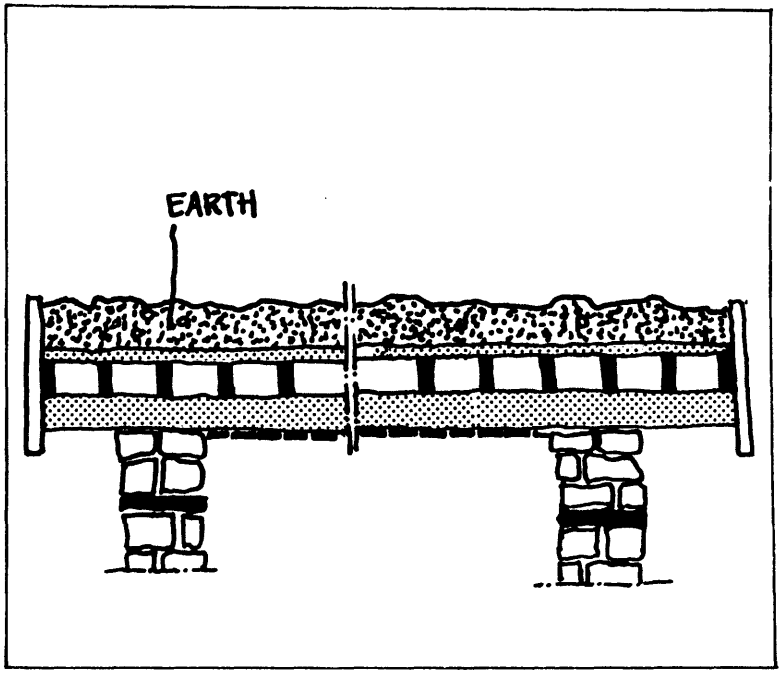


Figure 26

Showing the construction detail of a flat roof. The earth is pressed with heavy rounded stone every year in order to keep it stiff.

2. The pitched roof which is the type often used for köşks. The material used to cover the roof is the ceramic tile, as shown in figure 27

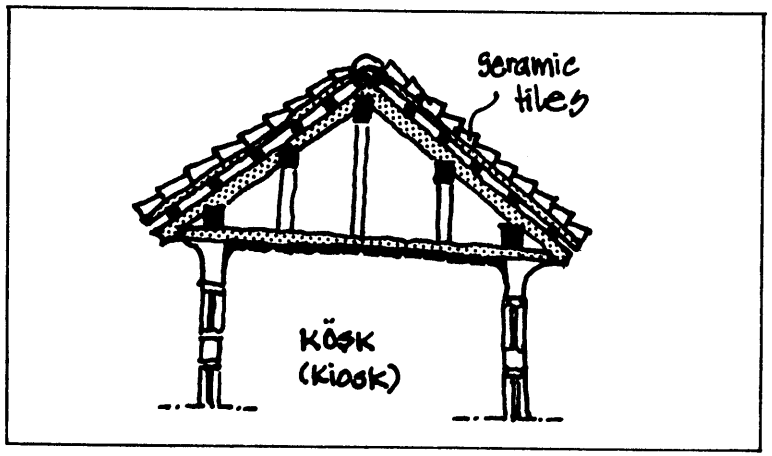


Figure 27

The ceilings of the rooms are covered with wood which is hand-crafted and ornamented with different geometrical patterns. These wood ceilings reduce the amount of heat transferred from outside in; of course this arrangement helps the room become cooler and more comfortable on hot summer days. (Figure 28)

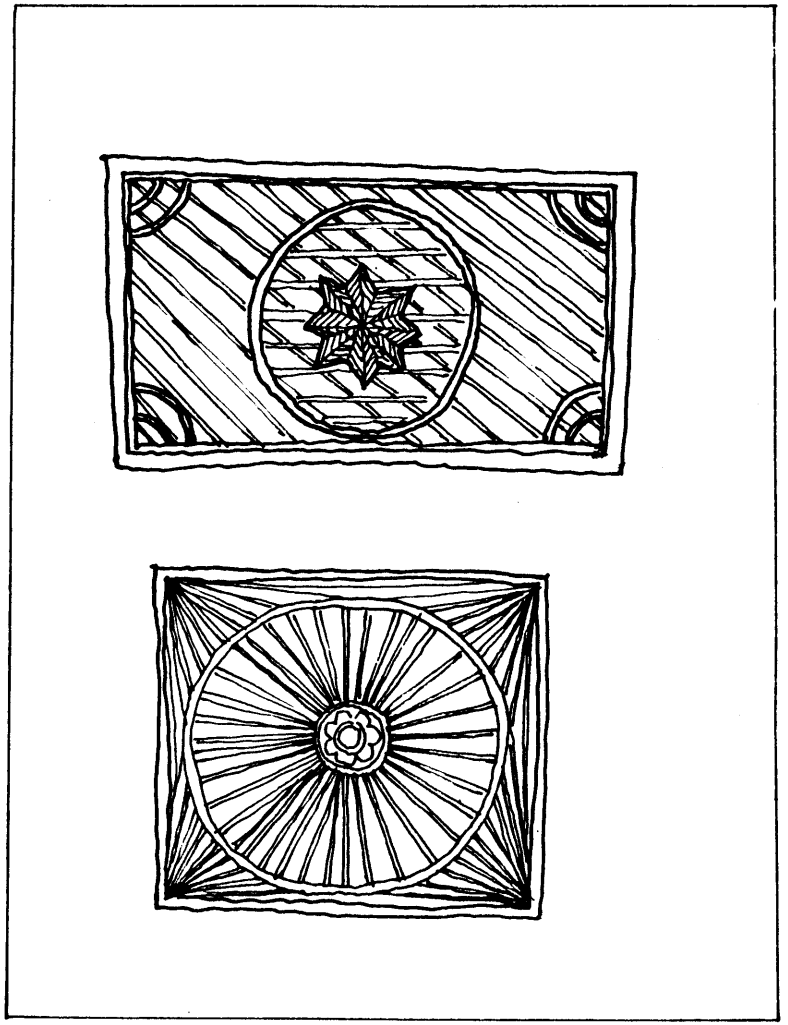


Figure 28

EVOLUTION OF THE HOUSE TYPE

The very first house type (one-room) can still be seen in rural areas of Anamur. A one-room house performs like a multi-room house: different types of household activities can take place simultaneously in this one room. It consists of four stone walls surrounding a square or rectangular area with a roof made of earth. (Figure). When additional space is needed they simply add to the existing house one more room adjacent on any side within the boundaries of the property. (Figure 30) This new room serves either as a service room where they keep their animals and store their agricultural goods, or as a new living space for home activities.

A one-room house becomes a multi-room house with the new additions. After completion of these new additions, the household might still need extra rooms for either their home or field-related activities. At this point, the house is extended vertically instead of horizontally, and the roof of former rooms becomes a large, open terrace. (Figure 31)

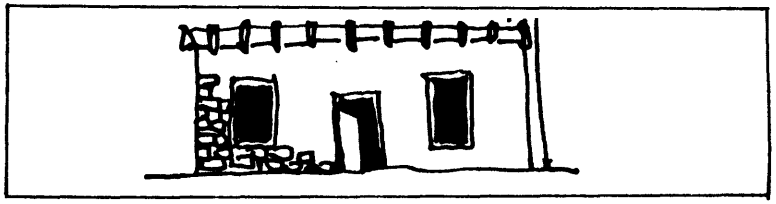


Figure 29

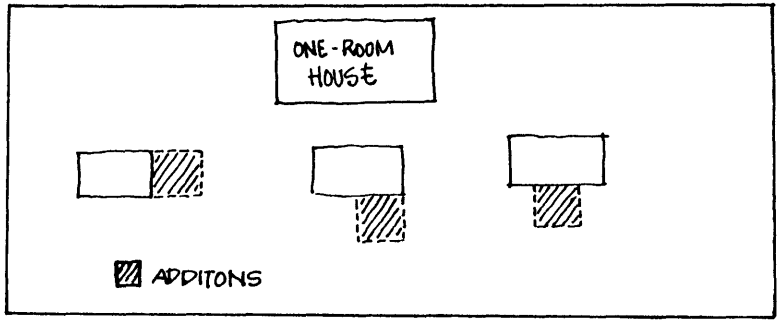


Figure 30

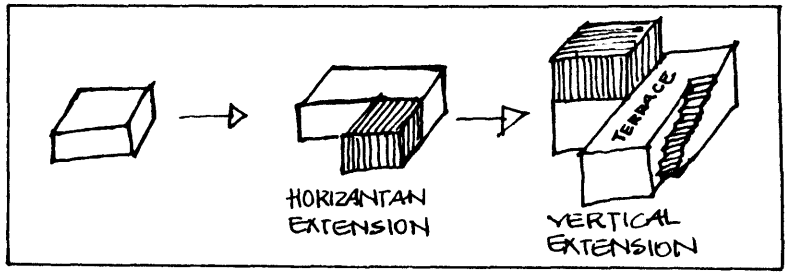
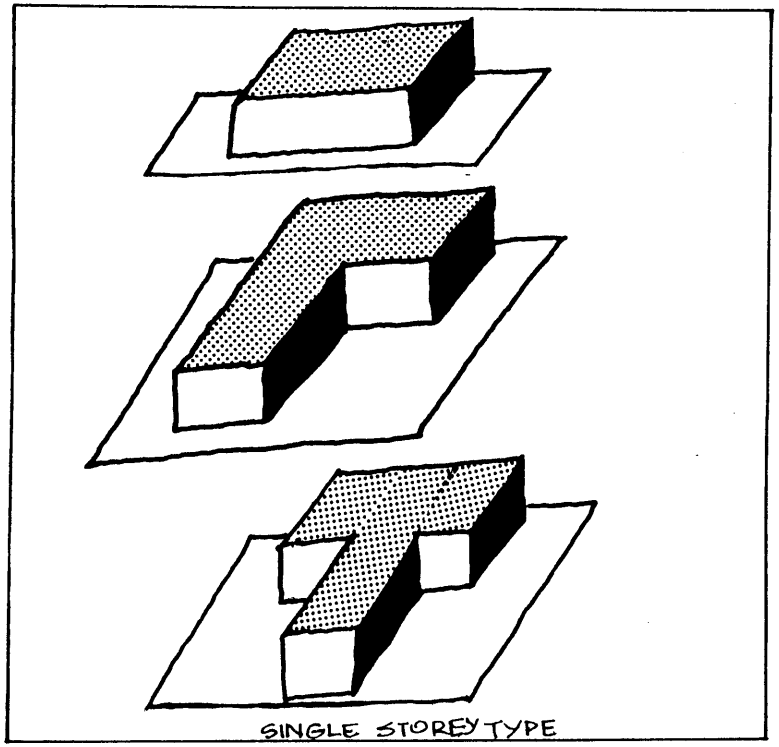
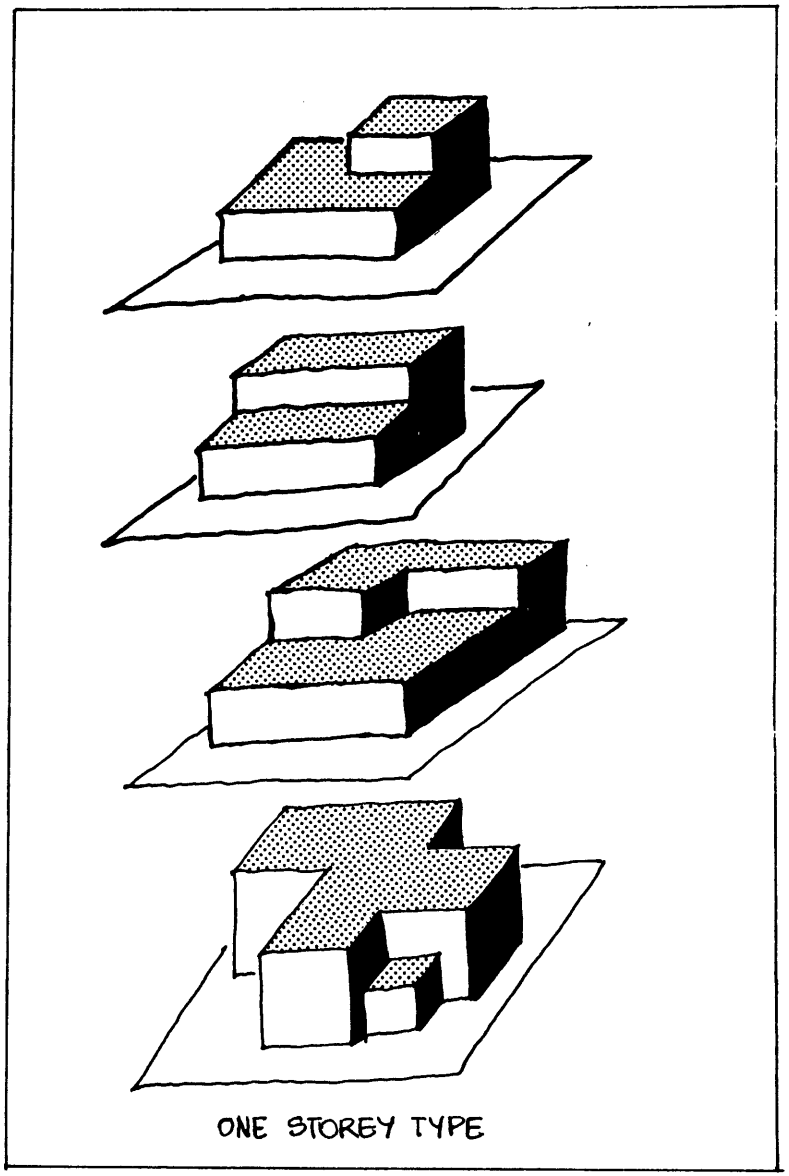


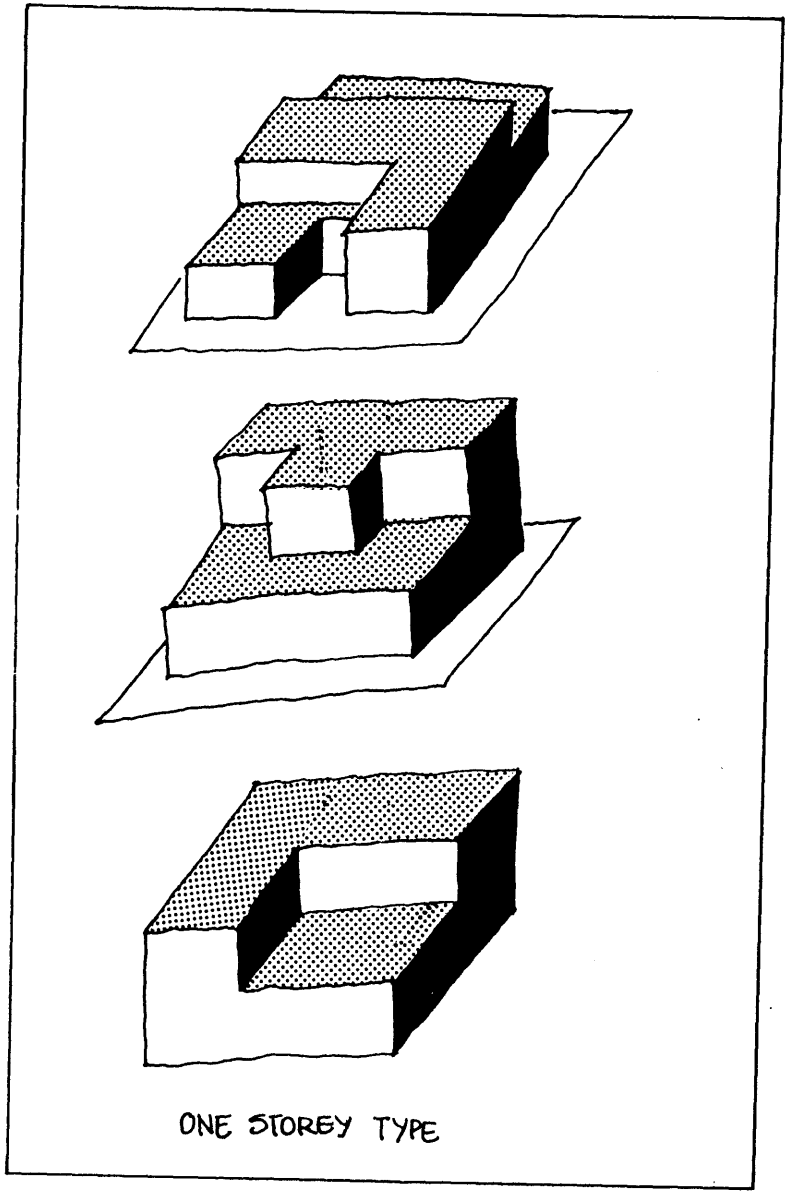
Figure 31

The process of extension goes on whenever a need for an extra room occurs. When the economical power grows, so does the house, and when the family type changes, so does the house.

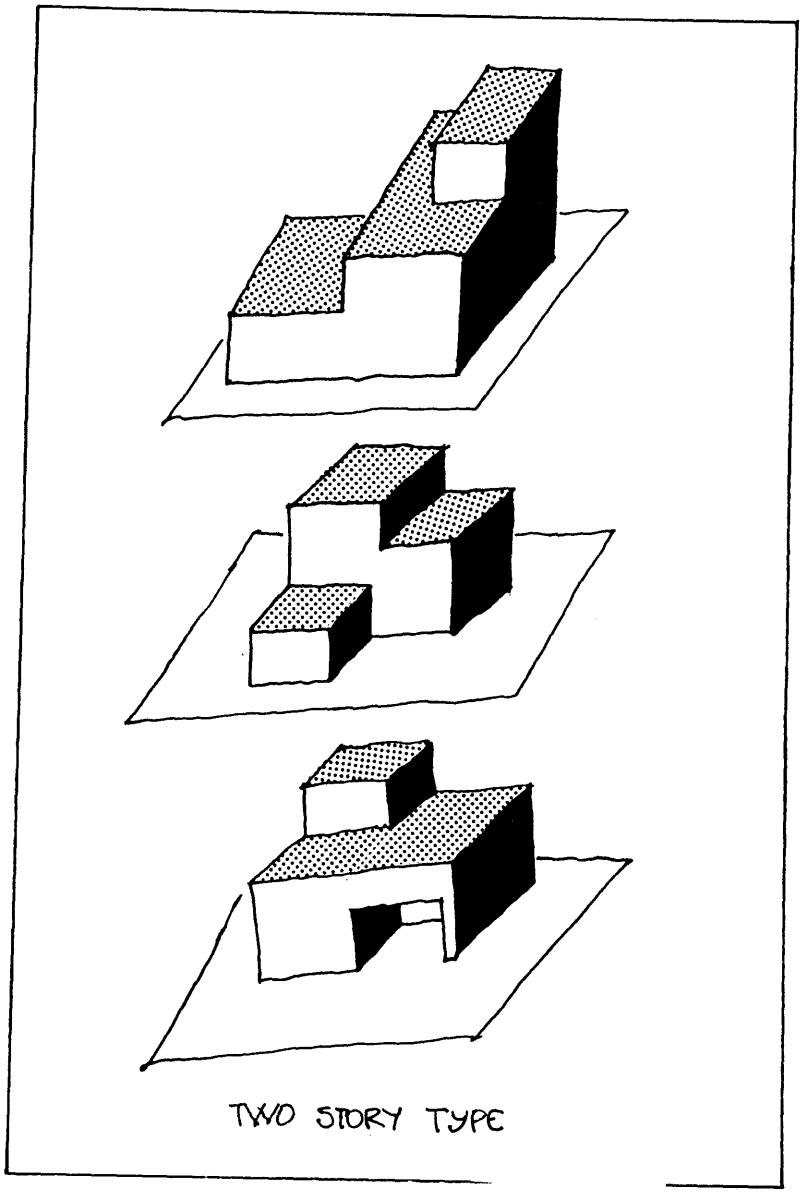
The following figures are based on the types of houses I observed during my case-study in Anamur.



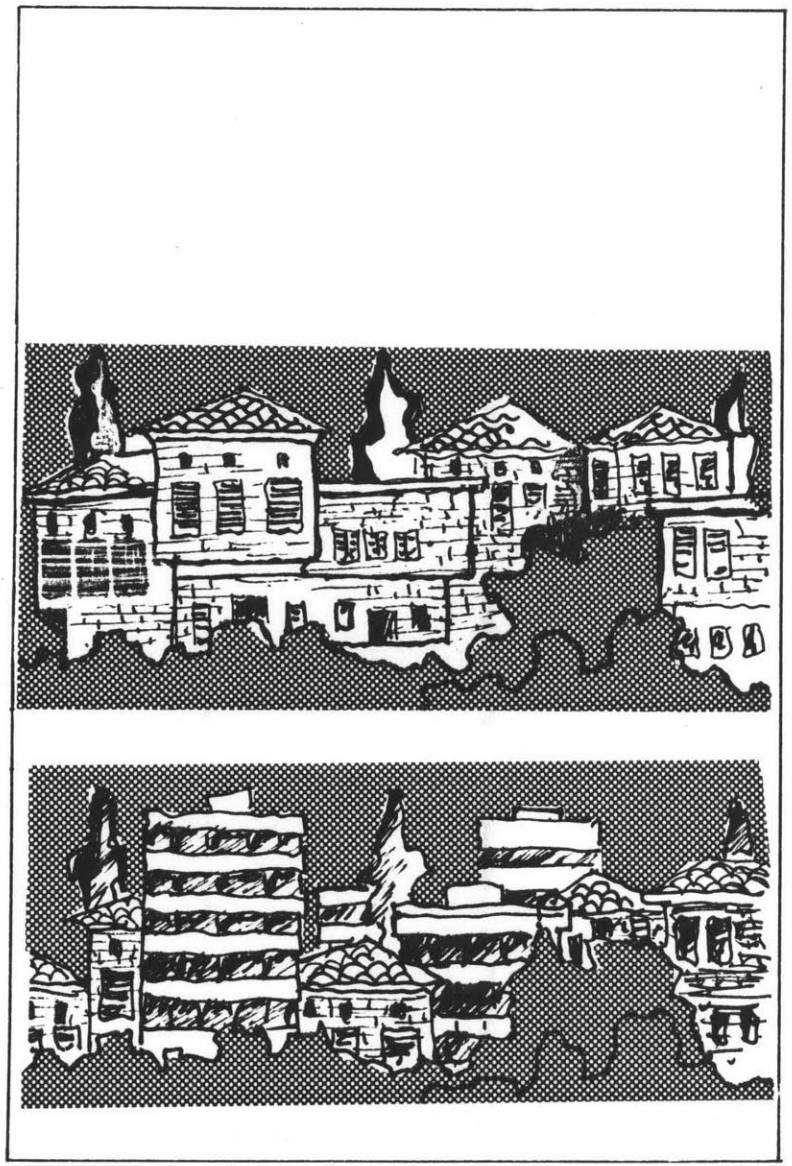




ONE STOREY TYPE



TWO STORY TYPE



COMPARISON/ASSUMPTIONS/QUESTIONS

COMPARISON

Anamur is in a temperate zone. The buildings built in a contemporary manner ignore thermally adaptive structures, whereas the traditional houses have highly responsive passive cooling systems which have been achieved by their designers through proper orientation of the house, an appropriate number of openings, and the proper use of materials.

The buildings built in a contemporary context present monotonous facades which do not complement the city's traditional landscape and cause visual aesthetic discomfort, whereas the traditional houses present a great variety of facades that fit the city's landscape appropriately.

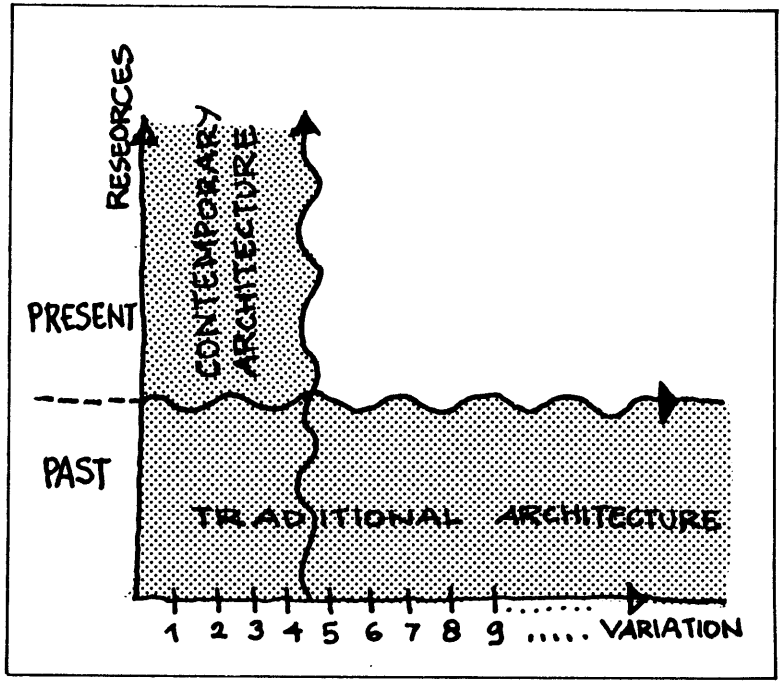
The traditional houses of Anamur are

are characterized by features totally different from the neighboring contemporary ones even though they share the same area. Traditional houses show a rich variety of architectural interpretations in terms of internal plan and external facade arrangements. Not one house looks like the one next to it, even though in the past the availability of materials used and techniques applied were limited. So-called contemporary houses do not have this rich variety, even though the materials applied are almost unlimited today.

ASSUMPTIONS FOR FURTHER INQUIRIES

The traditional architecture - that is, architecture without architects - demonstrates unlimited variations of house form in spite of a limited availability of resources.

Contemporary architecture - architecture with architects - demonstrates limited variation of house form, under a relatively unlimited availability of resources.



QUESTIONS

Do limited resources create unlimited variation? (Traditional architecture.)

Or

Do unlimited resources create limited variation? (Contemporary architecture.)

CASE STUDY

In this section photographs and drawings document seven of the traditional houses of Anamur, three of which were measured as prototypes. The photographs provide a visual description of the actual situation of the houses while the drawings show both the design patterns and the physical elements used to form these houses.

NOTE: The numbers appearing in the text indicate the section of the measured drawing of the house under discussion.

HOUSE.1. THE HOUSE OF MOLLA MEHMET

GROUND FLOOR

On the ground floor there are four entrances (1), two to the ground floor and two others for the first floor. The ground floor is divided into two main sections: the service area (3,4) on the left, and the "guest" area (6) on the right.

Structurally this floor displays three divisions separated by solid walls, but in reality the service area takes two-thirds of the ground floor plan. The entrance to the service hall is located at the center, whereas the guest-entrance door is pushed back several meters so as to give the guest a sense of privacy and respect.

There are four staircases placed "loosely", all of them leading to the first floor, thus creating separate entries to the area.

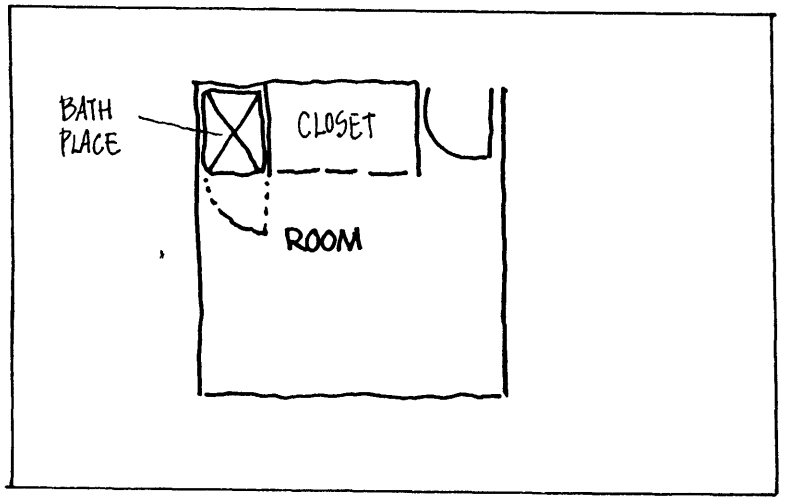
Two toilets are located on the ground floor, one of which is a completely separate unit, built on the south side, with distinct accesses to the ground and the first floor. (7) The other one is at the back of the service hall for use by those working in this area.

THE FIRST FLOOR

This floor has four rooms, three of which are on the back (East side) and one on the front (west side). The kitchen also faces the front facade. The corridor that runs diametrically, from North to South, provides openings to the rooms and at the same time generates cross-ventilation to the interior of the house. The common place (11) is located in the west part of the house and is connected internally to the ground floor by means of a wooden staircase.

Apart from the toilet on the ground floor - connected to this level by means of a staircase on the upper right corner (7)- there is an additional one at the upper left corner, placed on top of the septic tank. (5)

All the rooms have their own small "bath" places, located usually at the corner of the big wooden closet. (1)



(1)

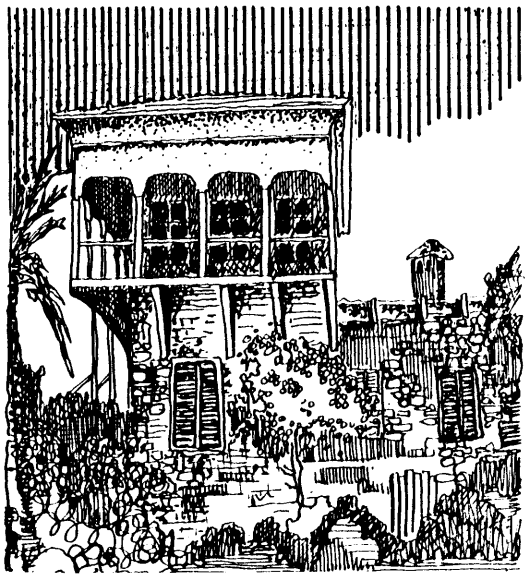
Showing the location of the bath place in the room.

There are two balconies, one of which faces the South - the good view - and the other one facing the North. Both of them are connected to the ground floor by means of staircases. The small staircase runs perpendicularly to the others, providing access to the second floor.

SECOND FLOOR

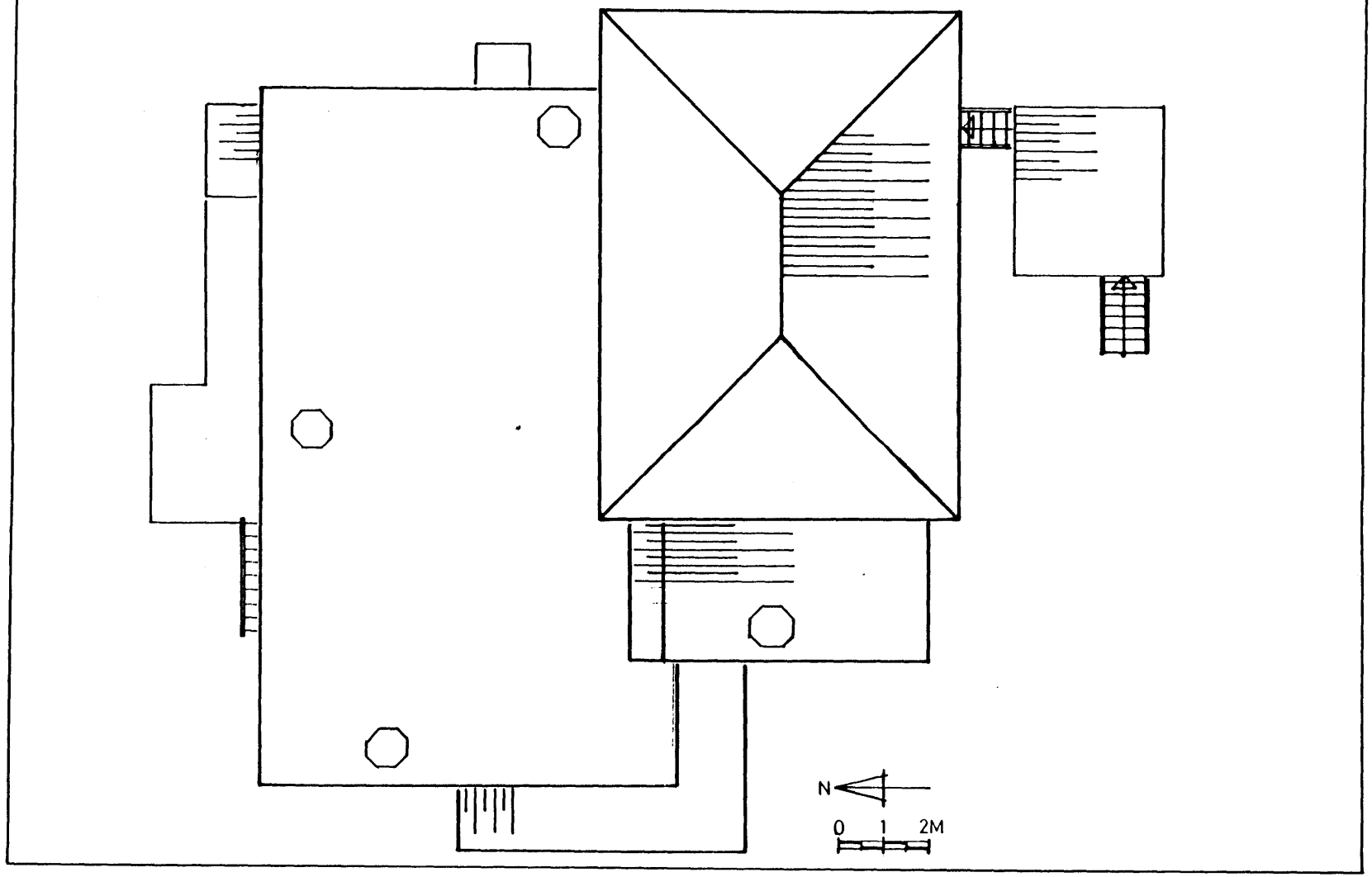
The second floor consists of just a room (1) surrounded by an arcaded and cantilevered balcony on two sides which protects the room from direct sunlight. The continuation of the balcony connects this section to the remaining roof area of the flirst floor with a two-step staircase.

The following pages are the measured drawings of the house of Molla Mehmet.



Molla Mehmet's house

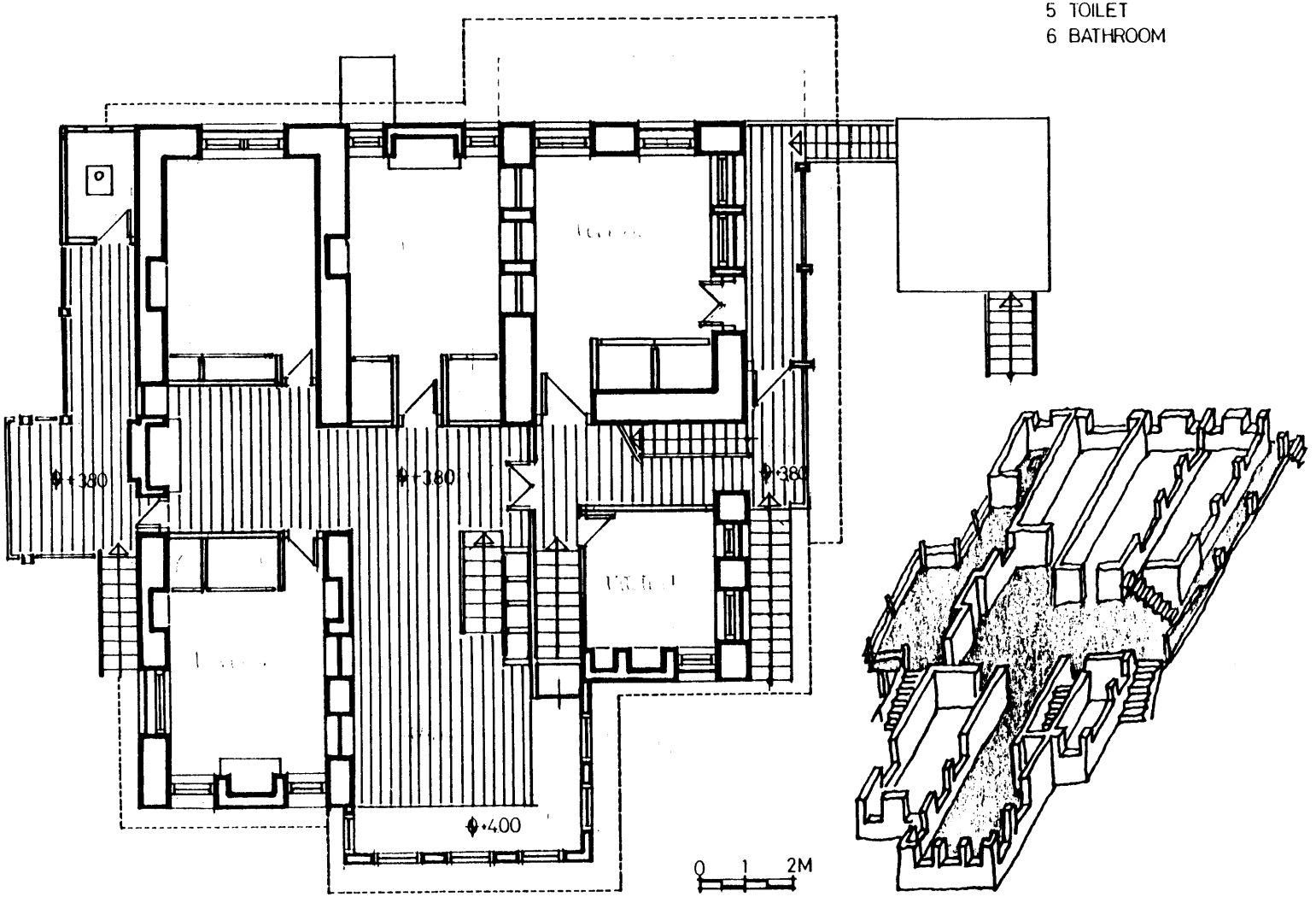
ROOF PLAN_1/100



Molla Mehmet's house

FIRST FLOOR PLAN_1/100

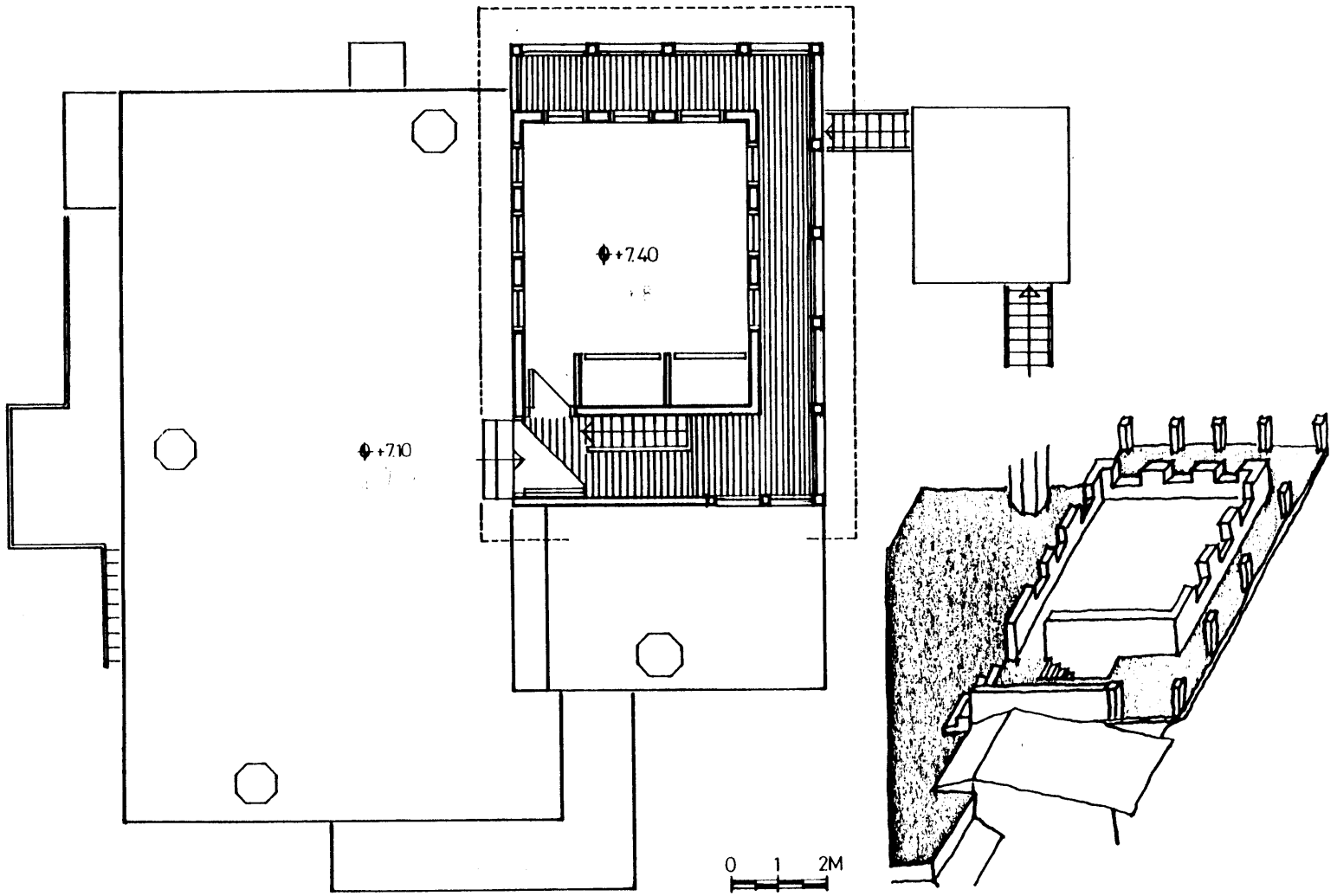
1 COMMON PLACE
2 BALCONY
3 KITCHEN (COOKING+EATING)
4 BEDROOM
5 TOILET
6 BATHROOM



Molla Mehmet's house

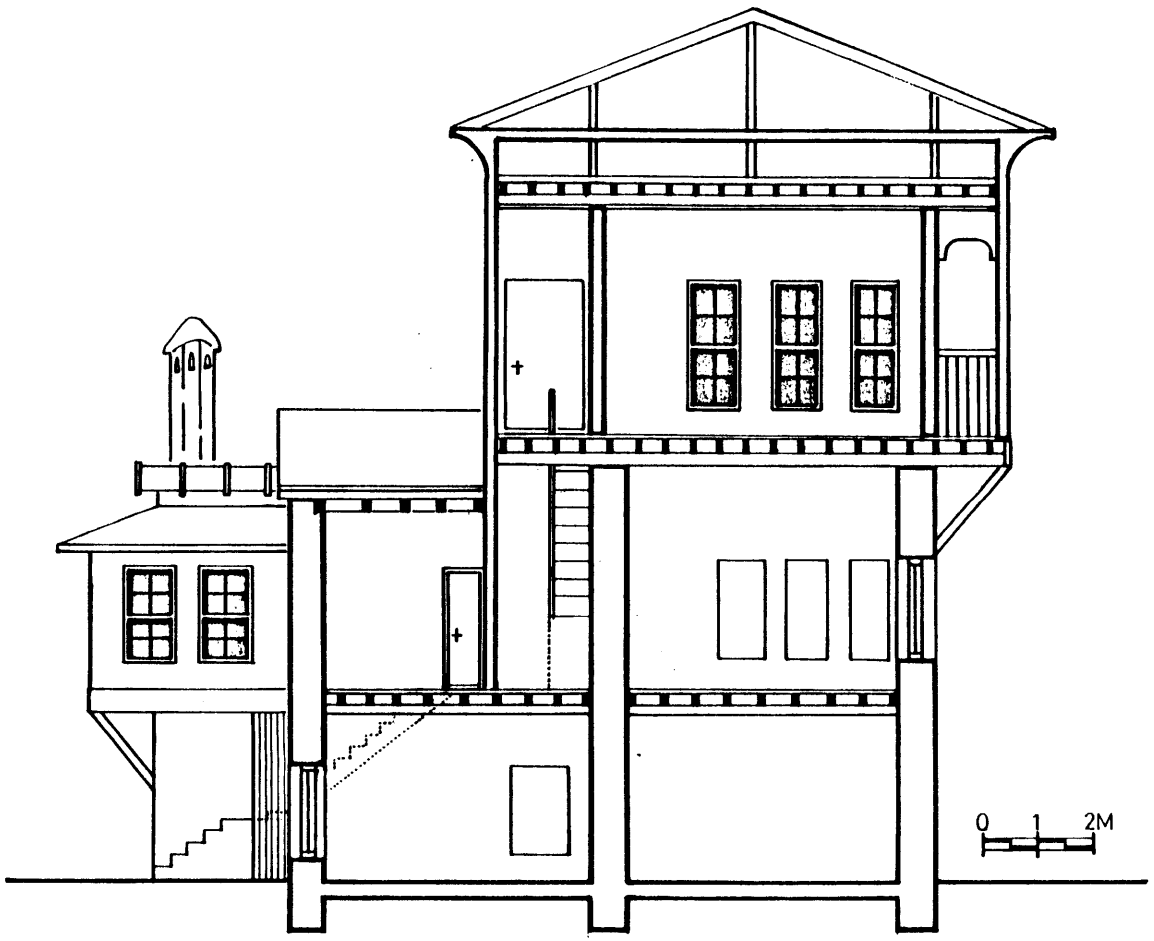
SECOND FLOOR PLAN_1/100

1 KÖŞK (ROOM_KIOSK)
2 TERRACE
3 BALCONY



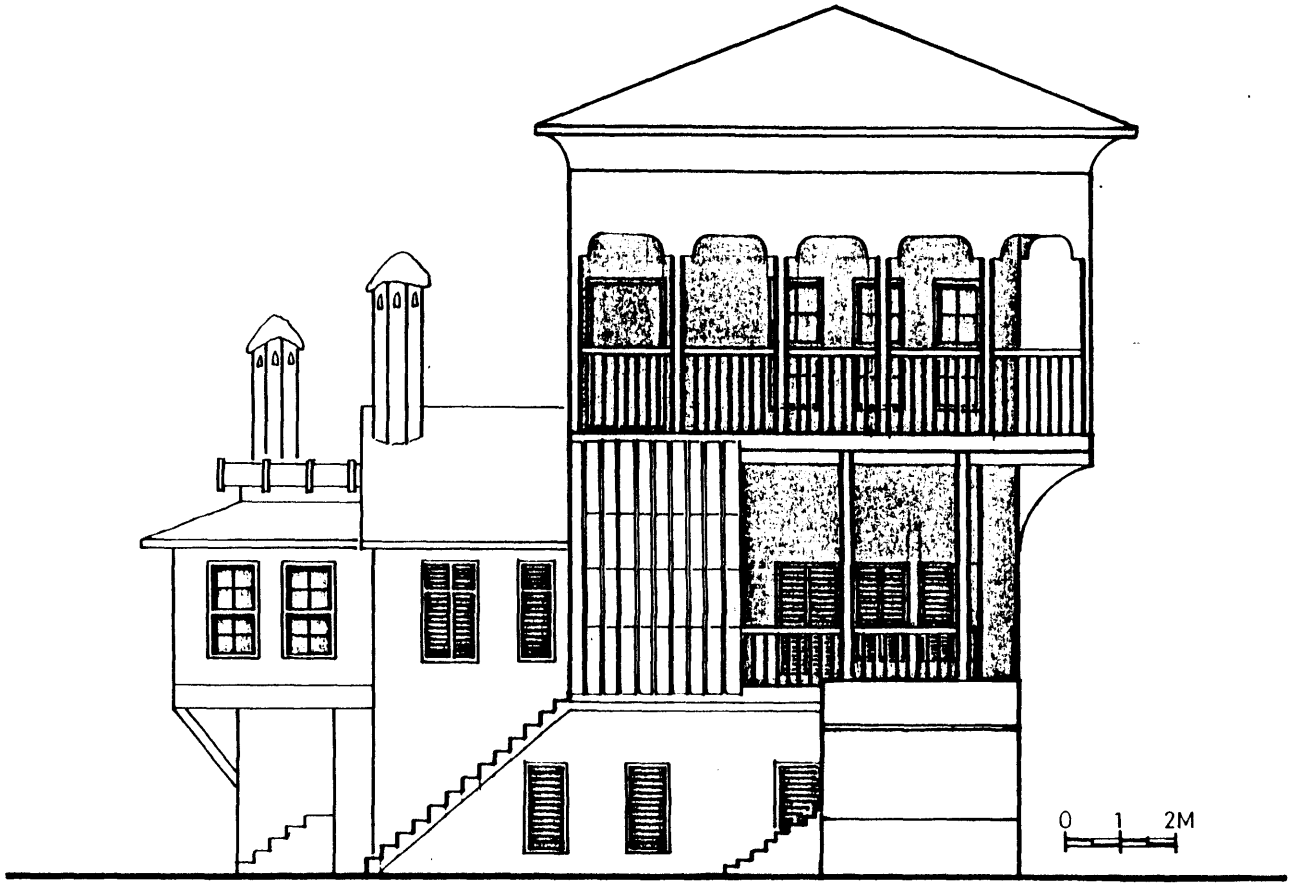
Molla Mehmet's house

SECTION_A.A_1/100



Molla Mehmet's house

SOUTH FACADE 1/100



Molla Mehmet's house

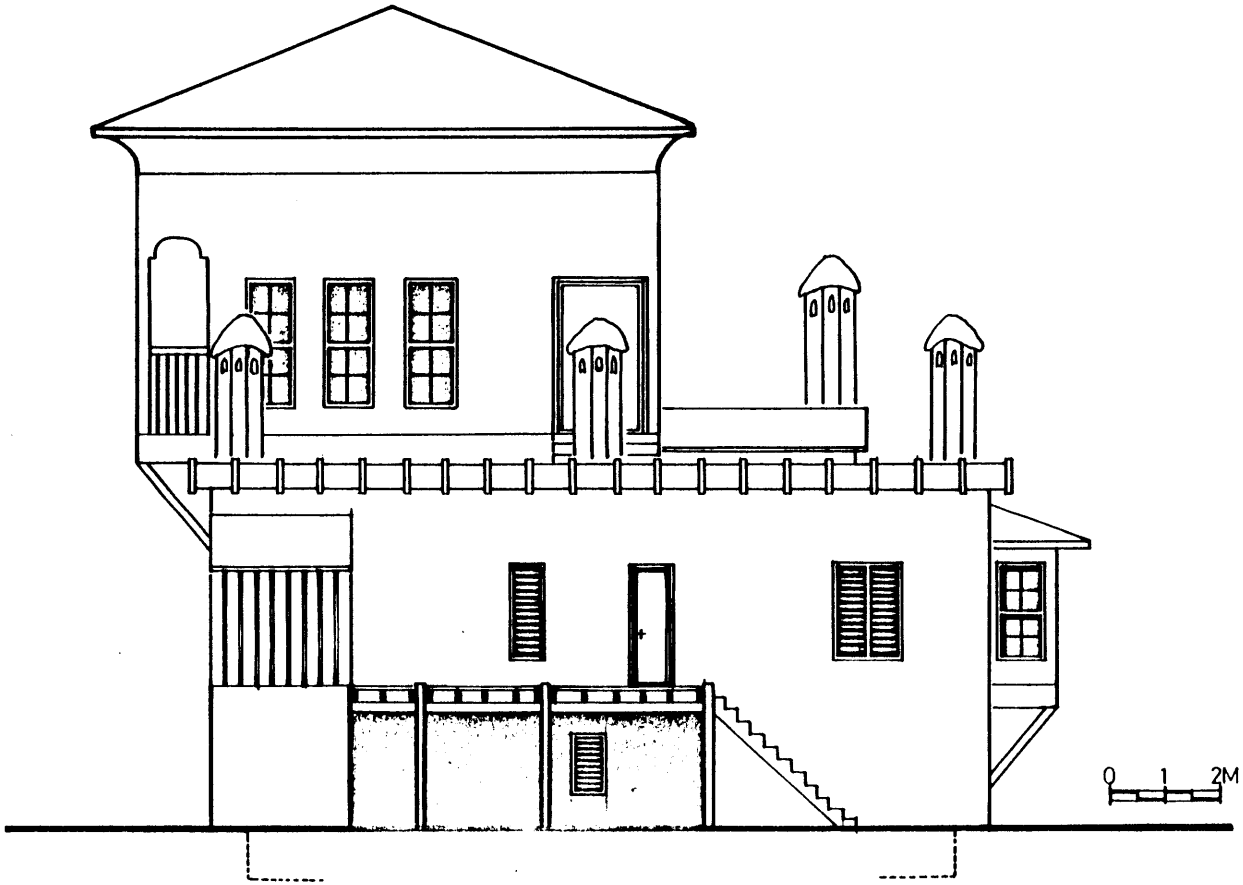
EAST FACADE 1/100

Molla Mehmet's house

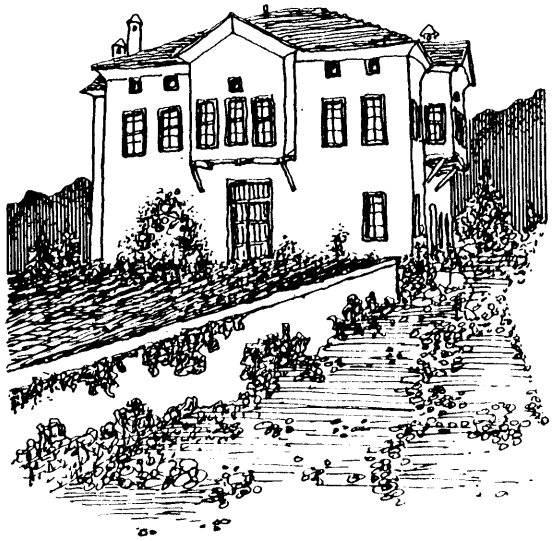
WEST FACADE 1/100

Molla Mehmet's house

NORTH FACADE_1/100



HOUSE.II. THE HOUSE OF KISA KAHYA



GROUND FLOOR

On the ground floor there are four entrances, one of which is the main entrance located centrally on the street side (East) of the house. On the same side there are two more entrances located symetrically on both sides of the main entrance, one of which serves as a guest entrance and the other as a storage entrance. The centrally located fourth entrance on the South side serves as a service entrance and provides a direct connection between the field and the house. Besides the guest (3) and the storage (4) rooms on the street side there are two more rooms on the back (West side), the one located on the upper left corner serving as a stall area for horses (8) and the other one - located on the upper right corner - serving as a storage room. (6) The small room between these two rooms serves as a pountry room. The L-shaped

staircase which provides access to the first floor is located on the left side of the entrance wall.(5)

THE FIRST FLOOR

The floor has the same type of spatial arrangement as the ground floor: four rooms (5) located at the corners of the house and each of them connected by doors to the common place. Every room has windows to the outside. The room on the upper right corner is used as a kitchen while the others serve as multi-functional areas for sleeping, eating and living/social purposes.

The kitchen (3) and the toilet (4) on this floor are located at the end of the common place (West side). The kitchen (3) appears to be a second kitchen on the same floor. It is used especially as a baking place.

The common place has cantilevered and arcaded extensions to the three sides extensions to the three sides (North, South and East) with numerous openings as windows which provide cross-ventilation to the interior of the house as well as outdoor observation opportunity.

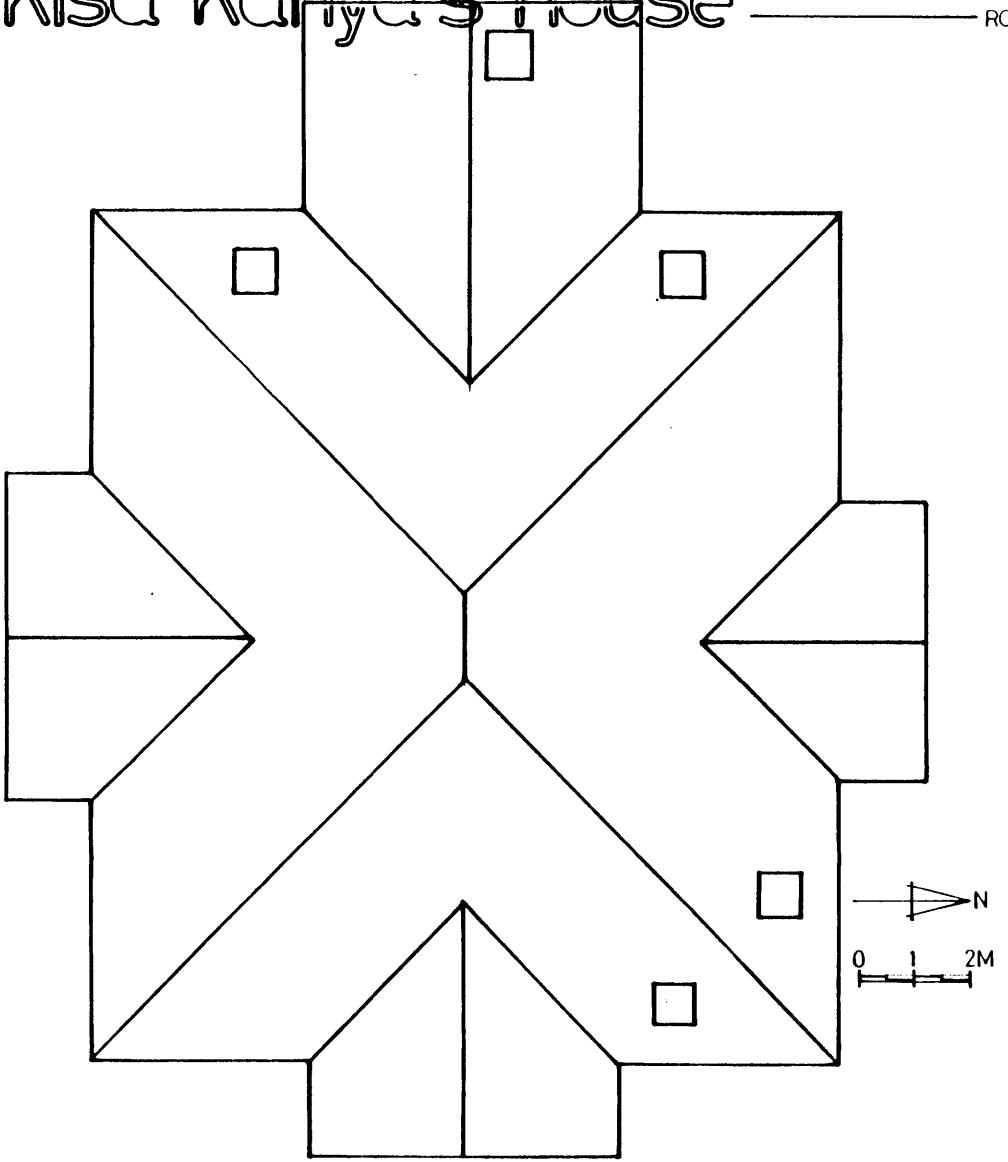
The bath places, again, appear on the corners of the big wooden closets in every room.

A gallery floor between the ground and first floors serves as a large storage area of the household. This gallery floor has only one staircase, leading up to the first floor. (There is no direct connection - staircase - between the ground floor and the gallery floor.)

The measured drawings from this house follow.

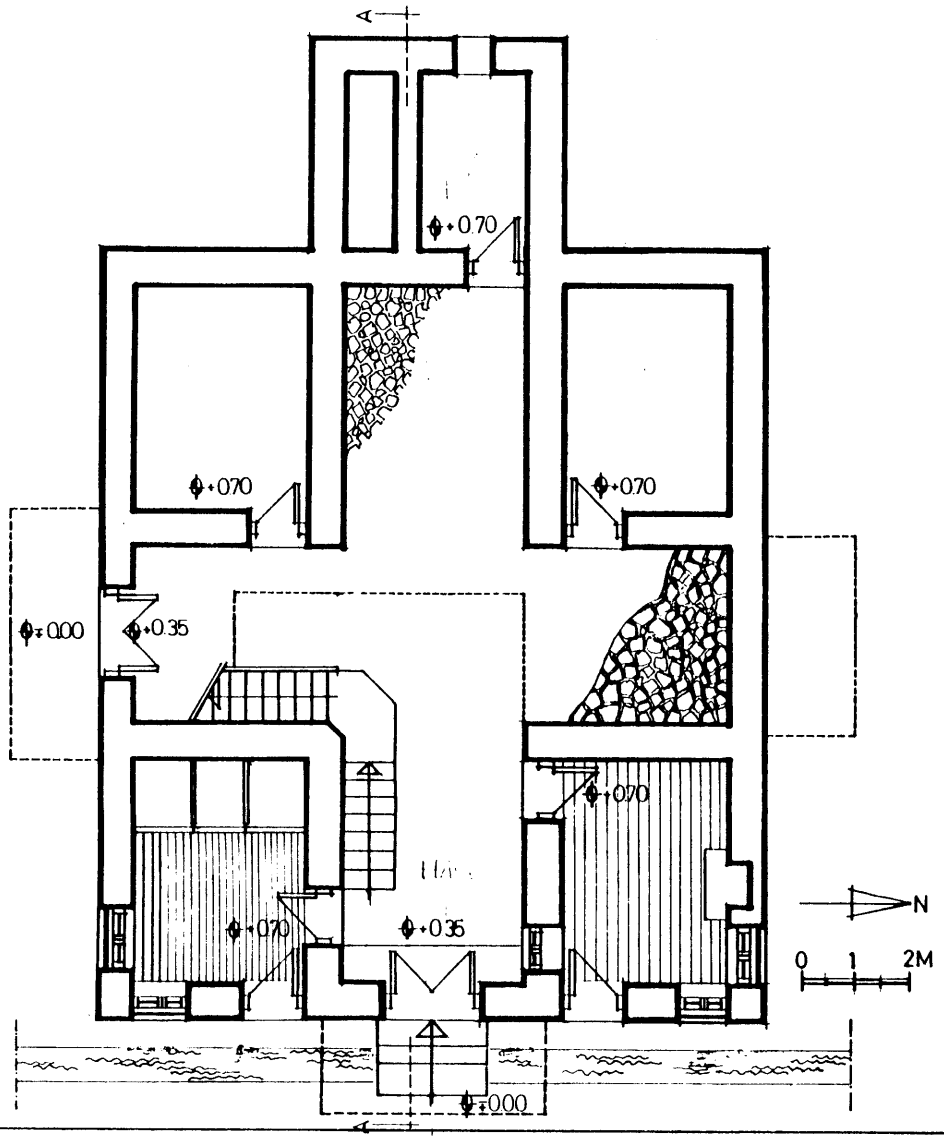
Kisa Kahya's house

ROOF PLAN _1/100



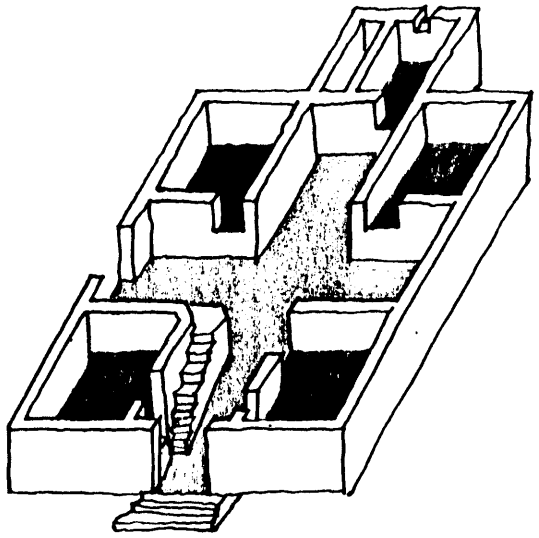
Kisa Kahya's house

GROUND FLOOR PLAN_1/100



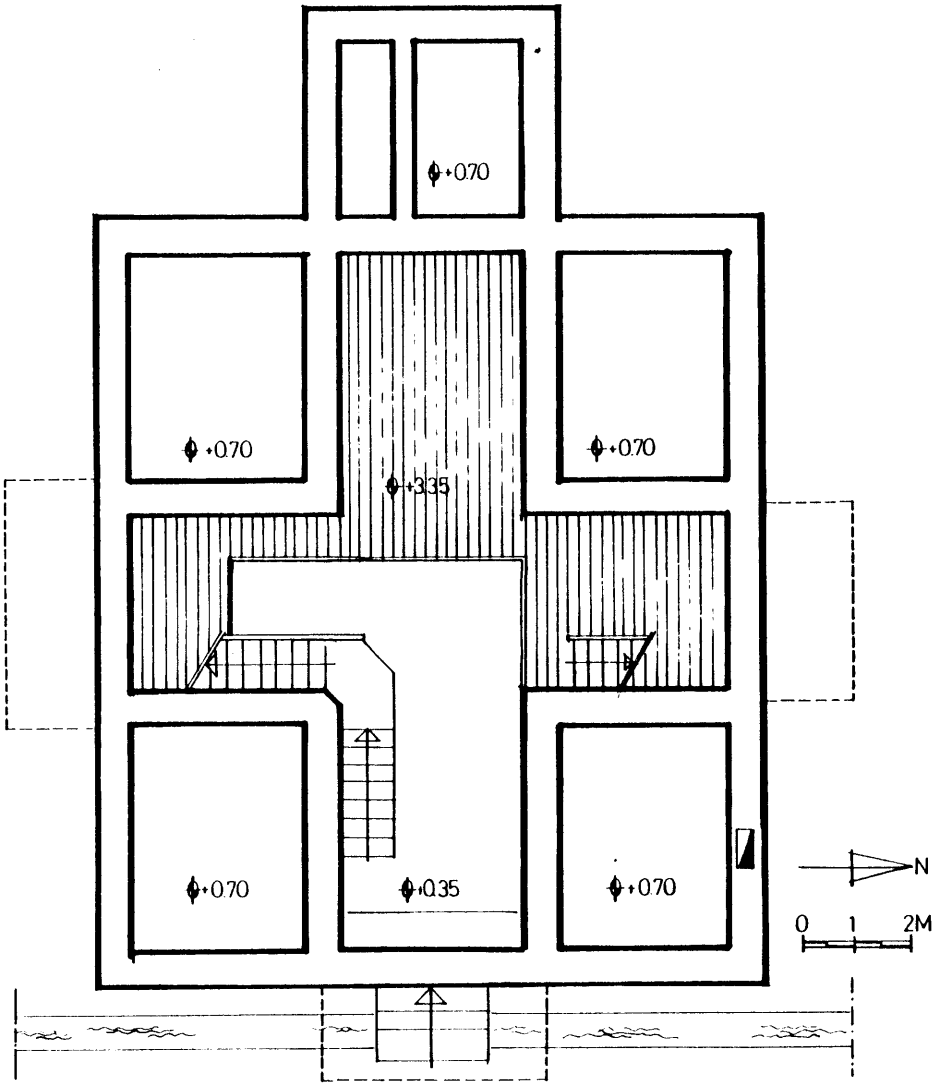
1 MAIN ENTRANCE
2 SECONDARY (SERVICE) ENTRANCE
3 GUEST ROOM
4 STORAGE (WHEAT)
5 ENTRANCE HALL
6 STORAGE (STRAW)
7 CHICKEN POULTRY
8 HORSE BAY
9 SEPTIC TANK

SKETCH SHOWING GROUND FLOOR

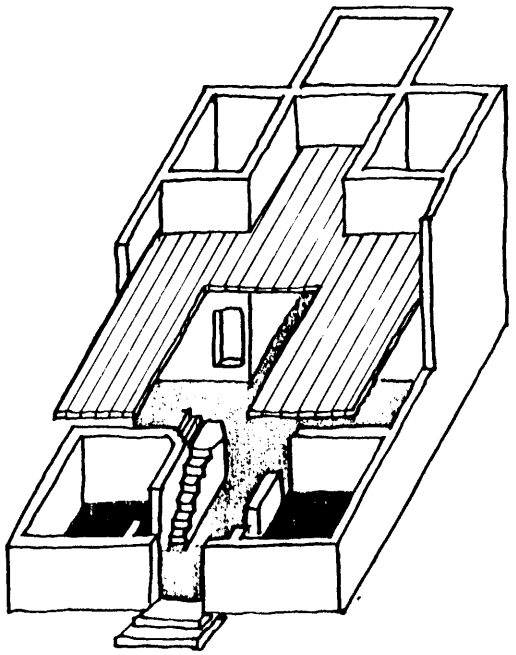


Kisa Kahya's house

GALLERY FLOOR PLAN_1/100

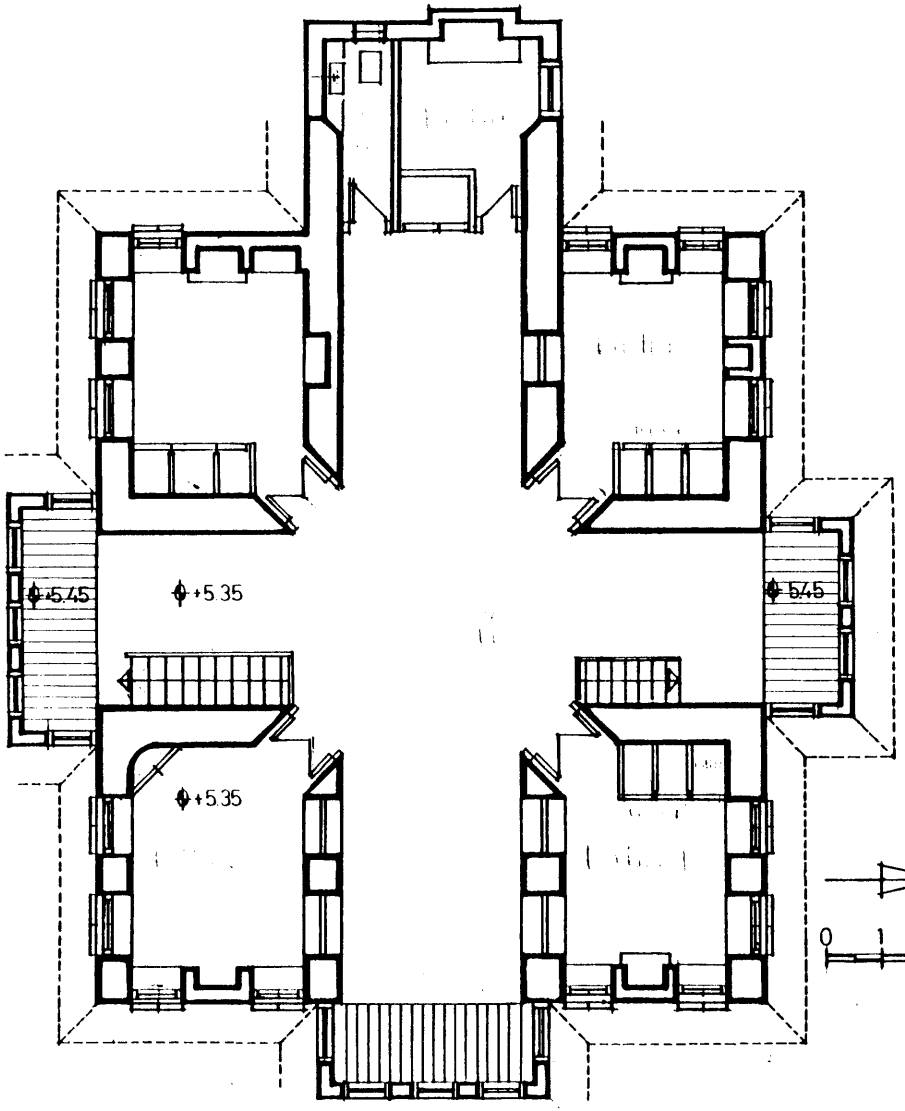


SKETCH SHOWING GALLERY FLOOR



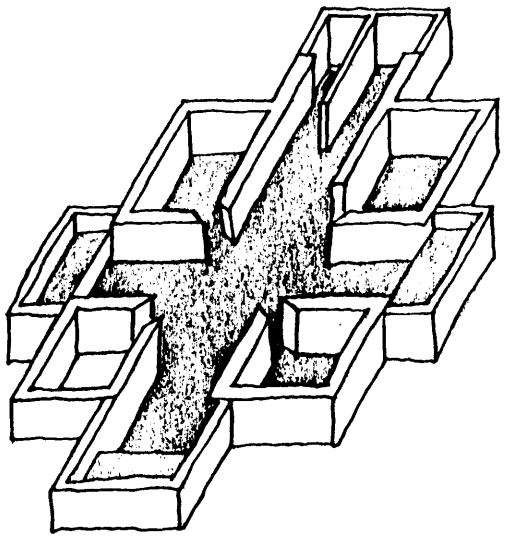
Kisa Kahya's house

FIRST FLOOR PLAN_1/100



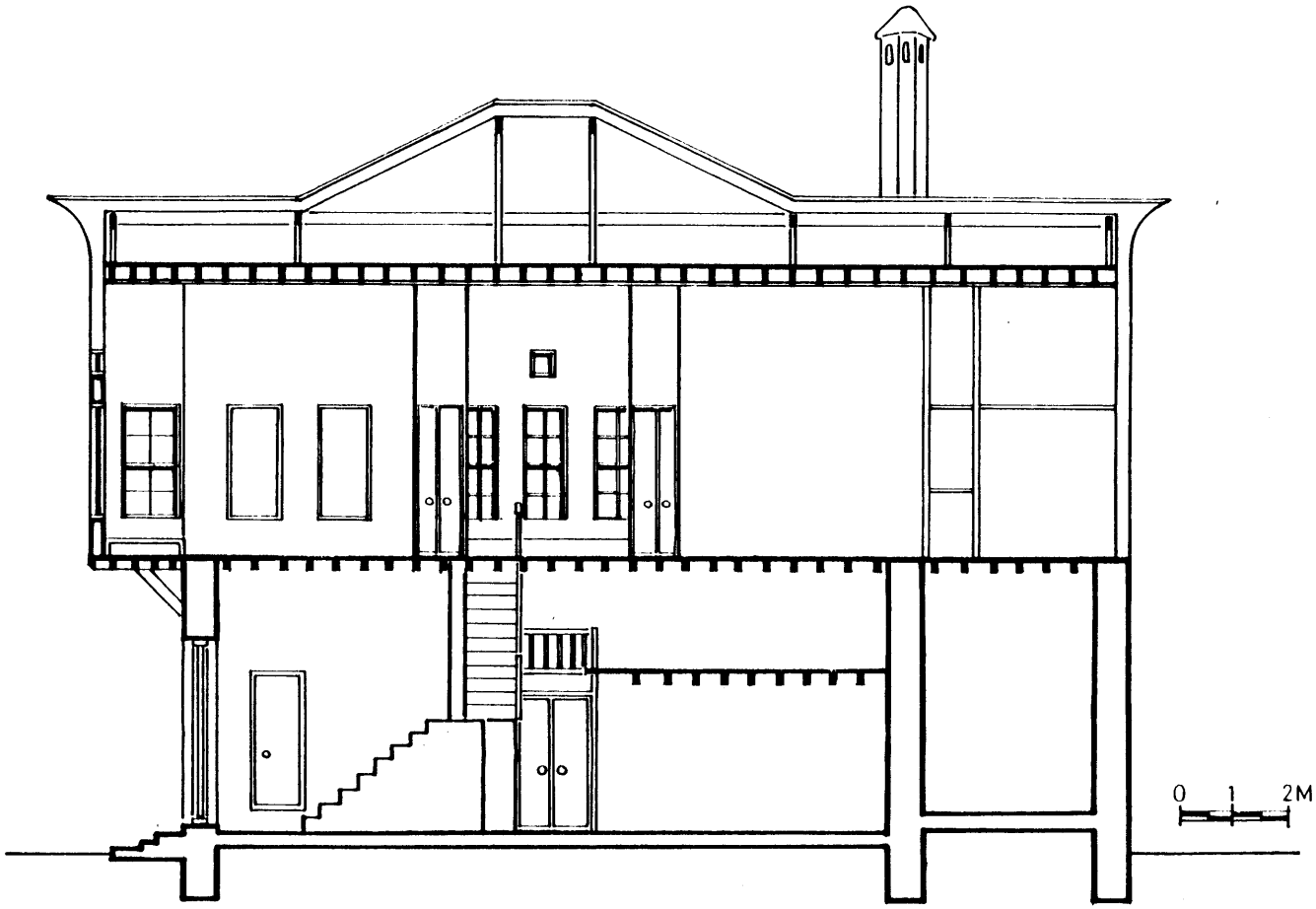
1 COMMON PLACE
2 KITCHEN (COOKING / EATING)
3 KITCHEN (COOKING)
4 TOILET - BATHROOM
5 ROOM (SLEEPING / LIVING)

SKETCH SHOWING FIRST FLOOR

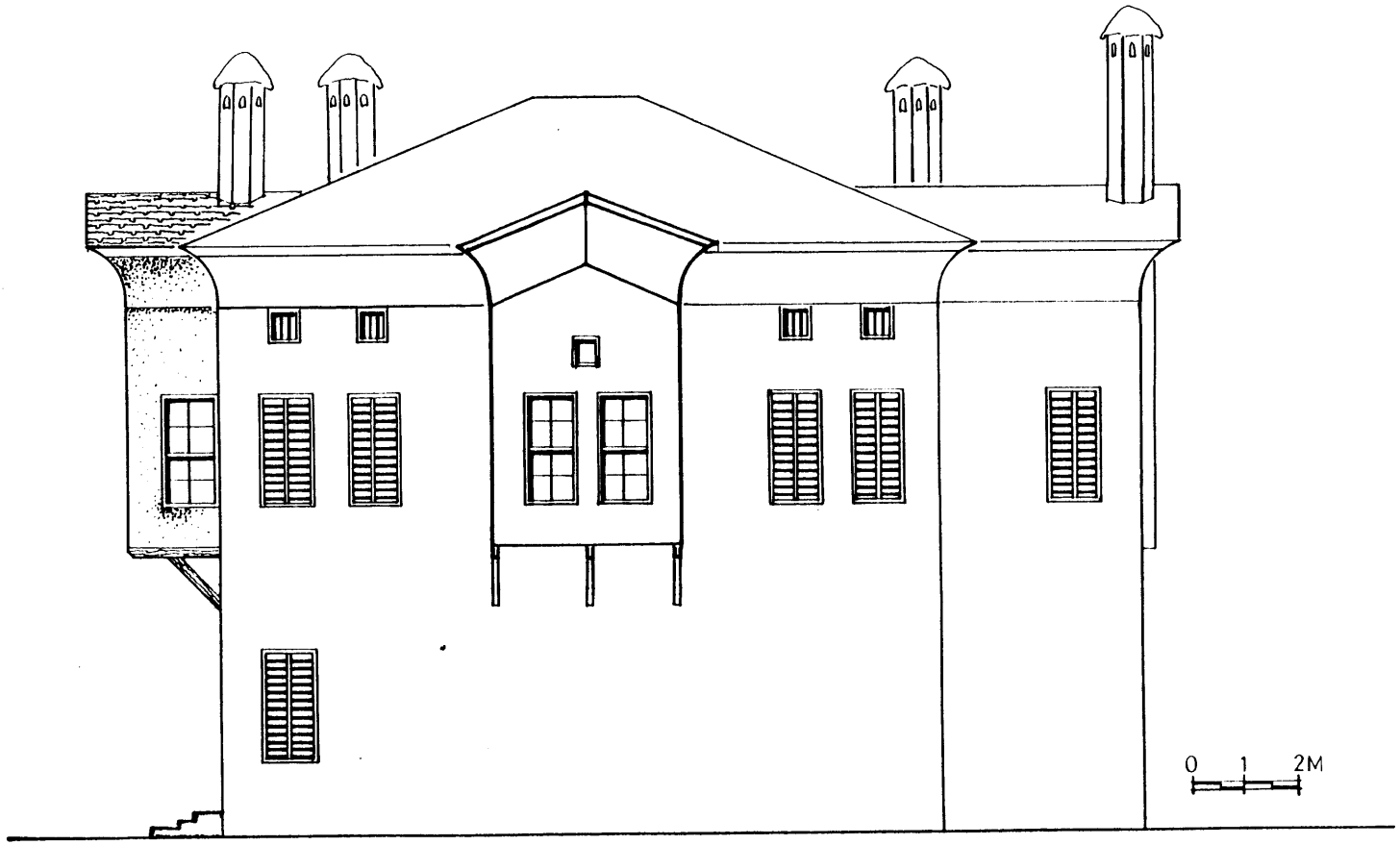


Kisa Kahya's house

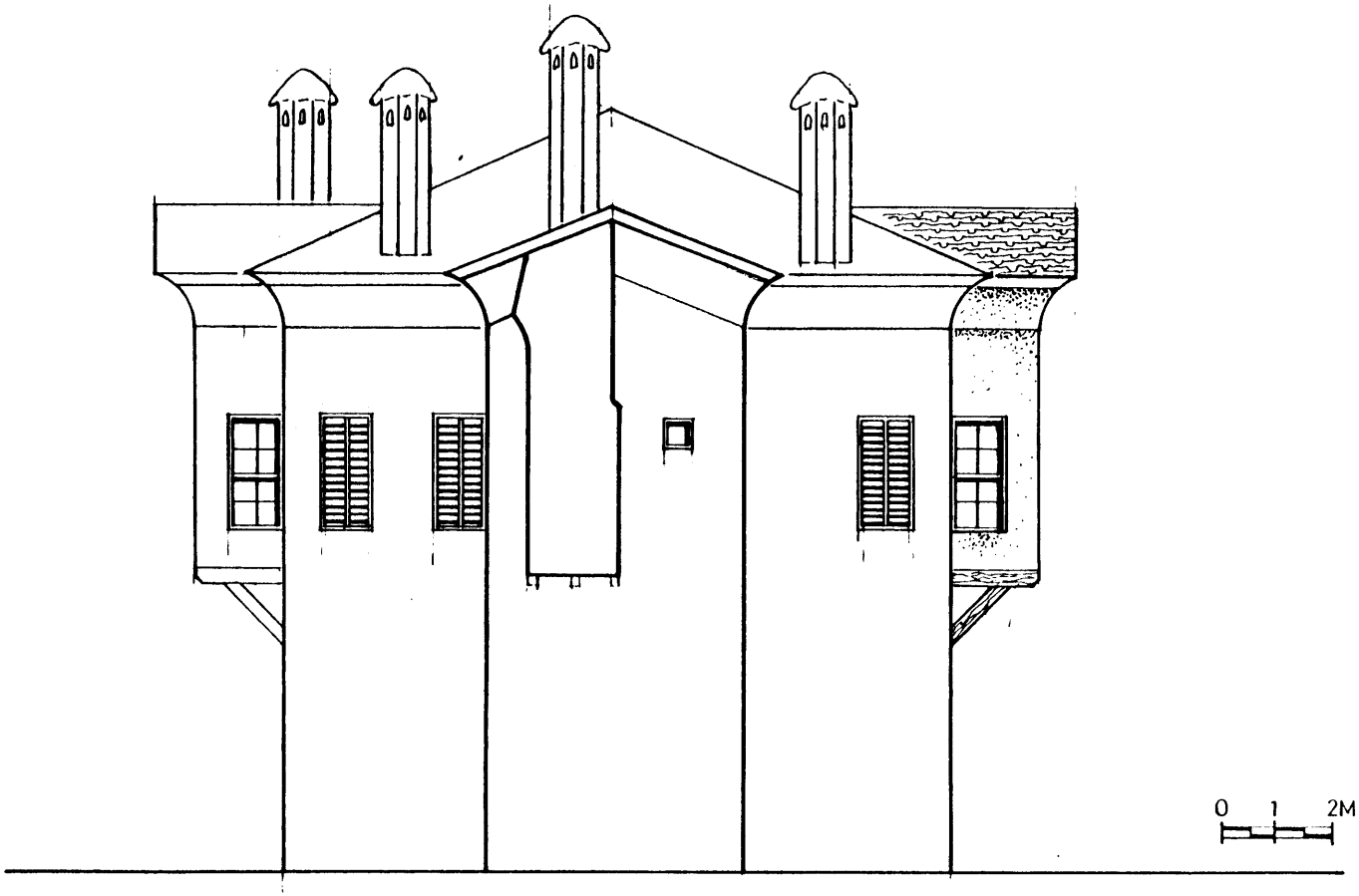
SECTION A-A 1:100



Kisa Kahya's house — NORTH FACADE — 1/100



Kisa Kahya's house — WEST FACADE 1/100



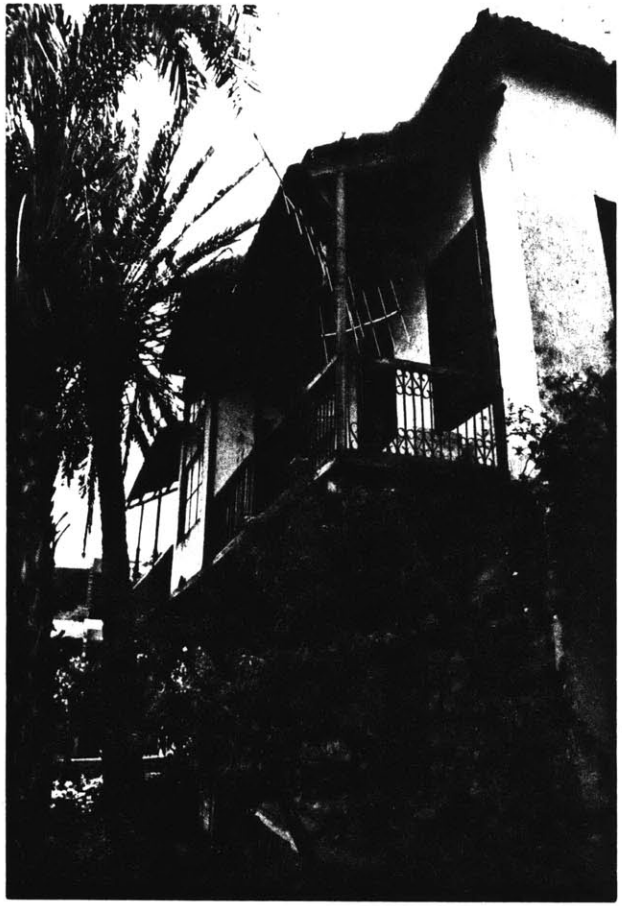
Kisa Kahya's house

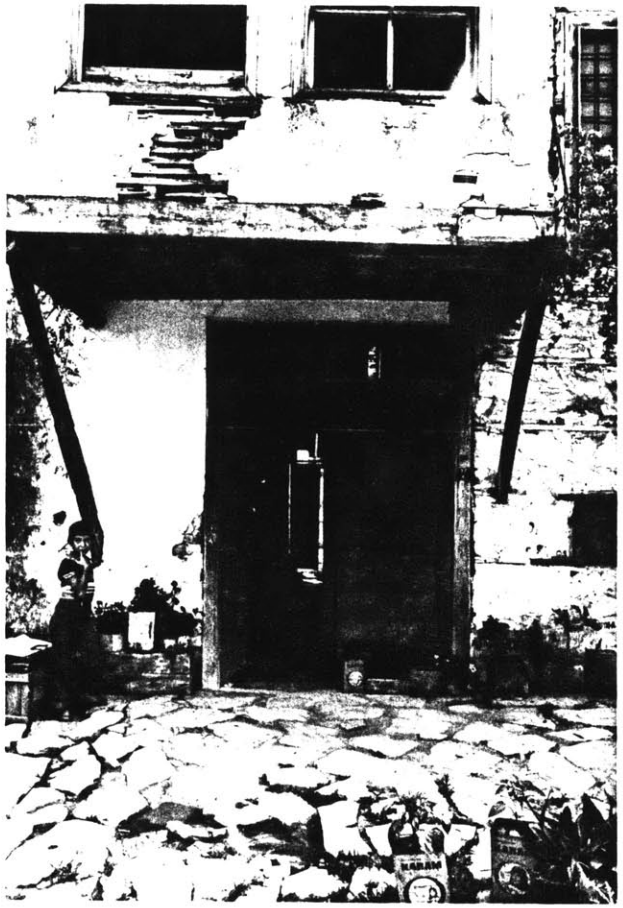
EAST FACADE 1/100

Kisa Kahya's house

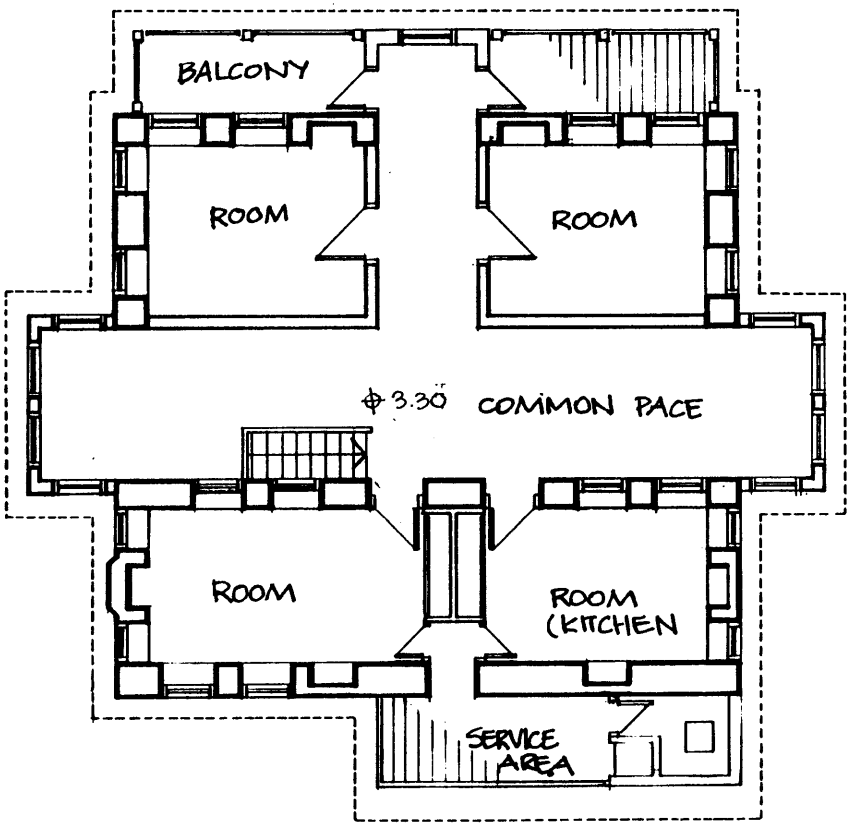
SOUTH FACADE 1/100

HOUSE.III. HOUSE OF ŞEVKİ EFENDİ

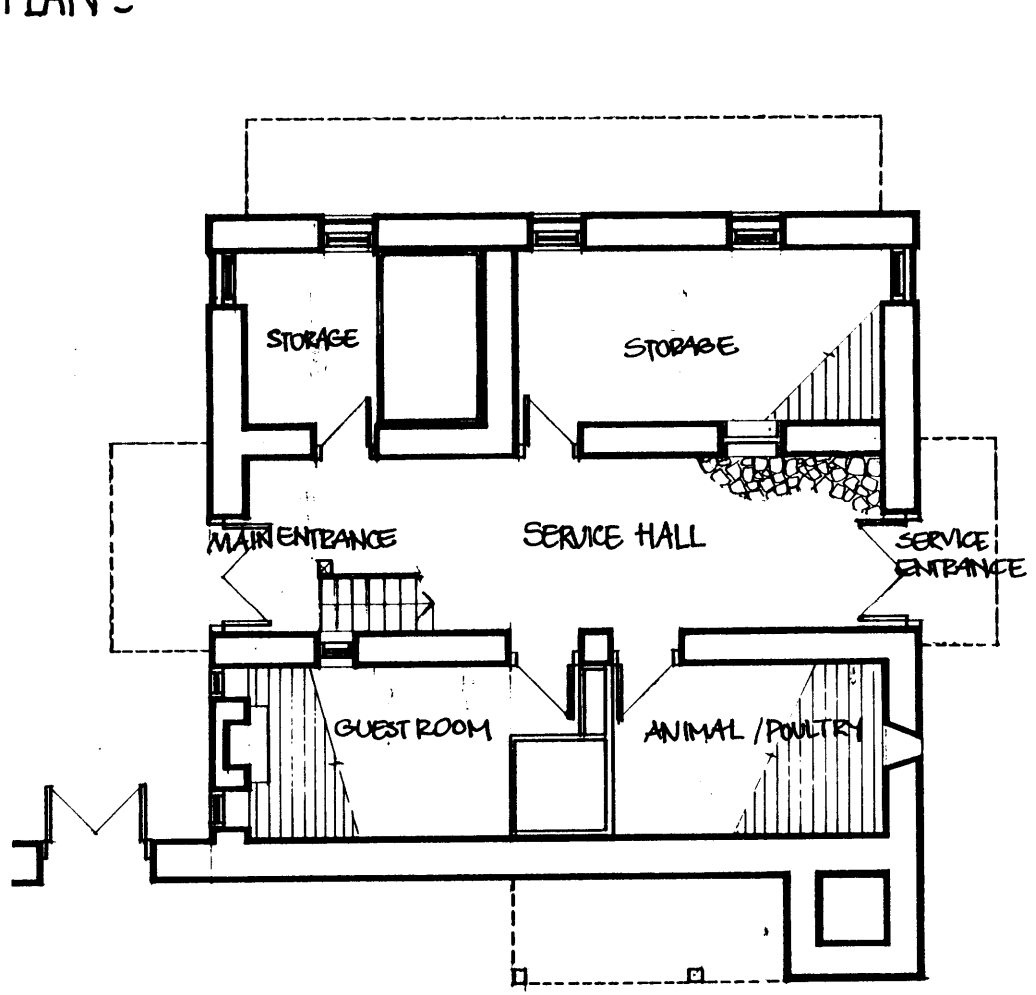




HOUSE.III.
FIRST FLOOR PLAN



HOUSE.III.
GROUND FLOOR PLAN -



HOUSE .III.

SOUTH FACADE

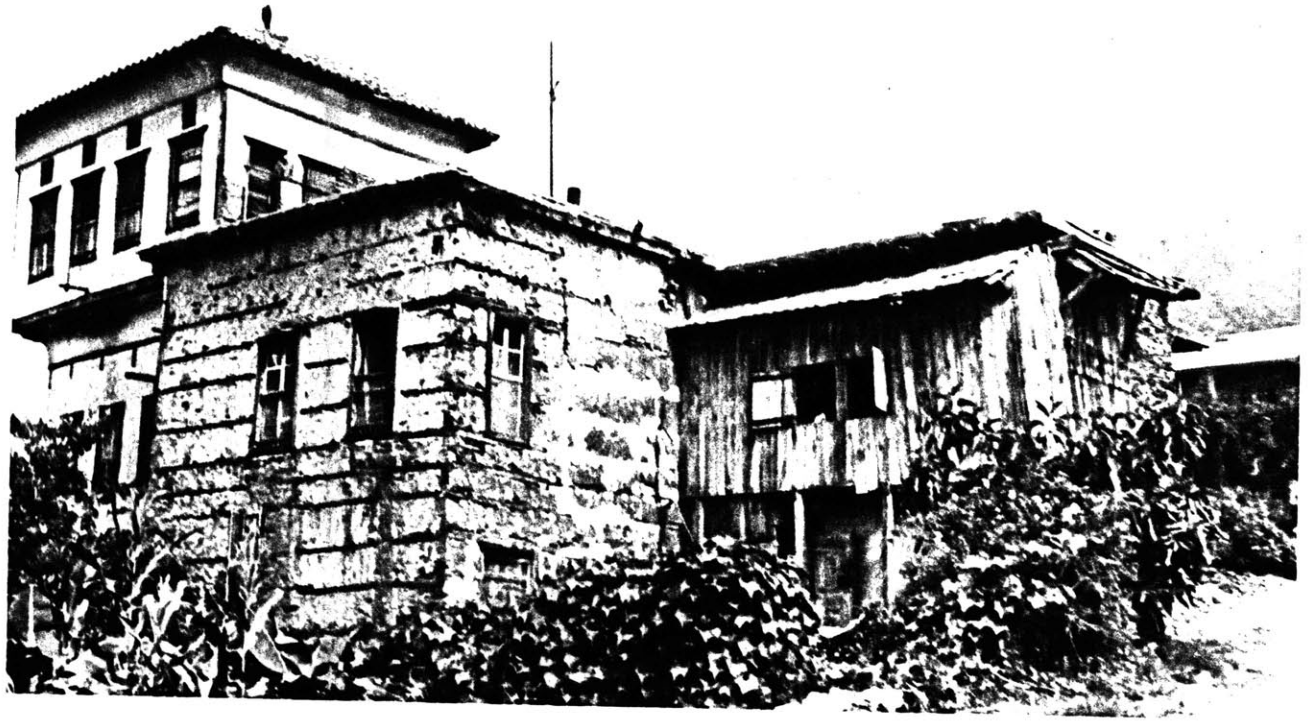
HOUSE.III.

NORTH WEST FACADE

HOUSE. III.

MAIN ENTRANCE - EAST -

HOUSE.4. HOUSE OF HAKKI EFENDİ

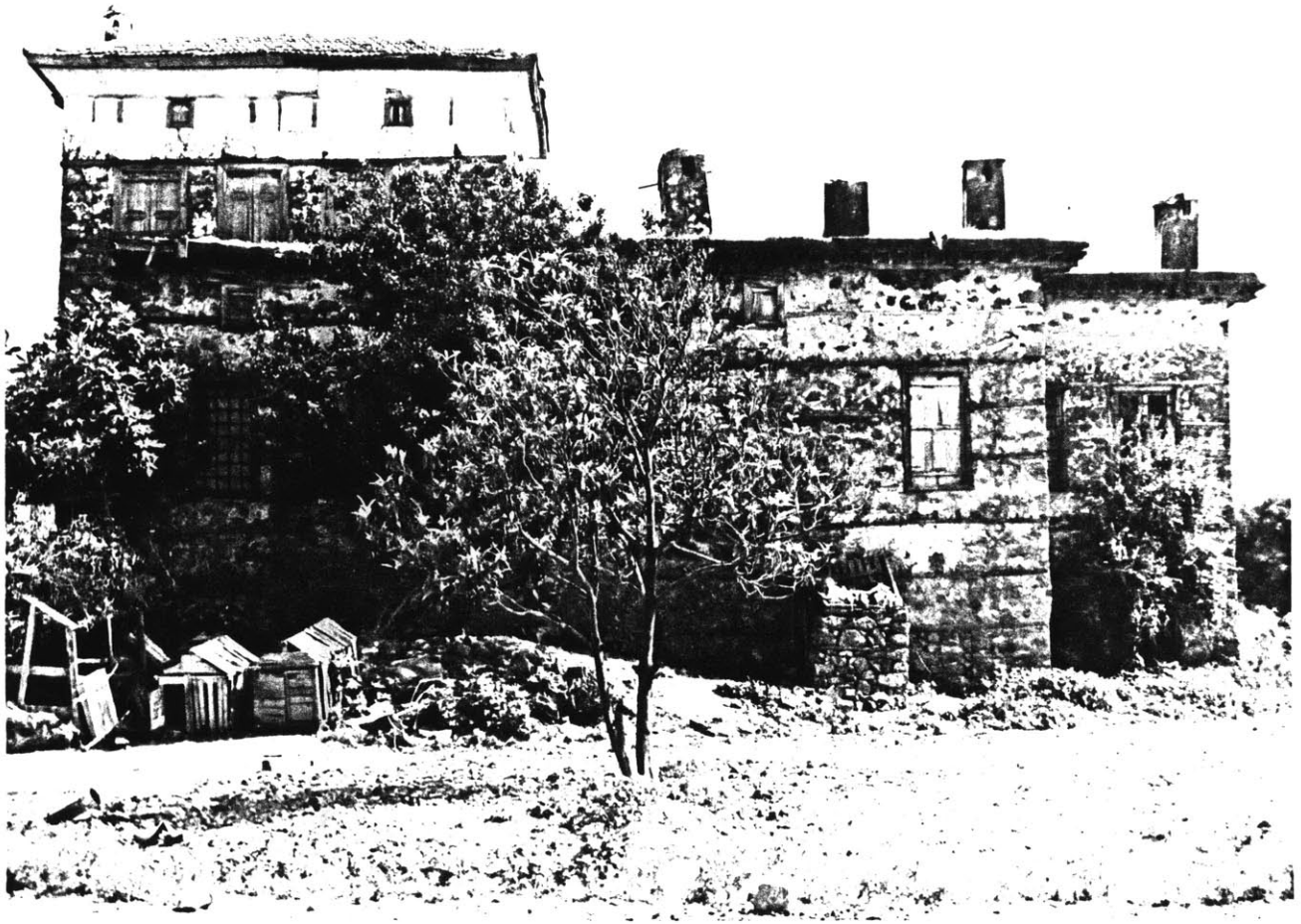


SOUTH EAST FACADE

HOUSE.4.

SOUTH FACADE

HOUSE .5. HOUSE OF HAKKI SAYDAM



WEST FACADE

HOUSE.5.

SOUTH FACADE

HOUSE.6. HOUSE OF HACI ALI BEY

SOUTH EAST FACADE

HOUSE.6.

SOUTH WEST FACADE

HOUSE. 7. HOUSE OF APTULLAH SABRI TÜZÜN

OBSERVATION

In this section some patterns will be introduced in relationship with the physical, functional and spatial elements of traditional houses in Anamur. After the introduction of each pattern, an attempt will be made to determine whether or not these patterns extracted from traditional houses can still be used in today's architectural implementations in Anamur. A description of these elements follows.

PHYSICAL ELEMENTS

The physical elements are the components used to organize the house into sections: walls, floors, beams, and columns.

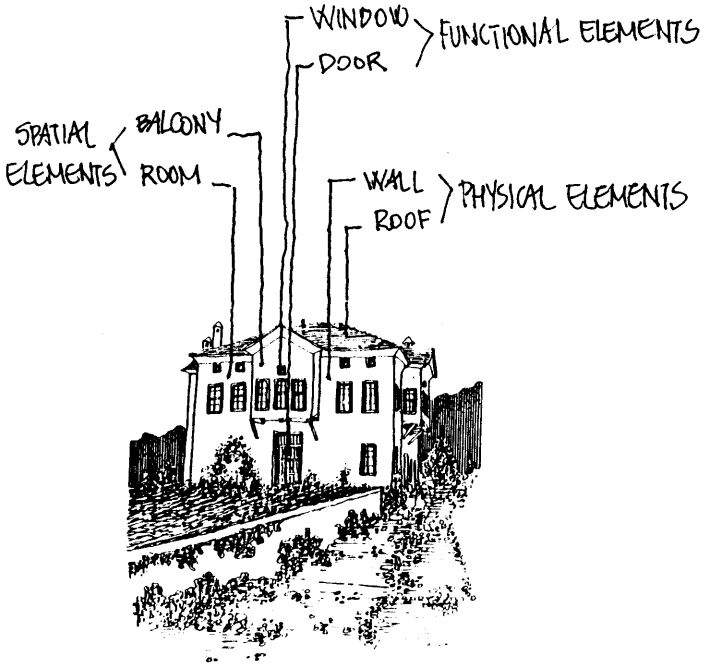
FUNCTIONAL ELEMENTS

The functional elements are the components used to provide a relationship between the sections divided by the physical elements: doors, windows, staircases, closets, kitchen counters.

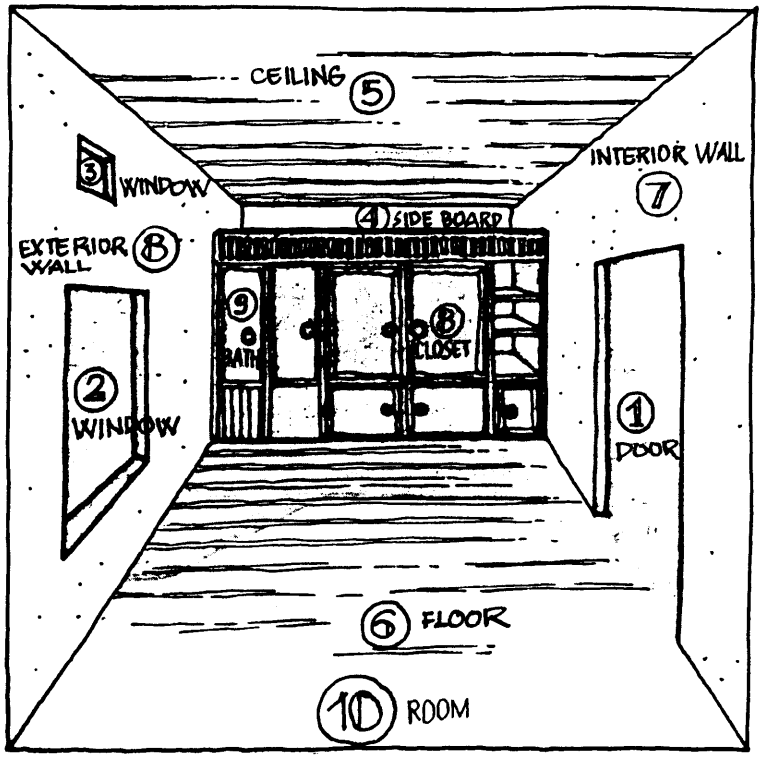
SPATIAL ELEMENTS

The spatial elements are the parts surrounded by physical and functional elements: rooms, balconies, kitchen, toilet, bathroom.

The following two illustrations are the visual description of the physical, functional, and spatial elements of a house in terms of both the exterior facade and the interior room arrangements.



The house is, as a whole, the combination of the physical, functional and spatial elements.



PHYSICAL ELEMENTS — 5, 6, 7

FUNCTIONAL ELEMENTS — 1, 2, 3, 4, 8, 9

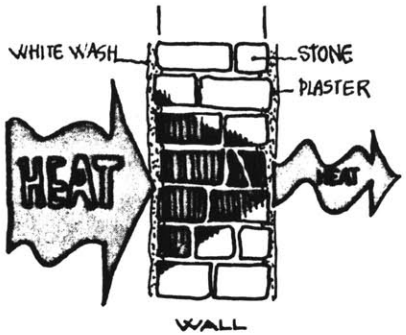
SPATIAL ELEMENTS — 9, 10

A room is (as a part of the house) also the combination of physical, functional, and spatial elements.

PATTERNS BASED ON THE PHYSICAL ELEMENTS OF TRADITIONAL HOUSES

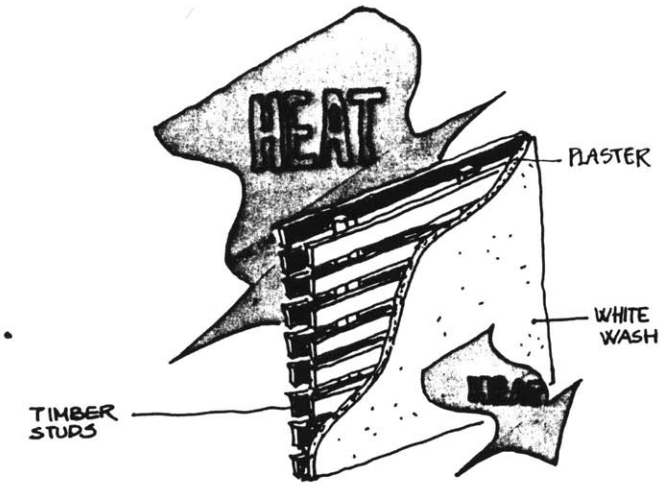
1. WALL

There are two wall patterns used to erect the traditional houses:
1. The stone wall pattern.



This wall pattern cuts down the heat and creates a cool air flow to the interior of the house. Today, since it is an expensive construction process, it has been replaced by new materials such as brick and briquette.

2. The "bagdadi" wall pattern:



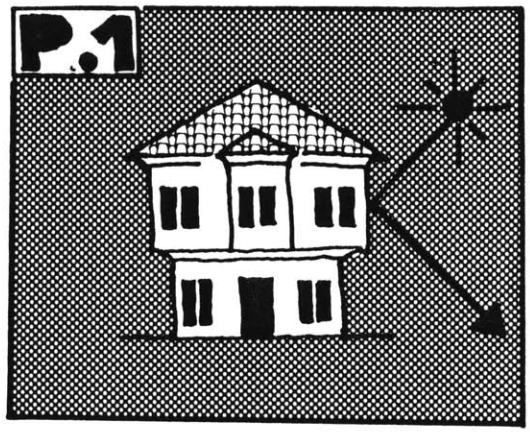
This wall pattern, a light construction, retains little heat and cools down quickly. This pattern is very efficient in terms of heat prevention, but, again, it is an expensive construction process to implement today.

PRESENT SITUATION: Today in Anamur, brick is the most widely used material in erecting houses.

The presently used wall pattern for the exterior envelope is 20 centimeters brick, and 10 centimeters for the interior partitions. The plaster is used to cover both faces of the brick walls, the thickness of the plaster approximately two to three centimeters. The plaster is washed with different colors.

RECOMMENDATION I

The wall patterns implemented in Anamur should provide heat prevention for the interior parts of the house (if possible). Since the stone wall type and the "bagdadi" wall type cannot be implemented presently, the only pattern that can be extracted from these wall types is the whitewash, because white reflects the sunshine and cuts down the heat relatively. Whitewash is the only coloring method used to paint both the exterior and the interior partitions of the traditional houses.



IT IS RECOMMENDED THAT WHITE BE USED TO PAINT THE EXTERIOR PARTITIONS OF THE HOUSE IN ORDER TO CUT DOWN THE HEAT BY REFLECTION.

2. FLOOR

There are two floor patterns in traditional houses:

1. Stone-paved floor pattern:

This floor pattern is used on the ground floor and on the pathways immediately surrounding the houses.

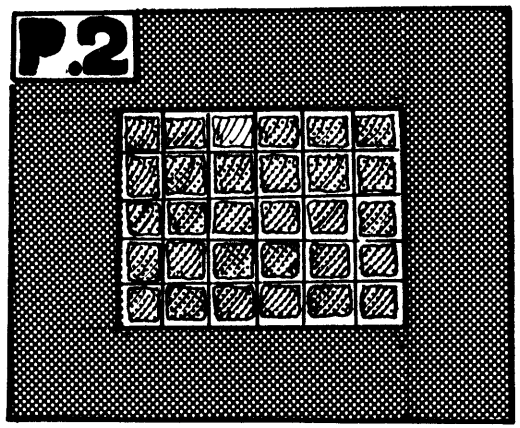
This wall pattern can be used today as pavement on the terraces and on the pathways of the ground floor. Today it is used primarily for decorative purposes. Since it is expensive to implement, it has been replaced with concrete.

2. Wooden floor pattern.
This floor pattern is used on the upper floors.

It is desirable because it insulates both sound and heat. Today, there is almost no use of it and it has been replaced by reinforced concrete floors. Presently plastic or ceramic tiles are used to cover the floor. On the market there are wooden tiles available for covering the floors.

RECOMMENDATION II

THE FLOOR PATTERN SHOULD PROVIDE BOTH HEAT AND SOUND INSULATION BETWEEN FLOORS. THIS FLOOR PATTERN CAN NOT BE IMPLEMENTED TODAY, BECAUSE IT IS NOT APPROPRIATE FOR THE REINFORCED CONCRETE SKELETON SYSTEMS. BUT THE CONCEPT BEHIND THIS WOODEN FLOOR PATTERN CAN BE IMPLEMENTED BY USING WOODEN TILES AS A FLOOR COVERING (EXCEPT FOR WET SECTIONS) WHICH HELPS RELATIVELY TO PROVIDE HEAT AND SOUND INSULATION BETWEEN THE FLOORS.



IT IS RECOMMENDED THAT THE WOODEN TILES BE USED AS FLOOR COVERING IN ORDER TO PROVIDE HEAT AND SOUND INSULATION BETWEEN FLOORS.

3. ROOF

1. The flat roof pattern:
This room pattern is used in almost every traditional house in Anamour.

This pattern, again, cuts down heat and creates a cool air flow to the interior parts of the house. Furthermore, this flat roof also functions as a working and meeting area. Presently, the roofs of the modern apartment buildings are flat, made of concrete, and covered with ceramic tiles, but there is no activity designated to it.

2. The pitched roof pattern:
In the most traditional houses the use of this pattern always appears on the top of the köşk. It appears to be an efficient insulator for cooling the inside of the köşk.

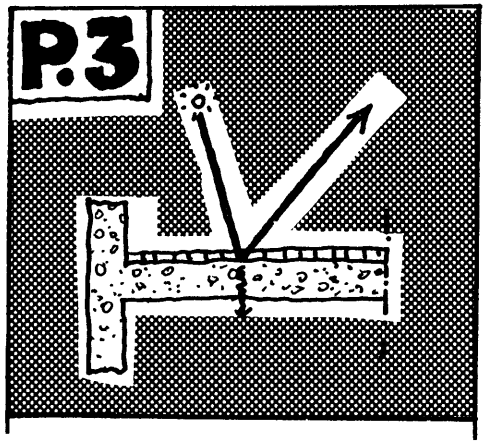
Today, constructing a pitched roof is an expensive process and has been replaced, for the most part, by the making of a flat reinforced concrete roof.

RECOMMENDATION III

The roof pattern should provide heat insulation to cut down the heat. This can be arranged by an insulation layer between the reinforced concrete floor and the ceramic tiles (This is an expensive process to implement.)

Furthermore, the color of the tiles should be white in order to cut the heat down by reflection.

Since the modern buildings of Anamur have balconies with a fairly small area, some activities can be designated to the roof: storage, social gatherings, clothes drying, for example.



IT IS RECOMMENDED THAT AN INSULATION LAYER BE USED IN ORDER TO CUT THE HEAT DOWN TO COOL THE INTERIOR PARTS BELOW.
ALSO, (IN ACCORDANCE WITH R.1) WHITE CERAMIC TILES SHOULD BE CHOSEN TO COVER THE ROOF IN ORDER TO REFLECT THE SUN.

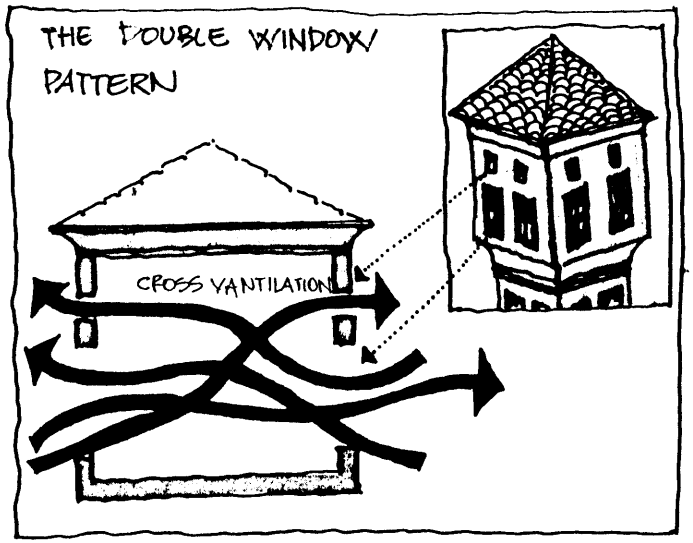
IT IS RECOMMENDED THAT SINCE THE ROOF IS FLAT, SOME TYPES OF ACTIVITIES BE DESIGNATED TO IT.

PATTERNS USED BASED ON FUNCTIONAL ELEMENTS OF THE TRADITIONAL HOUSES

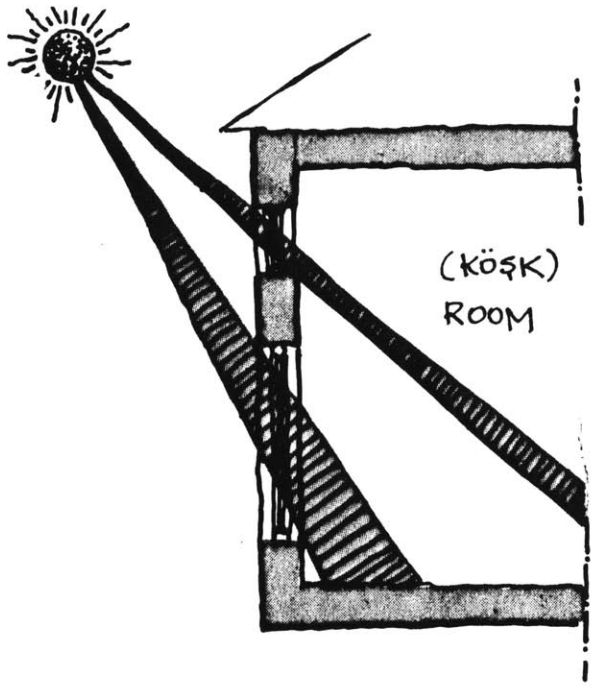
4 WINDOW

There are two main window patterns:
1. The single window pattern, with or without shutters. (Figure)
2. The double window pattern, with a small window above a larger window.

The double window pattern is used extensively throughout the traditional houses of Anamur. It always appears around the "koşk and acts as ventilating channels.



The section between the small and the larger window eliminates part of the direct sunshine, thus helps to cool the room.

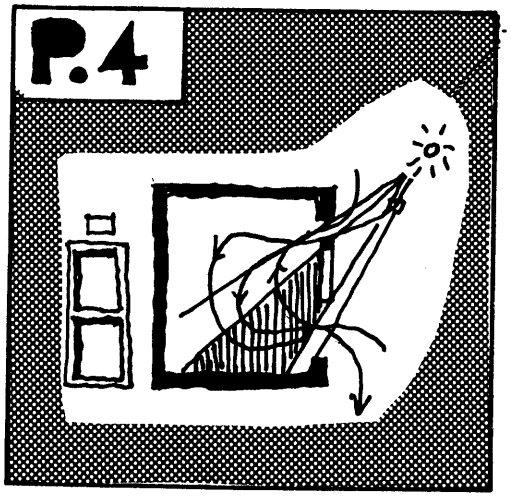


Showing the part which elimates some of the direct sunshine coming into the room.

Also, in traditional houses, between the rooms some openings are arranged to provide both visual access and ventilating channels between the rooms.

RECOMMENDATION IV

The window patterns should provide cross-ventilation and/or protect the room from the direct sun light. It is clear that the window patterns used in the traditional houses of Anamur are created with the climatical factors of the town taken into consideration. It appears that the window patterns of the new apartment buildings are not capable of generating cross-ventilation and preventing direct sun light from entering. In addition, the new construction techniques and materials used today in Anamur are appropriate to implement these window patterns.



IT IS RECOMMENDED THAT THE DOUBLE WINDOW ARRANGEMENT BE USED TO GENERATE AIR MOVEMENT AND TO CUT DOWN THE AMOUNT OF DIRECT SUNSHINE COMING INTO THE ROOM.

IT MIGHT BE RECOMMENDED THAT AN OPENING BE ARRANGED TO GENERATE CROSS-VENTILATION AND VISUAL ACCESS BETWEEN ROOMS (AND IF PRIVACY IS NEEDED, IT CAN BE CLOSED).

IT MIGHT BE RECOMMENDED THAT THE SHUTTERS BE USED TO PROTECT THE ROOM FROM THE DIRECT SUNLIGHT.

5. STAIRCASE

There are two basic stairway patterns:

1. The staircase which is arranged outside, under open sky, adjacent to the external wall of the house.

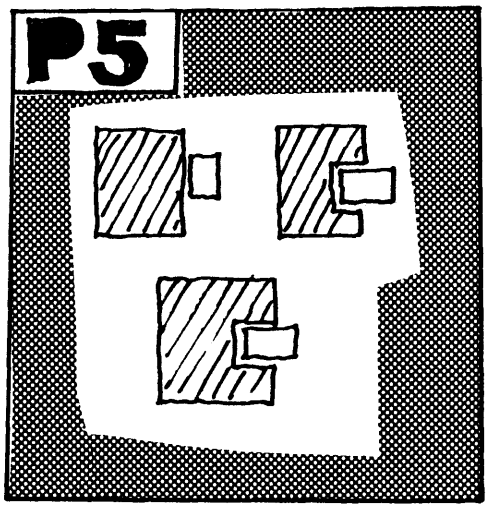
2. The staircase which is placed inside the house adjacent to an internal wall of the entrance hall.

With both staircase patterns, their surroundings are open either to a large area (like the one in the main entrance hall) or to the open sky .

Today, the most modern apartment buildings have the staircase inside, surrounded by brick walls. This type of arrangement blocks the air and the staircase area becomes very hot, especially in summer months.

RECOMMENDATION V

Since Anamur is in a temperate zone, air movement in the staircase area appears to be a desirable pattern. For this reason, the staircases in traditional houses are arranged openly to the entrance hall or to the sky.



IT MIGHT BE RECOMMENDED THAT THE STAIRCASES BE PLACED OUTSIDE OF THE HOUSE WITH OPENINGS AROUND IT.

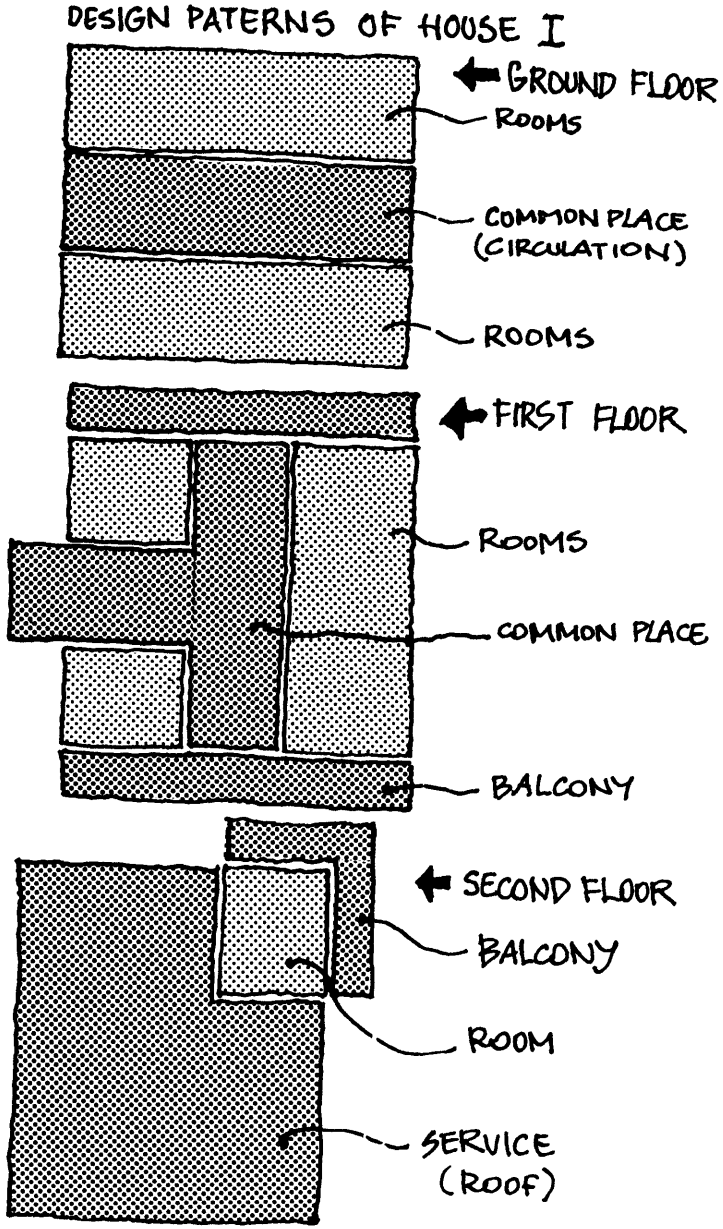
PATTERNS BASED ON THE SPATIAL ELEMENTS OF TRADITIONAL HOUSES

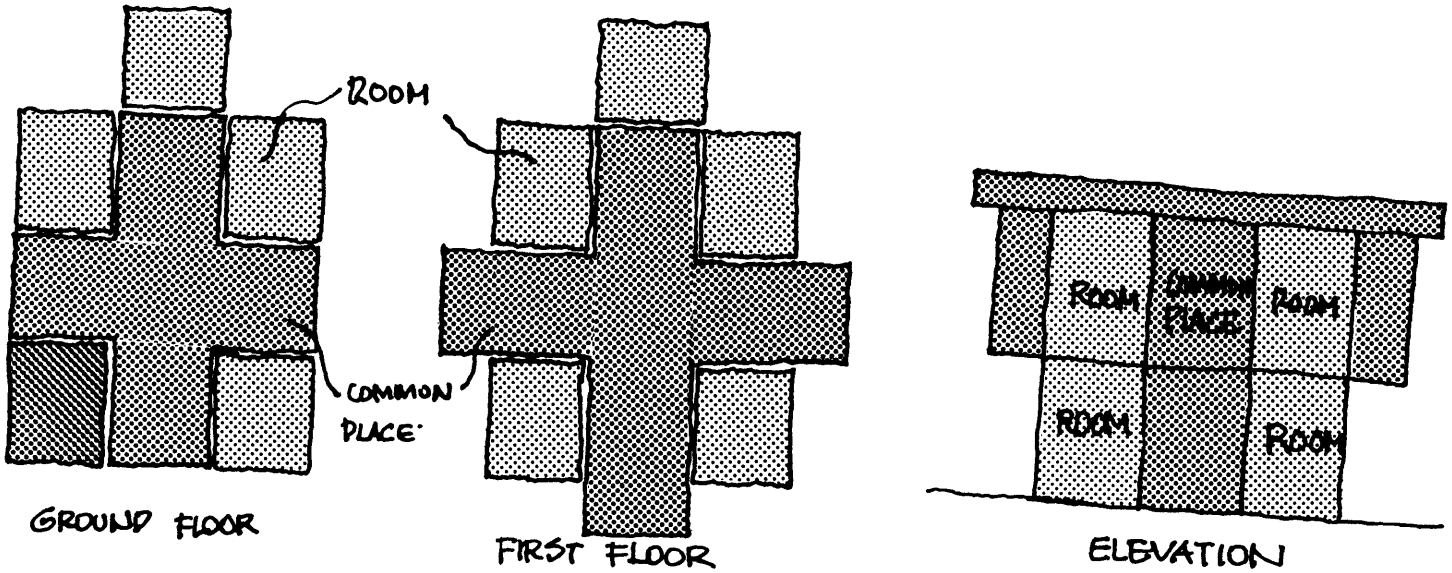
In this section of the observation, the design patterns of the three houses will be introduced in order to provide an understanding of the relationship between the spatial elements of the house (such as the relationship between room and common room, room and balcony, balcony and common room....).

6. ROOMS

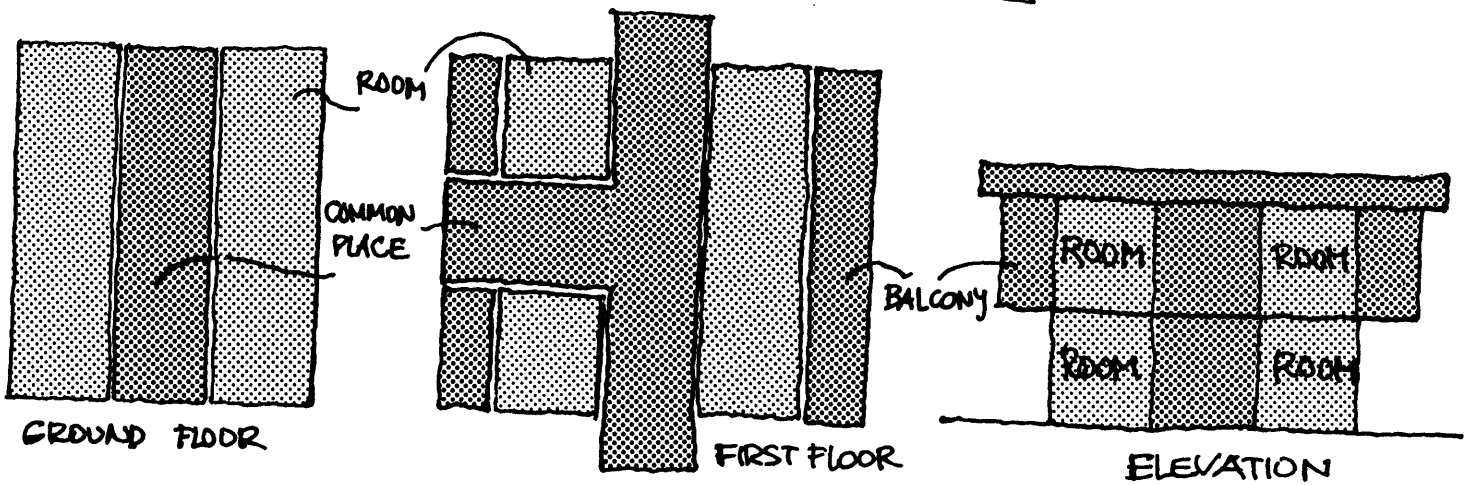
Rooms are usually placed on the corners of the house and openings are provided at least on two sides in order to have both a view (visual access) to two sides, and natural ventilation in the room.

> In the modern apartment buildings, usually one side of the room is opened to the view. Natural cross-ventilation is not achieved in this way.

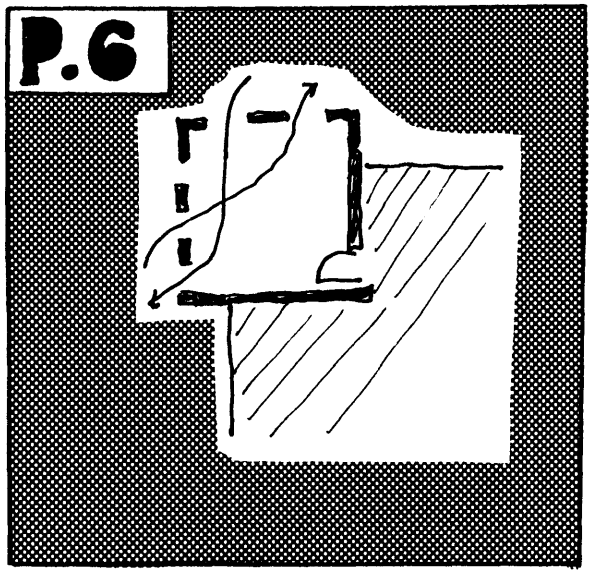




DESIGN PATTERNS OF HOUSE II



DESIGN PATTERNS OF HOUSE III



IT MIGHT BE RECOMMENDED THAT ROOMS BE PLACED AT THE CORNERS WITH OPENINGS AT LEAST ON TWO SIDES IN ORDER TO PROVIDE MULTIPLE VISUAL ACCESS TO THE OUTSIDE AND NATURAL AIR VENTILATION ON THE INSIDE.

IT MIGHT BE RECOMMENDED THAT ROOMS BE CANTILEVERED IN ORDER TO PROVIDE MORE CROSS-VENTILATION AND MORE VISUAL ACCESS TO THE OUTSIDE.

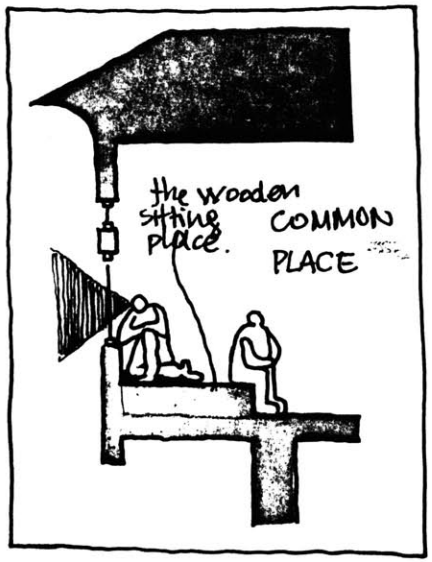
7. COMMON PLACE

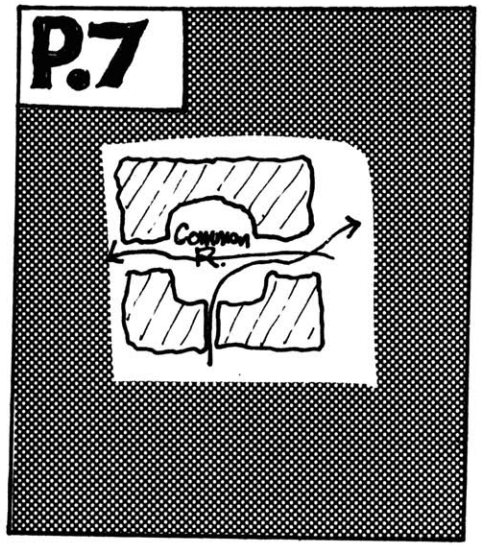
The common place is a centrally located big hall which serves as a circulation corridor, having openings with different directions to the outside.

It is usually placed with a North-South orientation and acts as a big ventilation channel because of the extensive openings to the outside. The common place is always cantilivered from the house and arcaded by an overhanging pitched roof. This cantilivered section of the common place has an approximately 20 to 30 centimeter lifted wooden section from the floor. It serves as a type of sofa.

This cantilevered section of the common place can be seen as a little room without a door,or a closed balcony. The modern buildings implemented in Anamur today have narrow corridors with rooms around them. The common place

concept can be considered as a pattern to be used in designing a corridor which can provide cross-ventilation in the interior of the house.





IT MIGHT BE RECOMMENDED THAT A COMMON PLACE BE ARRANGED IN THE HOUSE TO PROVIDE BOTH CROSS-VENTILATION AND VISUAL ACCESS TO THE OUTSIDE.

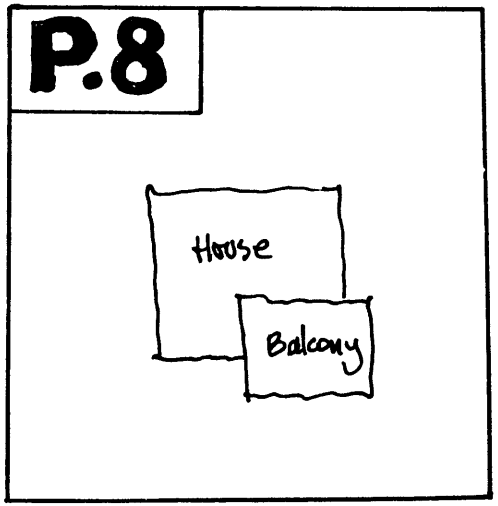
8. BALCONY

The balcony is an extensively used element of the traditional houses of Anamur, providing shaded areas to the house. Here various activities take place such as eating and entertaining guests,especially on summer evenings.

The balcony usually faces the South with a view of the Mediterranean Sea. There might also be a balcony on the North facing the valleys of the Taurus Mountains.

Balconies appearing in the modern apartment buildings in Anamur are small in size, as a general rule.

A balcony of a traditional house acts as an open room. This concept can be applied to the balconies of the modern buildings to provide a multi-functional place rather than just a balcony.

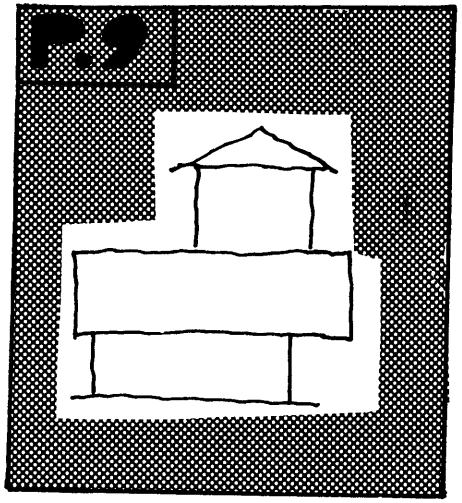


IT MIGHT BE RECOMMENDED THAT THE BALCONIES BE USED EXTENSIVELY TO PROVIDE SHADED AREAS BENEATH THEM.

IT MIGHT BE RECOMMENDED THAT THE FLOOR AREA OF THE BALCONY BE LARGE ENOUGH SO THAT SUCH SOCIAL ACTIVITIES AS EATING AND ENTERTAINING GUESTS CAN TAKE PLACE THERE.

9. KÖŞK

The Köşk is a single-room pattern always arranged as the uppermost floor of the traditional houses, with extreme openings generating cross-ventilation inside the room. Today the köşk pattern could be used only for two-storey houses; it is not an appropriate pattern for use with high-rise apartment buildings.



IT MIGHT BE RECOMMENDED THAT THE KÖŞK BE USED AS A SECOND FLOOR ONLY FOR SINGLE-FAMILY TYPE HOUSES.

IMPLEMENTATION

In this section a project (which I designed in 1979 and realized in 1980) will be introduced as an example of contemporary architectural implementations in Anamur.

I chose this project especially because the design patterns I used for this house were based on contemporary architecture concepts. During that time I was not in particularly close touch with traditional architectural concepts. Today, my architectural thinking is different from what it was when I designed this house three years ago in Anamur. Because I have now dealt in depth with the design concepts of Anamur's traditional architecture for this thesis, I asked myself the obvious question: What design patterns would I have extracted from the traditional houses to incorporate into the contemporary house that I had designed in Anamur if I had had the same knowledge of the traditional design concepts then that I have now?

There will be three steps to describe this implementation part:

1. A description of the contemporary house by means of floor plan arrangements, sections, and facade arrangements.
2. Testing the various elements of the house to find out if there were patterns (already introduced in previous chapters) incorporated into the contemporary house.
3. Searching the possibility of incorporating the patterns extracted from traditional houses into the contemporary house. This attempt will be made by using only the patterns introduced in the observation section without changing the floor area. In this section the existing design pattern of the house would be modified only if the purposed pattern provides satisfac-

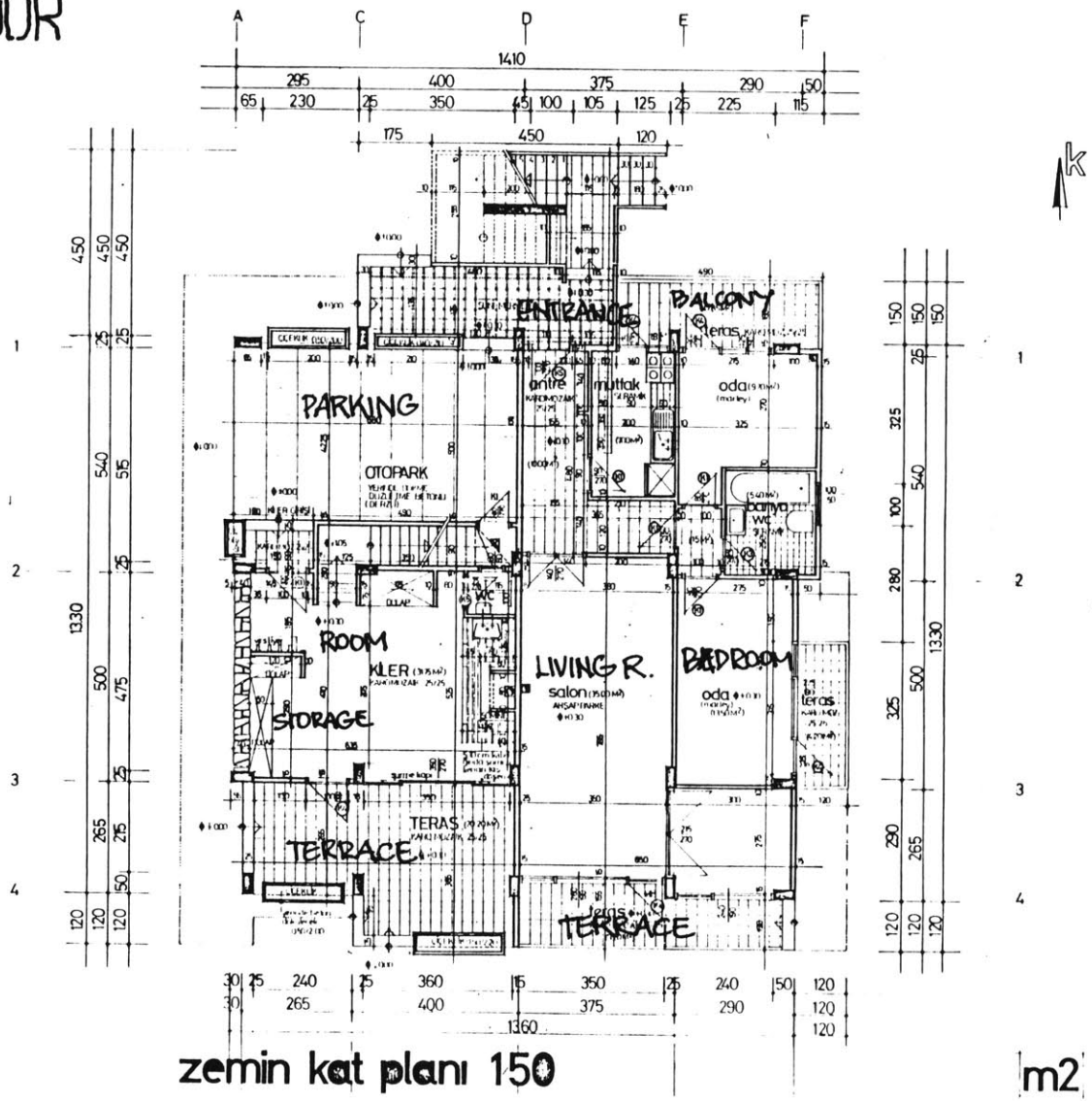
tory results. If any modification is made, it will be shown on the plan type by referring to the pattern that is used.

STEP 1 This contemporary house consists of a living room, three bedrooms and one master bedroom, a kitchen, and bathrooms. The client had three children. The very first requirement for his house form was "a beautiful house but cheap!" I consulted with him three times, coming to him with finished sketches, models, perspectives, before I reached the final design solution.

It was difficult to convince him about two of the elements under consideration for the house: a completely separated staircase (open to the sky) on the North, and a big balcony (3.75 meters x 4.05 meters) on the South. But at last he was convinced and the elements implemented.

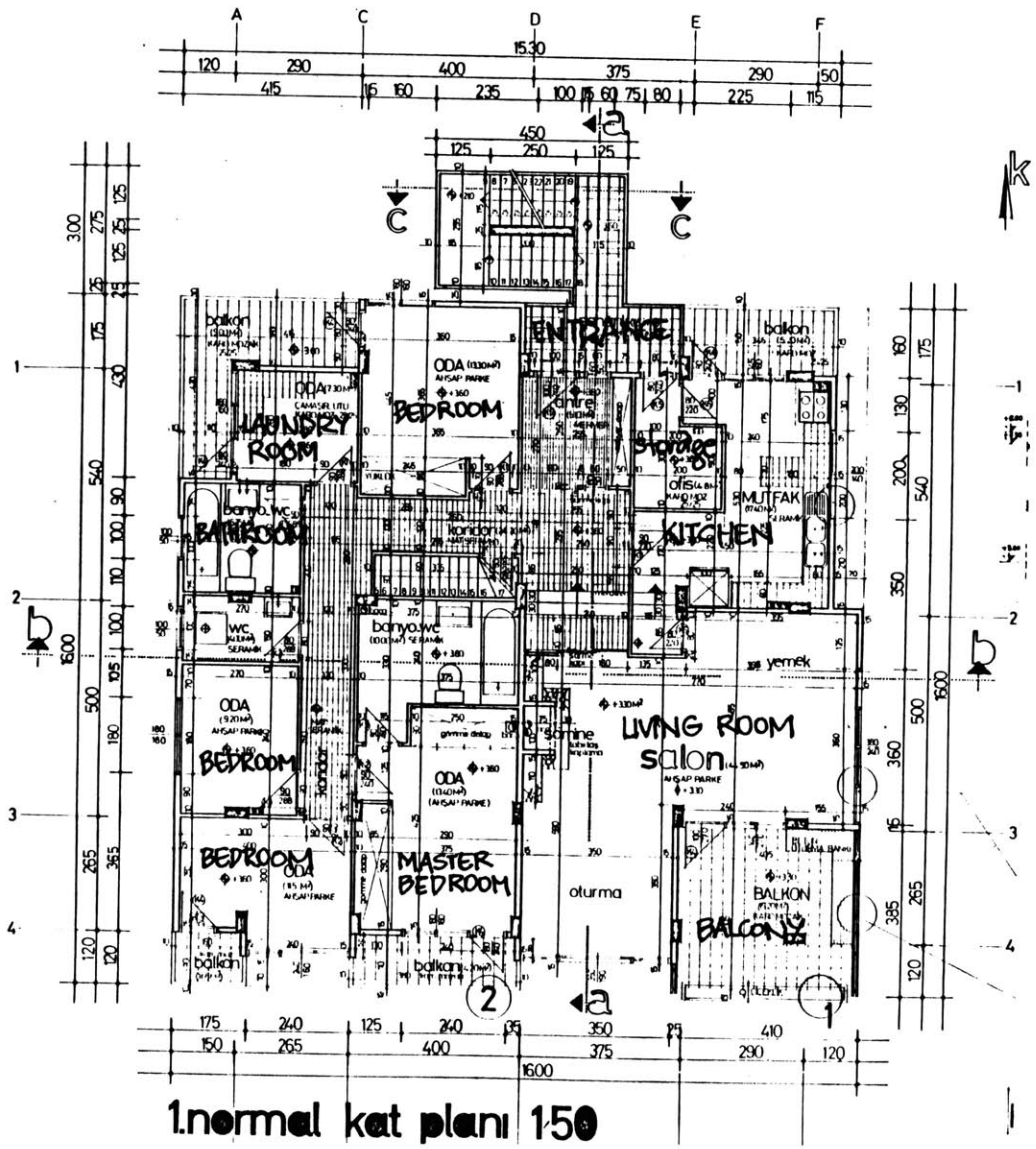
The project itself follows:

GROUND FLOOR

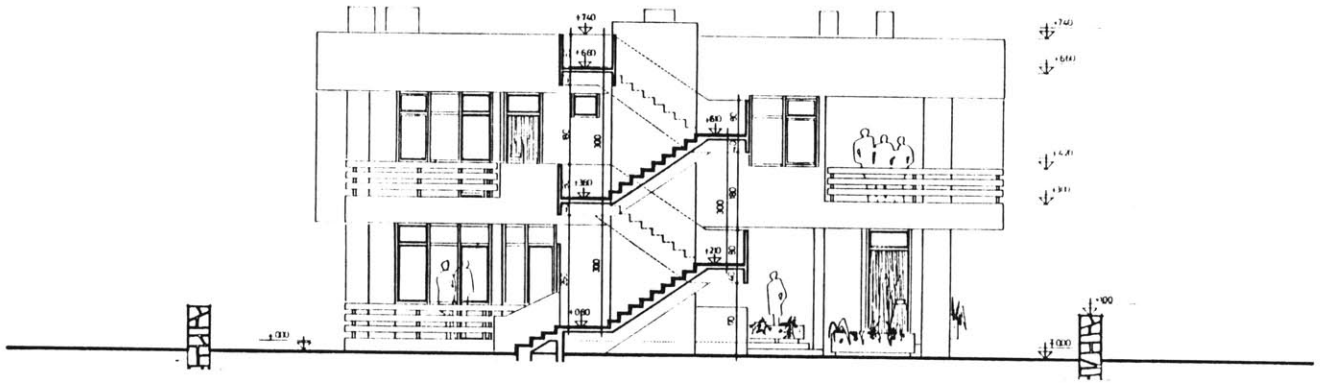


zemin kat planı 150 m2

FIRST FLOOR



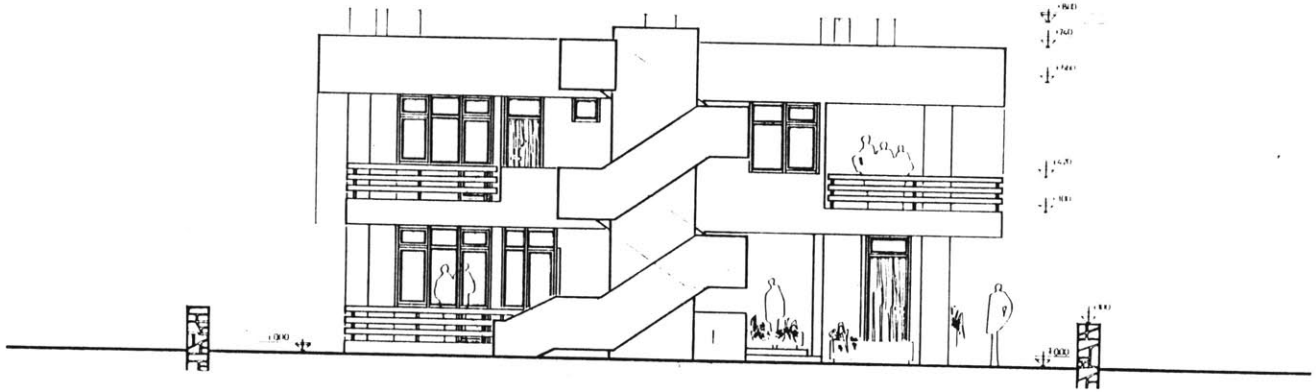
1.normal kat plani 1:50



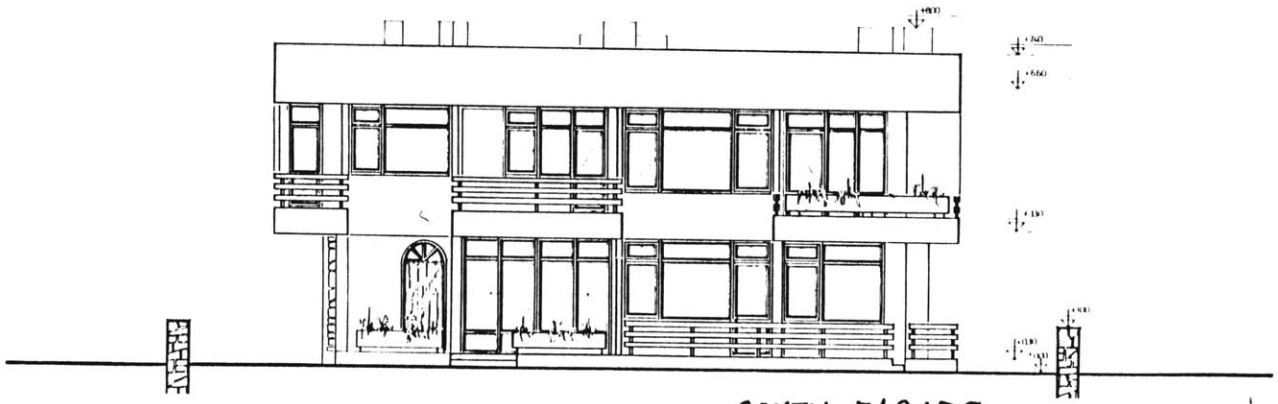
SECTION_c_c kesiti_150

SECTION_ b_b kesiti_150

m4

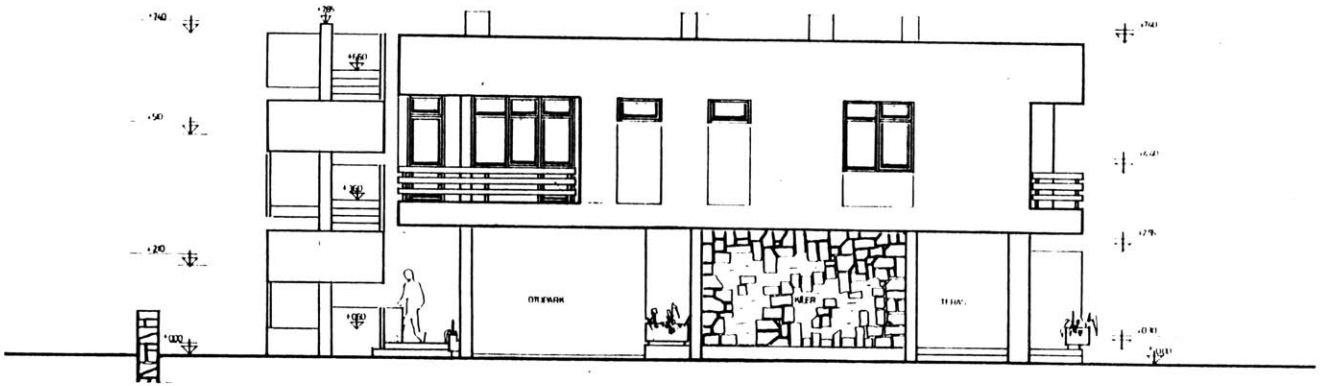


kuzey cephesi_1:50 NORTH FACADE

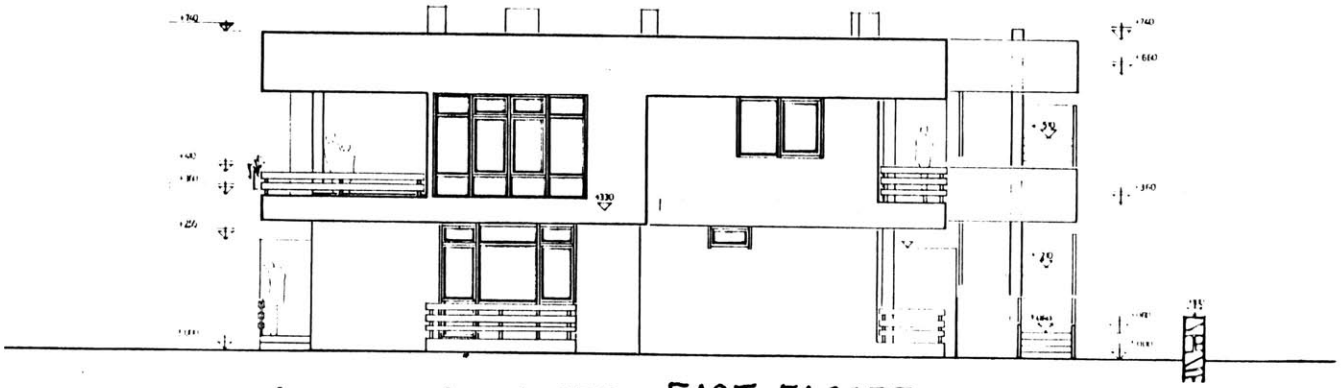


güney cephesi_1:50 SOUTH FACADE

m5



batı cephesi_1:50 WEST FACADE



doğu cephesi_1:50 EAST FACADE

m6

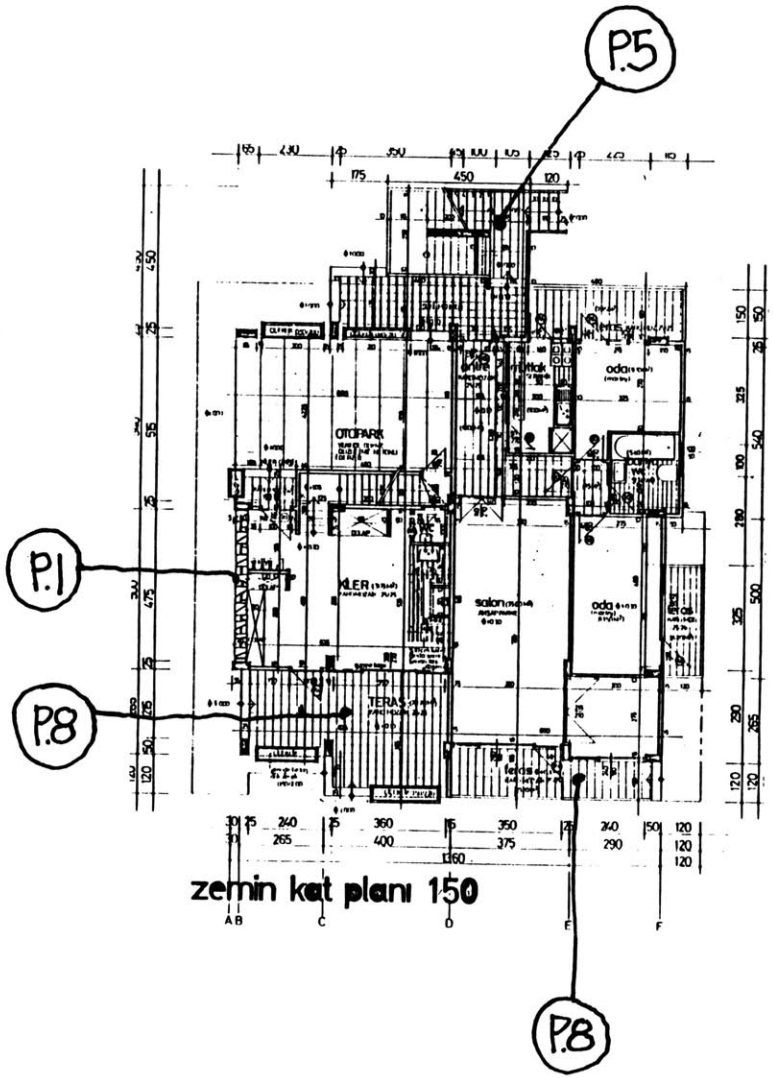
STEP 2 Having defined the patterns extracted from traditional houses, I checked the floor plan of the contemporary house in order to find out if there were any patterns which can be related to the design concepts of traditional houses.

I found three main patterns which applied to the contemporary house similar to the patterns that I extracted from traditional houses;

1. THE STAIRCASE PATTERN: The staircase of the contemporary house is arranged outside, open to the air. This type of staircase arrangement is already proposed as a pattern extracted from traditional houses. (See Observation section, p. 5) PATTERN.5

2. THE BALCONY: The balcony arrangement on the South facade appears to be based on the pattern extracted from traditional houses. It provides both a good view (Mediterranean Sea) and a large enough floor area for some social gatherings. (See Observation section, p. 8) PATTERN-8

3. WALL: The exterior walls of the contemporary house are completely white-washed. This is a pattern extracted from the exterior envelope of the traditional houses. (See Observation section, p. 1) PATTERN 1.


P.5
P.1
P.8
ORTAPARK
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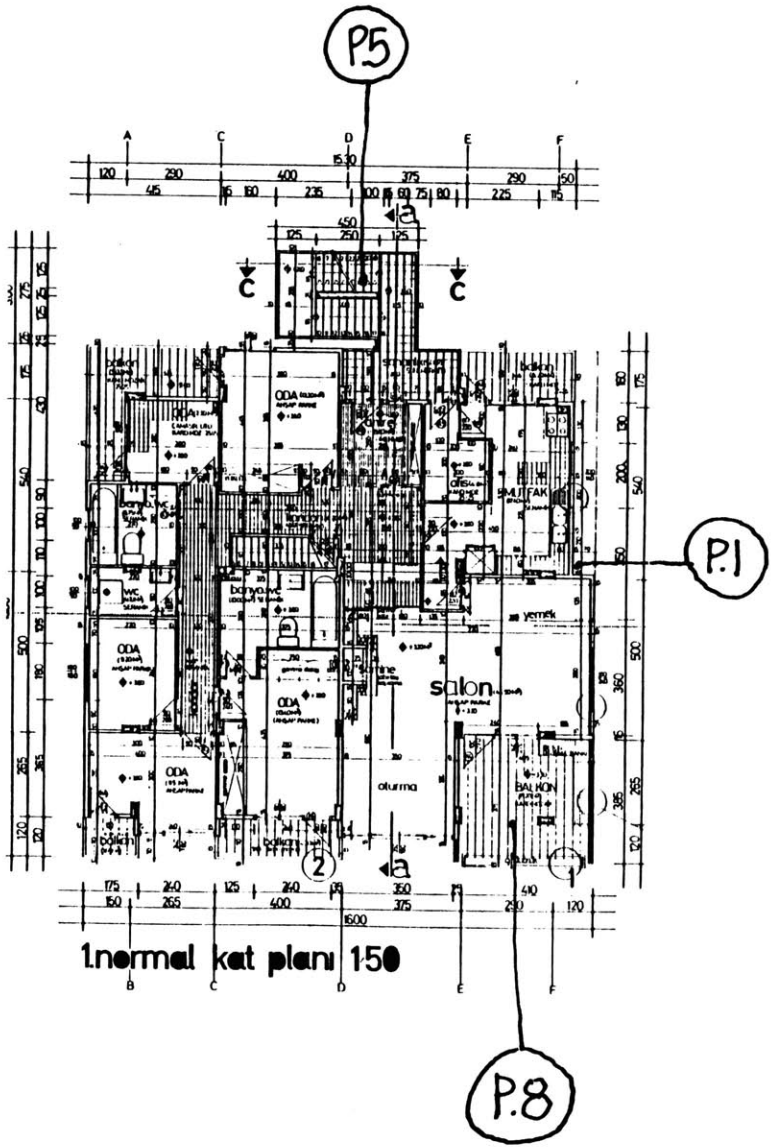
oda
zemin kat planı 150


P.5
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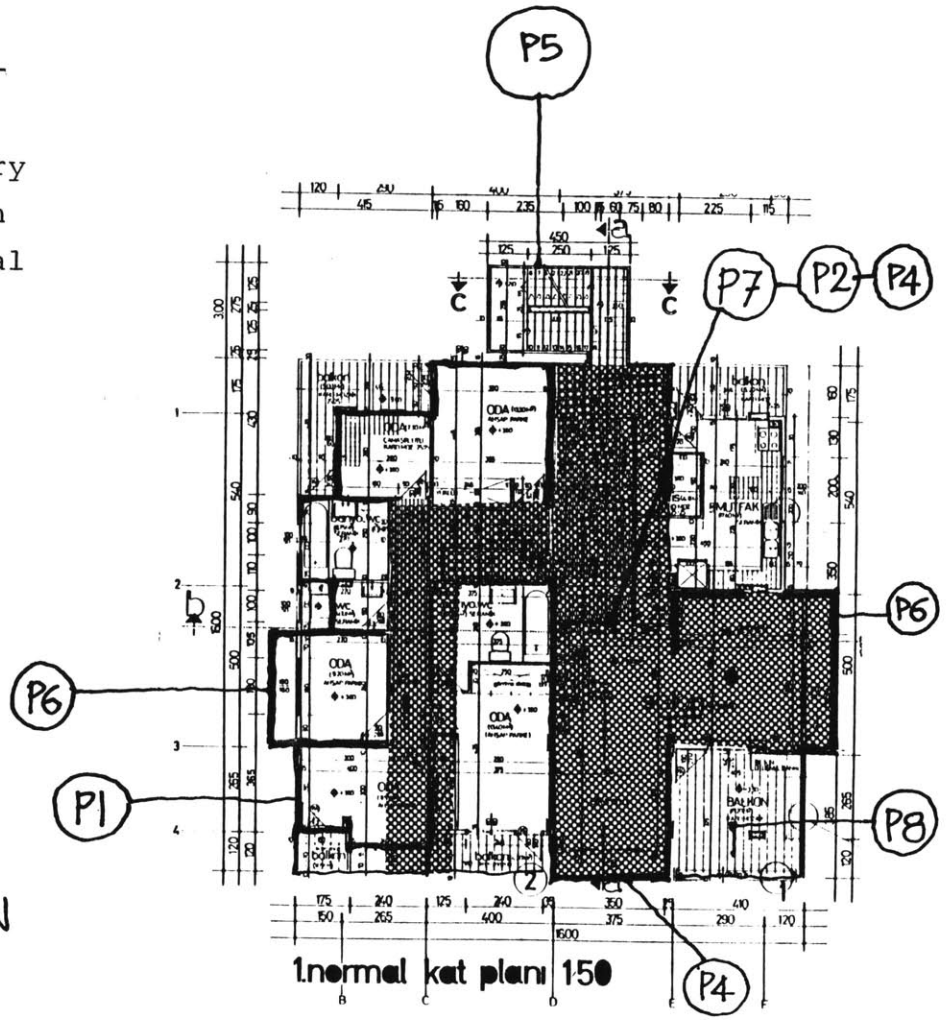
STEP 3

Here an attempt is made to modify the existing design solution in accordance with the patterns introduced in the Observation section. (This is just an assumption to show that the contemporary house would have been designed based on some patterns extracted from traditional houses.)

THE MODIFIED FIRST FLOOR (A DIFFERENT SOLUTION) PLAN IN ACCORDANCE WITH THE PATTERNS INTRODUCED IN OBSERVATION SECTION.



CONCLUSION

Throughout this thesis I have tried to provide examples of traditional and contemporary architecture. Furthermore, I have underlined the characteristics of the traditional architectural concepts and have tried to find the degree of adaptability of their design patterns into contemporary architecture.

The designers - non architects - of the traditional houses applied their knowledge to create responsive environments where those houses were built in relationship with the indigenous values of the town. In other words, in Anamur the traditional houses are types well-suited to the surrounding climate and terrain.

Today these houses are being replaced by modern, western-style houses. Of central importance here is the role of the architect. Techniques are available, labor is available, materials are available; in short, everything is available for the construction of these buildings.

For example, throughout the exploration of the traditional houses, it appeared to be that the design solutions of every house are particularly appropriate to the climate of this region. So, at least the specifics of Anamur's climatic characteristics would be an important criterion for consideration while the local architects are designing new buildings.

Anamur is in a zone that is hot and humid. One expects to see the proper design solutions, responding to the climate. In other words, the physical elements of the house can be arranged to provide both shaded areas and cross-

ventilation in the interior of the house. We see such arrangements in traditional houses in Anamur.

It is important that these houses be studied and their records documented in order for us to learn how to incorporate their distinctive adaptations into new structures.

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