PHASE 1
URBAN DESIGN
OF THE BASTAKIA

PHASE 2
REUSE OF A
BASTAKIA HOUSE

PHASE 3
NEW DEVELOPMENTS
IN THE BASTAKIA
STATEMENT BY AUTHOR

This masters report has been submitted in partial fulfillment of the requirements for an advance degree at the University of Arizona and is deposited in the Architecture Library to be made available to borrowers under rules of the Library.

Signed

APPROVAL BY GRADUATE COMMITTEE

Professor Fred S. Matter
Committee Chairman

Dr. Paul Gabriel
Committee Member

Mr. R. Brooks Jeffery
B. Arch. M. Information Science
Committee Member

THE UNIVERSITY OF ARIZONA
1992
## CONTENTS

Acknowledgment .......................................... 5
The Unknown Destiny ................................. 6
Introduction ........................................... 7

**PHASE 1**  
**URBAN DESIGN OF THE BASTAKIA**

Program ............................................. 11
Site Analysis ......................................... 15

**PRECEDENCE STUDY**
Ballaja Quarter of San Juan ........................ 24
Master Plan for the city of Bresica, Italy ....... 34
Guide line for preservation and development in the Bastakia area 43
The Urban Design of the Bastakia area .......... 48

**PHASE 2**  
**CHANGE OF USE AND PRESERVATION OF A BASTAKIA WIND TOWER HOUSE**

Program ............................................. 73
Site Analysis ......................................... 78

**PRECEDENCE STUDY**
From a Welsh Farm Building ....................... 90
to a Contemporary Gallery and Studio
The Tate Gallery, Liverpool ......................... 98
Change of use of a Bastakia House ............... 112
PHASE 3
NEW DEVELOPMENT IN THE BASTAKIA AREA

Program .................................................. 122
Site Analysis .............................................. 124

PRECEDENCE STUDY
Design for the completion of ...................... 131
the Cathedral of St. John
The Divine, New York

Shop and Offices ..................................... 140
Dockland, London

New developments in the ......................... 151
Bastakia area

Project Bibliography ................................. 166
ACKNOWLEDGEMENTS

In recognizing those that assisted, guided and inspired me throughout the whole process.

I want to especially thank Professor Fred Matter, Professor Paul Gabriel & Mr R. Brooks Jeffery for their understanding and invaluable guidance. They worked together to make my study here a memorable and highly educational experience. To Richard G. Brittain for assisting me with the model photography. To Professor Kenneth Clarck who gave me the possibility of being a teaching assistant, helping me to progress in the architectural field. To the College of Architecture and The University of Arizona, and my fellow graduate students. To my friend Mohammed Abu-Erhana for helping me learn the basic skills of the Archicad program and other computer assistance.

To my kind & dear Mother, Father and parents in law, who sponsored me to continue my studies. Without their help this would not have been possible. To my brothers and sisters who were always there when I needed them.

And last, but most important, to my beloved wife, Niloofar, who assisted me in all my needs, gave me love, understanding, advised me and supported me as another member of the committee.
THE UNKNOWN DESTINY

As the rays of the sun start penetrating through the dense layers of mist the city starts awakening. You can smell the sea, hear the sounds of cars and people rushing to get to their destination, you can start seeing the dominating tall buildings. Yet with all these senses working you ask yourself, where am I? Could this be Singapore, Plymouth, Hamburg, New York or is it L.A.? You have no clues to guide you, no significant cultural signs or symbols. Not even a hint! As you start walking desperately trying to find something even just a bit of a clue about this mystery city you start thinking to yourself. Why is it that all cities look identical? What is the point of traveling when you can't differentiate between your home town and where you have traveled to? Why don't I stay at home and just imagine that I have been to Singapore, Hong Kong or Dubai?

As you start answering all these questions you suddenly hear the sound of a diesel engine. You look up and you see an Arabian Dhow filled with cargo. You smile to yourself, and take a sigh of relief. Maybe there is a city that hasn't lost its culture and its heritage. A few steps away you see people getting into little ferry-boats that take them across the water to the other side of the city. As you're getting onto the boat you hear the sound of the morning prayer coming from the nearby mosque. You're sitting next to an Indian man with a green turban and yet you know you are not in India. By now you know you are somewhere in the Arabian Gulf! As the boat drops you off at your destination you get your last clue. You look up and see beautiful wind-towers dominating the skyline, and narrow alleys. You are in the Bastakia. You are in the last surviving historical quarter in the Arabian Gulf. You know you are in the enchanting city of Dubai. Looking behind your shoulder you see the most modern and up to date city which could be anywhere, but no, you are in Dubai. You feel overjoyed that there are at least a few cities in the world that have not allowed modernization to take over their strong cultural heritage. Dubai is one of them.
INTRODUCTION

PROJECT INTENTION

My thesis/project will be based on the development and preservation of the Bastakia area. In my project I hope to keep a few Bastakia vernacular buildings, demolishing the rest and coming up with a new layout of buildings that do not detract from the flavor and glamour of the Bastakia area. I am hoping to introduce a building that will act as a catalyst for attracting people into the area. A few prime examples of these buildings are cultural theaters or convention or community centers.

The Bastakia area was primarily formed by a group of Iranian merchants who traveled across the Gulf to the city of Dubai. The main reason these merchants moved to Dubai was because Iran had started a compulsory tax law and also because Dubai was a tax free country (and still is). Dubai had a convenient harbor in which these merchants could load and unload their goods. Having moved, these Persian merchants moved with them their styles of architecture, their traditional food along with their customs and habits. Their unique styles of architecture were the wind towers-a perfect way of combatting the harsh heat of summer. They set up their culturally rich neighborhood in a key position in the city of Dubai. This area of Dubai is now called the Bastakia area.

The financial implications of such a project will also be considered. I hope to be able to marry the new and the old in such a way that each one enhances the beauty of the other; such as the extension to the Louvre. The pure shape of the glass pyramid is in so much of a contrast with the traditional surrounding that it really helps people become more aware of the traditional building. In the same way I would want to create a practical reuse for those key Bastakia houses and at the same time design new buildings that are in harmony or
contrast with the old vernacular houses and the urban layout.

PROJECT OUTLINE

The project will be in three phases:

1 - An overall urban plan for the new Bastakia area keeping in mind a few key buildings and the overall new growth of the urban area.

2 - A complete set of plans, sections, elevations and models of the preservation and the change of use of a Bastakia wind tower house into something such as a hotel or commercial offices. The overall structure of these will be kept intact.

3 - Developing and designing a new building in the Bastakia area which will be in harmony with the vernacular urban scale of the Bastakia area. As mentioned before this building should bring the attention of the public into this area. It should also be commercially feasible.

METHOD

I will be approaching each phase of this project in a more creative, hypothetical and unstructured way. This is to stimulate myself into designing a more cohesive, practical and imaginative building. From the unstructured and creative mode I will lead myself into the sketch mode which I will explore the imaginative ideas and theories in a more practical way. By following this process I will hopefully design a building that is fresh and unique in it's way. Throughout my sketch scheme I will be testing out the creative alternatives and translating them into one practical design. Parallel to the sketching I will be researching on the practical points that have been a stumbling block or interesting in my designing procedure.
The outcome of all these projects will be an overall plan of the Bastakia area, which will combine the traditional and modern integrated in a harmonious way. The written thesis will complement my project. It will be based on things that will be important in producing this project.
INTRODUCTION

A city’s life is made up by the social congregation of the people living in it, George MacKitterick describes. A city is a community unlike a village or towns. It is a place where the people live, work, and find entertainment. It is a place where the people can interact with each other and with the environment. It is a place where the people can find a sense of belonging.

The idea of a city is to provide a place where the people can live together and interact with each other. A city is a place where the people can find a sense of community. It is a place where the people can find a sense of belonging. It is a place where the people can find a sense of identity.

REFERENCES


REQUIRED WORK

The project is to study Dublin city and the benefits of city planning. The project will involve the following:

1. Studying thebaladea area and the surrounding areas to see if there is a suitable perception in conserving places into the demarcated areas.

2. Studying the historical areas and coming up with a few key buildings that are worth preservation (Fig. 3). These buildings have to be in key positions so that they help shape the environment of the city.

3. Developing a pedestrian route through out the Ballybunion area (Fig. 4) which can take a possibility of a pedestrian crossing the river.

The project will be carried out by the students of the Department of Architecture under the supervision of the project coordinator.

METHOD

There will be six main tasks for the project:

1. Studying the baladea area and the surrounding areas to see if there is a suitable perception in conserving places into the demarcated areas.

2. Studying the historical areas and coming up with a few key buildings that are worth preservation (Fig. 3). These buildings have to be in key positions so that they help shape the environment of the city.

3. Developing a pedestrian route through out the Ballybunion area (Fig. 4) which can take a possibility of a pedestrian crossing the river.

The project will be carried out by the students of the Department of Architecture under the supervision of the project coordinator.
PROGRAM FOR PHASE 1
URBAN DESIGN OF THE BASTAKIA

INTRODUCTION

"A city is made by the social congregation of people, for business and pleasure and ceremony, different from shop or office or private affairs at home..... without such squares - markets, cathedral places, political forums planned more or less as inclosure, there is no city."

"Percival and Paul Goodman’
Communities

REQUIRED WORK

This project is to study Dubai city and the Bastakia area and to be able to achieve a coherent overall design for the development of the Bastakia (Fig. 1.2).

METHOD

There will be six steps to this project:

1- Studying the Bastakia area and the surrounding spaces to see if there is a clear pedestrian or automobile access into the Bastakia area.

2- Studying the Bastakia area and coming up with a few key buildings that are worth preservation (Fig. 3). These buildings have to be in key positions so that they help keep the vernacular feel of the Bastakia.

3- Developing a clear pedestrian route through out the Bastakia area (Fig. 4) which also has a possibility of extending across the water way by means of an Abbra (a small wooden ferry boat) to the other vernacular part of the city; the Deira souk and the Shandagha area.
4- Coming up with a land use proposal for the new developments in the Bastakia. This has to be considered very carefully so that there is a mixture of different uses. There should be life in the Bastakia at all times so that it doesn’t become dormant in the evenings.

5- Producing a written building guideline so that all new developments respect the Genius Loci.

6- Combining all these steps into a complete urban design, that speaks for itself and can sell itself in the harsh and competitive world of today.

I believe each building should be: unique, fashionable, give a sense of memory, have an individualistic language, have a meaning, symbolize something, have a mythology, topology and a distinct character.

*The city aesthetic is the beauty proper to being in, or entering such a square; it consists of the right choice and disposition of structures in and around the square* -ibid-
Top (Fig. 1) Image of Dubai

Bottom (Fig. 2) Plan of Bastakiya in context
Top (Fig. 3) View from a Bastakia Courtyard

Bottom Typical Narrow alley in the Bastakia
INTRODUCTION

The Bastakia area was selected as the site for this project due to the familiarity I have with the area and also the fact that the Bastakia area is one of the only existing vernacular masses of buildings on the Arabian side of the Gulf (Fig. 7). Also due to the perfect location of the Bastakia in the city of Dubai it has a potential for development and preservation.

LOCATION

The Bastakia quarter is located on the southern side of the creek, were it was an ideal site for the merchant community (Fig. 5). Dubai lies on the south east shore of the Gulf and the city is divided by a natural water inlet known as the Dubai Creek. The interplay between the curved waterway and the grid lines of the city has given Dubai a superb character of it’s own. The curves of the waterway have forced the grid to break and conform to it’s shape. The creek has always provided a shelter for shipping and where possible for fishing and merchant settlements such as the Bastakia (Fig. 10,12). The curves of the creek have helped increase the unity between the two sides of the water front rather than divide it (Fig. 11,13). The United Arab Emirates is located on the southern coast of the Arabian Gulf (Fig. 6).

HISTORY

The origins of Dubai as an independent state are comparatively short. In 1833 the Al bu Falasah section of the Bani Yas tribe quit the Island of Abu-Dhabi and moved their possessions 70 miles down the coast from Abu-Dhabi’s domain. Some 800 men
followed their footsteps. Dubai was a part of the Sheikh of Abu-Dhabi's domain, but the newcomers made their attack in the summer, during the pearling season, when all the men were away on the pearl banks, and easily obtained their objectives. At first Dubai was ruled jointly by Shk. Obaid ibn Said and Shk. Maktoum ibn Buti, but after Obaid's death in 1836, Maktoum ruled alone and from him descended the present Ruler.

The critical factor in the evolution of Dubai from a small impoverished state was the settlement of a population of traders, who developed the town as a mercantile center. These traders were not Arabs; they were immigrants from the Persian side of the Gulf. When in the early 1900s, Lingeh, then the most prosperous commercial center of the Lower Gulf, was included in the Imperial Customs administration of Persia, its merchants removed themselves to Dubai. They brought with them their language, their preference for rice dishes, and their style of architecture. They installed themselves in recognized quarters, where their masons and carpenters built them houses with wind-towers and capacious courtyards like those they had left behind.

So the Bastakia area of Dubai was created (Fig. 8.9), getting its name from an inland town near Lingah. There were no tall buildings; the wind-towers of the Persian merchants quarter were its prominent feature, and the brown mud fort on the Dubai side.

**CLIMATE**

The climate of Dubai is a maritime desert climate. The climate is very harsh and unfavorable. In the shade temperatures during the day time reaches a mean maximum of 21 to 26 degrees Centigrade. The high humidity is due to the constant evaporation of the Gulf due to intense solar radiation.
Top (Fig 8) Bastakia Alley

Bottom (Fig 9) Dubai Creek in 1960 with the Bastakia windtowers in the Background
Top (Fig. 10) Dhow unloading on the Deira quays

Bottom (Fig. 11) Ferry steps, Deira
Top (Fig. 12) Drawing unloading on the Doha quays.

Bottom (Fig. 13) The Dubai waterfront seen from across the creek.
The harsh summer heat is usually between March through to October, and the cooler winter is between December to February. The humidity is more in the morning and in the evenings. Dubai's weather is extremely hot during the summer and relatively cool and humid in the winter.

SITE SPECIFICATION

The Bastakia quarter is compact and has an area of approximately 70,000 square meters (Fig. 8). The diameter of the Bastakia is 350 meters on the east-west axis and 200 meters on the north-south axis.

All the houses in the Bastakia are formed around a center courtyard and have a minimum opening into the outside world. The close density of these houses has formed narrow alleys which are overshadowed by the houses most of which have wind-towers. Wind-towers can be as high as 15 meters.

The building material in this area is mostly coral stone which acts as a cavity wall.
The precedence study is an in depth study of a few good examples of historic preservation and development in different parts of the world. The thing that has to be kept in mind is that each country has a different approach to developing preservation centers. The approach depends on the cultural and political situation of that country. So if a particular system works in one country it does not mean that it will work in another. The system has to be modified to suit the cultural needs of that particular country. By conducting the precedence study I am not trying to imply what approach is right or wrong, but merely study their method of approach.
The Ballaja quarter is in San Juan Puerto Rico. Like the Bastakia, it has suffered several years of neglect and deterioration. It has now been targeted for development and reconstruction. The government has decided to first of all restore the area and then give a change of use to the existing buildings and secondly develop the vacant lots and build a five story underground parking. The studies show that the intention of the government is to make the Ballaja an active quarter and a living part of the city of San Juan.

The Ballaja sits on a ridge from which one can see the ocean to the north and south (Fig. 1). The quarter is approximately three acres. The Ballaja is the link between the city and El Morro, a defensive fortress which is now a large public park. The quarter is linked to the city road and pedestrian streets. The Ballaja was developed around the 1850's as an institutional district. The primary use of the buildings was for military and civic centers. After the 1898 war, the United States army occupied Puerto Rico and renamed Ballaja Fort Brook. In the 1940's the army tore down the residential houses in this area and made it into parking for the military vehicles. This caused a whole sector of this quarter to disappear.

This study gave great importance to the existing physical and social environment of the area surrounding the quarter (Fig. 2). They wanted the new development not to mimic the outer semblance but design with a true understanding of the principals that operate in this place. The architects studied the way the Spanish settlers brought their "binding observance" of a culture (Fig. 4.6). They brought with them their forms and materials of their houses, the colors, the smells, the gathering in their plazas and all their qualities. In the same way the Persian merchants brought with them their cultural "binding observances" when they moved to the Bastakia.
Top (Fig. 1) Bairro and
Santo Domingo Quarter
1921

Bottom (Fig. 2) Bairro
1986 existing context
plan
Top (Fig 3) Pedestrian street Callejon del Hospital

Bottom (Fig 4) San Jose Church and Plaza
Three main studies underpin the design for the Quarter and create the framework for future developments. The first study was a measured, systematic observation and recording of four different areas close to the Ballaja quarter. This observation was to develop a structure of the basic components of the city and the basic building types in San Juan depending on their different conditions of topography, use, access and location within the city fabric. The second study examines the forces acting on Ballaja and its relationship with the rest of the city structure. From this they developed a set of urban design intentions. The third study analyzed the observations and the general urban design intention and developed from them a set of new elements which will be deployed and used in reconstructing the quarter. These elements form the vocabulary and language for the design.

As explained earlier a deep study of San Juan city was made in order to gather groups of elements and relationships. These elements were the basis for the establishment of a vocabulary for the Ballaja quarter. From these studies they clearly saw the importance of Ballaja in relation to the city. They made the mending of the severed relationship between El Morro and Plaza San Jose (one of the larger buildings in Ballaja) one of their important objectives. They also wanted the new development to have the same scale as the residential blocks that were destroyed in the 1940's. By staying with the same scale they helped regain the physical definition and containment that was lost when the buildings were torn down.

The other great problem in San Juan is parking, and traffic congestion. A possible solution was to build an underground parking garage beneath the plaza of one of the buildings. This is one of the largest single spaces in the city (Fig. 2). They wanted to integrate this with the restoration of the building that sits right next to this plaza.

This is a summary of their urban design intention for the reconstruction of the quarter.
Top (Fig. 5) Ballaja Quarter, aerial photograph
Bottom (Fig. 6) San Sebastian Street Block
Top: (Fig. 7) Observation
# 3 block unit
Bottom: (Fig. 8) San
Sebastian Street,
Elevation
1- To extend the North-South pedestrian network to link the core of the city with the public grounds of the El Morro fortress (Fig. 3).

2- To design a new plaza to act as a gateway to the city and to the park (Fig. 13).

3- Design a parking structure beneath a vacant lot or under the interior patio of the Cuartel de Ballaja building (Fig. 2).

4- Design two new city blocks on the vacant lots. These developments will be primarily residential with commercial or offices on the ground floor. These buildings will help eliminate the urban vacuum that exists at the moment (Fig. 11,12).

5- To restore the existing vacant and abandoned buildings. They also want to create an accessible public urban space within the interior courtyard of Ballaja building (Fig. 7,8,9).

6- To design a new building to house the Institute of Spanish Exicography, replacing the existing dilapidated 1950's building on the same site.

7- Design and build a new block on what presently is a vacant lot (Fig. 11,12).

The government wants the design of the building to have a vocabulary that reinforces the styles of the area but at the same time allows for individual interpretation and identification with its parts.

By developing the Ballaja quarter the government wishes to create sixty new residential units and ten commercial and office spaces to complement the restoration of the existing buildings. They also hope to create two new plazas one paved and the other green to create new open places for people to meet and relax. By developing an auditorium, that can be used for lectures or concerts they wish to bring new culture and life into the quarter. By providing an uninterrupted pedestrian access the old fortress will finally be made part of the city. (Fig. 4,5,6).
Top (Fig 9) existing structure

Bottom (Fig 10) System and Generative Facade
Fig. 1 Plan of the vacant lot
The Master plan for the city of Bresica was adopted in 1977 and approved in 1980 and is being constructed at the present time (Fig. 1). The government brought a stop to private developments in the area, but instead set up the development of public buildings and areas that could be used by public and private operators (Fig. 6, 7). In the historical center of the town the resident population has dropped tremendously so the restoration of these buildings can be done much easier. The restoration is done partially by the municipality purchasing and restoring most of the more modest houses and the private enterprise restructuring palaces and courtyard buildings.

A problem that they came up with when producing the master plan was that the detailed plans of the city were drawn up in the 1970's projecting the growth to the 1980's but now they all need to be updated. Just recently the city planning team has been equipped like a planning team to update and reuse all the plans as changes occur. The two main projects that are being constructed are the law courts at Spalti S. Marco and the underground systems first stretch.

The special zones in the Historical center’s have been tackled and the difficult spots have been pin pointed and concentrated on, such as the Colle Cidneo muscle incline, the central squares and the Spalti S Marco strip. The Spalti S. Marco area was designated as the site for the new Law Courts (Fig. 4, 5). This decision reopened the search for recreation and functional spaces for the residents living in that area. To be able to resolve this problem a systematic study of the Colle Cidneo was made. Another problem that they had to deal with was the comprehensive program for restoring S. Giulia. The government also set up a coherent restoration plan for the center squares “The Broletta” that is open to different possible modern uses (Fig. 12). After all this restoration work the next difficult step is to perceive a correct insertion of the
Top (Fig 12) Support system
Bottom (Fig 13) Buitasa Quarter reconstructed
Fig. 1 Aerial View of Brescia's historical center
Top (Fig 2) Proposal for an integrated traffic network

Bottom (Fig 3) Map of the South east area of Brescia
Top (Fig. 4) Perspective view of via Spalih Sun Marco

Bottom (Fig. 5) Site Plan of New Law Courts
ancient settlement, and estimating it's stabilizing values, into this ever changing part of the city (Fig. 8.9).

In order to be able to simultaneously address all these problems at once the planning office has been strengthened and divided into two sections. The present and future proposal, the study of the industrial areas, the arrangement of the abandoned areas between Vantiniano and the boulevard, the underground system detailed itinerary, the park, the parking lots, the traffic network and more have all been shifted to a separate section of the planning department (Fig. 2,3).

The planning department is convinced that a plan becomes more clear after it is completed and when it can be shown, so they are trying to work as hard as possible to show the existing government what they have planned (Fig. 10,11).
Top (Fig. 6) Plan and section of the Roman theatre
Bottom (Fig. 7) Piazza del Duomo
Top (Fig 8) Study of the reorganization of the bastions and of the Castle

Bottom (Fig 9) Study of the area of Colle Cidneo
Top (Fig 10)
Bottom (Fig 11)
Piazza della Vittoria
Fig. 12 Proposed designs for the central squares in the context of the centre of Brescia
GUIDE LINES FOR PRESERVATION AND DEVELOPMENT IN THE BASTAKIA AREA

INTRODUCTION

The preservation of historical buildings and their renovations has recently become an important issue in many countries of the world. In the U.S.A. more than 300 communities have started preserving their structures and their historical urban patterns. By these preservations they hope to keep a little bit of their past. The great degree of experience gained from all these existing preservations has produced several different technics for preservation and economical developments. The preservation of the Bastakia area will require a specific technique due to the strong culture background that exist in the area.

WHAT MAKES A SITE OR A STRUCTURE HISTORICAL?

As surviving examples of particular era’s becomes more and more scarce keeping these buildings within a particular area helps in protecting them so that our future generations can also take part in their history and heritage. There has to be a guide that can help determine the degree of authenticity and the age of the structures in the Bastakia area.

All the buildings that will be kept and preserved will be judged on their age and authenticity and the number of wind-towers it has.

The significance of a building in the Bastakia should be judged on the following conditions, which have been adapted from the guide lines established by the United States National Trust for Historical Preservation.

- The building has be dated back to a particular period in the history of Dubai.
- The site or building has to be associated with an outstanding historic personage.

- The site or building has to have associated with significant historic events or occurrences.

- The site or building should have distinguishing characteristics of an architectural style, method of construction, or of a notable work of a master builder, designer, or architect whose individual genius reflects his age. Such an example is houses with working wind-towers.

- The site or building should contribute in the historical, cultural or social importance to the historical heritage of Dubai.

- Buildings that are less than 50 years old are not considered historic, however outstanding examples may evaluated based on their merits.

CRITERIA FOR DEVELOPMENT

In order to be able to strike a balance between preservation and the ever increasing rise in land value new development and reuse of existing buildings have to take place. The continuation of new development within a historical area is necessary in order to keep the area active and vibrant.

The new buildings should not be built without any consideration of the existing buildings. If the design of the new building does not correspond or is not harmonious with the existing buildings the visual image of the entire area of the Bastakia will be destroyed. New and modern buildings have been constructed in historical areas without destroying the sense of place in history. I would like to make it clear that in no way am I encouraging the new buildings to mimic the old. I strongly believe that modern buildings should speak the language of its own time but at the same time be considerate to the existing.
In order to prevent the destruction of the visual image of the Bastakia area a guide line for new developments has been written. The following is only acting as a guide and no hard and fast rule is to be set by them. In order for any new developments to take place an approval has to be obtained. The design for the developments has to take into consideration the requirements stated in the following guidelines. If the proposed plan does not consider the Bastakia architecture, suggestions will be made in order to improve the design so that a status quo is created between the new and the old.

DEVELOPMENT GUIDE LINE

1- HEIGHT: The height of the new development should not exceed the height of the existing buildings. This height is not including the wind-towers. The windtowers should remain as the dominating structures in the skyline of the Bastakia area. The maximum height of the new developments will only allow up to three stories.

2- SETBACK: The new developments must consider the setbacks and spaces between the buildings in order to maintain the existing feeling of open spaces in the area.

3- PROPORTION: The idea of proportion is the relationship between the height and width of not only the front elevations but all of them. The new developments have to keep within the proportions of the existing Bastakia buildings.

4- PATTERN/RHYTHM: The new developments have to get a balance between solid and void on the elevations. Consideration has to be made to the fact that most Bastakia houses are inwards facing and therefore very few openings are towards the outside. A courtyard system might be an answer to the problem of pattern and rhythm. By producing this sense of rhythm the old and new will get a better sense of integration.
5- ROOF TYPE: The new development should try and stay with flat roofs due to the fact that all the buildings in the Bastakia have flat roofs with roof terraces on top.

6- SURFACE TEXTURE: The surface texture should be tried to be maintained in the new development. The same material does not have to be used as long as the two materials are compatible. In some cases parts of the new developments can use the traditional material and the rest of it can be a material that matches.

7- COLOR: The color of the new buildings should either be neutral so that it can blend in with any color or colors that match the existing one. Outrageously different colors should not be used even in signs.

8- PROJECTIONS: The existing buildings of the Bastakia have projection in the entrances to the buildings. The new buildings have to consider these projections.

9- COURTYARDS: Careful considerations have to be made in terms of using a court wherever possible. The courtyard is a cultural and climatic answer to the design of the houses at the time of the Bastakia's.

GUIDE LINES ON SIGNS

All signs should be harmonious and respective of it's surrounding in terms of color, size, position, method of attachment, texture of material and method of construction. A separate application has to be submitted to the advisory for signs and final decision of their approval will be up to the advisory board.

PRESERVATION AND DEVELOPMENT ADVISORY BOARD

A preservation and development board has to be elected for the Bastakia area. The people that have to be present in this board
are: representatives from the government, representatives from the property owners in the Bastakia area and people with special qualifications such as architects, planners and other related fields. I believe the board should consist of nine people at the most. The actions made by this committee will have to be approved by the Dubai Municipality. The board may develop their rules and regulations for carrying out the duties they have been assigned to.

The duties of this board is to designate the preservation zone of the Bastakia and select the structures that will be kept and the sites that have to be developed. The advisory board should also review all the applications involving any kind of construction such as construction of new buildings and modification alteration or demolishing of any existing building in the Bastakia area.
THE URBAN DESIGN OF THE BASTAKIA AREA

In order to inspire my design abilities an abstract sculpture (Fig. 1) was designed and built.

Due to the high land value of the Bastakia area, new developments had to be considered. To create a harmony between the existing vernacular buildings and the proposed new development a detailed urban study of the area had to be made (Fig. 5). In order for the Bastakia area to remain a historical area, an economically feasible use had to be created for it. Due to the ever increasing tourism industry and the mercantile history of the Bastakia, it was decided to create a mixed usage of the area which included: residential, commercial, retail, hotels & restaurants (Fig. 8).

The location of the site played a very critical role in the urban planning of the Bastakia (Fig. 7). Routes into the site were considered. Connecting the Bastakia to the waterfront was also another important factor in this design.

The next step of the urban design was to create a balance between the existing vernacular buildings and the new developments (Fig. 5). At the same time the urban scale of the area had to remain intact. The existing open areas were created into urban squares where covered markets are designed. The covered markets are a modern version of the old Arabic Bazaars (Fig. 6).

Due to the fact that the Bastakia was not designed to cater for the motor vehicles it was decided to designate the area as a pedestrian access only. Access to the Bastakia site can be either by car, pedestrian or by boat (Fig. 7,8).
Due to economic factors, the Bastakai area has been proposed to develop in three phases (Fig. 2,3,4). The first phase (Fig. 2) creates the urban route from the waterway through the Bastakia to the Dubai side of the city.
Fig. 1 Abstract Sculpture
Showing location of the Bastakia and the present urban problems
Fig. 2 Phase One
Fig. 4 Phase Three
Fig. 5 Existing and proposed buildings
Fig. 6 Urban market place
Fig. 8 Zoning in the Bastakia area
Aerial view of the proposed Bastakia area.
Aerial view of proposed Bastakia urban squares
Aerial view of proposed Bastakia urban squares
Entrance to the Bastakia by motorcar
Entrance to the Bastakia by the motorcar
Entrance to the Bastakia by boat
Computer Image of the New Souq from across the road.
Computer Image of the new Souq from across the road
Shading canopies of the new Souq
Computer Image of the Interior of the new Souq
Computer Image of the proposed urban squares
Computer Image of the new Souq from across the road
Aerial view of the new Souq
PROGRAM FOR PHASE 2

CHANGE OF USE AND PRESERVATION OF A BASTAKIA WIND TOWER HOUSE

INTRODUCTION

This phase of the project is aimed to act as an example for the preservation and the changes of use of Bastakia wind tower houses (Fig. 13,14,15,16,17,18). There are obviously several methods of addressing such a problem. In this case I would like to choose the most effective method of preservation considering the social, cultural and financial aspects.

REQUIRED WORK

This phase of the project is taking an existing building in the Bastakia and carefully studying it. After careful consideration a new use will be given to the building. Such as commercial shops or offices. Finally a design will be made for this change of use keeping in mind the importance of the preservation of this structure.

METHOD

There will be six steps in this project:

1- In depth study of the existing condition of the building. Looking in particular at the structural conditions of the building (Fig. 9,10).

2- The surrounding buildings have to be carefully looked at and careful consideration has to be made to the details and spaces around the building. The building has to be analyzed in terms of it's position in the new urban design of the Bastakia that was done in Phase one. The redesign of the existing wind tower house has to acknowledge any new developments that are being built around it (Fig.2).
3- The circulation within the exist building has to be studied in order to find out whether the first floor can be separated from the ground floor so that two different usages can be made. Such as commercial retail units on the ground floor and offices on the first floor (Fig. 16.17).

4- The areas on the ground floor and first has to be measured in order to find out how many commercial units and offices can be realistically designed into the existing structure.

5- Offices and commercial units have to be designed into an existing Bastakia House. The new design has to follow the recommendations that were stated in the Bastakia Guideline which was prepared in Phase 1.

6- The design should be communicated both in drawings and in Model form. The presentation should be clear, simple and show all the new developments in the existing building.

At all times it has to be remembered that the new development should not try and mimic the old but state that it is a new design and a new use.
Top (Fig 1) Dubai Town
Bottom (Fig 2) Site plan of the Bastakia
Top (Fig. 3) North west wind tower. The projecting poles still support scaffold boards.

Bottom (Fig. 4) Plaster screens.
Top (Fig 5) Courtyard looking east

Bottom (Fig 6) Courtyard looking south
PHASE 2 SITE ANALYSIS

CHANGE OF USE AND PRESERVATION OF A BASTAKIA WIND TOWER HOUSE.

INTRODUCTION

The reason why this particular building (Fig. 15,16,17,18) has been selected for this project is that there is a lot of information and recorded drawings of the existing condition of the building. The position of this structure in relation to the urban design plan of the Bastakia in phase 1 is also very critical (Fig. 2).

LOCATION

The building is located on the North west side of the Bastakia area (Fig.2). The Bastakia area is located on the southern side of the creek in the city of Dubai. Dubai is located in United Arab Emirates (Fig. 1). The Bastakia area is an old part of the city.

DESCRIPTION OF THE HOUSE

The house is built around a central court yard (Fig.5,6) and is two stories high. In the Bastakia area most structures are two storey (Fig.8) and a few single stories so this building is quite typical of this area. The house has three wind-towers on top of the three living rooms on the first floor (Fig.3). A typical design feature of the two storey houses in the Bastakia is that the ground floor repeats itself on the first floor. The main reason for this was that long time ago families would use the ground floor in the winter and the first floor for the summer (Fig.13,14). This house has the same design feature in terms of the first floor following the same floor pattern as the ground floor.

We have to remember that these houses where built to accommodate extended
families and to provide privacy for the women. Therefore all parts of the house were accessible from the central courtyard. The high plain exterior wall is in sharp contrast with the arched and highly detailed interior screens and spaces (Fig. 4).

THE STAGES OF CONSTRUCTION

This house was constructed by a mason by the name of “Ostad Mohammed” (Fig. 7). He was a tenth generation mason. The family that lives in this house came to Dubai just after the turn of the century. They initially lived in another house in the Bastakia area which now should be around 70 years old. This building’s construction started in 1926 when the family grew larger and therefore needed more space.

The house was constructed in four phases:

1- The living rooms were constructed on the east wing of the building, the porch and the reception were built on the southwest corner of the building. All new wings were built on two levels. An external wall was built around the house and temporary sheds where set up for storage space.

2- Washing and kitchen facilities were added on the ground floor on the south side. This linked the existing buildings together.

3- When there was a need for more living accommodation the ground floor of the North side was built.

4- The final phase of the construction was the additional wash rooms on the first floor on the south side, a covered veranda on the first floor of the north side and on the ground floor of the west side storage rooms were built instead of the sheds. There was a plan to build another room in the middle of the veranda on the first floor by building doors between the inner columns but this never materialized.
Top (Fig 7) Picture of the builder
Bottom (Fig 8) View of an elevation
Top. (Fig 9) Coral masonry and sarcoj bonding

Bottom. (Fig 10) Onion store
Top (Fig 11) Plaster screens on the west elevation

Bottom (Fig 12) Painted decoration around floor bedroom
In 1961 mains electricity was provided and linked into the house and in 1963 piped water was plumbed into the house. It was not until 1972 that the house was linked to the municipal sewage system (Fig. 16, 18).

THE METHOD OF CONSTRUCTION

This house was built on a plot of land given to the family by the ruling Sheikh at that time. The foundation of the house is about a meter deep and two meters wide overall. The building itself is constructed from stone and a material by the name of Sarooj (Fig. 9). Sarooj is made of red clay imported from Iran mixed with manure and water to form a paste. The paste is spread on the ground to dry. When it is dried out it is then cut into blocks. These blocks are then baked in a kiln. The baked bricks are then powdered. This powder mixed with water makes a superb bonding agent that is even stronger than cement or gypsum.

When the columns in the ground floor were constructed the space between it was infilled. This produced a very well insulated wall to keep out the cold in the winter nights. The internal walls are from a finer masonry. It is believed that the first floor was built after the ground floor was completely finished. The columns and walls are not aligned on the ground and first floor.

The pillars are constructed from coral blocks and spaced out by about one meter. Due to the cavities in the coral stones the thermal conductivity is very low. The cylindrical columns were cast in timber shuttering. The columns on the first floor of this house was imported from Italy (Fig. 11). The finer masonry walls were built from a two to three centimeter limestone slab.

The finishing plaster was a paste of chalk and water that was applied to most of the masonry walls. The elaborate and intricate screens and arches were first cased out of timber on the ground (Fig. 4, 11, 12). Once it was dry it was put into place and plastered down; the plaster would dry out very
quickly. The arch facing were built in two pairs, front and back. When they dried out they would then build them back to back with 25 cm space between them that was filled in with plaster.

The floor finishes where a mixture of straw and silt that was applied onto timber boards spanning hardwood beams (Fig. 10). The greatest span in the house is not more than three meters. The living quarters were then finished with timber boarding pinned to the under side of the ceiling. The cornices were either out of plaster or they were carved or painted timber edging. All the doors and windows were standard units that were imported into Dubai. The windows were all barred for security reasons. All the windows opened inwards.

THE WIND-TOWERS

Wind-towers were the most effective method of increasing the ventilation. Wind-towers are multi directional due to the fact that they are open on four sides (Fig. 3). The purpose of these wind towers were to bring down into the building the afternoon breeze that comes in from the sea.

The wind-towers in this building are no higher than 15 meters from the ground. At this height the air velocity is one and a half times faster than on the ground. Half of the wind-tower consist of a vertical shaft that increases the air velocity as it travels down. The air from the wind-towers can only cool the room immediately under it. The cool air that descends from one side of the wind-towers is sucked up from the other side. Therefore an air movement is created that brings in cool air and removes the hot air. Traditionally cushions were placed beneath the wind tower and the family and the guests would sit there.

In the winter months the wind-towers were not needed due to the cooler weather, therefore the wind tower openings where closed up. This was a very difficult task because during summer a lot of dirt and
bird droppings would have gathered. In order to build the wind-towers wooden poles were tied together to form a wooden frame. The ends of these poles were exposed due to the fact that they would be used as scaffolding in order to repair and to re-render the cooling tower. In this house only two of the three wind-towers are being used due to the introduction of the electric fan and the air-conditioning system.
Top (Fig 15) Section looking south

Bottom (Fig 16) Ground floor plan
Top (Fig. 17) Section looking east
Bottom (Fig. 18) First floor Plan
PRECEDENCE STUDY

The precedence study is an in depth study of the reuse of a few old buildings into such things as galleries. What has to be kept in mind is that each country has a different approach to preservation of existing buildings. The approach depends allot on the cultural and political situation of that country. So if a particular system works in one country it does not mean that it will work in another. The system has to be modified to suit the cultural needs of that particular country. By conducting the precedence study I am not trying to imply what approach is right or wrong, but merely study their method of approach.
FROM A WELSH FARM BUILDING TO A
CONTEMPORARY GALLERY
& STUDIO

The building is located in a beautiful
countryside called Clwyd on the border of
England and Wales. Even though the
landscape is mostly farm lands it is
swarmed by tourists heading towards
Snowdonia in the west. Due to the beautiful
and tranquil country side it has become a
haven for artists and craftsmen. Many of
these people have studios or workshops in
the Clwyd area. Most of these studios and
workshops are located in old Welsh Farm
houses. One of these conversions was
done by a young London architectural firm
by the name of Patel Taylor. This firm has
managed to combine a vernacular farm
building with a contemporary sensibility in a
different and intriguing way.

The site is on the outskirts of a small Welsh
village by the name of Treuddyn (Fig.1). It
was originally occupied by a farmer family
but is now owned and occupied by another
family which uses it as their residence
(Fig.2). This family decided to convert the
ancient barn into a small gallery and studio,
with the aim of attracting the local artists
and craftsmen to set up a modest
exhibition. By this they hoped to create a
center for individual and creative
education. At the beginning the program
was very loose, it only consisted of two
open spaces. After careful discussion with
the architect it was metamorphosed into a
more complex arrangement that
consisted of mezzanine, gallery space,
kitchen and service areas (Fig.4). The
structure itself is around 400 years old and is
constructed from thick limestone wall that is
punctuated by slit windows. The roof is held
up by large oak trusses (Fig.8). The building
has weathered so much that it appears
more part of the landscape than a building.

The long and narrow plan of the barn has
been cleverly exploited to create informal
spaces that are linked and defined by a
linear route that runs across the edge of one
side of the building (Fig.5). The route is
designated by the change in floor finish.
Top (Fig 1) No Sign of change on the North side

Bottom (Fig 2) Site Layout
Top (Fig 3) Detailed Elevation of the entrance door

Bottom (Fig 4) Spatial arrangement
Top (Fig 5) Different kinds of sensuality

Bottom (Fig 6) Exterior View
The route is a rough stone finish in contrast to the polished timber floor finish of the main spaces. The spaces are separated by various methods such as partitions, full enclosures, change of level or even free standing elements (Fig.8,10). All these various separation methods restates the notion of a building within a building.

In this building the origin of every element has been made clear. For example the existing slit windows have been kept as is (Fig. 9) but all new windows have a different shape. The new windows are small and square and the windows are pushed through all the way so that the windows are flush with the external wall. In some cases the windows are sand blasted to create a translucent niche within the thickness of the wall for the display of objects.

The most radical element is a sculptural wedge that penetrates through the barn at it’s entrance (Fig.3,7). This wedge itself has a great circular aperture cut into it’s height, like a hole in a Swiss cheese. As the wedge goes further down into the building it diminishes more, until it wraps itself around the stove in the center of the gallery (Fig.8). Externally the wedge frames and defines the landscape and the carefully constructed entrance way (Fig.2,6). This careful positioning of the wedge has created a great symbolic meaning. It stand unapologetic and bold: indicating the new and revitalized role of the building.
Top (Fig 7) View of Entrance

Bottom (Fig 8) Inner end of the dramatic, almost Constructivist, entrance piece.
Fig. 9 Studio space
Fig 10. Different uses of material
James Stirling was born and raised in Liverpool city which at that time was a thriving city. After serving as a paratrooper in the Second World War he trained as an architect in Liverpool. Stirling drew on his surroundings to regionalize his building in a very toughened up regionalist version of Corbu's Modernism. In the late 70's Stirling refused to speak at an RIBA meeting held in Liverpool due to the anger he had at the architects and the planners for what they had done to his home town of Liverpool and the insensitivity of holding a congratulatory meeting in a city that they had devastated.

When James Stirling, Michael Wilford and Associates got the commission for the design of the Tate Gallery in the Albert Dock it surely was a home coming for James.

Stirling had mixed feelings about designing the Tate gallery (Fig.4). In one way he felt thrilled being part of the preservation of such marvelous architecture and in another way he felt bad about the inevitable alterations. Even though the Tate gallery is part of a triumphant regeneration of the area the fact is that the character of the place is lost. As usual preservation has resulted in the distortion and distraction of history. The prettifying of the area has caused the place to become another theme park. Albert Dock has become unreal: it has lost its grim gritty reality of the past.

Stirlings new insertion speaks of our time rather than try and mimic in a false fashion the nostalgia of the past. This gallery is very different than the two earlier Stirling galleries in Europe. This gallery is less of a theme park, for example compared to the Stuttgart Staatsgalerie. The Stats tries to give the visitors the nostalgic feel of the Egyptian Empire in a false and fake manner.

Perhaps because Liverpool's Tate was a return to his home town and because he
has a high regard for the Albert Dock, this gallery has been done in a very simple yet effective manor. Without any doubt there are a few signs of a theme park approach such as steam ship details or the large orange lettering announcing that this is a tourist haven (Fig.7).

Albert Dock is not architecturally famous for the fact that it's a good example of metal and masonry structure but because it is a milestone in the development of such a method of construction. The Albert Dock was designed by the dock engineer Jesse Hartley and built between 1841-45. It was influenced by the St. Katharine Dock in London. As in the St. Katharine Dock the warehouses ring around the edge of the basin allowing goods to be directly unloaded of the ships and stored in the warehouses (Fig.8). The other aspect of Albert Dock that sets it apart from buildings of that time was that the interior was fire proofed. Instead of the normal timber floors on cast iron columns they built it out of thick brick bulkhead walls and tiled floors on brick jack arches spanning between iron beams braced by tie rods and sitting on cast iron columns (Fig.10). The roof was constructed masterfully in pared down iron construction. At places that the original roof was damaged you can clearly see the gross and clumsy modern work in comparison with the highly crafted old roof.

At the moment only part of the conversion is completed. The rest is awaiting further funding. When fully completed the Tate will fill the deep-plan end section of the warehouse (Fig.1). Sterling had to incorporate galleries, various ancillary spaces as well as the various provisions for climatic control, lighting & access for people and artwork in the warehouse space. The metal and masonry construction was not just a major feature but was also a design constraint. It was especially hard keeping the exposed vaulted ceiling and incorporating air-conditioning system at the same time.

The final design of the Tate is very simple and clear. Galleries are stacked one on top of the other, all the vertical duct work,
Top (Fig 1) Section before conversion
Bottom (Fig 2) Ground Floor Axon
Fig. 3 View of entrance from across the dock
goods lift and the staircases are fitted in core one structural bay wide (Fig.2). This bay is stretched in order for it to divide the wide warehouse into two spaces. All the gallery walls are lined with a deep timber frame that allows all duct work to be hidden behind it and for all the paintings to be anchored independently of the original fabric of the wall.

Suspended from the ceiling are multi purpose units that accommodates the lights, smoke detectors, loud speakers and air-conditioning ducts which are fed from the deep timber frame walls (Fig.11,12,13). The walls also accommodate the intake ducts for the air conditioning systems. The multi purpose units hangs from the middle of the existing roof vaults in order for the shape of these structural vaults to show (Fig.13).

Floor to ceiling heights are varied from one part of the building to the other. This variation in height played as a great design restriction. The height of the front warehouse was so high that James designed a mezzanine level. On the other hand the third floors ceiling height was so low for a gallery that all Air-handling units and other plants fitted comfortably. This worked very well for Stirling due to the fact that in England no plants or air-handling units should be exposed on the roof of a Grade 1 building (Fig.9). In this building 22% of the floor space is designated to services and 5% to circulation. The basement of this building is truly amazing in that the heavy ceiling gracefully vaults over your head. This heavy structure looks almost like a tent or a sail. Unfortunately this space is closed of to the public except the small area designated for the water closet.

Most of the Mezzanine levels between the ground and first floor have been removed to allow for high ceiling galleries and entrance foyer (Fig.5,6). They discovered that this was designed for when the original structure was built. To one side of the foyer the mezzanine remains. On the mezzanine is the administration offices and below it are education rooms for school parties and a reading room. In the back of the foyer some of the mezzanine is kept in a double
bow fronted balcony with bright orange and blue coloring bringing in some of the steam boat flavor (Fig.2). On this mezzanine are the coffee and book shop.

From the outside of the building the steam ship colors also dominate the elevation and in order to over emphasize the nautical references there are porthole windows in the administrative offices (Fig.3, 7). All of the people are offended by the bright use of color which was originally meant to be softer. The colors that Sterling used was the colors of the line that Stirlings' father served in but he doesn't want to confess to this truth. Besides the brash orange colored lettering the entrance way into the building is a feature less affair. The entrance has no provisions for posters or even a display area to announce what exhibits are inside.

The entrance into the building is through a set of rotating doors that is familiar to almost all Sterling buildings (Fig.5). On a straight axis from the entrance beyond the book store mezzanine is the stair and lift lobby. The way finding signs are satisfyingly elegant, apt and integrated with the architecture. The larger letters are cast iron in Futura Bold: they look good both on the masonry and the plastered walls. The small lettering don’t look to good because they are plastic decals that are processed directly onto the walls.

As you enter through the building one gallery is straight ahead of you and the other is to your right. The galleries on the ground floor don’t work as well as the upper floor galleries due to the height of the ceiling. The height lifts the eye up from the displays an attracts them more to the roof vault and the suspended multi function units. The close grid of the columns also causes the gallery to look very cluttered. In one of the ground floor galleries this has been exploited by the mixture of Surrealist paintings with paintings from Roland Penrose’s collection (Fig.13).
Top (Fig 5) View of entrance Foyer
Bottom (Fig 6) Colon­nade in front of entrance
Top (Fig. 7) Bold colored letterings
Bottom (Fig. 8) View of Albert Dock
The other ground floor gallery is very close in dimension to the NewYork's Four seasons restaurant for which most of Tate's Rothkon were painted for (Fig. 11). These paintings plus a few paintings given by his family is on display. Unfortunately unless you stand in front of these large canvas paintings you can't see them properly because of the columns. Although these columns reduce the impact of the painting it enhance the space by forcing an architectural order in this tall building.

On the upper floors due to the lower ceiling the columns seem less conspicuous. On these levels the roof vaults and the suspended units emphasizes the order of the space without overpowering the space. Most of the windows have been blocked in except a few on the corners of the galleries and those frame the view of the Mersey in a way that the openings look like a painting. Except the light penetrating through the window most of the light is a defused light that reflects of the vaulted ceilings. The paintings themselves are lit by individual lights that hang on the sides of the units. These small spot lights are not used for illumination of space because they will cause a glare.

All the wall and ceiling vaults are painted white, the floors are finished in wooden strip floors and all metal painted grey. This combination of color and material creates a sober and serene atmosphere. The close centered tie bars in the vaulted ceiling were painted in white in order that they don't over dominate the space. This gallery unlike other Sterling buildings excepts it's warehouse origins even though it has been spruced up and highly serviced.

The future phases of the building will be the addition of further galleries, studio for resident artists and a large multi purpose room that can be used as a lecture hall, for films or performing arts. They have to also fit a system that is up to international standards for the interior climatic control due to the fact that it is located next to the sea with consequent high levels of moisture and salinity.
From the success of this Gallery it is obvious that Sterling felt comfortable designing at his home town and he had no need for the gimmicks that the international scene now demands. The plan of the building seems obvious and straightforward & keeps well away from the idea of a theme park.
Top (Fig 9) Plant room on the third floor

Bottom (Fig 10) Warehouse before conversion
Top (Fig 11) Gallery
Bottom (Fig 12) Perspective of a Gallery
CHANGE OF USE OF A BASTAKIA HOUSE

In order to inspire my design abilities an abstract sculpture was designed and built (Fig. 1).

The inward facing design of the Bastakia houses creates a restriction on the usage. The only two practical usages that can be built into the Bastakia house is either an upgraded residential accommodation or office / design studio spaces (Fig. 2,3,4,5,6).

In order to clarify the Change of use of these Bastakia Houses a modern shaded canopy has been designed into the entrance way. A series of internal balconies (Fig. 2,3) facing the court yard has also been designed due to the ease of access on the second floor that it creates.

Attention to detail is extremely vital especially when connecting new technological material to the old materials (Fig. 6).
Fig. 1 Abstract Sculpture Showing the styles of architecture in Dubai
Fig. 2 Ground Floor Plan
View of the Bastakia House from across the Souq
New entrance to the existing Bastakia house
PROGRAM FOR PHASE 3

NEW DEVELOPMENT IN THE
BASTAKIA AREA

INTRODUCTION

This phase of the project is aimed to act as an example of how new developments can be designed in the Bastakia area considering the guidelines that I have previously stated. These guidelines will not only consider the esthetics of the building but also consider the social and economical aspects.

REQUIRED WORK

This phase of the project is designing a new structure that relates with it's contexts. This new development will be a small enclosed shopping mall. The reason why the new developments are mostly commercial is due to the fact that the inward facing existing Bastakia houses do not adapt well to commercial activities. The structure of the existing Bastakia houses are too restricting on the multi use of the commercial shops. Commercial shops need to have a street frontage in order to attract customers. After careful consideration it was decided that most of the existing Bastakia houses will be reused as office/design studios due to the fact that their usage is far more adaptable and they do not rely on street frontages. In order to balance the office to commercial shop ratio it was decided that most new developments will have commercial shops except a few that will be made into parking structures, entertainment centers, a hotel and a few residential houses.
METHOD

There will be eight steps in this project:

1- The site has to be carefully studied and analyzed. An in depth study of the surrounding buildings has to be made in order to understand the rhythm and scale of the existing structures.

2- The site has to be measured up in scale in order to realistically find out how many commercial shops are to be designed.

3- Access in and out of the site has to be considered. The access has to relate with the circulation pattern in the Bastakia area. For example the main entrance of the building has to be from the urban squares rather than the side roads.

4- The urban impact of the new structure has to be considered. The most effective method of analyzing this is by model simulation.

5- The new development should follow the Guidelines. For example preserving the courtyard system has been emphasized in the Guidelines. Therefore, the new development has to consider the use of a courtyard or the modern interpretation of the courtyard which is an atrium space.

6- If there are any physical connection to existing building careful consideration has to be made. Models are an effective method of studying these connection.

7- Commercial units and restaurants or cafes have to be designed.

8- The design should be communicated both in drawings and in model form. The presentation should be clear and simple to understand.

At all times it has to be remembered that the new development should not try and mimic the old but state that it is a new development with a new use.
PHASE 3 SITE ANALYSIS
NEW DEVELOPMENT IN THE BASTAKIA AREA

INTRODUCTION
The reason why this particular site was chosen was due to the fact that it is located adjacent to the Bastakia House that I designed a change of use in Phase 2. This will help show how the old and the new interact with one another and how the urban spaces between one another work. Phase 2 and Phase 3 will be clearly shown on the Phase 1 Urban study.

LOCATION
The site is located on the north-west side of the Bastakia area (Fig. 2). The Bastakia area is located on the southern side of the creek in the city of Dubai (Fig 1). Dubai is located in United Arab Emirates. The Bastakia area is an old part of Dubai city.

DESCRIPTION OF THE SITE
The site is positioned partially over an existing building that is thought to be at a stage of disrepair. The existing building has no great importance to the area due to the fact that it has no wind-towers. The front section of the site is built on open land.

ACCESS IN OUT OF THE SITE
The site is physically connected to the loop road that encloses the Bastakia area. Alternative access onto the site is through pedestrian paths. Store deliveries can be made by two different methods:

1- The traditional method of transporting goods to the stores is by using hand held
Top: (Fig 1) Dubai Town
Bottom: (Fig 2) Bastakia Site Plan
carts. This method of transportation is still used throughout the old and narrow alleys of the souks (Fig 3). This method of transportation of goods will maintain the old traditions of the Bastakia area due to the fact that a lot of goods used to be stored in the Bastakia residences and this was their method of transportation.

2- The other method of transporting goods is by the conventional truck. This method of access though is only possible at particular hours during the day: before 9:00 a.m. and after 8:00 p.m. in order that the pedestrian walk-ways are not obstructed during normal working hours. The open pedestrian square adjacent to the site should allow for easy access of trucks on to the site. Due to the heavy live load on the pedestrian footpaths the finish will be small concrete pavers. This will help prevent the floor finish from cracking under pressure. In order to prevent the untimely access of delivery vehicles removable bollards should be positioned at the connections of pedestrian paths to main roads.

VIEWS AND NOISE LEVELS

The views from the site are very restricted due to the close proximity of the buildings in the Bastakia area (fig 4). The site has one side open to the pedestrian square that will allow for more of a view. The building can be seen from all points in the entrance pedestrian square.

The noises that can be heard are the sounds of the pedestrians, the low hum of the motor car from the nearest road and an occasional airplane. The noise level is low to medium which I believe is average for a within city limits site.

CLIMATE

The Climate of Dubai is a maritime desert climate. The climate is very harsh and unfavorable. In shade temperature in the
Fig. 3 View of the old souq
Fig. 4 Skyline of the Bastakia
day time reaches a mean maximum of 21 to 26 degrees centigrade and the high humidity due to the constant evaporation of the Gulf as a result of intense solar radiation. The harsh summer heat is usually between March through to October, and the cooler winter is between December to February. The humidity is more in the mornings and evenings. In the summer Dubai's weather is extremely hot and relatively cool and humid in the winter.
The precedence study is an in depth study of a few new buildings that have been designed in a historical preservation area. What has to be kept in mind is that each country has a different approach to new developments in preservation areas. The approach depends a lot on the cultural and political situation of that country. If a particular system works in one country it does not mean that it will work in another. The system has to be modified to suit the cultural needs of that particular country. By conducting the precedence study I am not trying to imply what approach is right or wrong, but merely study their methods of approach.
DESIGN FOR THE COMPLETION OF THE CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK

The St. John the Divine that is located in the Bronx in Manhattan, New York was never finished (fig. 7). The Cathedral is in the Neo-Gothic style and was designed to be the largest cathedral in the world. The architects that did the original design were a Boston based firm by the name of Heins & La Farge. The two west towers never reached their proposed height. The north transept, the crypt and piers were partially built while the south transept only existed on plan.

The trustees have always wanted the cathedral to be completed and now is their chance to do so. They want to integrate their new commitments to environmental issues in the new additions to the cathedral. When the trustees were considering the use of the new addition the idea of designing a bio-shelter in the cathedral came to mind. In 1978 R. Buckminster Fuller suggested a bio-sphere over the crossing of nave transept. In 1979 a competition was set up for this design and a firm by the name of David Sellers won. He proposed developing a Bio-shelter onto the south transept. The project was postponed because of lack of funding.

With the help of the Rene Dubos family the idea was revitalized again. Dean Morton outlined the objectives of another competition. The objectives were: "Our proposed bio-shelter the first of its kind in the world, would help us complete the building of the cathedral, and, most importantly, bring alive ecological principles into space devoted to worship as well as daily work: it represents a new marriage of architecture and natural systems that must become the norm of the twenty-first century....Building a bio-shelter in a Gothic cathedral is a radical concept, but it is imperative that we bring innovative ecological designs under our own roofs today if we want to live in a better environment tomorrow. This is why religious
institutions, and particularly great cathedrals should take the lead*. Santiago Calatrava won the competition. Calatrava’s design wasn’t based on the bio-shelter but on what goes within it; the tree (fig.1). Calatrava in his sketch designs relates the tree to the ancient symbol “The Tree of Life”. Traditionally The Tree of Life permeates the three zones of heaven, earth and the underworld. The branches of the tree penetrates the sky and its root digs deep below the mundane. The entire design evolved around the idea of the tree. The structure is formed and shaped like the tree that grows higher and higher uniting the conscious world and still being rooted to the earth. The bio-shelter is positioned directly under the roof and the attic of the present nave (fig.2).

According to Calatrava’s design the bio-shelter represents the foliage of the tree (fig.3). At the point where the nave and the transept cross their will be a large circular opening which will allow the visitors of the bio-shelter to look down into the cathedral (fig.5,6). The circular openings will also help the natural ventilation and heating which will drastically cut overheads. The glazed roof of the bio-shelter will drastically change the look of the cathedral from the outside. During the day a green cross and at night a crystalline shimmer will be seen.

The structure itself amasses you by the immense symbolism to the tree and yet at the same time the close relationship with the existing Neo-Gothic style. One of the many symbolisms that can be derived from the structure is that for example the vaulting supporting the bio-shelter could be seen as two receiving open hands(fig.4).

Calatrava has managed to marry the new contemporary addition to the existing Gothic style in a remarkable way (fig.7). Even his use of stone, steel and glass has helped create a graceful and sublime feel to the addition.

The financing of this project has still not been secured. A small part of the bio-shelter is hoped to be constructed initially
Fig 1 Model of new structure
Fig 2 Sketch section
and by charging an entrance fee they hope to finance the rest of the building bit by bit.
There are a group of architects in England that reduce the design of a building to a collection of components. They are inspired by the yacht and airplane industry and incidentally run their offices like a tight ship. They regard High-Tech to be the epitome of English architectural achievement.

Some people believe that the white or mechanistic style is morally superior even though it is just another style. Obviously there are examples of white and mechanistic environments that are absolutely stunning, but are just that. These places lack the stimulating qualities due to the fact that white can be a very boring, depressing or even alienating color. High-Tech can produce the same symptoms if it is reduced down to mere product design.

For example the penguins in Lubetkin's pool at London zoo look very unhealthy even though the pool has been restored to it's full white glory. Somehow this glamorous pool with it's curved concrete bridges look more in place in a Hollywood house rather than a penguin pool. The staff at the Richard Rogers' Lloyd's Building also seem to be very unhappy whereas the people that visit the Pompidou center always seem to love it because of it's bright use of colors and escalator rides with their dramatic views. Foster's Hong-Kong and Shanghai Bank is an architectural marvel in terms of creating drama by light, space and the materials used. On the other hand Foster's ITN or the extension to the Sanisbury Center is nothing but a set of slick diagrams and mechanical components that serve no purpose except creating a frigid building that is quite cold. There are white, mechanistic buildings that are absolutely amassing such as a few buildings by Herron Associates or Jean Nouvel that always manages to bring a decadent sensuality and baroque luxury to his buildings.
Fig. 1 Entrance to shop
There are several other examples of such buildings except high-tech. These buildings have some thing more than the surface treatment or fancy detailing. It is the life force: that something special about the atmosphere, the light, the smell, the surfaces, the colors that are out of the norm and above the mundane. These are the characteristics that brings a building up to the standard of such great architects such as Corb, Kahn, Aalto, Wright, Gaudi, Gehry, Nouvel and Piano. There are a group of modern architects that are getting away from the repressive aspects of modernism and moving to a more rich, carefully-crafted and tactile architecture such as the Houston based Costa Rican Carlos Jimenez. In this precedence study I will look into the sensual qualities of the Michael Hopkins' designed David Mellor Showroom and office in the London Docklands (fig. 1). These sensual qualities are the qualities that attract a layman to a particular building.

David Mellor who is the client for this building in the London Docklands is a very special kind of client. David Mellor is not just a client but also designer, craftsman and construction manager as well as provider of the brief and the budget for the project. The reason why David Mellor hired Michael Hopkins as the architect was because he saw in him a person which has a love for well crafted objects and saw him open minded enough to be a creative collaborator rather than a remote architect that does what he thinks is right. Hopkins circular cutlery factory at Hathersage clearly showed that his skills of design weren't only in High-Tech. This building for David Mellor which consists of a showroom on the ground floor, offices on the upper floors and a penthouse on the top floor (fig.2) shows that the relationship between High-Tech and Low-Tech is a fruitful one.

Even though this is a small and simple building it nevertheless has a strong design idea. That idea is the honesty of material, what you see is what you get. There are no hidden wall or structural elements. This is not a new idea. This idea must be the cornerstone to the Modernist movement especially the High-Tech movement. Unlike
Fig 2 Exploded Isometric
Top Fig. 3 Street Elevation

Bottom Fig. 4 Elevation facing the wharf
typical High-Tech buildings that flaunt their structure this building shows it's structure in a modest and polite fashion (fig.3.4).

If we for example compare this building with it's building next door that was designed at the same time by Conran Roche we can see the difference (fig.7). Conran Roche has not worried about hiding it's concrete structure behind white metal claddings, or hiding it's services behind suspended ceilings. No consideration has been made to the scale of the building.

The Mellor building has completely rejected this dishonest approach but has gone for the well crafted building. The most obvious difference is that this building has used an in-situ concrete frame flat floor slabs supported on round concrete columns. This helps eliminate the need for fire proofing but on the other hand requires a great need of craft skills on behalf of the builder. This high level of craft skill is something that is becoming more and more difficult to find. The reason for this is the high level of cover up that we apply to our buildings. Mellor and Hopkins went to extraordinary lengths to produce such high level of finish and at the same time preserving the molded quality of the material. Once the concrete was cast and the casts were removed the concrete was hand finished by sand paper in order to take off the milky scum without spoiling the marble quality of the finish. This is obviously not the most economical methods of constructing a building, but then the price wasn't one of Mellor's priorities.

The fire proofing and finishes that are usually performed by using other components are all combined in one long lasting material. This idea of combining functions in a single use has also been used in the external claddings. Instead of using a steel frame to hang the claddings from the claddings and the full height sliding windows are inserted between the round columns (fig. 10). This requires the sort of careful accuracy in design that most architects tend to steer away from. This will allow the true construction material to be seen from both the inside and the outside (fig.11).
Fig. 5 View of Stair & lift tower
Top Fig 6
Penthouse balconies

Bottom Fig 7 Rear Elevation
In the solid walls steel framed lead covered panels take the place of the sliding windows. The reason why lead was used for the paneling was because of the traditional craft bias of the building. Mellor liked lead's natural and long lasting quality and Hopkins was more than happy to use lead for the panelings. The panels are insulated and lined with plasterboard but still read as individual panels from the outside.

In the horizontal plane the compression of functions into one element is also quite obvious. Instead of going for hung ceilings that hide all the services, these and the beams are absorbed into the floor slab (fig. 9). This system would most probably not work if this was a larger scale building but in this building it is quite possible especially since it is naturally ventilated. Heating is by domestic-scale plants that blow hot air from one side of the building to the other.

The main volumes are then a perfect cube very much like a well crafted jewelry box. Each office floor is a plain rectangle interrupted only by six columns (fig. 2). Services such as the Kitchen lavatories and the fire escape are in a separate box connected to the building. The elevator and the main stair case is located in a steel constructed tower (fig. 5). The tower is not heated therefore no insulation or lining is used. The tower is the simplest steel structure but well crafted (fig. 8).

The only elements of the building that detract from the general impression of solidity and permanence is the balustrades on the balconies on the two top floors (fig. 6). They look almost like an after thought. This criticism could be justified by the fact that the top two floors have a separate use (the penthouse).

It is sad to say that not a lot of clients think of their building as Mellor thought of his. He showed a great enthusiasm in architecture and the craft of construction. With the help of his architect this love produced a fine miniature.
Top Fig. 10 Full Height Windows

Bottom Fig. 11 Honesty of the structure
NEW DEVELOPMENTS IN THE 
BASTAKIA AREA

In order to inspire my design abilities an 
abstract sculpture was designed and built (Fig. 1).

In order to show how a new development 
can be designed in the Bastakia area, I 
have designed a shopping mall in one of 
the most critical sites in the Bastakia area 
(Fig. 2,3,4,5,6,7,8). By designing a modern 
building in a historical area I am trying to 
show that new developments do not need to 
mimic the old but just respect the scale, 
color, texture and the cultural behaviors of 
the area.

The stepping design of the mall (Fig. 7) is 
due to the fact that I had to relate with the 
scale of the Bastakia houses and the scale 
of surrounding multi storey buildings at the 
same time.
Fig. 1 Abstract Sculpture Showing the new developments surrounding the Bastalkla area
Fig. 2  Ground Floor Plan
Fig. 4 Second Floor
Fig. 6 Street Elevation
Fig. 7 Side Elevation
Aerial view of Sheikh Rashid Square, Bastakia
West entrance of the new Shopping center
South entrance of the new Shopping Center
View of the proposed Shopping center from the picnic area in Sheikh Rashid Square
The old and the new
PROJECT BIBLIOGRAPHY


3- Edmund Bacon. *The Design of Cities.*

4- Rob Krier. *Urban Space*

5- Jane Jacob. *The death and life of the great American cities.*

6- A.E.J. Morris. *History of Urban Form*


10- Architectural Review. (June 1977) *The United Arab Emirates.* vol CLXI no. 964


17- Shirley Hanson. Preserving and maintaining the older home.


20- Mary Vance. The conservation & restoration of buildings.


22- David Pearce. Conservation today.

23- William C. Shopsin, AIA. Restoring old buildings for contemporary uses.

24- The following articles are in the Architectural Review. 1988-1992.
- Schattner in Eichstatt, Faculty of Journalism
- Building within a building
- House, Finistere, Arch. Caroline Bapst and Bruno Pantz
- Museo de Navarra
- Tate on the Mersey


26- Brolin. Failure of Modern Architecture

27- Brolin. Architecture in Context


30- Architectural Review. (Feb. 1992) Embracing the Church. pg. 65-68


32- Architectural Review. (April 1992) Tree of Life. pg.34-37
33- Architectural Review. (July 1991)
Product Pavilion, pg. 50-53

34- Architectural Review. (Dec 1991)
Centro de Arterina Sofia, pg. 53-55