

Traditional Building Trades and Crafts in  
Changing Socio-Economic Realities and Present Aesthetic Values:  
Case Studies in Syria

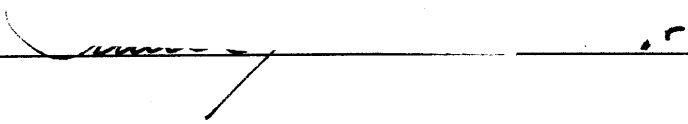
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1982

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE  
MASTER OF SCIENCE IN ARCHITECTURE STUDIES AT THE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
June, 1988

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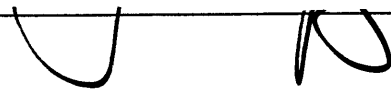


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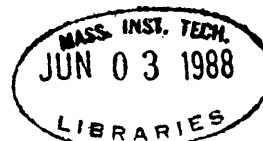
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**ABSTRACT**

Traditional building trades and crafts made a major contribution to the quality and the character of architecture in the past. The advent of industrialization in the name of modernization eclipsed these building trades and crafts and caused rapid changes of the urban character as well as of the architectural components, resulting in an alienation of the society from the contemporary environment.

Basing the thesis on my study in Syria, I have looked at how the technological development in the region, changes in the socio-economic conditions and the present aesthetic attitudes are affecting favorably or unfavorably these traditional building trades and crafts in all three levels-- men, processes, and products.

The thesis undertook to examine the revival of these traditional building trades and crafts as a potential solution to estrangement in architecture, to look at the feasibility of the return of these crafts to contemporary architectural production, and to study the nature of a reconciled relationship between the two realms of production.

Thesis Supervisor: Ronald B. Lewcock

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## **Acknowledgment**

To Allah, the All Knowledgeable and the Exalted in Might, I present my first and last recognition for guiding me and giving me the strength to accomplish this endeavor.

The inquiry, on which this thesis is based, was undertaken under the auspices of an Aga Khan research travel grant. I am glad to have this opportunity of thanking all the people who opened for me the way of such an enriching experience. I would like to mention in particular, his Highness the Aga Khan and my Professor Ronald Lewcock. In actual fact, I am doubly indebted to Professor Lewcock for being my advisor in the two years of my Master's degree and the thesis proper. Working closely with him was a rewarding and a very stimulating experience. His patience with my English writing was unfailing. His commitment to academic life and students set for me an ideal which I wish to follow in the future. I am also grateful to Professor Edward Robbins for accompanying me during a whole year giving me his precious time and helping me to sharpen my ideas. I would like to thank Professor Jan Wampler who was gracious enough to respond to my thesis with a very short notice. His valuable comments during the last period of the thesis were very helpful to its finished state.

I wish, in particular, to put on record my thanks to: my friend Khaled Asfour, who invariably spared time and made the effort to listen to me and to discuss-- often for hours at a time --the ideas I put to him; to the Shourbajis and the Toutoungis, my two families in Syria, who spared no pains to put me in touch with the institutions and people I needed to visit; To Sami Fayed who supplied me with the

valuable statistics on the construction sector in Lebanon; to Mrs. Umayya al-Za'em, Mr. Adli al-Kodsi and Mr. Nijad al-Jabiri for helping me in my research in Aleppo; and finally to my brother No'man who took the trouble to join me throughout my research-trip in Syria.

Last but not least, I would like to express my gratitude to Mr. Rafiq al-Hariri, my sponsor, and the people working in the Hariri Foundation. Without their assistance I would not have been able to go through such a profitable and enriching experience.

To the people who work in *His* path  
I dedicate this work.

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## Prolegomenon

*There are some...who believe that the past is the bankrupt time, leaving no assets for us, but only a legacy of debts. They refuse to believe that the army which is marching forward can be fed by the rear. It is well to remind such persons that the great ages of renaissance in history were those when men suddenly discovered the seeds of thought in the granary of past.*

*Tagore Rabindranath.*



One is only aware of one's heritage when it is lost. The crisis within contemporary architecture in the Islamic world hardly needs to be underlined. Vernacular architecture, in both its urban and monumental forms, has been eclipsed by "a conglomeration of often hideous styles or at best bland ones, in both cases imitated from foreign models in the pretense of universality and world-wide applicability."<sup>1</sup> Alienation in the built form and the tremendous weight of construction costs form a partial but important cause of degradation in architecture, both in its new and old urban fabric, living as it were among the ruins of the present.<sup>2</sup>

The crisis is multi-faceted and has been examined on various levels including the negative internal changes of the modern individual<sup>3</sup>; or the alienated relationship between architects, users,<sup>4</sup> and builders and also the architects' dilemma between "elitist" and "egalitarian" architect, in Harms's terms. While some others see in this crisis an inevitable transitional phase that Third World countries,

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<sup>1</sup>Nasr, Seyyed Hossein. *The Contemporary Muslim and the Architectural Transformation of the Urban Environment of the Islamic World. Toward an architecture in the spirit of Islam.*(1978). Proceedings seminar 1. pp.1

<sup>2</sup> Davies, Colin. *Craft or Calculation.* Architectural Review. Jan. June 85. pp.19/5.

<sup>3</sup>Passer. Nasr, Seyyed Hossein. *The Contemporary Muslim and the Architectural Transformation of the Urban Environment of the Islamic World. Toward an architecture in the spirit of Islam.*(1978). Proceedings seminar 1. pp.1-4.

<sup>4</sup>Harms, Hans. *The Dilemma of the Architect.* Research. vol.4 n° 1. 1974. Dept. of Architecture, M.I.T.

like their Western sisters, should pass from the pre-industrial to the industrial age<sup>5</sup>. In all cases this urban crisis extends much further than the Islamic World, as seen in many recent critiques on the formalism underlying the International Style. Far-sighted architects, who had witnessed the industrial revolution, foretold the ills of Internationalism attitude in architecture. Frank Lloyd Wright, in his treatise "Of Thee I Sing," ridiculed the "aesthetic formula" of the International Style as "the miscarriage of a machine age" arrived at "by way of machine worship."<sup>6</sup>

Basically those ills came in a sense as repercussions from concepts adopted by many 20th-century avant-garde theoreticians and architects. The marriage of mechanization and art in the concept of buildings as functional machines was a recurring theme clearly expressed through the work of Le Corbusier and the distinctive style emanating from the Bauhaus. They saw in rapid mechanization a necessity for major social change which led to a "wholesale rejection of what has gone before in the forging of new, more appropriate aesthetic."<sup>7</sup> Uncritically singing the praises of the machine, architects dropped the precious vessel of handicraft aesthetics that had been passed from hand to hand, only to replace it

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<sup>5</sup> Passem. Kuban, Abtullah. Commentary on Nasr, Seyyed Hossein. The Contemporary Muslim and the Architectural Transformation of the Urban Environment of the Islamic World. Toward an architecture in the spirit of Islam.(1978). Proceedings seminar 1. pp.5-8.

<sup>6</sup>Levin, Neil. Abstraction and representation in Modern Architecture: The International Style of Frank Lloyd Wright. AA Files XI .pp.4.

<sup>7</sup>Russell, Barrey, (1981).pp.99.

with machine aesthetics. The new expression implied a recognition of relatively new aesthetic terms--precision, calculation, flawlessness, simplicity, and economy. As a result the impersonal prevailed.<sup>8</sup> At the heart of the matter, as Neil Levine has explained<sup>9</sup>, modernism was equated with abstraction resulting from a total rejection of traditional forms, decoration, symbolic imagery, heavy masonry, and symmetry and other formal attributes associated with the historical styles<sup>10</sup>. The basic aim was to transcend the world of subjectivity in order to achieve an "abstract" environment. For "harmony between nature and the man-made" as was believed, "*is fantasy, unreal, impure.*"<sup>11</sup> In short, architects, in the first decades of this century, saw in the pure, unadorned geometric shapes, a natural consequence of the machine age. They thought that through the rationality and purity of form, they could provide a liberated environment unfettered by tradition and cultural trapping, they judged unnecessary for 20th century life. The style or language, based on abstract formal elements and purified of any reference to things

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<sup>8</sup>Robert Bruno, through an unpublished communication to Barrey Russell rightly said: " Some buildings that cost millions of dollars and thousands of man hours still look as if no-one has made them". Russell, Barrey, (1981).pp.709.

<sup>9</sup>Levin, Neil. Abstraction and Representation in Modern Architecture: the International Style of Frank Lloyd Wright. AA Files XI. pp.3.

<sup>10</sup>In Ibid. pp3. Levine noted that nowhere is this position more clearly adumbrated than in Hitchcock's Modern Architecture: Romanticism and Reintegration, which was published in 1929 and served as the basis for the International Style exhibition. Footnote n°8.

<sup>11</sup>In Jaffe, De Stijl pp. 168.



outside itself, was believed to be potentially taught and reused anywhere. The triumph of abstraction was seen as historically inevitable, and there was "no going back to nature."<sup>12</sup>

In such an abstract mechanomorphic world, individuality in the process of production was vestigial. Not only did architects try to transcend the world of subjectivity but they tried to shift responsibility from the individual to the collective or social body<sup>13</sup>. The solutions envisaged came also on that level. Ville Radieuse and the Cite Neutre<sup>14</sup> replaced neighbourhoods and districts, *grand* stores replaced small shops of the "quartier"; mass production as well as building system were all seen as solutions compatible with the industrial age. Industry, which had earlier described work of artisans rather than of factory workers, was centralized and functioned on a city scale. Large scale industries abolished the "quartier" economy and dealt in bigger markets. Effective ownership and control were in the hands of fewer and fewer men. Trades were broken into smaller units, each easier to learn and to mechanize<sup>15</sup>. For the architects of the International

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<sup>12</sup>In Ibid. pp.12. In actual fact, an escape from the "representational" aspect of building relationship to context, whether in building materials or in siting, was part of futurism.

<sup>13</sup>This aspect was supported by the Marxist view of the close relationship between deterministic social change and industrial inevitability.

<sup>14</sup>This is how Haussmann transformed the city of Paris and named it : La Cite Neutre des Peuples Civilises.

<sup>15</sup>T.J. Clark, The Painting of the Modern Life. pp.54.

style, these machine methods implied a standardized product-- geometric, abstract, and therefore easily reproduced.

On the whole, the concern of those who carried the banner of modernism was to break with the past<sup>16</sup> and escape the laws of continuity<sup>17</sup>. This led to a rejection of any attempt to develop and build on existing practices. The history of the modern movement is strewn with examples of willful ignoring of environmental and constructional design matters under the pressure of a dogmatic architectural view.

In summary, Modernists believed that architecture through modern technology could create not only a better physical world but also a "new man", and a "new" and better society. However, Modern Architecture was unable to translate much of its social premise into reality. The concept of function as universal mediator between man and architectural form - that is the attempt , objectively and universally, to define human needs in terms of functions - reduced man to a meaningless abstraction and stereotype. By substituting his physical existence for his whole being, man was denied all those values that are rooted in his emotions,

<sup>16</sup>One cannot take this as a rule applicable to all architects of the modern movement. Not only the architecture of the latest phase of the movement respected the past and tried to be contextual with the environment, but architects like Le Corbusier and Louis Khan were responsive to the culture as well when they designed in Third World countries. But their position was not as influential in that part of the world as the concepts repudiated and followed in Europe and later on in the United States, right before and after World War II.

<sup>17</sup>Russell, Barrey. (1981).pp.100.

spirit, individuality, culture, and tradition, and that give identity, a sense of belonging and meaning to his life and to the world around him.

Altogether, it seems urgent that we refer to our architectural heritage and bring back all these values that are lacking in our contemporary architecture. In the past, they were embodied in the traditional building trades and crafts which made a major contribution to our building heritage. But a return to the past in order to discover the "seeds of thought in its granary" is not free of the danger of illusions and pitfalls. It is very easy to construct a utopic image of the past, or fall into historic imitation which would be irrelevant to our present social, economical and political context. The issue of historic imitation, i.e. "revivalism", has been dangerously shaded with meanings from past experience and has been associated with historicism. For this reason I felt the necessity to deal with a few misconceptions and to uncover some of the pitfalls that we may fall into during the analysis of the revival of traditional building trades and crafts.

One of these misconceptions is the issue of modernization versus traditionality. The concept of modernization is usually perceived as inseparable from that of westernization. Such perception were initiated long ago by shrewd observers like Thomas B. Macaulay.<sup>18</sup> In the midst of the Industrial Revolution,

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<sup>18</sup>Thomas Babington Macaulay is a prominent British intellectual. He played a major role in shaping colonial policy for India. From 1834 to 1837 Macaulay was engaged in Calcutta, the capital of British India, in the day-by-day process of formulating educational and legal policies. For more information about his work in India re. Lutz/El-Shakhs. ( 1982).pp 10-13.

such Victorian patriots imagined a genetic relationship between something as universal as modernization and something as particular as the genius of British culture. From this attitude stemmed the rationale that in order to be modern one must adopt English dress, manners, and language. It was in fact implicit that one concept would not go without the other. Modernization meant industrialization, which in turn meant westernization. This concept is easily refuted nowadays especially when we look at the general effect of industrialization on other countries. Industrialization meant secular paternalism under Bismark, traditional Japanese paternalism under the Meiji, and Marxist collectivism under Stalin. All approaches formed a radical departure from the industrial capitalism of the British. Moreover, it should not be forgotten that, in all four cases, industrialism was accompanied by nationalism which intensified loyalty to four distinct cultures and reinforced older traditions, fostering a sense of legitimacy in each of the nations. Thus, industrialization is only a process and does not constitute in itself modernization. Following the same line of thinking, industrialization does not constitute modernization. Modernization is only the changes effected on specific cultures as a result of a certain process. On the other hand, tradition is associated with stagnation. But as Adams and Blumberg rightly point out, the potentials for change lie within tradition<sup>19</sup>.

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<sup>19</sup>Passem. Tradition and Social Change. Lutz/El-Shakhs.(1982).

Islam, the major vessel that contains the traditions of the Islamic world, acknowledges this principle fully<sup>20</sup>. Different cultures evolve in time and are continuously influenced by other cultures, especially in our era where modern communications have shortened distances in an unprecedented way.<sup>21</sup>

There was another movement opposing Macaulayism but it was equally harmful. Modern cultural relativism<sup>22</sup> fostered by Oswald Spengler<sup>23</sup> claimed that each culture had its own style and personality which had to be understood on

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<sup>20</sup>Under the belief that Allah is The only One who does not change, the change experienced by everything else is inevitable.

<sup>21</sup>This concept is not negated though by the fact that, in the Islamic world nowadays, this transfusion seems to be one way system.

<sup>22</sup>By relativism it is meant a belief, especially pervasive among anthropologists in the 20th century, that cultures are uniquely different from one another and that values, language, kinship, etc. are functions of a given way of life and cannot be studied outside that context. Studies that overemphasize patterns, national character and ethnicity may be said to be relativist. David Kopf in Lutz/EI-Shakhs. 1982. pp.21.

<sup>23</sup>Spengler is known by his negative attitude towards Westernism and modernism. Immediately after World War I Spengler wrote a book called Decline of the West. The world was presented as having grown more violent, and therefore culminating in the blood bath of 1914; racism, imperialism, antisemitism, monopolistic capitalism and materialism were accused of shattering the liberal faith in nation and progress. "With Spengler", David Kopf wrote, "the modern West ceased being viewed as the start of a secular millenium and became a veritable wasteland." He repudiated bourgeois man, democratic man, and socialist man as "manifestations of that restless, space - devouring and self-defeating caricature as Faustian man." In Ibid. pp.15.



its own terms. Sociologists tried, through the study of the peculiarities of each culture, to break with the paradigm of a Eurocentric universe. " Each culture", Spengler wrote, " should be studied by the laws of its development and under no condition should we continue to interpret the souls of other cultures by the standards which are uniquely our own."<sup>24</sup> This approach had a widespread success and was adopted by Westerners as well as by educated people belonging to that particular culture. The misconception that social science relativists may have fallen into was that they tended to overlook or hinder, in the name of cultural continuity, any need for social and cultural change, with the notion that this change would follow western trends. This attitude gave proof of their conviction that progress and modernization are peculiar to the West and that any modernization of the culture in study would be vested with western values and ideals.

With these ideas in mind, a process of reconciliation starts to take place. Polarities and struggles between tradition and modernity appear to be unfounded as we dissociate modernization from westernization<sup>25</sup> and as we understand better the way the cultures of different societies evolve.

But this process of change, and this process of transfusion from one culture

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<sup>24</sup>In Ibid. pp.15.

<sup>25</sup>In the 19th century Europe was not so much the model for modernity as it was the setting for modernizing processes ( in this case industrialization ) that were themselves transforming Western cultures.

to another might be best achieved through the idealistic concept of a " cultural democracy " within and among nations by which "each ethnic group or nation has the right and power to determine its own cultural mixture in balance with other values"<sup>26</sup>. The argument for this approach is to avoid the total disruption of culture. From this premise stems our preoccupation with the past. The importance of the revitalization of tradition and the development of a historic consciousness lies, at least in part, in creating a defense mechanism for one's cultural integrity. Although it is inevitable that we should look at the past through the eyes of the present, this preoccupation with the past and its reinterpretation is a vital stage in the modernization process.

This issue cannot be separated from the approach we take in analyzing the reanimation of traditional building trades and crafts. In a sense, the way this revivalism is perceived conforms with the notion that tradition and modernity, contrary to being opposed are rather " intertwined processes with several mutually reinforcing elements "<sup>27</sup>. In this respect, the issue of reviving traditional skills and crafts does not stand as a wholly romantic reaction to the discontentment with the ills and problems of our environment in the Islamic World. Nor does it constitute a revival of frozen shapes and forms, devoid of the spirit that once enlivened these forms and gave them meaning. It lies in a concern for reviving lost principles in the design and conceptions of the aesthetics that those craftsmen once embodied and

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<sup>26</sup>Sam Nilson, Touch of Midas. pp.VIII. Sardar, Z. (1984).

<sup>27</sup>Iutz/El-Shakhs. 1982. pp.2.

employed in creating environments that responded to the aspiration of their societies.

For traditional building trades and crafts to operate today in healthy environments, this revivalism necessitates contextual changes. The modern way of life, the apprenticeship system, and the economic scale of operations today are vital issues which need to be looked at carefully, for they will have a major impact on the success of their survival. Moreover, we should acknowledge the global modifications undergone not only by the crafts-- as processes, men, and products-- but also on the overall environment as well. This global modification of architectural production not only includes buildings as a product but differently established sets of norms as well. The relationship between the architect, the builder and the user, the attitude of the architect towards education, and of the user towards his/her habitable environment, all are important factors which have a mutual effect on traditional building trades and crafts. I believe that the revivalism of the craft system in an unchanged way in an unchanged "world" would merely result in a recreation of a distorted shadow of its former self.

The observation that traditional values and forms, or even single elements of the past, tend to co-exist with modern life is nothing new; the real challenge is one of integration, an integration which would result not in an eclectic schizophrenia but in a different and internally consistent order. Traditional building trades and crafts as "indigenous" institutions could play the role of moderators or act as a "catalyst" to remedy displacement, depersonalization and the alienation that results

from the antihistoricism of the modern movement and its impact on the Islamic world. But the main question would be : is there a need, in the first place, for these " indigenous " institutions ? And if the answer is positive, in what way is there a need? How could we infuse the new creative sensitivity of our time with the spirit of handicraft? And how to transform revivalism into a brand-new phenomenon-- a handicraft culture feeding into and fed by local industrial freedom ? And how to make possible a further integration of the crafts with building products?

The reintegration of traditional building trades and crafts into architectural production, in a broader historical perspective, will provide an important focus for inquiry into the nature and process of this architectural production. It is my belief that such integration, if properly understood, would facilitate the emergence and acceptance of new practices in architecture and freedoms from misconceptions and historical imitations. It would reinforce and preserve highly esteemed traditional values, self-understanding and identity in the process of change.

**The chapters which shall follow address themselves to these issues in a defined context, Lebanon and Syria in this case, and in concrete instances. Case studies will form the core of this paper around which these questions will revolve.**

These case studies stem from, and are based on, a study undertaken under the auspices of an Aga Khan research travel grant in Syria and in Lebanon during summer 1987. The first case study will form the basis of this paper since it will enable us through very recent and detailed statistics on cost of building materials and labour in Lebanon to question two major issues:

1- the relevance and/or irrelevance of imported "forms" and the technologies that support these forms in a society which can ill-afford to continue to pay the price economically and ultimately culturally, and

2- The impact of this importation on traditional building craftsmanship which embraces all those people, be they masons, carpenters, plasterers, "who were once responsible for the handling down of specialized knowledge of techniques and models, and whose existence is rapidly disappearing or has disappeared as a result of imported technologies."<sup>28</sup>

Lebanon was chosen for this case study because the fast degradation of its economic situation gives us, in a short time span, a grotesque caricature of the impact of such a trend on the construction sector in any country that is dependent on foreign technology or on the importation of foreign materials.

The remaining five case studies will be taken from Syria. I have picked up Syria as a base in which to study traditional building crafts because it enjoys the presence of two of the most antique Islamic cities that have persisted till our present day, namely Damascus and Aleppo. These cities were famous in history for their

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<sup>28</sup>Taylor, Brian Brace. Theme Introduction, Mimar: 1, 1981; pp.24

craftsmen who were sent to Fatimid Cairo and to Samarra for the building of the new Abassid capital.

The first case study, that will be taken from Syria, concerns a middle-income housing project in Deemas near the capital Damascus. This complex joins the increasing list of other projects, the leading ones being the works of Hassan Fathy, Abdel-Wahed al-Wakeel, the agricultural center in Senegal, the Daara School in Malika, near Dakar, Senegal, the Alashtar School in Iran and many many others which have adopted traditional building techniques and local materials as an answer to economic problems and the shortage of imported materials. The need for and feasibility of this project will be compared with the economic analysis presented in the first Lebanese case study, with Spence's study on cost of local materials in developing countries and its economic repercussions on the Gross National Product, and with Ganesan's study on the construction sector in Sri Lanka.

The second one will tackle another side of the return to traditional building techniques and materials, that of the rehabilitation of a traditional quarter in the old city of Damascus. Both technical and socio-economic problems will be discussed.

The last three cases from Syria which will be considered will give us a representative sample of present techniques and the skills and types of crafts still existing till our day, and a basis for the analysis of present aesthetic values and the context of their art-products. They will allow us to look at the present dichotomy between the functional and aesthetic potentials of the crafts and permit the

investigation of the reintegration of crafts into the building process.

Those areas are:

I- The renovation of a traditional palace, which once belonged to Khaled al-Azm, and its conversion to a museum. In order to restore the palace to its original condition the Department of Antiquities and Museums had recourse to traditional techniques and, at certain points, adapted small technical innovations to overcome what otherwise appeared to be a technically and/or economically unfeasible task. Kasr Al-Azm presents the context of the use of building crafts in a traditional environment.

II- The decoration of the Audience Hall in the new presidential palace. This project brings together traditional stone sculptors, muquarnas builders, and decorative marble tilers, in an attempt to give a "proper" character to the Hall. This survey is important because it depicts the capabilities of traditional building craftsmen who continue to exercise their traditional skills and techniques against all odds. Also it gives us a clear example of how building crafts are perceived in a totally new environment.

III- The renovation of a traditional courtyard house in the old city of Aleppo, which will serve as an example of the possibility to reverse migration to inhabit and upgrade the old city. The difference between this case study and the former one lies in the context. While the former is totally brutal in character the latter conserves, despite modifications, the "traditionality" of its spatial character.

The importance of this example, in our context, lies in the fact that this renovated house gives us a clear view of what I call "the museum syndrome". Our attitude to works of art, and the forces which shaped this attitude will be discussed through this case study and those that preceded it.

Because crafted products cannot be separated from the processes and the craftsmen themselves I shall try to analyze the problems that the apprenticeship system is facing today and seek ways to solve these problems to insure a long-lasting institution that may have back its proper place in the contemporary architectural production.

In summary, this paper will address itself to three different but complementary issues. The first one is the study and the analysis of the economic feasibility of traditional building trades and crafts in the economic realities of the region, the second is the contemplation of the aesthetic context of crafted objects and the third is consideration of the ways in which integration of the principles and values that traditional building crafts used to embody can be achieved back into architectural production.



## Chapter I

### Architectural development in Lebanon and the recent economic crisis

Looking specifically at the situation in Lebanon before the civil war, we see the aspiration for western modernity which I mentioned earlier, infiltrating most aspects of Lebanese life. Undoubtedly, this has affected architecture in a flagrant way. The residential sector changed in character, scale and density. Apartment buildings, which had evolved in Europe, as an answer to the constraints and conditions which developed through industrialization, were adopted in Beirut as a sign of progress and consequently changed the urban character of the capital. Smaller cities soon followed suit.

Small flats, were built to answer the needs of the influx of immigrants who came to work in the industries which mushroomed around the cities, were not adopted blindly, though. The first multi-story apartment building in Beirut (see fig I.1) still had most of the functional and visual elements of the traditional Lebanese house, which in itself is an amalgamation of Turkish (pointed arches) and Italian villas ( pitched red roofs) (see fig I.2). It was different, in the beginning, from the European flat apartments in three major ways:



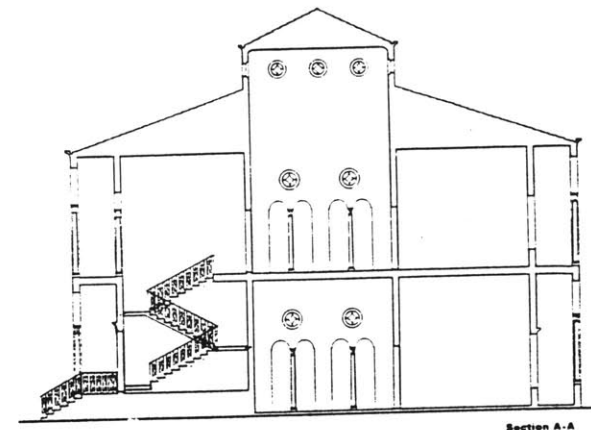
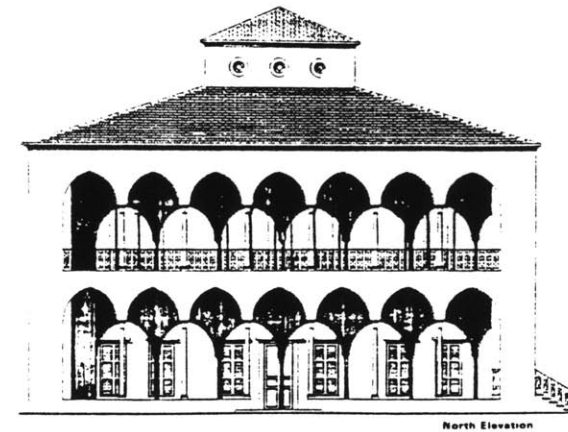
*Fig I.1: Beirut. El-Arayfi residential building. One of the first tall residential apartments built at the beginning of this century which set a precedent for other high residential building.*

1- Residential apartments conserved their original floor height. That was due to both psychological and climatic needs. People were not yet used to low ceilings. Also, high rooms would allow hot air to rise and filter through clear stories or high windows.

2- Balconies in the form of galleries were conserved. Their main function was for social gatherings, especially during hot summer nights.

3- The area of each apartment was much greater than that of its European counterpart due for both social and psychological reasons. The Lebanese family was, and still is, structured around the extended family. Children, parents, grandparents and at times young married couples would live under the same roof. Lebanese people could give up neither the luxury of the spacious rooms nor their number for a long time after the ties of the extended family had weakened.

Finally, many other factors, on different levels, played an important role in shaping the environment. The economic boom of the early fifties, and the resultant high demand for investment in the construction market, had its greatest impact on public policies, planning strategies and planning codes. The cost of land increased, as well as the exploitation factors introduced to insure feasibility and maximize profit. These aspects have led, in the end, to a greater increase in number of floors and an increasing reliance on steel and concrete technology. A formal trend was set, supporting the steel and concrete technology, with a seemingly no return to the traditional bearing sandstone technology. Since steel as well as other building construction materials needed to be imported or needed processing equipment that were imported, the price of construction was heavily affected by the rise of the dollar price that coupled the recent economic degradation in the country.<sup>1</sup>



*Fig I.2: A  
typical Lebanese  
house.*

Besides the rise of cost of construction several issues emerged:

a) Mechanization:

Building materials, the height of rooms and the layout of buildings were, and still are, chosen without any reference to their appropriateness to the climate. The invariable outcome was a total reliance on mechanical heating and air-conditioning. Naturally, equipment and spare parts have to be imported in foreign currency. This aspect rapidly contributed to a building up of the price of the residence.

Another important aspect that goes under the heading of mechanization, is the inclusion of lifts in high rise buildings. Their cost is usually distributed over the total number of flats. This is the main reason why we rarely find apartment blocks five or six stories high. Four storied apartment buildings do not need lifts. Although five storied apartment buildings needed lifts, it was not economical to provide them because the number of apartments in each building was still too small for its cost to be distributed over the number of flats.

b) Furnishing the apartments:

Because of the relatively large size of the apartments - for reasons which have been mentioned before- the cost of furnishing became so great that at times the furnishings equalled the price of the apartment.

c) Leaking of foreign currency from the G.N.P.:

In addition to the known flow derived from the importation of foreign building materials, there was a major flow that went into the servicing of the apartments.

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<sup>1</sup>For numerical evidence see appendix I.

Because of their big areas, housewives found difficulty in maintaining them. This fact drove them to hire servants brought from similar third world countries. Statistics show that around fifty million dollars per year from the G.N.P. of the country go for that kind of servicing.

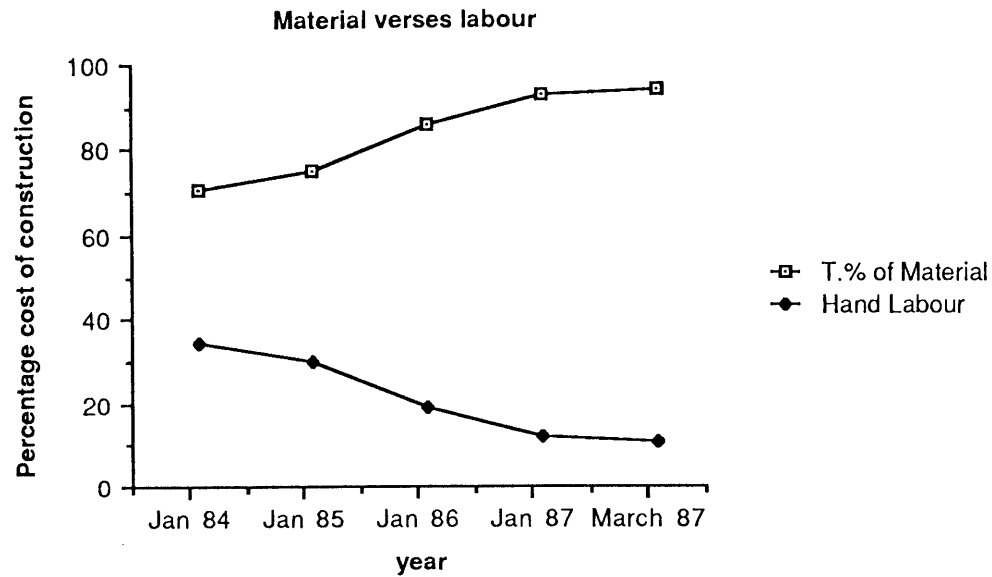
Although those issues seem to be secondary with respect to the architectural development in the area, the degradation of the economic situation has brought them to the forefront as primary problems which call for a major breakthrough to drastic solutions. The twelve years of civil war started to affect the economy of the country which eventually weighed heavily on the progress of the construction sector.

A quick look on the evolution of the purchasing power of the Lebanese pound in terms of its worth in dollars will give us a hint of the economic situation of the country ( see graph n°VI pp.154 ). From the graph, we notice that, starting from 3 LP/\$ in 1982, the value of the dollar ski-rocketed in an unprecedented way to 500 LP/\$ by the end of 1987. Because more than 45% of the construction cost is paid in foreign currency, the price per square meter has gone up too.

The cost of construction per square meter, in Lebanese pounds, increased from 718Lp. in 1984 to 7728Lp. in March 87. This had a tremendous impact on the distribution of cost between material and labour, which in its turn further affected the quality of the workmanship of the craftsmen<sup>2</sup>.

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<sup>2</sup>I have furnished full analysis on this aspect in the following part of the chapter and in appendix II pp.157 because it resides in the core of my analysis on the development of craftsmanship in the present.

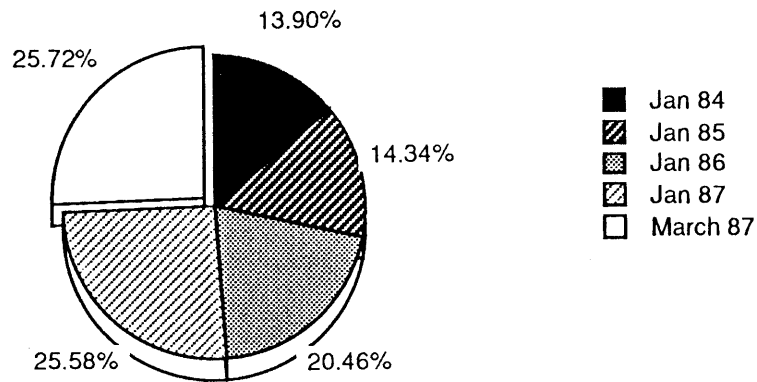


Graph n° 1. Distribution of the percentage of cost of construction in Lebanon.

### **Mechanization**

Due to the increase of the Dollar price in Lebanese pounds, the percentage cost of sanitary equipment and the heating systems increased tremendously. From the graph, we note a change of percentage from 13.9% in Jan. 84 to 25.72% during March 87. Needless to say that this aspect has contributed to the increase of the total construction cost.

Percentages of Sanitary and Heating



Graph n° 2. Percentage cost of sanitary and heating in the overall construction sector in Lebanon.

As a result of the tremendous increase in price, building construction is becoming a poor investment, frequently resulting in losses, and it is gradually coming to a halt<sup>3</sup>. This crisis is coupled with a failure to respond to the increasing demand for housing, which, in its turn, will undoubtedly create major social problems in the near future. In March 1987, the bulletin of building construction and public works, prepared by private consultants in Beirut, shows a drop in demand for land by 22% in one month. This demonstrates a tremendous decrease of investment in the construction sector. This crisis is coupled with a failure to respond to the increasing demand for housing, which, in its turn, will undoubtedly create major social problems in the near future.

<sup>3</sup>For numerical analysis see appendix II

What remains to be mentioned is that most Third World countries are facing the same problems. Those problems are best studied and analyzed on a governmental level. For the time being, however, I am not able to assess strategies, suggest recommendations or workable solutions for the actual problems in Lebanon, for two reasons:

1) It is beyond the scope of this paper, which is to assess the situation and conditions of both the conventional construction sector and its influence on the traditional building trades and crafts.

2) The analysis has only covered a fragment of the construction sector, i.e. the cost of materials, labour and the profit of the contractor. The study has, on purpose, left out the cost of machinery (including depreciation and recurring costs), of design, of the administration and supervision of construction and finally the cost of land.

From the above we can deduce the following:

1) The need to search for alternative building materials and the need to introduce more efficient technology in materials production and construction is imperative. Rising costs is one of the main issues which technology can be used to counteract. ( pp. 165 Basic shelter.)

2) Labour has a major impact on the construction sector and the quality of the endproduct<sup>4</sup>. High demand and attractive wages in the oil-producing states<sup>5</sup>

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<sup>4</sup>It seems to me that it is very difficult to analyze the present situation of labour in general and traditional builders and craftsmen in particular, without looking, at least in the near past, to factors of transformation that have affected them negatively. Since my intention is to narrow down the

verses decreasing prices of manual labour in the country have caused an acute skilled-labour shortage and was one of the major causes that broke down the traditional apprenticeship system<sup>6</sup>. The degradation of the percentage cost of labour is, as I have mentioned before, an outproduct of both the increasing cost of material and the construction system used. Ganesan in his study on the construction sector in Sri Lanka, made a comparison between types of housing there and ascertained that the percentage of cost of labour varies between 45% of the cost of a luxury house and 65% of the non-luxurious type. In theory, it is possible, Ganesan added, to design a conventional type house where most of the cost of construction, say, about 85%, is paid to labour engaged in construction and its associated activities within Sri Lanka<sup>7</sup>. While we have noticed that in Lebanon the percentage cost of labour reached 8% only. This aspect made the labour available totally incompatible with the type and cost of material handled.

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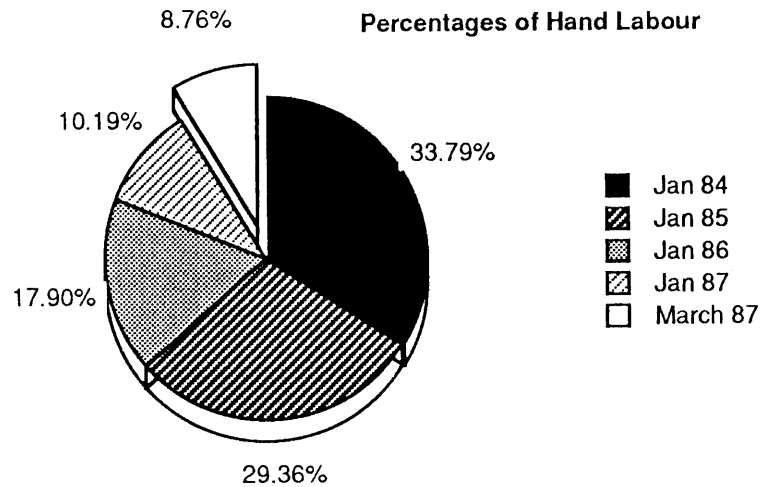
scope of the paper to the present condition alone, I will try to refrain myself, as much as possible from hinting, in this chapter, to those factors. An independent chapter is reserved later on to describe those factors fully.

<sup>5</sup>Although today major works have stopped due to saturation in those states and the Iran-Iraq war, there is still no incentive for the labour skilled in traditional building technologies to re-enter into the market.

<sup>6</sup>The other major cause is the block-contracting system which was developed in the turning of this century. The block contractor would undertake a complete building at a firm price, in the place of the old master craftsman, who was paid on a basis of time and materials, and worked on until the job was finished. This change resulted in the lowering of standards of execution, for while the old craftsman made his name for quality, the new contractor's success depended upon speed and cheapness. [Thomson, Paul: William Butterfield. pp.70.]

<sup>7</sup>Ganesan, Growth of Housing and Construction Sectors. pp.47.





Graph n° 3. Percentage cost of hand labour in the construction sector in Lebanon

This led to two negative conclusions:

a- One cannot control or penalize laborers for mishandling equipment and bad workmanship, because the prices of materials are much higher than the wages of manual labour.

b- Workers have lost pride in their work, and any sense of achievement. The material is more important than the man ( perhaps not a surprising attitude in an industrialized age) and workers who are under continuous pressure to produce more for their small wages - regardless of quality - have lost their professional pride in their work.

The implications, for contemporary architectural production are of course apparent. Building work is of a much lower standard than it was traditionally. We

witness an acute shortage of skilled labour and a total decline of traditional craftsmanship. As the demand for their work declines craftsmen retreat into seclusion, decreasing the chance for designers to make a bigger use of local materials or to go back to any traditional building system.

3) Increasing productivity through the introduction of modern technology is not the solution. Unless a technological break-through has been developed within the country, new technologies usually mean new factories equipped with imported machinery. They often prove very complex to run and hardly ever achieve the promised productivity. They also tend to consume more energy than the traditional methods and increase the country's reliance on foreign spare parts and maintenance. Moreover, the advent of these imported factories has meant the death of traditional methods<sup>8</sup>. Furthermore, new technologies are oriented towards lowering the cost of labour, which is not needed in our model. On the contrary, the need is to raise labour wages to encourage the skilled labour to return to the country . What is needed is that the focus should be on encouraging labour in the traditional sector. With the present competition between modern and traditional building industries two possible ways are foreseen to reinforce the traditional building trades:

a- Through the intervention of government, especially in the public sector<sup>9</sup>.

b- Through a series of entrepreneurs who set the pace and encourage others to follow suit.

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<sup>8</sup>Basic Needs in the Arab Region, UNEP Reports and proceedings Series 5, pp.164.

<sup>9</sup>We shall see later on how and in which way the government in Syria has succeeded in intervening.

I will end this chapter with this note:

Even though it seems in the analysis that we must rely further on local materials, traditional technologies and skilled labour, we still need to increase several -fold the present production capacity and meet many challenges before reaching any tangible and workable solutions:

First, the challenge of the relevance of the type of technology to national needs: determining what is really relevant in terms of technological emphasis, and who decides what is and what is not relevant? Second, the challenge of credibility: how can we as architects who want to change the conventional type of construction<sup>10</sup> build credibility<sup>11</sup> and ensure quality so that government and policy makers will be persuaded to increasingly adopt up-graded traditional systems rather than depend on the conventional system which relies on foreign materials and technologies? What can the scientific, political and financial communities do to foster that credibility? Third, is the challenge of implementation: what can be done to facilitate the application of innovations?

I have actually seen not only signs of answers to those questions being developed in a housing project done in Syria but I have seen proof that the traditional systems when upgraded will be cheaper as well. This project shall be the subject of our coming analysis...

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<sup>10</sup>which includes the modifications of the relationship between architects, builders and users

<sup>11</sup>One of the challenges is fighting the sense of preference which depends on social judgements of styles and fashions...

## Chapter II

### Economic and sociological reasons for the revival of traditional building trades in Syria

Syria, nowadays, is facing an economic crisis of no precedence in its history (see graph 4 & 5). Though government policies regarding the control of foreign currency and public expenditures is much more restrictive than that of Lebanon, the development of architecture after colonization and the impact of the economic crisis on construction is similar in both countries. That crisis has lead the government, through its representatives in the public sector to "shift gears" and develop strategies that point towards the investigation of alternative methods of carrying out the work, which could have positive financial implications. Resources which needed to be controlled were: labour, skilled and unskilled, capital, foreign exchange, imports and energy ( or fuel).

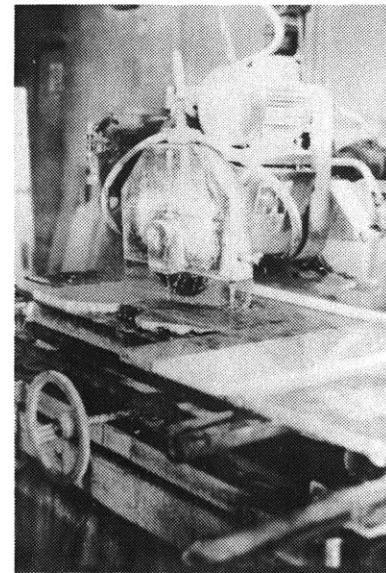
The chronic foreign exchange shortage disrupted production in the Military Housing Corporation<sup>1</sup> industries, which were mostly import-dependent industries, creating major supply difficulties on the construction industry<sup>2</sup>.

Following the government policies to cut down on foreign currency expenses,

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<sup>1</sup> A construction firm that represents the public sector and controls 70% of the market.

<sup>2</sup> My visit to the corporation industries, in Damascus, proved that matter. All factories for processing materials from steel to aluminum to wood factories were all literally shut down. The only one which was still functioning was the stone cutting ( see fig II.3 ).



*Fig II.3: Cutting stone seems to be the only operating manufacture in the public sector. Steel, aluminum and wood processing are literally shut down. In the picture we see one of the operating marble saws.*

the Military Housing Corporation resorted to local materials and traditional building technology in search for an economic solution to the shortage of the imported materials. The success of the experiment instigated the corporation to spread the applicability of the project to regions like Aleppo, el-Jazira and el-Hasaka, encouraging and setting in a precedent for the private sector to follow suit.

On an other front, we will look at the return to traditional building construction in an economic as well as sociological context. Again, the Military Housing Corporation plays here the leading role for the preservation of an old city fabric in the center of Damascus.

## II.1- KOURA AL-ASSAD IN DEEMAS: ISLE N° 5

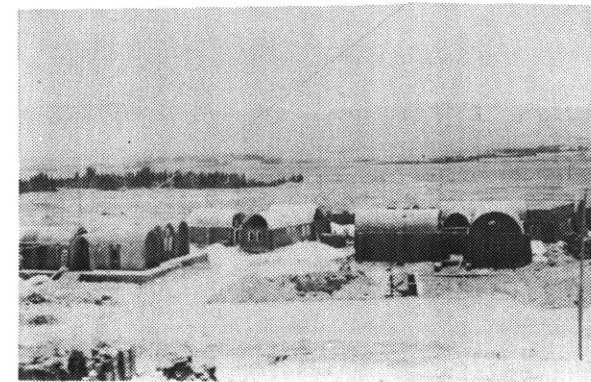
The high middle-income housing project of isle 5 in koura al-Assad<sup>3</sup> is important to us due to its economic context. In fact , the strength of the project resides, not in a nostalgic return to the past, but in the economic realities of the region. It is, actually, a living proof of the importance of our architectural past heritage.

The design project under study marks a turning point not only in the type of construction used but in the total building style as well. Having felt the pressure of the restricted budget and the availability of building materials in the execution of the project, the following were taken into consideration:

<sup>3</sup>"Villages of Al-Assad", is the name of the high to middle-income housing project, which designed and executed by the Military Housing Corporation.



*Fig II.1: A portion of the housing project designed before the return to traditional materials and technology.*



*Fig II.2: A general view of Isle 5.*

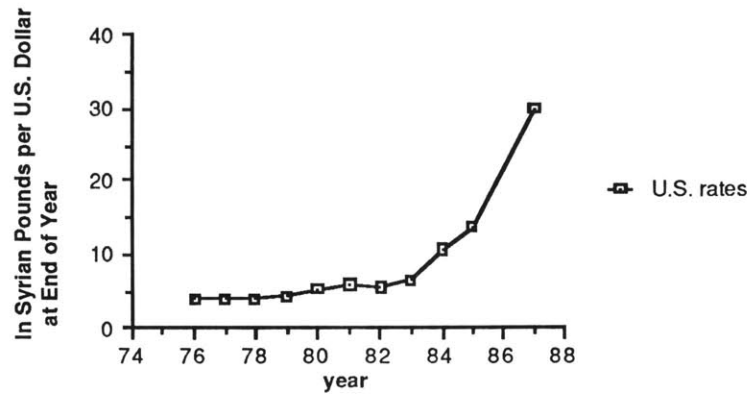


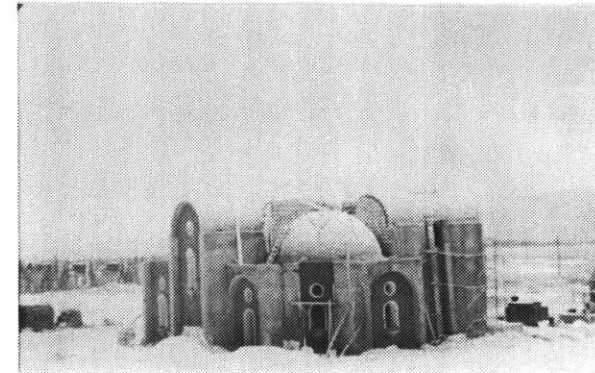
Table n° 4. The rise of the Syrian Pound with respect to the Dollar, between year 76 & 88.

- 1- Materials brought to site.
- 2- Technology adapted.
- 3- Labour at site.

### II.1.a-Materials brought to site:

Having felt the wisdom of the arguments for the use of local materials, the government established brick manufacturing firms in the regions of Al-Hasaka and Aleppo<sup>4</sup>.

<sup>4</sup> Due to the large expanse of the country one would expect a decentralization of the brick manufacturing unit, but the major cause is that this project is still in its experimental stage and had no time yet to expand.



*Fig II.4: A search for an "appropriate" character through a language of vault and domes. The second floor is built also without resorting to the use of any tensile material, but relying solely on the vaulting system.*

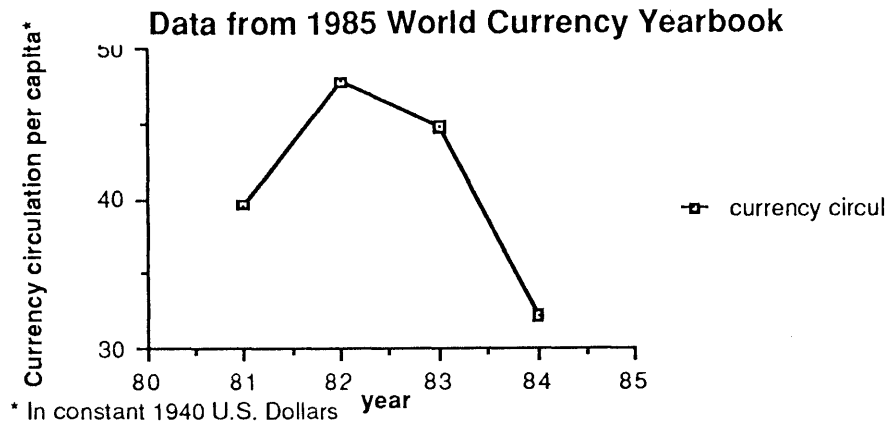


Table nº IV. Decline of foreign currency availability in Syria

The site engineer reported two kinds of bricks being produced : load-bearing bricks and engineering bricks. The former has a strength of 100Mpa and the latter 75Mpa which is considered to be of a very high standard. The sulfate content was highly controlled, especially since the bricks were to be exposed.

The usage of bricks results, as table 1<sup>5</sup> shows us, in a very low capital intensity, which lies in the value of machinery and tools per unit value of annual output.

Not only does the choice of bricks actually prove a wise step taken by the government, in that it responds to the scarcity of capital, but it actually demonstrates government success in its policy of controlling foreign exchange. In a similar situation in Sri Lanka it has been proven that brick manufacturing does not involve any cost in foreign exchange<sup>6</sup>.

<sup>5</sup> Capital intensity of building materials industries in Sri lanka. ( after Ganesan, 1974).

TABLE 1. Comparison of labour intensity, capital intensity and machinery and tools used per worker etc. in building material production, Sri Lanka, 1973

Sector <sup>1</sup>	Number of establishments <sup>2</sup>	Average output per establishment (Rs.)	Employment (direct) in Rs. 1 million production <sup>3</sup> No. of persons	Payment to labour (direct) in output <sup>4</sup> (%)	Gross Capital assets per worker <sup>4</sup>		Machinery and tools per worker		Capital output ratio
					m.v. (Rs.)	r.c. (Rs.)	m.v. (Rs.)	r.c. (Rs.)	m.v. (Rs.)
Traditional	100	below 50,000	410 <sup>5</sup>	36	400-2000	800-4700	1-700	1-1300	0.3-0.8
Small scale including traditional	169	below 300,000	130 <sup>5</sup>	21	400-12,000	800-15,000	1-7700	1-11,000	0.3-1.9
Modern medium scale	28	300,000-1,000,000	40	10	6400-44,000	13,000-101,000	2500-24,000	6000-69,000	0.4-1.6
Modern industrial	12	above 1,000,000	37	17	9800-217,000	215,000-412,000	3300-182,000	5300-332,000	0.2-4.3

m.v. — market value of assets.

r.c. — replacement cost new at 1973 prices.

<sup>1</sup>Principal materials in the different sectors are given below. Some materials are manufactured in more than one sector. *Traditional*: bricks, country tiles, sand, lime, cadjan, etc. *Small scale*: timber, cement products, brassware, aggregate, drainage fittings, electrical fittings etc. *Modern medium scale*: flat tiles, paint, varnish and distemper, wire nails, electrical fittings and switches, brassware and other fittings etc. *Modern industrial*: cement, steel, plywood products, asbestos-cement products, hardware, ceramics, plastic pipes, electrical cables, etc.

<sup>2</sup>See Appendix 2 for sample sizes and related details.

<sup>3</sup>At ex-factory price.

<sup>4</sup>See Section 3.2 for description of assets. Working capital was not included.

<sup>5</sup>A part of this employment is part-time or seasonal. No allowance has been made for this in the computations in this table. See notes (24) and (25) in this Chapter.

Source: See Appendix 2.

<sup>6</sup>From table 2 which shows the foreign exchange costs of selected industries in Sri Lanka as a proportion of the ex-factory price, we note that bricks require Zero foreign exchange cost. (In Ibis, pp.27).



**TABLE 2 Foreign exchange requirements in production of building materials, Sri Lanka, 1973**

Building material	Foreign exchange cost as % of value of output at ex-factory price			Total	Total foreign exchange cost <sup>2</sup> Rs. million
	Raw materials	Energy <sup>1</sup>	Maintenance (+ depreciation) <sup>3</sup>		
1 Cement <sup>4</sup>	6	13	6	24	20
2 Cement products	0	8	0	8	1
3 Steel products	53	2	2	57 <sup>5</sup>	32
4 Timber	0	2	1	3	3
5 Bricks	0	0	0	0	0
6 Tiles	0	8	2	10	2
7 Aggregate	6 <sup>6</sup>	4	2	12	3
8 Sand	0	0	0	0	0
9 Earth, clay, etc.	0	0	0	0	0
10 Lime	0	0	0	0	0
11 Asbestos-cement products	39	0	1	41	13
12 Special steel fixtures	—	—	—	100 <sup>7</sup>	15
13 Paint, varnish, etc.	60	0	1	61	4
14 Hardware	32	4	2	38	12
15 Sanitary ware	13	4	2	19	2
16 Sanitary pipes	37	2	4	43	4
17 Electrical fittings	46	1	4	51	12
18 Cadjan	0	0	0	0	0

<sup>1</sup>Mostly furnace oil and resources for generation of electricity locally.

<sup>2</sup>For consumption of materials as in Table 2.1. Adding foreign exchange required in 'other materials' (Table 2.1), transport, and plant and equipment, total requirement in 1973 was approximately Rs. 200 million. Also allowing for foreign exchange required in construction work not covered in Table 2.1 (Section 2.3), final requirement was about 10% of gross foreign exchange earning of Sri Lanka in 1973. A part of this earning was required for foreign debt servicing. *Annual Report 1974*, Central Bank of Ceylon, 1975, p. 222. This figure (10%) does not include foreign resources required for new investment in the building materials sector.

<sup>3</sup>Assumed to be 3% of replacement value of machinery and tools which is considered essential for purchase of spare parts and to meet at least part of depreciation cost of imported machinery.

<sup>4</sup>Crude estimate after oil price increases in 1973 and 1974. The largest component is from import of furnace oil: Import of gypsum and paper for cement bags also included under 'raw materials'.

<sup>5</sup>In the analysis in Chapter 6, a value of 76.6% is used (based on provisional figures released earlier by the Ceylon Steel Corporation).

<sup>6</sup>Mostly blasting powder.

<sup>7</sup>Wholly imported.

Notes: (1) In the case of multisector products, a weighted average covering all the sectors is given.

(2) Discrepancies due to rounding.

Source: Appendix 2.

Finally, the use of bricks as the major building material has not only lowered the general construction cost, since the cost of materials brought to site is, by far, the largest item of cost<sup>7</sup>, but it has also determined, to a large extent, the structural technology to be used.

### II.1.b-Adapted Technology:

The building system utilized is the old bearing-wall system. An archuated system in the form of either vaults or domes is used for roofing.

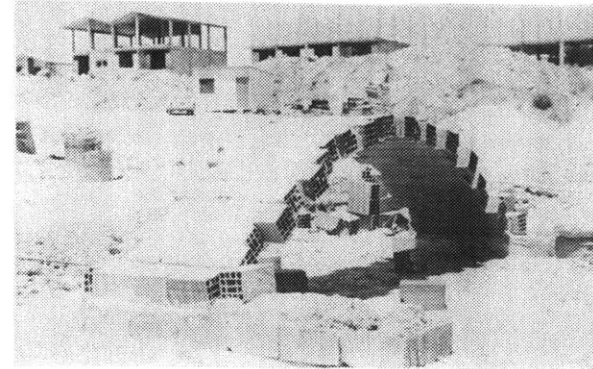
By using the natural strength of brick, which is solely compressive, they managed in this way to build the whole house without resorting to the use of tension-carrying materials such as steel or timber which would have imposed an additional burden on the cost of construction.

The side-ways thrust created by those vaults were taken by the load-bearing walls which were in turn supported further by buttresses ( see fig II.6 ).

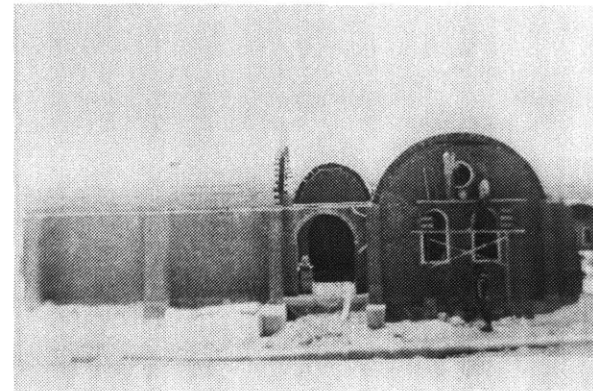
The project, as I've mentioned, is still in a trial stage. But we may learn many lessons out of these experiments it contains. Traditional building techniques were not adopted blindly. The self-centered vaulting system, for instance, was not used at all to minimize the thickness and heaviness of wall and vaults.<sup>8</sup> In return a whole spectrum of varieties of techniques have been introduced onto the site, on different houses, adapting to different economic and labour constraints. Different

<sup>7</sup> Spence, Resource Utilization in Building Materials Choice. pp.294.

<sup>8</sup> The self-centered vault requires a heavy wall perpendicular to the axis of the vault on which successive courses of brickwork, forming separate arches, lean back on.



*Fig II.5: Experimenting with the vaulting system, testing shape, strength, and various mortar and plastering admixtures on the under surface of the vault, exposing it to the rude climatic conditions before execution.*



*Fig II.6: A house construction in Isle 5, using the vaulting system. Buttresses are used to take the lateral thrust.*

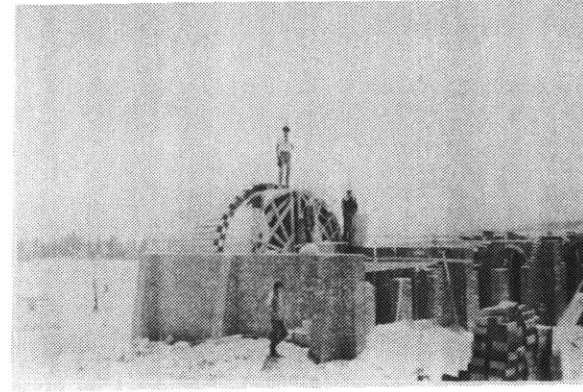
vaulting systems, plaster admixture, the feasibility of increasing the number of floors were but a small number of issues that architects and site engineers worked on.

Vaults were dressed, as a first alternative, by sliding a semi-circular timber framework 1.2m long ( see fig II.7 ) all along the stretch of the wall. Each time bricks were laid down on the arch, mortar was added, then, with a few hours the framework was slid further for the continuation of the vault.

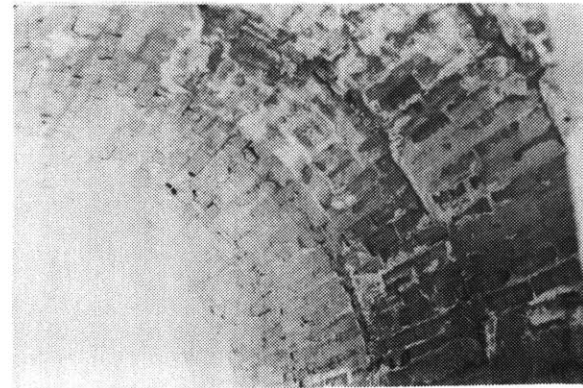
This technique had two major drawbacks. The first one was the obligation to use a timber framework to spring the arch, which was an expensive procedure. The second one was the peculiar technique which led to an unevenness in the under surface of the vault due to the cumulative thickness that the framework was taking from mortar that seeped through down to the surface between the framework and the bricks. The unevenness which reached 8 to 10cm. at the end of the vault ( see fig II.8 ) had to be taken care of by the gypsum plaster. That aspect formed an additional expense which needed to be avoided.

The second alternative was to stretch iron bars all along the required length of the vault fixed on an iron formwork on which bricks are laid directly and the mortar pored in between.

The technique had the advantages of avoiding any discrepancy in construction and finishing off the vault at an amazing speed ( three to four hours...).



*Fig II.7: A house during construction. Note the wooden framework used for building the vault. This technique has been changed due to the resultant unevenness of the under surface of the vault.*



*Fig II.8: This picture shows the unevenness of the under surface that reaches up to 4 inches at the extremity of the vault.*

### II.1.c-Labour at site:

The overall construction system was simplified in such a way that three types of skills only are required:

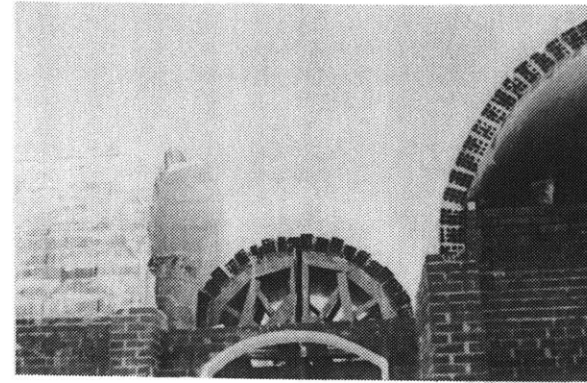
- 1-Brick layering.
- 2- Setting and maintenance of iron formwork.
- 3-Plastering.

For the plaster works, several admixtures were tested with the gypsum to lengthen the duration before solidification. Acidic substances were tested, such as vinegar, which seemed to give satisfying results.

Precast gypsum tiles were tested too in few of the houses, but the aesthetic results were not as satisfactory.(see fig II.9).

In summary, Isle 5 in " Kura Al-Assad" joined the long list of contemporary projects which resorted to local materials and traditional techniques as a solution to both economic constraints and a search for cultural identity.

A similar project is going in Aleppo. In addition to experimenting on vaulting techniques and plastering admixtures an increase in number of floors is also being studied there. Following the same vaulting system, catenary structures are set on the intermediate floors, then filled with light- weight material to form the base for the upper floor. While in Isle 5, two-storied houses are being erected, (see fig II.10), in Aleppo they were able to reach three floors. This aspect promised a better exploitation of land and hence a more economical design.



*Fig II.9: Use of precast gypsum plaster as a finished plaster coat and as a permanent underneath shuttering. This technique proved to be time-consuming and expensive. Let alone the fact that aesthetically it is not satisfactory.*



*Fig II.10: A view of one of the houses during construction. Five months were all that were needed to reach this stage. One square meter of built area is costing exactly half the price of a similar residential type house using the conventional system of construction.*

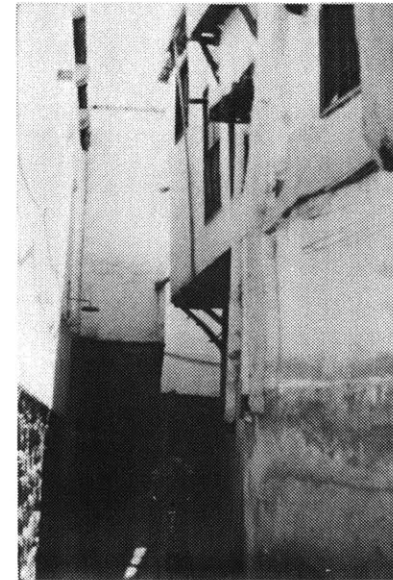
## II.2- Conservation and rehabilitation of Hemrawoui Quarter in the Old City of Damascus.

The realization of the importance of conservation has been increasing in the last decade, especially after the failure of the experience of disrupting historical continuity. The trend of preserving a cultural heritage started by maintaining historic monuments. Soon more minor structures such as caravanserais, funduqs, wakalas and khans started to follow. Then traditional suqs and houses and most recently the entire urban fabric as such were seen as worthy of preservation. The old city shelters many small workshops and trades that newer neighborhoods will not accommodate which added an economic rationale for its preservation<sup>9</sup>.

The case study was subject to a number of tumultuous planning decisions that varied from transforming that residential quarter to parking lot serving the commercial center to a number of high rise commercial buildings<sup>10</sup>. While waiting for the execution of the scheme, the quarter witnessed an unprecedented degradation. Houses were half -deserted, ill-maintained and often split into small apartments, gathering several independent units around a simple courtyard, which is then divided up to provide privacy for each tenant family. The tenants neglected

<sup>9</sup>Abdulac, Samir. Conservation Problems in the Middle-East and North Africa. Designing in Islamic cultures 3. Adaptive reuse, Integrating Traditional Areas into the Modern Urban Fabric. pp.17.

<sup>10</sup>In fact, a project of the early nineteen-fifties also called for a ring around the Umayyad mosque, not only to provide access to the building itself but to make the mosque the heart, not just of the old quarter, but of the entire city, at the expense of the smaller monuments, suqs and the urban fabric surrounding it. Fortunately the project was not carried out and Damascus escaped that fate. (Ibid, pp.17).



*Fig II.11: A street view (within a labyrinth) of Al-Hemrawoui Residential quarter in the old city of Damascus showing a part of the upper block which has been renovated.*

renewing the external protective coating ( see fig II.11 ) on which the beauty and the long life of the building depends<sup>11</sup>. Decoration and woodwork inside the houses were left out to wither as well. A political decision was required to launch a project for the rehabilitation of the quarter.

Before starting with the technicalities , a background review of both historical and traditional building techniques will be helpful to place the project in its proper context.

### **II.2.a-Historical background:**

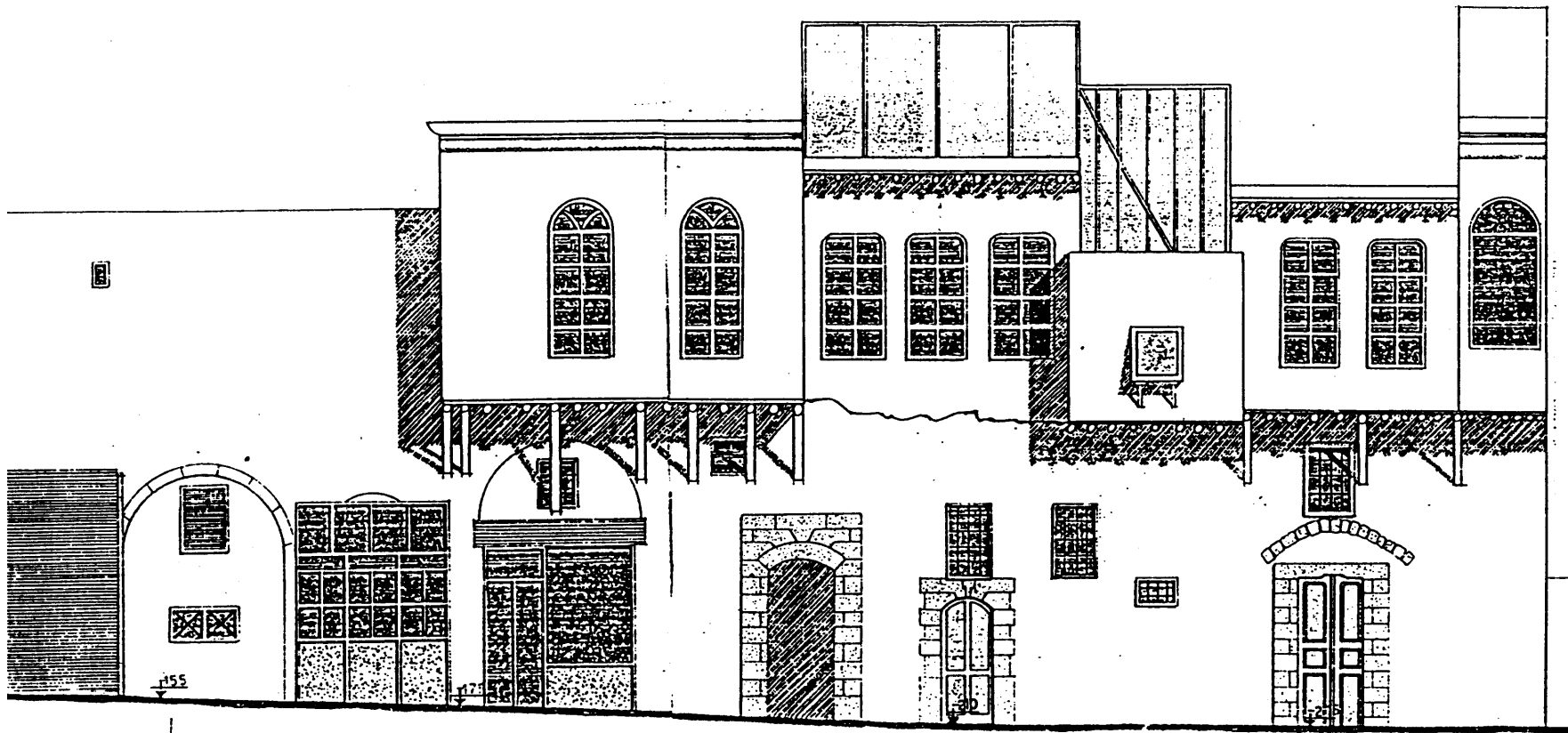
As I've mentioned earlier, the old city of Damascus is one of the oldest Islamic city still existing till our days. It reflects and condenses in its history all the development of Islamic civilization where each moment is inscribed in its monuments and closely-knit urban fabric. The close vicinity of Hemrawoui quarter to the Umayyad mosque leads us to believe that it is probably one of the first inhabited areas in the old city. We know for certain that a great part of the city *intra-muros* dates much further back in history and the area in question was most probably inhabited before the advent of Islam. Let alone that , according to Jean Sauvaget, during Hellenistic and Roman times the urban development used to be on a regular grid which was on its turn transformed into the irregular pattern we see today .

Although the typology of the quarter in its courtyard houses and narrow winding streets may be similar to that of ancient history, I believe that the houses themselves have changed. The building materials do not have this life span.

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<sup>11</sup>Ibid., pp.17.





Street Elevation.

C

B

A

10m 5 4 3



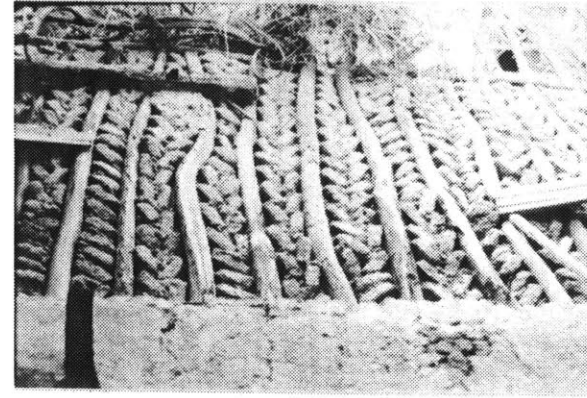
We know for certain that during world war II part of the quarter was bombed, destroyed and rebuilt afterwards by the French. But this does not mean to say that the quarter is not old enough. Some of the houses date back to the beginning of the 19th century.

### II.2.b-Technicalities:

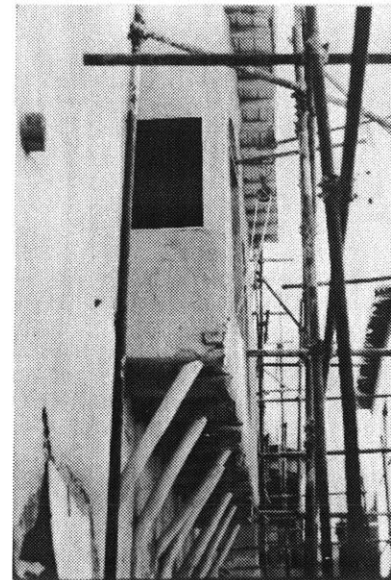
The construction system is the known wattle-and-daube construction. The structure is made solely out of timber beams and columns from a wood called "roumi", usually conserving the original tree trunk shape. In between columns, sun-dried, pressed-soil blocks are laid in an oblique fashion ( see fig II.12 ). A layer of mud mixed with straw is spread on both the internal and external surfaces. A layer of plaster made out of gypsum and lime mixed with natural fibers ( see fig II.13 ) forms the finishing. For the internal walls the space in between the columns is kept empty. Instead, a sheet of split bamboo mesh is stretched in between the timber columns on top of which the layer of mud is spread. Then the surface is plastered with lime plaster.( see fig II.14 & 15 ).

The roofing system is made out of major wooden beams, always in the shape of the tree trunks and are called "anata" ( females) . Those beams are spanned in the longest direction. Smaller planks are laid on top in the opposite direction then a layer of straw is spread over. At the end a layer of mud with straw is laid which is at times plastered for waterproofing<sup>12</sup>.

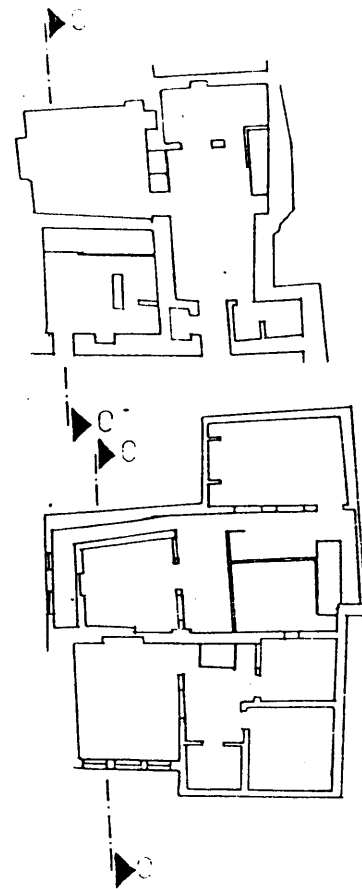
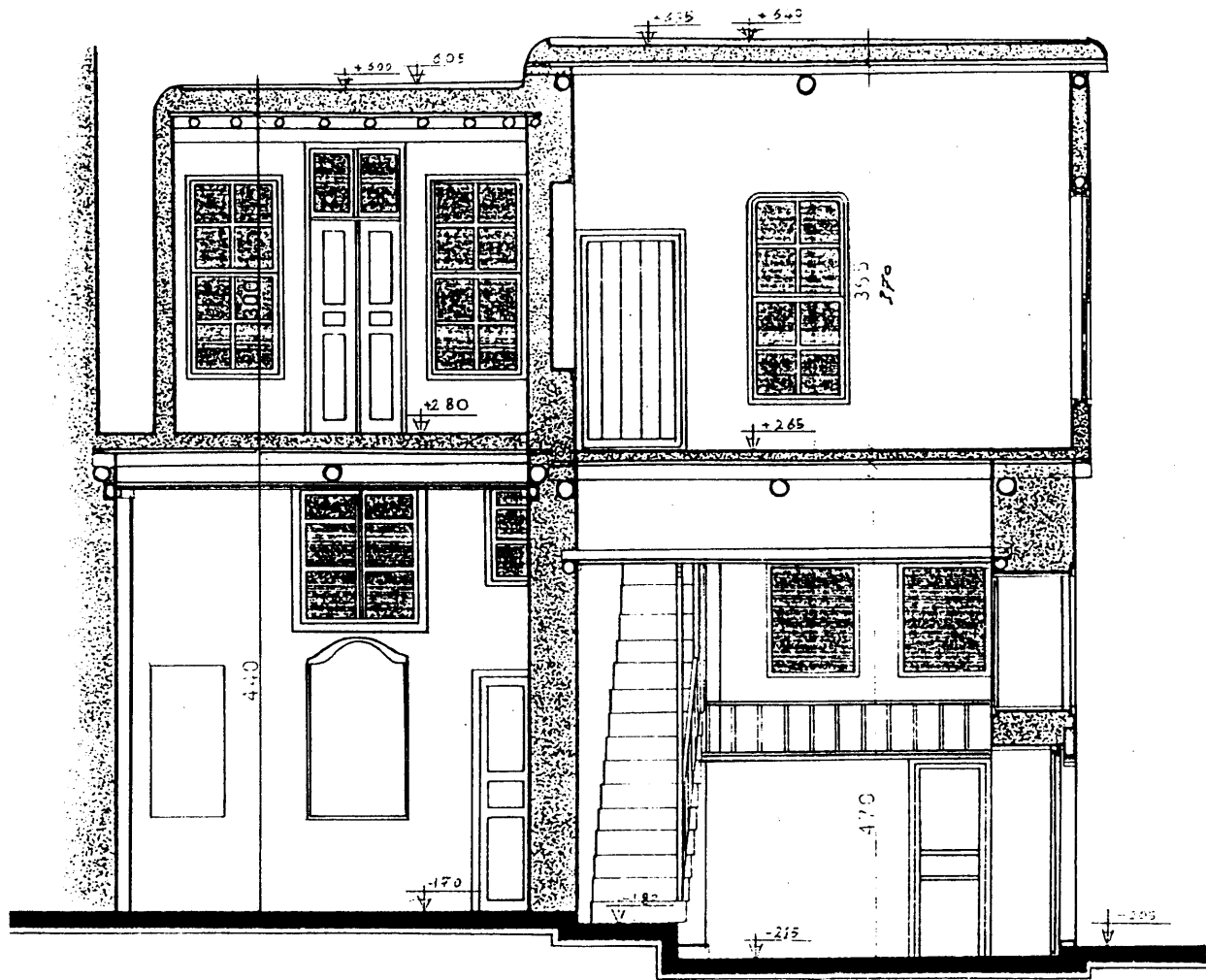
<sup>12</sup>The system is fairly well described in Building Materials in Developing Countries. pp.266-267.



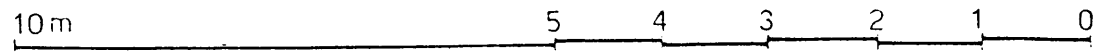
*Fig II.12: A bare wall showing, the way sun-dried bricks are fitted in between timber columns . The thermal capacity of the earth insures a cool interior during the hot summer season.*



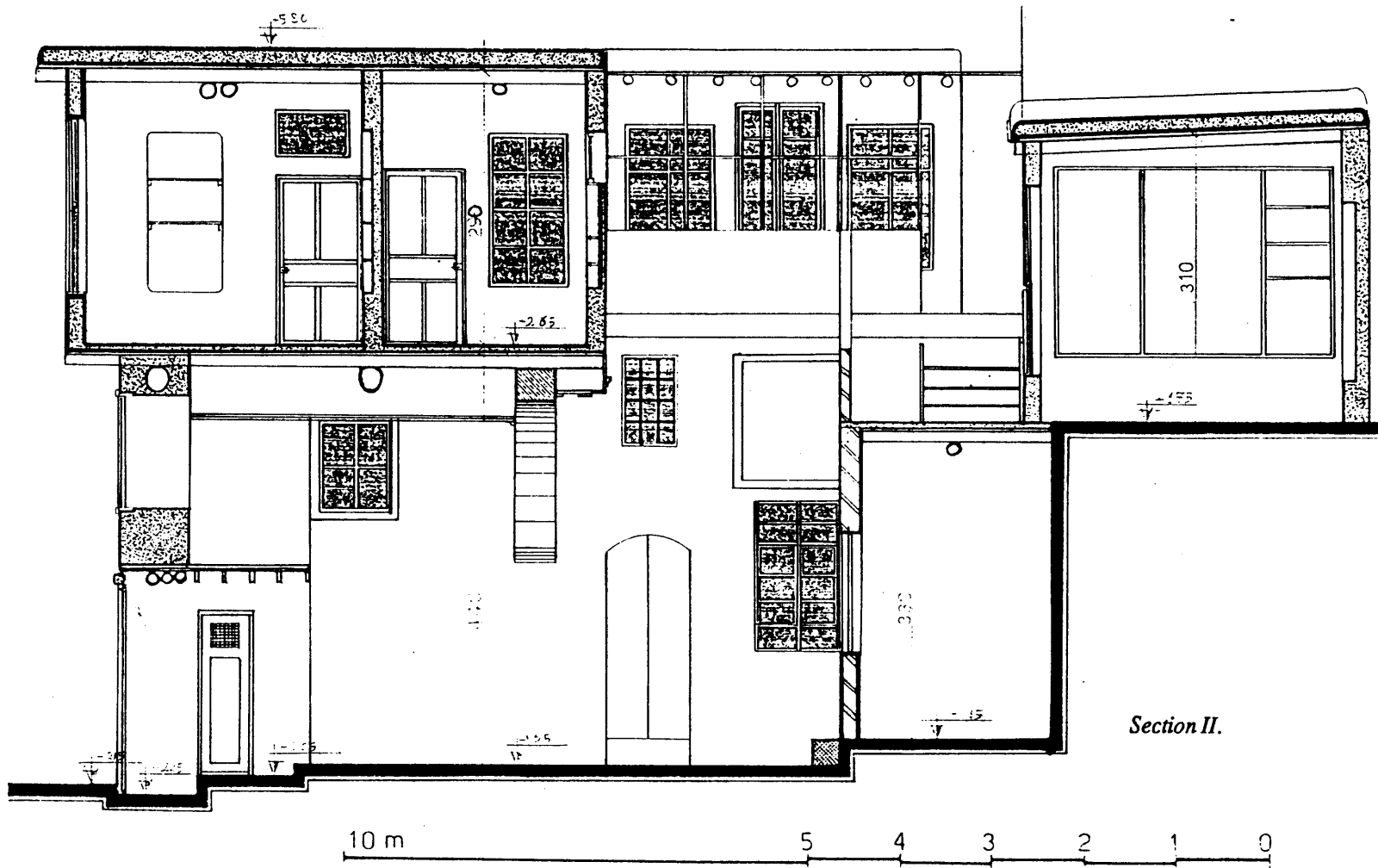
*Fig II.13: A total return to traditional building techniques: timber columns with sun-dried bricks in between are surfaced with mud mixed with natural fibers. Another layer of lime plaster will follow.*

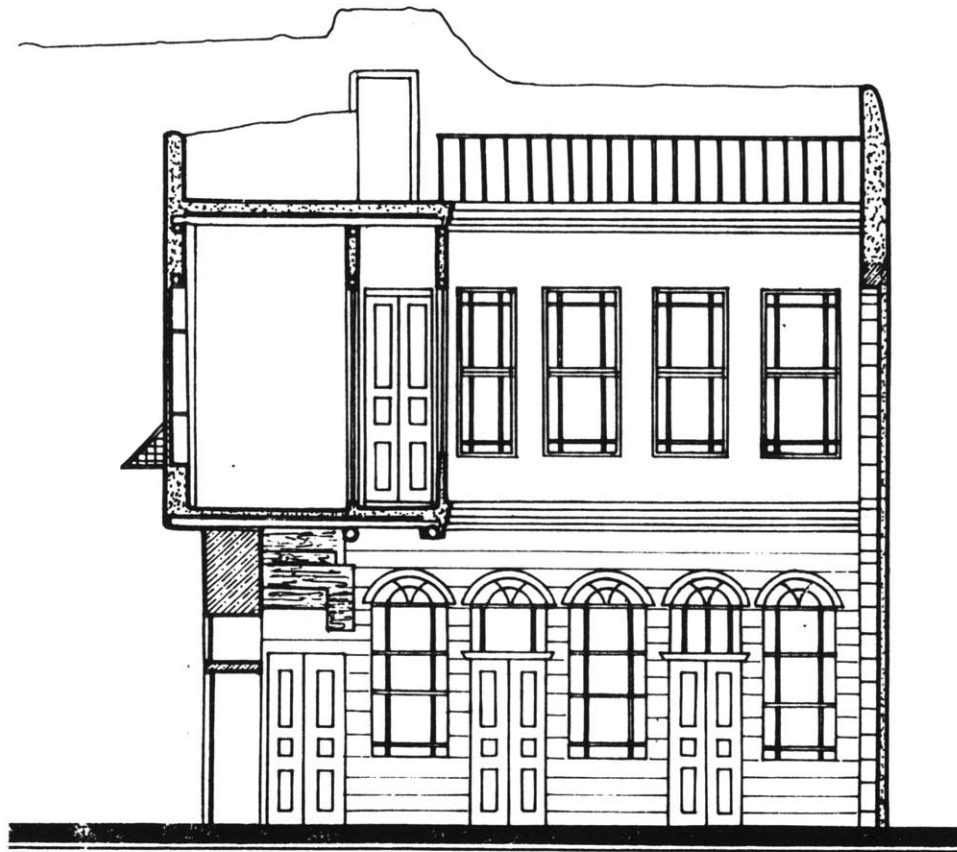


Section I.



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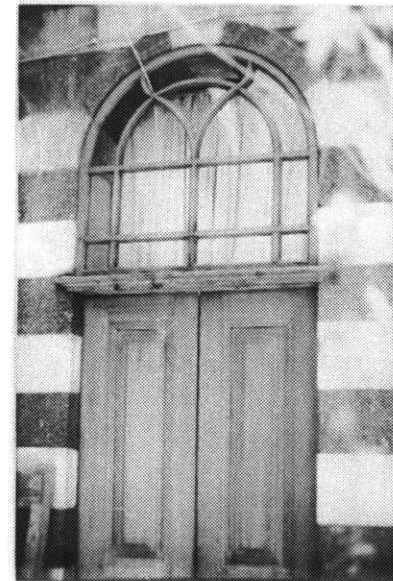




*Courtyard elevation after renovation.*



*Fig II.16: A view of one of the courtyards after renovation.*



*Fig II.17: Partial detail of a courtyard house in Hemrawoui quarter after renovation.*

Conservation started two years ago with a budget that did not exceed three million Syrian Pounds. Builders expert in traditional building techniques were found after a search and brought down to the site. Several problems were experienced during reconstruction. The first was temporary reallocation of the inhabitants of the quarter. In order to prevent massive displacement of dwellers, the rehabilitation project was subdivided into stages. This strategy slowed down the process though, and prevented the project from being finished until now.

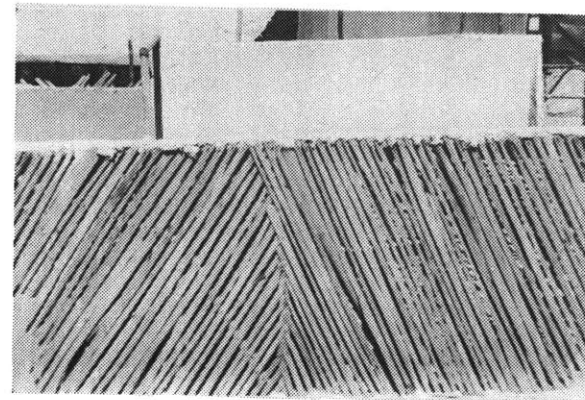
The second problem was the continuous rise of the water table which threatened the structure by dampening the base. The reason for the rise of the water table has been clarified by Prof. Lewcock in his article on technical aspects of upgrading old areas: " ...in each city", he said," the population density has gone up, water has been made available to more people in much greater quantities than ever before, and the infrastructure of draining that water out of the central area has usually not been supplied, or, if it has been, it has not been adequate in size or standard."<sup>13</sup> To fight this problem, the bases of walls have been cast in concrete with waterproofing admixtures and a new infrastructure of piping for both supply of water and drainage has been set.

The impact on the inhabitants, needless to say is tremendous. Not only did they feel the interest and care of the government to their situation, but this conservation project asserted their belief in their way of life and stressed the importance of the preservation of historical heritage.

<sup>13</sup>Lewcock, Adaptive Reuse.Integrating Traditional Areas into the Modern Urban Fabric, Designing in Islamic Cultures 3, pp.103



*Fig II.14: Back of a wall and ceiling which shows the wattle-and-daub construction.*



*Fig II.15: Baghdadi work, the under-structure of the mud layer. Originally, split-bamboo - so frequent on banks of the seven rivers crossing the capital- was used instead of soft-wood.*

### II.3-Conclusion

Up until now we have reviewed two projects involving a return to traditional building technologies and a revivalism of traditional building trades in a socio-economic context. We have seen how those two projects, whether a fresh scheme or a conservation project embody: first, a way to build economically, from the nation's standpoint, by using local instead of foreign resources and cheaper methods of construction. Two, a continuity of a certain language of architecture peculiar to the region and the preservation of not only the old physical fabric, but most important of all, the way of life that is still very healthy and resilient, in spite of modifications.

In the coming case studies, we will have a detailed look at techniques, both traditional and new, used in the production of traditional building crafts. The first case study is the renovation and conversion of Khaled Al-Azm palace into a museum<sup>14</sup>. The second one is the Audience Hall in the new Presidential Palace. The nature of those two projects, joining both old and new, allow us to have an encompassing view of various types of building craftsmanship.

From wood used in the making of doors, ceiling panels and "muqarnas" to marble used in inlaid floors to stone carving we will study the position and usage of those artifacts in terms of their present context and aesthetic values.

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<sup>14</sup>Beit Al-Shamee" or the Damascene house is the theme of this museum.

These projects represent in type two extreme poles; the artifacts of the first one are totally integrated with the building, while in the other they are applied in a form of internal ornamentation not related to the external appearance of the palace.

I'll conclude with a third case study that forms an intermediary position between the two: a courtyard house in Aleppo. I will show at the end that the three projects exemplify what I've called the "museum syndrome".

## **Chapter III**

### **Techniques used in the traditional building crafts**

*"Buildings classify themselves  
as witnesses fixing the way of life  
and the moral condition of humanity,  
age by age..."*  
Choisy

In the previous chapters, we have discussed, in two different contexts, changing economic conditions that had a negative influence on the conventional construction system, and tried to prove the economic necessities for the reintroduction of local building materials and traditional building technologies into contemporary architectural production.

In this chapter, we shall introduce three other case studies to discuss the different techniques used in the production of traditional building crafts. In a later chapter, we shall discuss both the aesthetic role that these products play in contemporary architecture and the held aesthetic values from the perceiver's as well as the maker's stand point.



The grounding of the analysis on existing projects will help us to build a concrete and practical understanding of potentials and/or problems of the production of these traditional building crafts from the technical, aesthetic and socio-economic point of view.<sup>1</sup>

The Study of the techniques used will help us to gain a refined sensitivity and knowledge of forgotten skills, and it will allow us to assess the capabilities of these crafts to evolve their traditional techniques to meet new technological as well as economical demands.

### III.1.Kasr Khaled Al-Azm Palace:

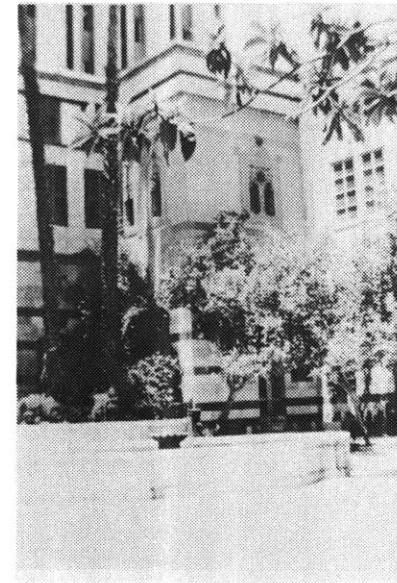
The decision to renovate *Kasr Al-Azm* and to convert it to a museum was taken seven years ago. At that time, the palace was in a terrible shape with its east wing partially destroyed by fire. The Department of Museums and Antiquities recruited its craftsmen employees for this job. The project was subdivided into its different components: restoration of masonry which were either in mud or stone, wood joinery and marble tiling. Having already explained the techniques of mud construction, I shall right away start with joinery.

The joinery will include, for our purpose, two items: ceilings and door and window panels<sup>2</sup>.

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<sup>1</sup>The socio-economic context of traditional building crafts will be reserved to a later chapter.

<sup>2</sup>The detailing of wall panels is less complicated than the detailing of the ceiling panels. So, practically, it will be covered through the section on ceilings.



*Fig III.1:  
Partially  
destroyed by  
fire the east  
wing ( shown  
in the picture )  
of the palace  
was renovated  
to its original  
image giving a  
suggestion of  
how life used to  
be during its  
heyday*

### III.1.a- Agamy decoration

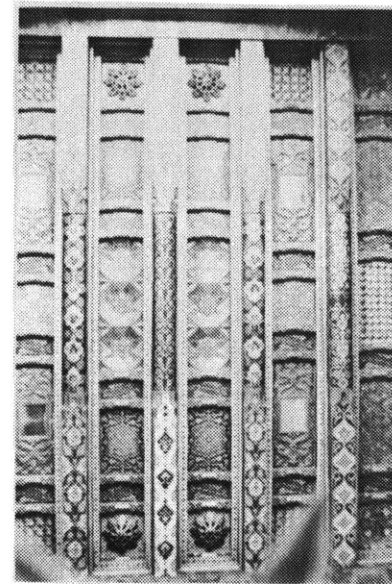
The decoration of ceiling panels seems to be applied in all traditional Damascian courtyard houses. Inside the house they are found basically in *Liwans* and *Diwans* or *Ka'aa* in the *Saramlek* ( see fig III.2 ). It is usually referred to as Al-Agamy, although it is just one of the styles applied over the panels. In fact styles have changed in time and what has reached us was three types:

- 1- Fatimid or Islamic,
- 2- Agamy or Persian, and
- 4- Turkish.( see fig III.3 ).

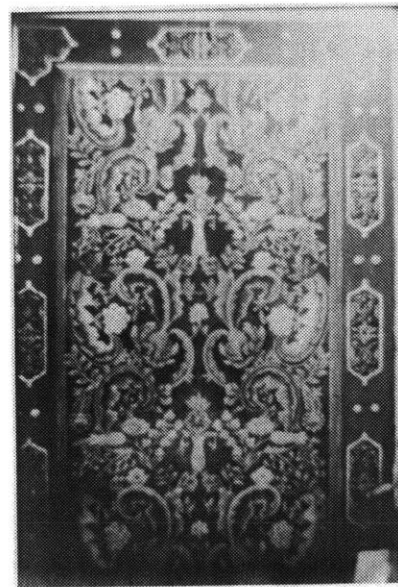
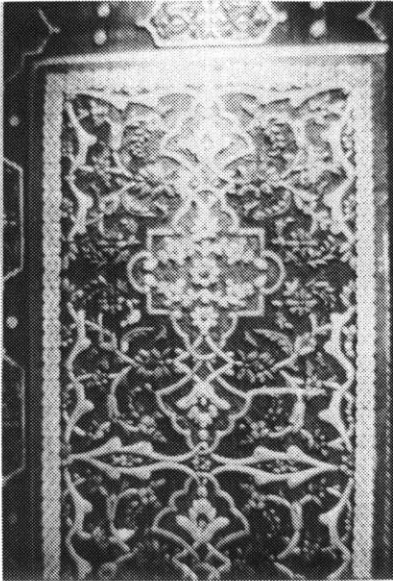
The main difference that characterizes the styles is the amount of abstraction in the decoration. From the "Islamic" style which is totally abstract, we reach the turkish style which is totally representative.

The ceiling itself is composed of the following elements:

- The central or main element, called " *Al-woustanyieh*". From its name, it occupies the central zone of ceiling and is the piece which is mostly decorated. Basically, it is treated in one of two ways: the first is by concealing the ceiling structure, but still retaining alcoves to give depth (see fig III.4 ). The other is decorating the main timber beams or encastrating them in boxes which are in turn decorated.(see fig III.5 ).



*Fig III.2: All wooden decoration is nominatively called Agamy irrespective of the style used. The picture shows a ceiling panel in the liwan.*



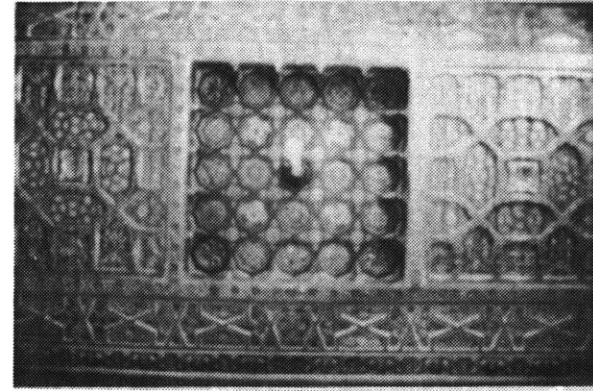
*Fig III.3: From left to right : Fatimid or Islamic, Agamy ( persian) and turkish style. We note how the level of abstraction is diminishing from one style to the other and the art is becoming much more representative..*

As one of the craftswoman responsible for the repainting of the ceiling panels noted: the depth and size of the ornamentation depends on its position in the room and its distance from the viewer. This aspect shows the awareness by traditional craftsmen in the past of the relationship between the design of panels and their final position in the room. Amazingly her remark matches Ruskin's observation on the same subject. He wrote: "...It is foolish to carve what is to be seen forty feet off with the delicacy which the eye demands within two yards; not merely because such delicacy is lost in the distance, but because it is a great deal worse than lost:-- the delicate work has actually worse effect in the distance than rough work... This, I say, is acknowledged in painting, but it is not particularly acknowledged in architecture; not until my attention was specially directed to it, had I myself any idea of the care with which this great question was studied by medieaval architects..."<sup>3</sup>

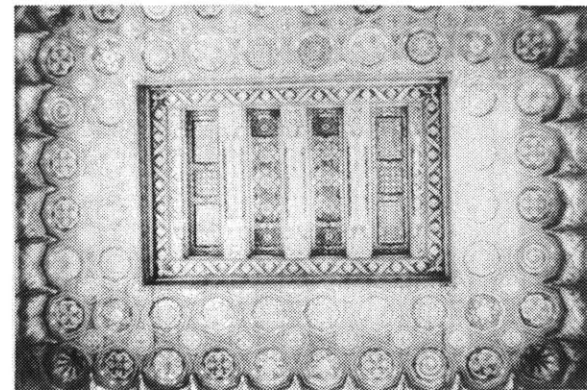
The second component is what is called "*transaat*": which is definitely a derivative of a latin word which may be "transversal". This word and many others, like cornice or frieze, which are transliterated and used in the terminology of craftsmen proves a European influence not only in style (the advent of Italian and French designers to Ottoman courts is well documented) but in the tools and machines used. After the transversal planks or "*transaat*" comes the cornice (see fig III.6 ) then the "*zawaya*" or corners.

Each ceiling panel is not monolithic but is composed of many parts (see fig III.7 ). "*Al-Alali*", as their name shows, are the small pieces protruding beyond the plane of the wood.

<sup>3</sup>Ruskin, John. (1960). The stones of venice. Da capo press, Inc. New York. pp.114.



*Fig III.4: Central part or woustanyieh of a decorated ceiling panel in the majless. This is one of the rare cases in which timber beams are completely concealed behind the wooden panels. Nevertheless, the central part is emphasized by the protrusion of the center of the panel.*



*Fig III.5: The wooden ceiling is composed of the central piece - usually the most intricately decorated the Transaat which forms the rest of the horizontal plane, the cornice, and the corners or Zawaya.*

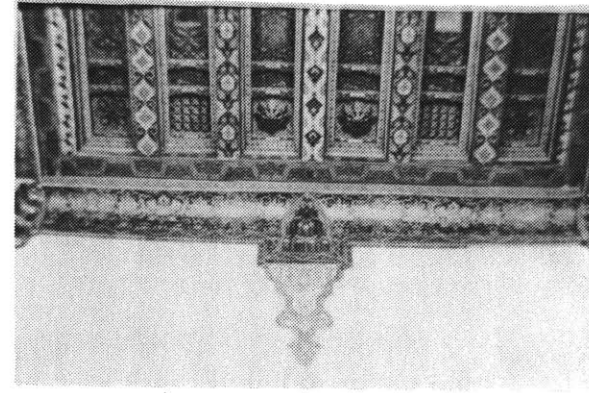
The decoration of the wooden panel is an age old process used also in cloth patterning and is done as follows:

A design pattern is drawn first on paper, which is usually transparent. The drawing is fixed on the board, and the lines are perforated. Then a carbon powder is spread over, seeping through the holes and marking down the pattern on the white washed panel. This procedure is called "*Tatbi*". Once the paper is removed, those forms are filled in with a special white liquid. The ingredients of this liquid are secretly guarded by craftsmen. The property of the liquid is that it is viscous and does not solidify very quickly, allowing enough time for pouring and filling in the design with the brush. Once it solidifies, it is painted over with usually dark dim colors, with the golden color rarely missing. Then, before a thin laquer paint is spread over for protection, the pattern is outlined with a black line called "*Tahdid*" to set out the colors and cover the meeting line between various colors.

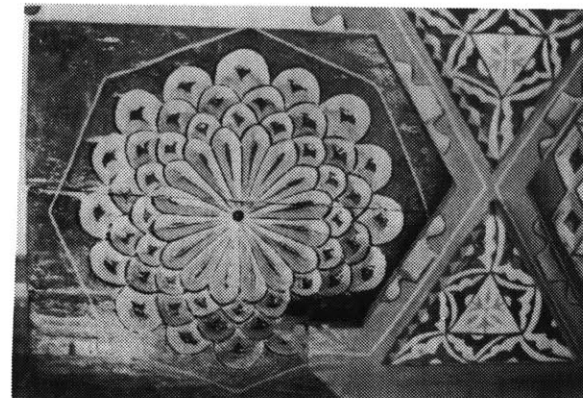
### III.1.b. Arabesque carpentry (*Khait al-Arabi*)

*Khait al-Arabi* is a famous traditional technique in wooden doors and window-panel making. Mastering this technique is a source of pride among craftsmen. Skilled craftsmen have developed the technique from working it in two dimensions to doing so in three dimensions. The result is a craftsmanship of unprecedented refinement ( see fig III.8 ).

Tongue and groove is the basic principle of the "*Khait al-Arabi*". The wooden strip which outlines the geometric pattern, forms the male while the infill



*Fig III.6: Partial detail of a decorated ceiling panel showing the cornice, the transitional piece between the wall and the ceiling proper. Kasr al-Azm.*



*Fig III.7: Detail of a decorated ceiling panel: the ceiling panel is not monolithic and as shown in the picture it is formed of small components.*

panel forms the female ( see fig III.10 ). The technique is so much time consuming that it has gradually disappeared. A different technique is now adopted<sup>4</sup>. The string is first laid and nailed down then the infill pieces are glued in their appropriate position. In appearance there is no difference except that in the former, the infill pieces move in place and were kept this way to indicate the technique behind, which is, as I've mentioned , a great source of pride among craftsmen.

The old technique shows, however, that traditional craftsmen had a better knowledge of the material. Wood is a living material that breathes, contracts and dries in time. The glued pieces in the case of the new technique will take no time to fall off. In the traditional technique, each piece is independent and moves independently from the rest, the aspect that contributes to the long durability of the wooden panel.

Finally , the muqarnas in the ceiling panels are formed of small individual pieces that are joined together.

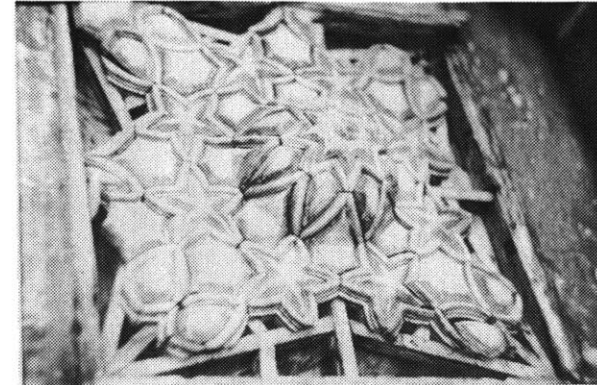
A detailed study of both wooden and Muqarnas in stone will be furnished in the following case study.

### III.1.c-" Ablak"

The palace is faced with stone, alternating in color between porous yellow stone , called "Untha", and darker grey non-porous stone , called " Mazzi". This alternation of courses is known as 'Ablak" ( see fig III.11 ). It is actually a major characteristic of Mamluk Architecture.

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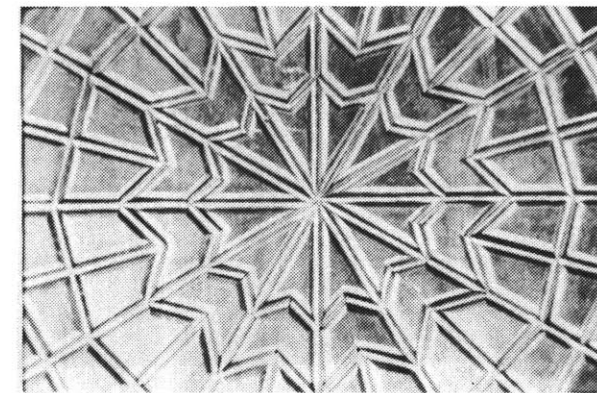
<sup>4</sup>Although most of the doors in the palace were renovated using the old traditional technique.



*Fig III.8: Decorative panel on a wooden door in Bimarestan Annouri in Aleppo.*

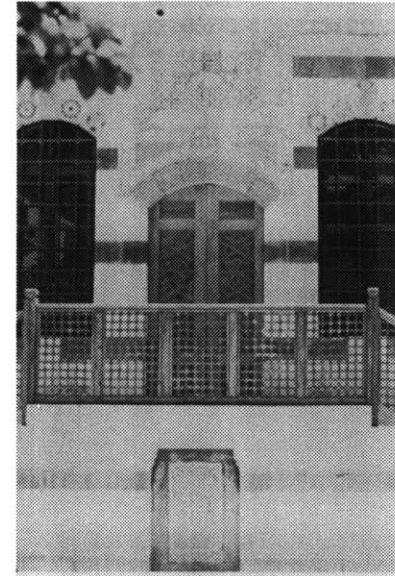
*It shows an exquisite sense of taste and unsurpassed craftsmanship.*

*The detail reveals also the technique of khait el-Arabi.*

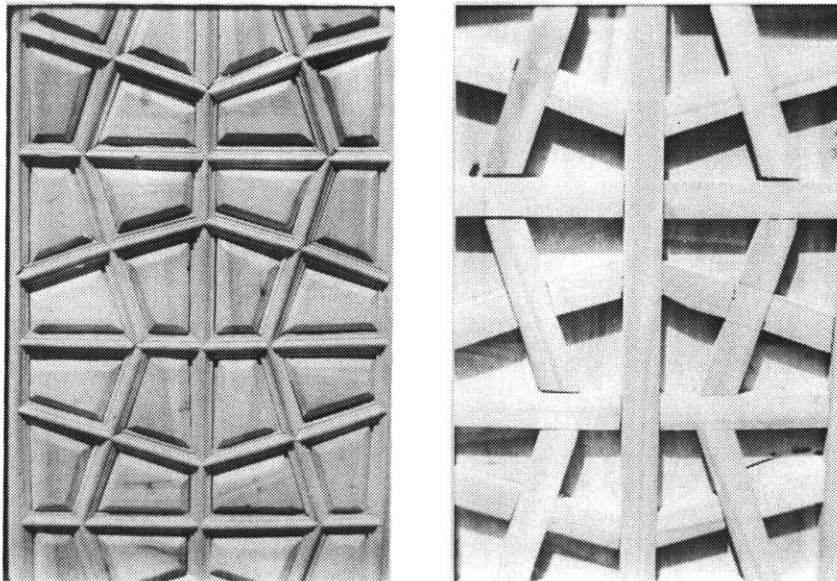


*Fig III.9: Pattern in a wooden door panel in the palace. The intricacy of the pattern did not hinder craftsmen from using the Arabic-string technique which required skill, a great deal of accuracy and time.*

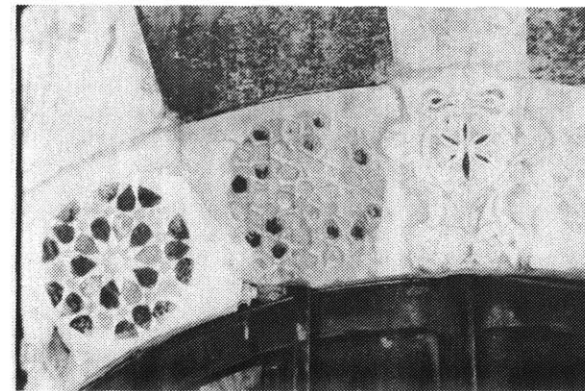
The name "Ablak" is also applied to interlocking stones and the marble decoration that we usually notice around openings or friezes on top of marble wall string courses ( see fig III.11 ). Traditionally, a special geometric pattern is carved in a stone piece and the groove is filled with a different color stone piece. A very elaborate and intricate technique that no living craftsman knows how to apply. For the renovation of the palace an altogether different technique was conceived. A rubber mold is designed to take the shape of the block with all the indentures ( see fig III.13 ). Then a cast in gypsum is made and the grooves are filled with paint. The result does not match the previous one either in sharpness of execution or in variety of design ( see fig III.14 ).



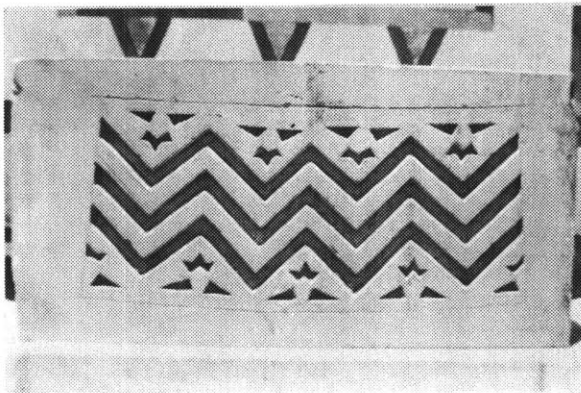
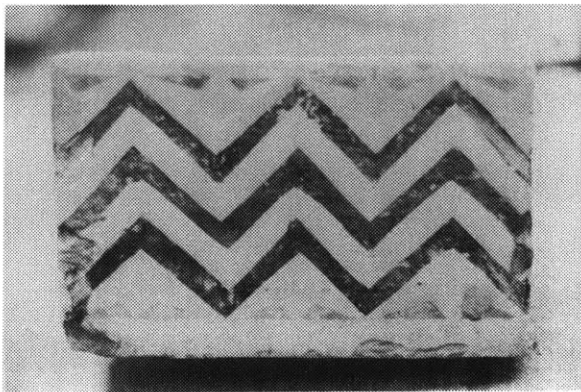
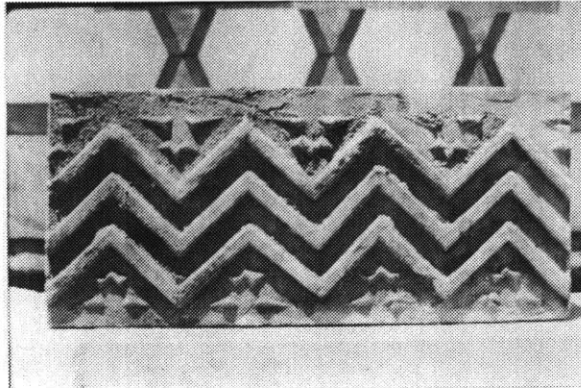
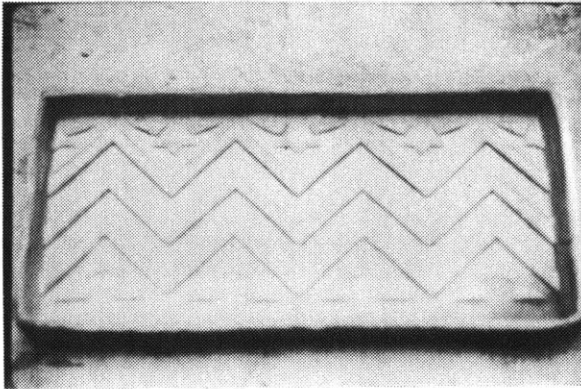
*Fig.III.11:  
'Ablak"  
decoration  
around entrance  
door to Majless.  
(Kasr Al-Azm.).*



*Fig III.10: Front  
and back-side of  
an Arabesque  
door detail.  
Kasr al-Azm.*



*Fig III.12: Ablak a world that refers also to  
marble engraving in stone around openings and  
top of stone courses strings. Another technique of  
decoration that has vanished due to its difficulty.*



*Fig III.13: Stone engraving has been superseded by gypsum casting. The picture shows one of the rubber molds used in remodeling the Ablak in the palace.*

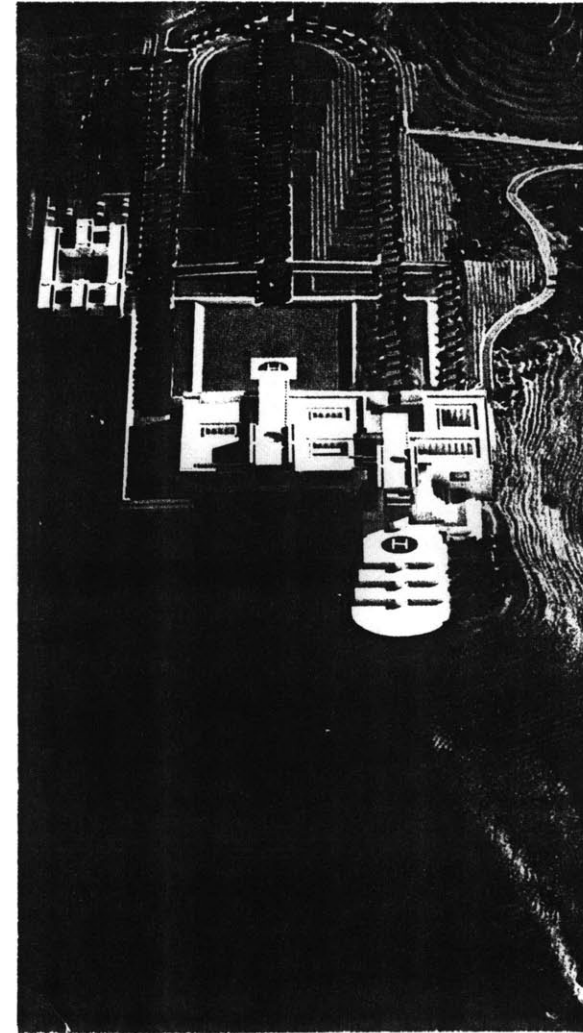
*Fig III.14: The cast is scored to its final shape and the grooves are filled in with paint.*



### III.2.The Audience Hall in the Presidential Palace:

Although this project is totally different in context from the first one, its importance lies in the fact that it gathers all those traditional craftsmen for the production of a new but entirely traditional environment. Also, it gathers both new and old techniques in the production of those artifacts.

The Presidential Palace , designed by Kenzo Tange, is located on top of a mountain overlooking the capital. Brutal in appearance, the palace is built with reinforced concrete with marble facing and is totally modern in style (see fig III.15). The Audience Hall is the subject of our study. Unfortunately, due to its context, maps and execution drawings are kept confidential. However, I was able to study the work of the muqarnas as well as some works on marble flooring.



*Fig III.15: A model showing the new Presidential Palace. Today, it is still under construction. The project was designed by Kenzo Tange.*

### **III.2.a-Muqarnas:**

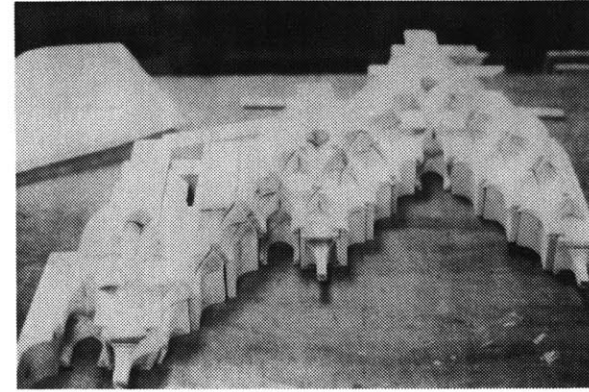
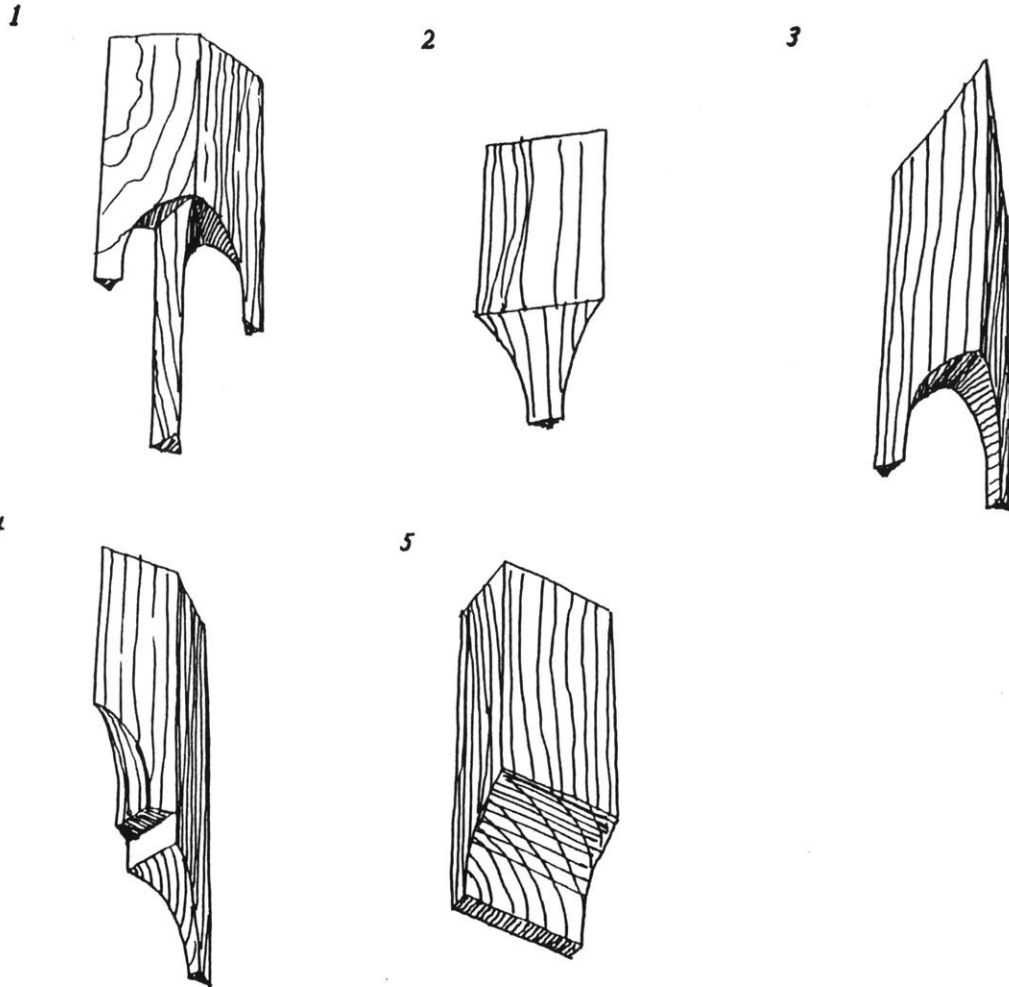
The muqarnas works are subdivided into two kinds according to the nature of the material: wood and limestone.

#### Wood:

The technique adopted in building the muqarnas in wood is same as the Moroccan Muqarnas. In actual fact, it is said that the concept of muqarnas originated from Damascus and travelled to Egypt, then to Tunisia, before being introduced later on into Morocco and Spain, where the most spectacular examples are still to be seen, for instance, in the interior of the cupola of the Qarawiyin mosque in Fes and the Alhambra in Granada, built two centuries later.

Today, in the Audience Hall, the usage of the muqarnas is restrained to its most elementary network which is composed of a two-row or three-row frieze that form the transition between the wall and the ceiling. The puzzle of the muqarnas is actually composed of five elements: Synthya, Danbuk, Sirwalyia, Ketef, and Sha'ira ( see fig III.16 ). The two-row frieze can be built by using the Sirwalyia and the Danbuk in alteration then the Ketef is added. Then by adding to the preceding elements those of Sha'ira and Synthya the three-row frieze is obtained.

A wooden muqarnas requires great accuracy in making the prefabricated pieces. To be constructed, its reverse surface has to be divided according to 90 and 45 degree grids. Proof of the accuracy and the ingenuity of the craftsman are not only in drawing all the pieces from above, but in projecting them and fitting them in their various vertical outlines.



*Fig III.17: An application of the system designed and executed by the author with the help of a class-mate.<sup>1</sup>*

*Fig III.16: The system of the wooden muqarnas is composed of the following basic elements:  
1. Sha'ira. 2. Danbuk. 3. Sirwalyia.  
4. Ketef.  
5. Synthia.*

<sup>1</sup>This Muqarnas was an exercise that was done in a course given at M.I.T. by Dr. Hazem Sayyed.

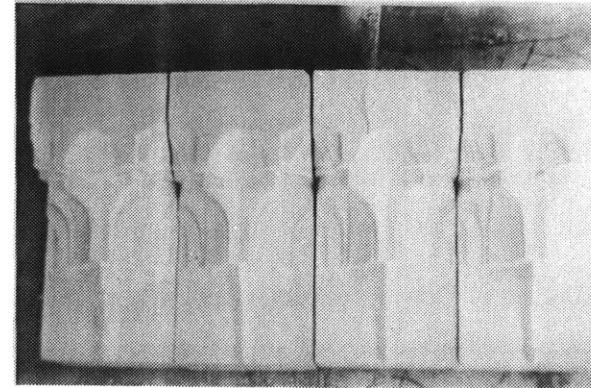
### Stone:

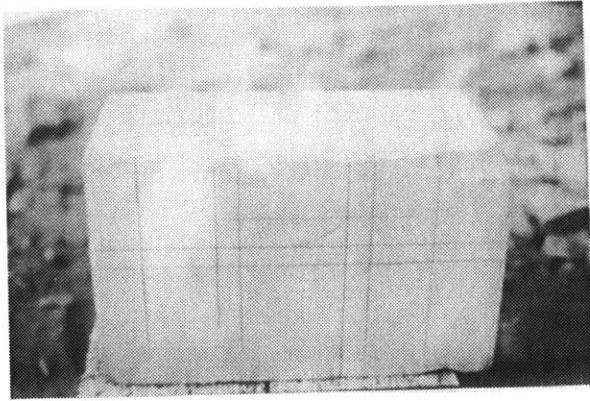
A block of limestone of 40\*20\*20cm is taken and a matrix is drawn on it. The module is done in such a way that it takes the template of the arches used ( see fig III.18 ).The team working on the Muqarnas is formed of a master craftsman who still uses his old utensils ( see fig III.19 ) and other young stone sculptures who were educated in universities and inherited their profession from their fathers. Those young craftsmen use modern tools, especially during the first stages of rough work then finally resort to hammers and nails for the final work.

### **III.2.b-Marble flooring**

The last item on our list is known by craftsmen by the name "*Mshaaf*" which refers to the small pieces that form the pattern. Traditionally those pieces are taken out of roughly chipped blocks then the final shape is adjusted with a hand saw. For quicker production an electric saw is used instead. The main disadvantage in using the electric saw is the impossibility to cut curved lines especially when those curves alternate between concave and convex shapes. To overcome the difficulty, the craftsman cut successive lines perpendicular to the curve , remove the remaining then smoothen out the curve (see fig III.21 ).

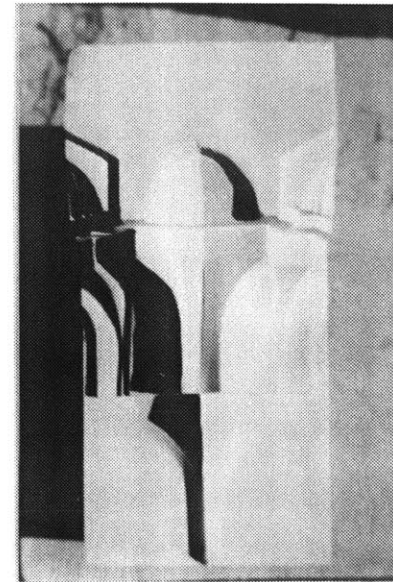
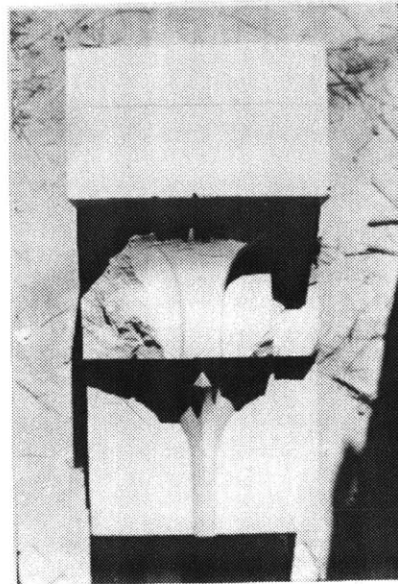
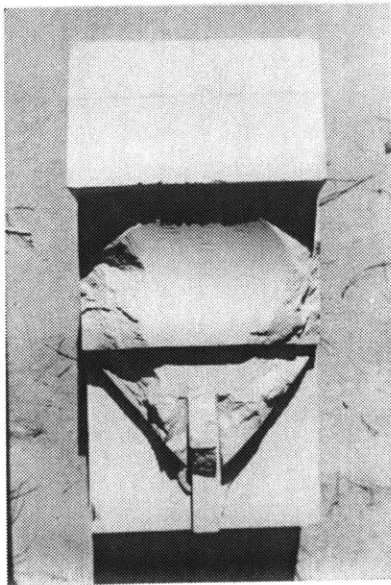
Once the individual pieces are cut and glued together, the back side is threaded in two directions to form a grid so that the surface will have a better grip with the layer of cement that is poured on top to hold the pieces firmly together( see fig III.22 ). To prevent contraction and warping of the panel a thin wiremesh is spread in between.

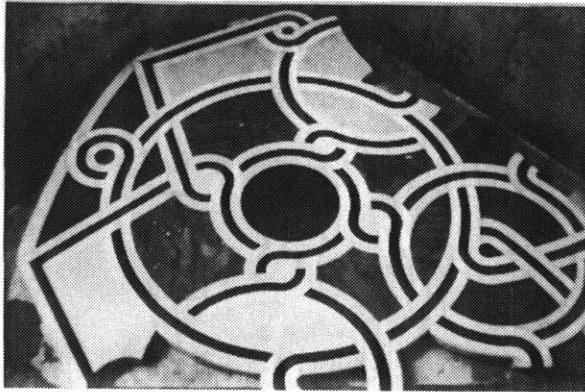




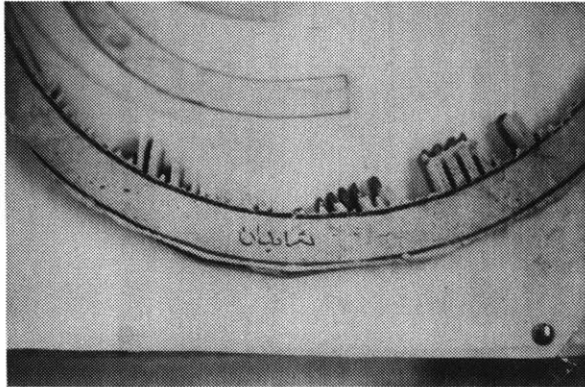
*Fig III.18: This series of pictures show different phases of sculpting a muqarnas in stone. The stone piece is scored with a matrix that takes the module of their template. Then carving in the muqarnas will follow from the bulk carving to a more refined one.*

*Fig III.19: Abou-Radwan is one of the few master craftsmen still knowledgeable of traditional techniques. He still uses his traditional tools and refuses to use any of the new technological tools available to younger craftsman.*

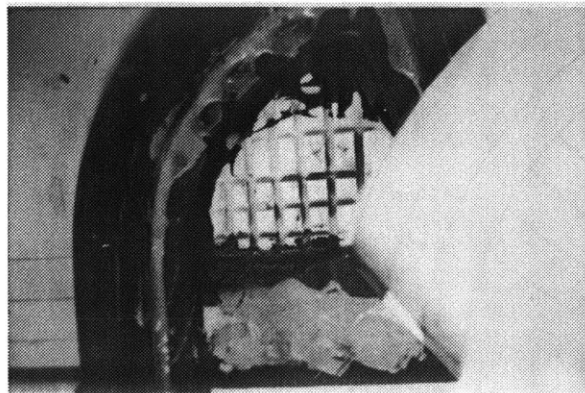




*Fig III.20: One of the patterns used in the marble flooring in the Audience Hall. The curvilinear shapes required a new technique while sawing the marble.*



*Fig III.21: The curvilinear lines of the marble pattern are cut by taking a succession of straight lines perpendicular to the curve, then the edges are smoothed along the curve. This technique proved to be expensive, though, due to the amount of the material that is wasted in the process.*



*Fig III.22: After assembling marble pieces together, the back of the marble pattern is gridded to form a better grip with the cement that will be poured afterwards to hold the panel together.*

## **Chapter IV**

### **From traditional to the contemporary aesthetic experience:**

#### **Corresponding effects and changes on traditional building crafts**

Since the beginning of this century, it has been believed that what defines a work of art is its status as an object to be "contemplated", and contemplated "disinterestedly" for its own sake without regard to the personal interests or the possessiveness or the desires of the observer, and without reference to its truth or its utility or its morality.<sup>1</sup> This abstract attitude to works of art has led, unfortunately, to a reductivist perception of beauty. Our modern perception has been simplified to such an extent that the role of works of art has almost been reduced to decorative purposes. The self-referential, "pure", "simple" form, generally transcending any context, does not play any "external" role except to be displayed, contemplated, and enjoyed for its own sake. This notion has been extended to works of crafts as well. Articulating this key problem, potter Paul Soldner once said: "When we [craftsmen] get a pot in the Whitney [Whitney Museum of American Art], then we will really be somewhere."<sup>2</sup> Indeed, this paradigmatic experience of aesthetics is typically a museum experience. The power

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<sup>1</sup>Abrams M.H. Art-as-such: The Sociology of Modern Aesthetics. ( Stated in his presentation).

<sup>2</sup>Hall,Julie. Tradition and Change. pp11. Dutton, New York. 1977.

that acceptance and display by a reputable museum has to transform a utilitarian object into a work of fine art was melodramatically revealed when Marcel Duchamp took a very homely utility, machine-made and mass-produced-- a urinal --from the thousands of its duplicates and had it mounted on a museum wall. Prof. Abrams, discussing this event, said: "Many of us once the initial shock or indignation or derisive laughter has worn off, succumb to the institutional compulsion, assume the aesthetic attitude, and begin to contemplate the object as such, in its austere formal and monochromatic harmony."<sup>3</sup>

This transformation of works of crafts have been apparent in Syrian traditional building crafts too, whether being literally converted to a museum, as in Kasr Al-Azm palace where the works of building crafts has been frozen and displayed to be contemplated and represented as an "ideal" traditional life; or in the way that these works have been *attached* to the interior of an abstract modern environment in an attempt to "enculturate" the space. The latter has culminated in the use of simple "quotations" from the past, as in the Audience Hall of the presidential palace; or in the stripping off of handcrafted objects from their functional use and context in order to hang them on walls for display, as in Nijad's courtyard house in Aleppo; these cases illustrate the way in which our perception of handcrafted products have been channeled by the current abstractive perception to beauty which has lead to what I have called the "museum syndrome".

The main problem is that the perception of beauty, whether that of the maker or that of the observer, suffers from a severe lack of understanding of the notion of aesthetics and from a corresponding lack of a concern with creativity. This has led us to a narrow vision to building crafts and to limit our evaluation of them to the

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<sup>3</sup>Abrams M.H. Art-as-such: The Sociology of Modern Aesthetics. ( Stated in his presentation).



relation to past styles.

In this context, two questions need to be examined here. How were these handcrafted products traditionally perceived? And how exactly has their perception of them changed as it has been affected by the "museum syndrome"?

But before we start to tackle these two issues we shall lay the ground for analysis by defining the notion of an aesthetic experience, and by putting forward some discussion on the traditional perception of beauty.

The aesthetic experience considered in this treatise is, in a broad sense, the experience of beauty that arises from works of art. Since some people see each man's response to art differs, according to differences in his temperament, from that of the next person, they term this response to be idiosyncratic.

They saw the reason in the fact that this response is strongly affected by whatever associations the works brings to one's consciousness; so that one may, for example, see nothing significant in some work simply because it is, at the time it is viewed, associated with a style which has gone "out of fashion". One's experience of beauty has been defined as being universal if and only if one is able to free one's mind from every association, favorable and unfavorable. Whether anyone is able to look to works of art with a "free" mind is a highly debatable question and in any case it is not the subject of our discussion here.

But looking at the aesthetic experience from this view point will lead us to an often debated in the polemics of aesthetic principles in which beauty is stated to be either *objective* or *subjective*. The former means a quality in aesthetic objects themselves. Beauty is considered to be "external" (sensed through our senses), fixed, eternal, and unchangeable. Discovering and responding to beauty is

dependent on men.<sup>4</sup> While the latter means a feeling in the observer. In arguing that beauty is subjective, one denies that there is any such quality in aesthetic objects themselves and asserts that it is only the quality of response to the object. As in psychology, the science of mind, where it may be doubted if there *is* a soul, or in theology, whether a God *is*, the beauty of an object is considered to be given only in the mind<sup>5</sup> where there is nothing but what its own activity has produced.

The current view is that the perception of beauty is rhetorical and is, in fact, the product of the philosophical attitude of the era that has an inevitable effect on the perception of beauty and the production of artistic works during that period. The contention is that our perception of beauty in general and our response to works of art in particular is entirely learnt and in no way innate. My concern in this paper is to depict aspects or "forces" in our life that have affected and still affect our response to works of art.

Because works of art are brought about by means of human activity<sup>6</sup> and are essentially made for man in that they address themselves to man's senses,<sup>7</sup> in many people's opinions, they condense meanings that reveal the basic attitude of a nation, a period, a class and a religious persuasion. From this definition it is possible to argue that works of art are essentially made *for* man, and are more or

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<sup>4</sup>I believe that the process of reacting towards beauty by perceiving it first then responding to it does not hold true all the time. On the contrary, more often we feel the sensation of pleasure by the presence of something beautiful before discovering where the beauty lies in this object.

<sup>5</sup>Bosanquet, Bernard. *The Introduction to Hegel's Philosophy of Fine Art*. pp.44. Kegan Paul, Trench & Co.. London, 1886.

<sup>6</sup>Passem. Papanek, Victor. *The Cultural Object*. Mimar, 12. 1984.

<sup>7</sup>Bosanquet, Bernard. *The Introduction to Hegel's Philosophy of Fine Art*. pp.48. Kegan Paul, Trench & Co.. London, 1886.

less borrowed from the sensuous and addressed to the sense of man.<sup>8</sup> Since man is the producer and the viewer, it follows that studying man's reasons for producing works of art is essential to our understanding of his attitude to art.

If we take *prima facie* evidence that the foremost object of love to every living is his own self and *ego*, in the sense that this self-love represents the urge to keep one's own existence and an aversion to seeing it suppressed and destroyed, and secondly that everything the perception of which gives pleasure and satisfaction is loved by the one who perceives it<sup>9</sup>, it becomes easy to understand why the human being wants to surround himself with perfect things and insists on having beautiful objects around him.

Because of his self-love, man is inclined to love all the means that insure his preservation and perfection of existence, and even that which provides an extension of his existence after his death. Thus, beauty in this respect is embedded in that which is as perfect as it can be and which is either indispensable or utilitarian to this perfection. For being imperfect means that something is missing from perfection or is non-existent with regard to it. And non-existence, in the words of Al-Ghazali, is "just as much hated when it comes to perfection as it is in the case of existence, while the existence of the properties of perfection are as much loved as existence itself..."<sup>10</sup> It follows that the beauty of a thing lies in the appearance of that perfection which is realizable and in accord with its nature. "When all possible traits of perfection appear in an object," Al-Ghazali wrote, "it represents the highest stage of beauty; when only part of them occur, it has that measure of beauty which appears in the realized degree of perfection."<sup>11</sup>The beautiful horse is that which

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<sup>8</sup>In Ibid pp.48.

<sup>9</sup>Al-Ghazali. *Ihyâ' 'ulüm al-Dîn*.(The revival of the Sciences of Religion) Part4. pp.297.

<sup>10</sup>In Ibid. pp.297.

combines everything that is characteristic of a horse with regard to appearance, body, color, beautiful movement and tractability; "a beautiful writing combines everything that is characteristic of writing, such as harmony of the letters, their correct relation to each other, right sequence and beautiful arrangement."<sup>12</sup> Moreover, Al-Ghazali subdivided the nature of beauty into three components by making an analogy with the components of a man, he said: "God has created three levels of components in human beings: the indispensable, that which is mandatory for the continuation of the life, like the head, the heart and the liver; the utilitarian, that which is needed but not indispensable like the eye, the hand and the foot; and the third component is decorative and is just needed for his embellishment and that which is neither indispensable nor utilitarian for his life like the coloring of his eyes or the lining of his eye-brows or the reddishness of his lips..."<sup>13</sup> In this view Al-Gazali projects a new dimension to beauty, that which is not necessary to the life of man and is not desired for a benefit that he hopes to get through it (that which does not correspond to his self-love and self-existence) but that is appreciated for its own sake. The object of love does in itself represent the desired aim. He wrote: "This [love] is the great and genuine love on whose duration one can build. To this category belongs the love of beauty... because the perception of beauty is pleasure in itself and is loved for its own sake and not for anything else... A sight of a green meadow and running water is loved although one does not drink the water, eat the grass nor even gain any advantage from it beyond looking at it."<sup>14</sup>

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<sup>11</sup>In Ibid. pp305.

<sup>12</sup>Beg M.A.J. Fine arts in Islamic Civilization. pp.27. The University of Malasia Press.1981.

<sup>13</sup>Al-Ghazali. Ihyâ' 'ulûm al-Dîn.(The revival of the Sciences of Religion) Part4. pp.303.

<sup>14</sup>In Ibid. pp.298.

It may seem that this level of beauty is perceived and is based on a *contemplative model*, in the sense that this aesthetic experience is based on a pure contemplation of a beautiful object (a work of art), without reference to things, events, human beings, purposes, or effects outside its sufficient and autonomous self.<sup>15</sup> This may explain the tendency of "Muslim" art towards abstraction.<sup>16</sup> Whether in calligraphy, pure geometric pattern or the representation of foliage which is abstracted to rhythmic curves, we can note the guiding tendency in Muslim art in its passion for abstraction and the ease in which they were able to either adopt (forms of abstraction coming from a different civilization) or envisage an object-less art. This is exemplified by the fact that they saw in the sole elements of the composition of calligraphy a structurally self-sufficient form or as the modern painter, Kandinsky, may put it: "compositionally fitted for survival."<sup>17</sup>

At the end we can concentrate one part of the Muslim aesthetic experience in two interconnected models: the *construction model* and the *contemplation model*. While the former looks at the artistic objects from the utilitarian point of view, the latter enjoys these artistic objects for their own formal compositional elements. Human senses engaged in this aesthetic experience tend to appreciate the utilitarian

<sup>15</sup>The terminology of the model is borrowed from Prof. M.H.Abrams' lecture: "Art-as-such: The sociology of Modern Aesthetics."

<sup>16</sup>The word abstraction here means the act of considering separately what is united in a complex object and should not be erroneously interpreted as non-figurative. Although the latter is in itself a characteristic of Muslim art, it does not explain fully the notion of abstraction in the program of Muslim aesthetics.

<sup>17</sup>Tate Gallery. *Abstraction: Towards a New Art, painting 1910-1920*. pp.13. The Tate Gallery, 1980.

as well as the non-utilitarian and there is a great affinity between the two since both derive pleasure to man.

From an Islamic perspective, in addition to the five senses (that man shares with other creature animals<sup>18</sup>) he enjoys a sixth sense-- the "mind" -- with which man perceives the inner beauty or the beauty of the "inner form"<sup>19</sup>, which may form the second part of the Muslim aesthetic experience. Although, it characterizes only man from the rest of the creatures, this perception can be termed as being subjective, as it varies in intensity from one person to the other , and as it is dependent partly on the personality of the individual and partly on the value judgement system that is learned and derived from general principles shared by one society and not shared by another. While Koranic calligraphy, for instance, means nothing to the external senses of many people except the joy that is derived by looking at the proportions, at the layout, at the dynamism of the letters added to which is possibly the recognition that they are derived from a book cherished by a large number of people; to others whose value judgment has been shaped by the principles derived from that book, the value of these verses is additionally in the meanings that these words transmit, in either the literal embedded meanings of the words or in their holiness being believed to be the words of God.

In this sense I believe that the traditional perception of beauty is based on both the objective and the subjective perception of beauty, both of them being inseparable from one another. Objective beauty is external and is appreciated through the five senses. The beauty of the objects perceived through the senses is appreciated partly because of the usefulness of these objects to the life of man, and partly for their own sake ( the love of everything beautiful for the sake of its

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<sup>18</sup>Al-Ghazali. Ihyâ' 'ulüm al-Dîn.(The revival of the Sciences of Religion) Part4. pp.303.

<sup>19</sup> In Ibid. pp. 298.

beauty)<sup>20</sup>. Additionally, there exist a Muslim recognition of the inner beauty which is located in the "mind", where it is governed by value judgements that are totally learnt.

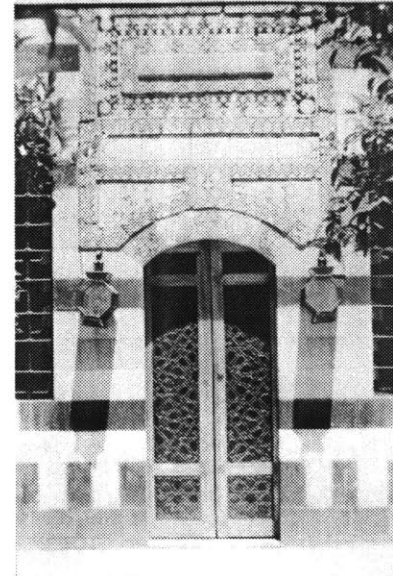
Having this conception in mind, the position or the aesthetic role that these traditional handcrafted building products used to play in architecture becomes clearer. Taking Kasr al-Azm palace as an example, we note that these handcrafted objects seem to play a triple role. The refinement of workmanship and the theme of decoration-- whether abstract geometric elements or koranic inscriptions --provide rendering to both the eye and the mind, echoing, in a sense, the outer as well as the inner beauty. To the eye, those works provide a visual display of different texture and patterns, a balanced composition, and a play of light and shadow. To emphasize punctuation in the wall, openings-- doors and windows alike --are framed and receive much attention for decoration (see fig IV.1 ). Decoration is also seen on "string courses" which are generally of more solid material, and as Ruskin puts it, they form: "a kind of epoch in the wall's existence; something like periods of rest and reflection in human life, before entering on a new career."<sup>21</sup> Cornices receive as much attention (see fig IV.2 ). Ruskin, again describes it as : " the close of the wall's life. It is of all its features that which is best fitted for honor and ornament."<sup>22</sup>

The decoration of the *majless* exemplifies the "unit-room", favored in the west since the seventeenth century. The viewer attention is driven to the walls (rather to the furniture, which is encountered in our modern perception of space).

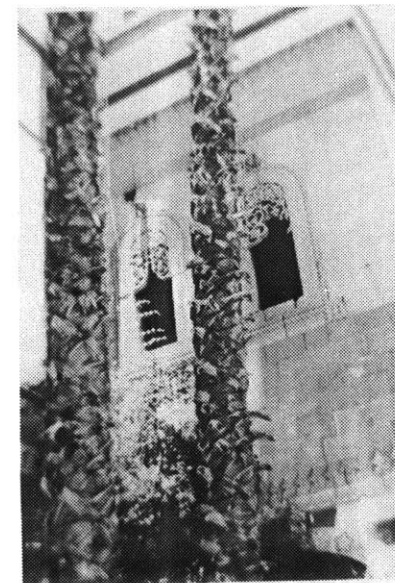
<sup>20</sup>In Ibid. pp.303.

<sup>21</sup>Ruskin, Stones of Venice. pp.47

<sup>22</sup>In Ibid. pp.47.



*Fig IV.1:  
Decoration  
around an  
entrance door of  
one of the Ka'as.*



*Fig IV.2: Partial  
view of the east  
wing of Kasr al-  
Azm (Beit al-  
Shamee). Note  
the decoration on  
the cornice and  
around the  
windows.*

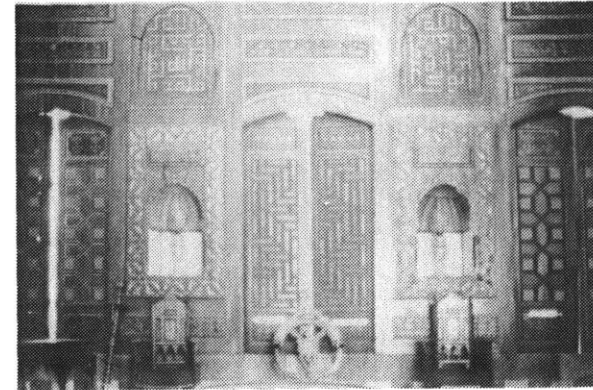
The decorative panels (Agamy), besides their function for insulation and micro-climatic control, give unity to the room by joining the window openings as well as the book shelves (*kutbyieh*) that are present in each *majless*. The unity of the walls and the ceiling gives the room a good sense of enclosure and stability.

The productions of craftsmen, bring meanings before the mind's eye that have a richer content and derive from ample individual creation and interpretation, and in that sense receive, in the eyes of the Muslim, the "baptism of the spiritual."<sup>23</sup> The human presence, the spiritual value which attaches to an act of creation, or to the perfection embedded in a system, these are the values which are apprehended in these works. Through these works, the mind is offered a way to dwell on inner meanings that transcend external appearance and represent the world around it. Their representational character, whether in abstract geometric patterns, floral paintings or calligraphy, instigate the mind to remember the Creator and that God works in man and through him. This reference is reinforced through the inscriptions on the wall panels, the geometric perfection of the work (an example of nature's perfected creation) and through the perfection of the skill of the craftsman who would remind the viewer of God's perfection.

This search for the inner beauty is extended too, to the surrounding architecture, which makes of the structure and the decoration a unified whole. If we look back at our case study, we note that the whole surrounding environment is used as a mean to an end-- the forms are embedded with external meanings. The inner courtyard, as we know, is a microcosm of the gardens of paradise. Walls, whether surfaced with plaster or made of stone, speak of natural elements and the

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<sup>23</sup>Bosanquet, Bernard. The Introduction to Hegel's Philosophy of Fine Art. pp.55. Kegan Paul, Trench & Co.. London, 1886.



*Fig IV.3: The "unit-room" in Damascian courtyard houses. View of a majless in Kasr al-Azm (now converted into a museum).*



imprints of human hand through handcrafted objects (like the *musharrabiyeh*, The stone carving around windows, the stone *muqarnas*...).

In a sense, I believe that these artistic objects are made to respond to the trinitarian components of man that Islam formulates: *al-akl*<sup>24</sup>, where the value judgement takes place, and which is based on Koranic principles; *al-fikr*, or the rational part of the mind; and *al-wejdan*; this is the location of feelings or emotions. If we apply the example of a decorative door panel (made in *khayt al-Arabi* technique), to understand how this door is aesthetically perceived, we note that the geometric pattern of the panel carries these three levels of beauty. The external abstract appearance and shape is enjoyed by the eye (for its own sake), the perfect mathematical organization of the pattern and its structure talk to the rational mind, and finally this inherent perfection of the structure reminds the viewer and the maker of the Creator who created such perfection.<sup>25</sup>

At the end, I would like to add that traditionally, those three levels formed one integral whole. Handcrafted objects were made, then projected to be appreciated in

<sup>24</sup>This word comes from the verb *Akala* which means, in *Fiqh*, to prevent man from falling into sins or mistakes. This can only happen through value judgement that is derived in Islam, naturally, from Koranic teachings.

<sup>25</sup>This perception is expressed by craftsmen themselves. A traditional craftsman was reported as saying: "Arabesque carpentry was not invented by human beings. King Solomon had power over *jinn*s and he subjugated them to forced labour, building the palace of queen of sheba. It is in the Koran that the palace was an extraordinary one. King Solomon commanded the *jinn*s to make doors and windows for the palace of a kind never seen before by mortals. The *jinn*s got small pieces of wood, laid them in front of them, scrambled them in the way one would play domino, and there appeared a polygonal design; the one we call nowadays "The Hexagram of Solomon's seal... No man has ever invented this work. It came from God long, long ago." Asaad, Nadim. *Testing Cybernetics in Khan-El-Khalili: a study of arabesque carpenters*.pp.65,66. University Microfilms International. 1981.



Fig IV.4: View of the courtyard in Nijad's house after renovation. Note how the *liwan* has been glazed and forms now part of the interior of the house.

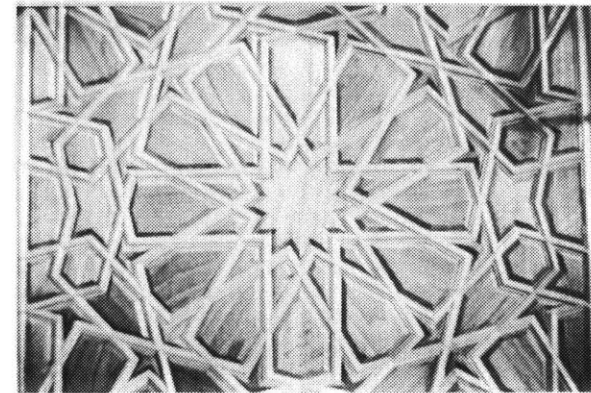


Fig IV.5: Detail of an Arabesque door leaf panel. *Kasr al-Azm*.

the real world in an integrated manner within a "body" of architecture. Their profound fixity stabilized life.<sup>26</sup> The decoration was an act of beautifying utilitarian and functional objects: spoons, dishes, mirrors, door locks (see fig IV.6), and objects that were indistinguishable from day to day tools. Their routine presence, although through daily usage would have partially made them invisible, they would still inject, through their functionality, in the life of the users a quality that would be indistinguishable or missing if they were to be displayed for visual enjoyment alone. In an African hand-made mug, for instance, the sensitivity of the design of the outer rim, that is shaped to fit perfectly the drinker's lips, would only be appreciated when it is used.

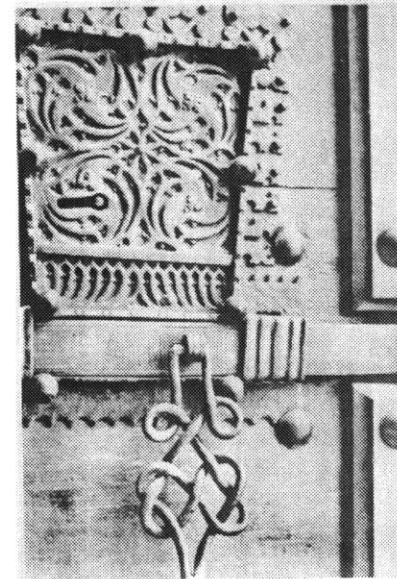
From this program of Muslim aesthetics, one can immediately notice a major difference between the contemporary and the traditional perception of beauty.<sup>27</sup> Today, our attitude to works of art is totally reduced to the *contemplation model*, where, as I said, it is assumed that the paradigmatic situation, in defining and analyzing art, is that in which a lone perceiver confronts an isolated work, however it happened to get made, and simply attends to the features that it manifests to his exclusive attention<sup>29</sup>.

<sup>26</sup> Papanek, Victor. *The Cultural Object*, pp.47. Mimar, 12. 1984.

<sup>27</sup> by traditional, I mean the aesthetic principles as influenced by the Islamic tradition and the world-view of the Muslims.

<sup>28</sup> This view, or approach to the study of works of art is not negated by the fact that non-muslim artisans contributed to the making of artistic objects that could be labeled as conforming to "Islamic" principles. The concept of *masjid*, for instance, is "Islamic". The employment of non-Muslim artisans to construct such a building does not alter the basic character of the monument.

<sup>29</sup> This theory was previously fostered by Emmanuel Kant's *Critique of Aesthetic Judgement*. In Kant's overall view, a human work of art, no less than a natural object, is to be regarded as having



*Fig IV.6: As seen in the picture, the door leaf has been kept simple, while the door lock has received greater attention as a field for decoration.*

Referring to music, nowadays one would expect to hear public concerts including pieces, both vocal and instrumental, which had originally served to intensify sacred feelings in a religious ceremony, or to add splendor and gaiety to a private or public celebration, or to provide melodic rhythms for social dancing - together with new pieces for the concert hall itself.

I would like to return to the earlier discussion of the "museum", which is itself an outproduct of this attitude. The Renaissance set a precedent of people buying works of art they had learned to praise. Then, from individual collectors whose motives were also acquisitive and proprietary, the trend shifted to private galleries which were converted to public museums after the gradual increase of anonymous connoisseurship.

In those museums one can see side by side displayed statuary that was both ancient and recent, pagan and Christian, sacred and profane. The walls display in close array, extending the length of the room and from floor to ceiling, paintings that were originally made to serve as altar pieces, or as reminiscences of classical myth, moral allegories, memorials of historic events, representations of a family estate, or ornaments for a noble saloon.

All such products, in the new modes of public distribution or display, have been pulled out of their intended contexts, stripped of their diverse religious, social and political functions, and given a single and uniform new role: as items to be read or listened to or looked at simply as a poem, a musical piece, a statue or a painting.

I hope through an example to explain my point clearly:

Suppose while you are looking at a painting of the Madonna and her Child in  
no end other than simply to exist, to be just what it is for our disinterested aesthetic contemplation.

its original location in a chapel, you are asked:"what's the painting for?" A manifest answer is : " to illustrate, beautifully and expressively, an article of faith, and thereby to heighten devotion".

Now suppose that the same painting was moved to the wall of a museum and hung, let's say, next to "Luncheon on the grass" by Manet.

To the question "what is it for ?" the obvious answer now is " to be contemplated, admired, and enjoyed."

Although Architecture is the most utilitarian among the rest of the "fine arts", this position towards works of art has affected it tremendously. Decoration, since the eighteenth century, started to appear as an overlay - a skin - on top of the bones or structure. The word " applied" decoration started to resonate in the terminology of building. That attitude was amplified soon after the advent of industrialization. The artifacts, which used to be handmade, were mass-produced. Unfortunately, at the beginning, the end-product of machines were of much lesser quality than hand-made objects. Those machine products were heavily decorated, an aspect which launched a strong reaction (especially by the avant-garde of the modern movement, i.e. Adolf Loos, De stijle, team 10 etc...) against decoration rejecting it as being degrading to the object itself.

This aspect has eventually created a seemingly unresolvable tension between the functional and the ornamental, which was exemplified by the concept of the "decorated shed".<sup>30</sup> Eventually, a point in history came where decoration was seen as useless, not to say degrading and was shunned from "modern" buildings<sup>31</sup>.

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<sup>30</sup> Harries, Karsten. AA files 10.pp.56.

<sup>31</sup>This control of decoration in building started, in fact, at the heart of the arts and crafts movement, which was the father and protector of handcrafted ornamented objects. Voysey's ideal

The stress on objectifying reasoning and the collapse of humanistic concerns lead to banning of decoration and its replacement with the expression of the self-referential aspect of the object (its function). This led, in its turn, to a "bare wall" architecture that people tried to remedy through either covering the interior walls with paintings or by going back to traditional styles expressed through the works of the traditional building crafts. This aspect partly explains today's interest in the crafts and in their revival.

Unfortunately, the aesthetic attitude towards the works of traditional building crafts and the role they play in the contemporary architecture, has been affected by the "modern" attitude to works of art. The *construction model* which has been traditionally integrated with the *contemplation model* has been totally eclipsed from the aesthetic perception of the works of art. This is evident in the role that these handcrafted products were seen to play in contemporary architecture. Gropius dreamed in vain of the modern cathedral as a work of craftsmen-engineers exalted into artists, that healed the rift between art and reality from which modernity had long been suffering and that yielded to a new humanistic faith. Karsten Harries commenting on this subject wrote: "Gropius's dream not only remained unrealized but, had it succeeded, the result would not have been a humanistic architecture. Aesthetic objects are even more obviously uninhabitable than machines. What makes them so is just what constitutes their strength as aesthetic objects: their was " a well proportioned room with whitewashed walls, plain carpet and simple oak furniture..." And to achieve the simple effects he wanted, Voysey" found necessary, in order to prevent the builder from displaying the usual "ovolo mouldings", " stop chamfers", fillets, and the like, to prepare eighteen sheets of contract drawings to show where his beloved ornamentation " was to be omitted..."

Davey Peter, Arts and Crafts Architecture. pp.90

integrity and self-sufficiency, which leaves the admiring observer standing before them, at a distance outside. Even if there could be a seamless fusion of art and engineering, the result would still be an uninhabitable architecture."<sup>32</sup>

In this analysis, Harries put his finger on two important aspects that color the production of traditional building crafts today. The first aspect is the nature of the product, the second is the nature of the context. Even though works of craftsmen are embedded in architecture, if there is no congruence between the objects and the context and if these products were conceived as an end and not as a means then architecture would still be unidentifiable to man, in a sense that it would still lack humanistic values. If we look at two examples, the Audience Hall in the new presidential palace in Damascus and the renovated courtyard house in Aleppo, we notice that this "idealization" process is tinting these products in both examples.

The purpose of the use of traditional building crafts in the presidential palace--where the context is brutal in style --could be reduced to a simple quotation of the past in an attempt to make the space culturally appropriate. As the context is "modern" in character, the congruency is lacking between the overall environment which is self-referential and the products whose external significance had been shrunken to a simple "sign" for traditionality.

On the other hand, the role that these products in the renovated courtyard house is different and is worthy of discussion.

The traditional courtyard house has been subjugated during renovation to drastic modifications in both its physical shape and character. Moving the circulation between different spaces from the courtyard to the covered interior, glazing the *liwan*, opening mezzanines that overlook different spaces unto each

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<sup>32</sup>Harries, Karsten. AA files 10.pp.56.

other, and white-washing the stone walls were some of the physical changes that were inflicted on the house. Although this approach was suitable to modern living, several modifications of the character of the house occurred. The courtyard abstracted from one of its functions, which was as a space for distribution to different parts of the house, was reduced to another room that was not used for a considerable part of the year. By enclosing the *liwan*, its special character as an intermediary space that carries the tension between the outside and the inside was transformed and reduced to another room in the house (traditionally *liwans* had one bay open to the courtyard and its ceiling was treated and decorated like the *majless* which gives unto it). By plastering the walls in stone, the house was stripped of its representational element to be achieve an abstract, self-representational character. In fact, the whole house could be considered as an essay in abstraction, where in addition it seems to fulfill the ideal of dematerialization. An interesting tension is created, though, between the two forces that are embedded in its elements because of its setting, its overall context and the memories that this courtyard house evoke. A tension that seem to reinforce the character of each. What is even more interesting is that this tension is extended further to the interior of the house, in the use of traditional handcrafted products. Old manuscripts, decorated swords and many more utilitarian objects, such as decorated braziers and hand tool objects, were abstracted of their utilitarian purpose and reduced to "pure" forms to be displayed and enjoyed for their own sake. The interesting aspect is that the architect who renovated the house (who is also its inhabitant), showed an ambivalent position, respecting the past and yet longing at the same time to achieve a more innovative bareness and hardness. In this manner he tended to tie the notion of representation with that of abstraction. These objects, though, carrying the



*Fig IV.7: Interior of El-Jabery courtyard house in Aleppo.*

*Both pictures give us a clear vision of how traditional courtyard houses are perceived and converted today.*

symbols of a past tradition, become intensely representational elements in an abstracted space. They act as a foil to the architecture. Instead of reinforcing the representational basis of the architecture, they literally relieve architecture of its representational role and give it more an autonomous role. The products of the traditional building crafts affected by this "museum syndrome" become mere signs that refer to the past. This aesthetic experience is fully shown nowadays in the Kasr al-Azm, which is literally converted to a museum to be contemplated and to exemplify an ideal mode of living.

This reductivist notion of handcrafted products brings us to the point that we have reached today. Styles are frozen and used blindly as an act of enculturation. In this fashion handcrafted products which originally have been designed for utilitarian purposes are now cherished and displayed as museum pieces, depriving them of the aesthetic qualities that could be discovered only through their use. Our attitude to abstraction has been encompassing all realms of Art including architecture and the traditional building crafts. Final questions, that are left for future exploration, would arise. Would we reach a position in contemporary architecture production in which building crafts and architecture would be considered as integral parts of one whole? And is the full swing towards abstraction is over and the time ripe for a return towards a more coherent attitude towards beauty?



## Chapter V

### Training in the building crafts

The importance of the apprenticeship system lies not merely in its unique advantage as a practical method of teaching, but in the continuing impact it has on the life of the craftsman in general, on his skills, and on the final product. Recent changes in modes of life, industrial and technological advancement and innovations, and the evolution of new education systems, among many other factors, have resulted in a building process that has excluded traditional technologies and, with them, the traditional apprenticeship system that insured their continuity.

The underlying causes of change were technical and socio-economic in nature. The process of codification, and the setting up of theories and principles that influenced educational institutions and were encouraged by industrial organizations, go hand in hand with the gradual shift from traditional to modern technology and from traditional expertise which was imbedded in expert craftsman to modern expertise represented " in a compact body of theory expressed in mathematical, logical or procedural terminology."<sup>1</sup> This has been reflected on the skill

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<sup>1</sup>Porter, William. Technology, Form, and Culture in Architecture: Misconception and Myth. pp.49. Architecture Education in the Islamic World. The Aga Khan Award for Architecture. Proceedings of Seminar Ten in the series. Architectural Transformations in the Islamic World.

acquisition system which has mostly shifted from the workshops of artisans to training schools, universities or factories.

At the socio-economic level, the depletion of skilled craftsmen from the market was due to the development of industries which opened the door for a different kind of expertise and different levels of skills.<sup>2</sup> At the beginning of the industrial revolution, the wages of adolescents were low, but as the differential between skilled and semi-skilled pay was high there were a real incentive to make a present sacrifice for future benefit. All this has now changed. Adolescent wages have risen very greatly and even with the "bulge" beginning employees have little difficulty in finding work except in few exceptional areas. The life of young people is now geared to a high spending capacity. Many able young people who would benefit from continued education do not take advantage of the facilities offered to them because of the lure of high wages. It is difficult for them to understand that a better job in the future is enough compensation for being left out of all the exciting leisure time occupations of one's age group for which money is needed. "*With the serious narrowing of wage differentials between skilled and semi-skilled work*", Gertrude Williams wrote, "*future prospects do not offer sufficient compensation for present sacrifice. No maintenance award that could be considered within the bounds of political possibility could take the place of adolescent earnings today.*"<sup>3</sup> Even if wages were as high, the adolescent eagerness for economic independence and the lures of the exciting leisure times push the young man to be

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Held in Granada, Spain. April 21-25, 1986. Published by Concept Media Pte Ltd Singapore, For the Aga Khan Award for Architecture.

<sup>2</sup>The industrial development allowed also for the "de-skilling" of a trade which no longer requires a prolonged training because of the technological changes.

<sup>3</sup>Williams, Gertrude. Apprenticeship in Europe. pp.178. Chapman & Hall. 1963.

impatient in learning the skills of his father. Further, the example set by the latter, in terms of economic prosperity, is not encouraging at all to the young beginner to pursue his father's profession. So anxious to enter adult life, he does not fully appreciate the loss he will feel in the future by being condemned permanently to semi-skilled work, and that he will then bitterly regret his missed opportunity.

On the other hand, circumstances deny, at times, a chance for those who wish to undertake training for a skilled job. When one considers the low wages of adult workers during most of the last century, it is easy to see why so few of their children offered themselves for apprenticeship. Kenneth Hall, who worked on this subject said : "*Poverty-stricken parents had little choice but to make their young sons into wage-earners as soon as possible. Apprenticeship meant a financial sacrifice which many a parent was unable to undertake... The industrial climate was hardly favorable: there was an increasing use of machinery for manufacture and with it the demand for semi-skilled labour grew.*"<sup>4</sup>

Nevertheless, a skilled craftsman never lost the high degree of esteem such men always enjoyed from the society. And this is true in Islamic as well as Western societies. F.M. Martin, who wrote on social mobility in Britain,<sup>5</sup> said: "*when people were asked what jobs they would like their sons to take up, it was professional and skilled manual tasks which came out on top...*" It goes almost without saying that skilled work carries in our society a significant measure of

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<sup>4</sup>Hall Kenneth and Miller Isobel. Retraining and Tradition. pp.36. George Allen & Unwin Ltd. London. 1975.

<sup>5</sup>F.M. Martin. Some Subjective Aspects of Social Stratification. Social Mobility in Britain, pp.69. D.V. Glass (ed.) Routledge, 1954.

prestige and hence of social status. Craftsmen ultimately are recognizable by the society as a special group of creative people with their own history and their own unique art expression.<sup>6</sup>

In this state of affairs, finding an "appropriate" apprenticeship system that copes with the necessities of economic life and that responds to contemporary modes of life ( in terms of vertical and horizontal social mobility) and to the contemporary education system seems to be essential for the continuity of crafts.

Before we venture to predict alternative proposals for the traditional system-- as many now propose to do without adequate knowledge of *what* is being replaced or what that replacement entails --I suggest that we examine the cases of the craftsmen that I've encountered, during my research in Syria, and analyze the systems in which they have become skilled craftsmen, and the possibility of continuation of such systems.

Abu-Ghassan, Malak, and the Shalabi brothers are craftsmen of different trades and each one of them came from a distinct different system. Abu-Ghassan is a carpenter expert in *Khait el-Arabi* decoration (a traditional arabesque carpentry). He comes from a traditional apprenticeship system. Malak, on the other hand, is a "craftswoman" who joined a vocational school at the age of fifteen. In three years time she became expert in *Agamy* decoration, a decoration very characteristic of Syrian and especially Damascian courtyard houses. The Shalabi brothers are, surprisingly, college students-- one has already finished his undergraduate studies in law, the other two are still pursuing their studies at the university, one also in law the other in economics and commerce. They have inherited the craft of stone *muquarnas* from their father and their case is worthy of study.

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<sup>6</sup>Hall, Julie. Tradition and Change. pp.11. E.P. Dutton, New York, 1977.

Before we start analyzing each system separately, if we look closely to the three systems together we notice that they share a common characteristic. All of them started at an early age as an apprentice.

Young people learning by the apprenticeship system was ideally suited to the medieval scene and seems to be no less so in our time. The learning of a skill is always considered to be easier for the young, if only because memory plays an appreciable part in learning. Additionally, it could be explained by the fact that the young are better able to carry the financial burdens associated with a relatively prolonged training period than are older men who must meet the financial responsibilities of a family.<sup>7</sup>

#### **V.1-The traditional apprenticeship system**

Building crafts in Syria are traditionally based on small family businesses producing goods of high quality workmanship. It was not surprising to see that the old system of craft apprenticeship has survived as one of the generally accepted ways of assuring a flow of skilled manpower. The large numbers of firms of this type still existing make this system one of the most valuable and important sectors of the economy.

Abu Ghassan's account of his initiation into his craft gave me a crystallized picture of the "structure" of the traditional apprenticeship system, its advantages and disadvantages.<sup>8</sup>

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<sup>7</sup>Hall Kenneth and Miller Isobel. Retraining and Tradition. pp.20. George Allen & Unwin Ltd. London. 1975.

<sup>8</sup>For an extensive account of this traditional apprenticeship system re: Asaad, Nadim. Testing Cybernetics in Khan-El-Khalil: A Study of Arabesque Carpenters. Indiana University, Ph.D.:

Although Abu Ghassan's apprenticeship was not composed of distinctive episodes that could be sectored, isolated or detached from one another, it could be looked at as forming three stages. From servant to learner to artisan, each one of these stages was indispensable to the formulation of his skill as a craftsman.

His career in the workshop as a servant started at the age of ten. It consisted of brushing the workshop, cleaning the tools and running some errands. Although those duties were those of a servant, this fact should by no means imply that it was wasted time. Quite the contrary; already at that age, he started to acquire invaluable experience. Discipline (codes of conduct of the workshop), acquaintance with the machine-tools used and most important of all a direct contact with the market, form part of the package deal he got during this first phase of apprenticeship. Nadim Asaad, tackling this issue wrote: *"The more errands [he] ran, and the more places he was sent to, the more information he accumulated about his world. Day after day (Abuzaid) knew better where to find this or that in the market, who sold that, who had the best sandpaper, what make a good quality glue, the different kinds of hinges, the terms of different lengths of nails, and hundreds of other things. During his preliminary stage of apprenticeship he got his first lessons in the life of the workshop; he learned about the market and the supplies he would need in the future when he would be a carpenter."*<sup>9</sup>

During his second stage as a learner he went from the phase of a spectator, watching craftsmen working, to a participant in the process of production. Although his contribution was confined to brushing and sanding, through manipulating various components of an object he was already initiated into

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<sup>9</sup>Asaad, Nadim. Testing Cybernetics in Khan-El-Khalil: A Study of Arabesque Carpenters. pp.79. Indiana University, Ph.D.: 1975.

cornerstone concepts of the trade at an early stage of his career. He would be given more and more complicated tasks, always under the supervision of older craftsmen who would give him all the tricks and techniques of what to do and how to do it. From the way to handle tools and the way to use one's body while working with them, to details that need to be executed on different pieces of wood, all these continuous instructions and tasks helped him in gradually elaborating his abilities to exercise control over himself (to develop good working habits) which were only possible by continuous training.

The complication of these tasks gradually increased (getting to work with different tools) until he started sharing in responsibilities of older apprentices. By trying to prove himself and gain their confidence he handled greater tasks until he got to help his father in the design stage and in preparing the work for journeymen. Taking the latter role formed the last stage of his apprenticeship.

Analyzing this traditional apprenticeship system we find that it has major assets not shared by any other form of training and it is, until today, the most favored. The artisan trade is constituted of a very small number of workers and it retains something of the mediaval system when the apprentices were, in a sense, members of the family working in close contact with the master and, therefore, likely to be taught all the details of the trade. That young apprentices work as a part of a team on actual production gives them a gratifying sense of status and makes them anxious to learn quickly and gain the respect of the older craftsmen with whom they work. While they are consciously practicing the manual skills they must acquire, they are imbibing the working atmosphere, and becoming aware of the criss-cross of human relationship that make up the texture of working

enterprise:<sup>10</sup> accumulating a good knowledge of the demands of the market and taste of patrons, and established connections with good suppliers and prospective patrons. The second asset lies in the fact that the apprentice lives not only in a family of craftsmen, but his social environment is composed of similar people. This will lead eventually-- contrary to the belief that craftsmen hold jealously the secrets of techniques to themselves --to a proliferation and interchange of past experiences (especially from elder to younger generation) that will inevitably enrich their knowledge. This informal source of information, resultant from feedback experiences, is generally lacking in a formal education system. Additionally, not only does the traditional apprenticeship system insure a thorough training to the future craft practitioner, but it also provides a cheap source of labour as well.

However, for those apprentices who learn on the job there is very little theoretical instruction, of the type that the vocational schools might provide. Moreover, the traditional apprenticeship system is facing a major financial crisis. Contrary to the traditional practice where young apprentices would pay to be trained in an artisan workshop, the young generation, today, expects to earn a relatively high wage as soon as they leave school-- as they could in many other occupations. For that reason, master craftsmen are reluctant to train young apprentices because of the relatively high wages they would want in relation to their low profitability.

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<sup>10</sup>Williams, Gertrude. *Apprenticeship in Europe*. pp.90. Chapman & Hall, London , 1963



## V.2-The school apprenticeship system

Our second case study represents an often-suggested alternative to the "orthodox" apprenticeship system-- the vocational schools. Comparing those two systems we notice a trade-off between school (in its institutional sense) and the earliest stages of the traditional apprenticeship system. After spending the compulsory years of school, students shift to those training centers to learn a craft. Removed from the drudgery of an artisan workshop it is said that students learn their skills in the workshops of the universities or professional schools, "in an environment of fellowship and camaraderie where energies and enthusiasms ignited each other, where there [are] no secrets of technique and materials, where knowledge is exchanged and discoveries are shared, where the secret is in the unique imprint of individual personality, not in virtuoso techniques, although technical innovations abounded in every direction and combination..."<sup>11</sup>

No matter how exaggerated this statement sounds, there is one unquestionable advantage in the knowledge propagated at the professional schools. Practical training that is given in the workshop is supported by design workshop, theories and the explanation of principles that lend themselves to a wide variety of applications<sup>12</sup>, that the traditional craftsmen lack nowadays because of the

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<sup>11</sup>Sliuka, Rose. Forward of Hall's book Tradition and Change. E.P. Dutton, New York, 1977.

<sup>12</sup>Porter, William. Technology, Form, and Culture in Architecture: Misconception and Myth. pp.49. Architecture Education in the Islamic World. The Aga Khan Award for Architecture. Proceedings of Seminar Ten in the series. Architectural Transformations in the Islamic World. Held in Granada, Spain. April 21-25, 1986. Published by Concept Media Pte Ltd Singapore, For the Aga Khan Award for Architecture.

discontinuity of their tradition and the distrust of "book-learning" which, unfortunately, characterizes so many of them. This kind of school assumes also the role of patron for craftsmen and employs an increasing number of them as teachers, providing them with sound economic security. The craftsmen-teacher, in this context, can afford to venture into explorations and essays in art expressions divorced from the economics of production and sale. And as output is not the chief concern, there is time for the instructor to explain carefully how a job should be done and why. In that sense the training in schools takes much less time than in the artisan workshops. Furthermore, the integration of the theoretical with the practical training in those schools allow the pupil to see the relationship of the subjects he is learning-- physics, building materials and so on --to the job he is trying to do. Young craftsmen seeking training begin, with the existence of this system, to seek art schools and universities, rather than the traditional apprenticeship system, as the arena for testing new ideas in all areas of the crafts.<sup>13</sup> It is even thought that those educational institutions will necessarily take over the artisan workshops for training apprentices. As the eighteenth-century doctor took apprenticeship in the same way as does the builder now, it is said that one profession after the other will recognize the value of a full-time preparatory educational training as to be the best place in which to be prepared for adult life.<sup>14</sup> Eventually, if we look deeply at this matter, we notice that there are still residuals of the traditional apprenticeship system in the educational process of medical doctors. Medical students pass two years of internship in a hospital under the supervision of a specialized doctor before graduation.

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<sup>13</sup>Hall, Julie. *Tradition and Change*. pp.16. E.P. Dutton, New York, 1977.

<sup>14</sup>Williams, Gertrude. *Apprenticeship in Europe*. pp.184. Chapman & Hall, London , 1963.

Moreover, those who follow the compulsory school system first, find in the training schools a good transition from an ordered world with its own philosophy, morals, codes of conduct and scales of value to an adult world with a different work schedule and a generally more harsh system.

Other advantages of those schools can be seen in terms of the flexibility that is developed in this system by equipping the pupil with a "basic" training before introducing him to special skills. This flexibility is one of the needed characteristics in a world of rapid technological change. Furthermore, a last element, which has its importance, lies in the fact that a child who goes out into the world at fourteen will have little opportunity to develop his interests and abilities as a man. The school can provide a comprehensive education in which attention is paid to his general education, to his development as a citizen and a human being as well as a worker.<sup>15</sup>

Although this may seem true (with some reservations) in technologically advanced countries, an analysis of the vocational school system in our region of study shows, besides some advantages, pitfalls that may not allow it, for the time being, to replace the traditional apprenticeship system.

If we look closely to the present system we notice that the full-time practical training that would occur in the artisan workshop has been replaced by a limited number of weekly "practical work" sessions (in certain schools, it reaches just three hours per week). Secondly, not all the theoretical curriculum is geared to the skill to be acquired and to the intellectual level of the apprentice. To try to force the minds of craft apprentices into a mould designed for pupils of a different type can be frustrating. As things are now, failure to understand what the instructor is trying

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<sup>15</sup>In Ibid. pp.93.

to teach and repeated failure to measure up to the written tests demanded induces boredom in the pupil and an impatient turning away from matters which seem to have no bearing on the work he or she wants to do.<sup>16</sup> Accordingly, it seems that a big effort is needed to narrow the gap between the theoretical exercises and the manual job. Moreover, there has been no attempt made at compensating for the gap induced in the switch from the traditional to the school system. The personal close contact with the market and the integration of education with employment that occurs on job-training are both lost and probably irrecoverable in the school system.

### V.3-"Part-time professionals" system

The last case study forms a totally different approach to apprenticeship. Although it is one of a kind, it is not infrequent and we may encounter more of it in the near future.<sup>17</sup> As I've mentioned earlier, the Shalabi brothers are university-educated-craftsmen. They join the people whose practice of their crafts is regarded as a hobby or at least as secondary with respect to their main professional career. As in any hobby, although it may be financially rewarding, the craftsman resorts to his craft for the sake of pleasure, fulfilling his need for creativity away from the worries of insecurity that this craft-- relied upon as the main source of living --may bring. In this way, the work will neither be influenced by the amount of time-input nor by any consideration of what is likely to sell profitably nor by trying to compete

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<sup>16</sup>In Ibid. pp.181.

<sup>17</sup>Pasem. The aesthetic importance of workmanship, and its future. Pye, David. The nature and Art of Workmanship..Cambridge, at the University Press, 1968.

with the industry. Those amateurs (taken in a positive sense) or part-time professionals derive their knowledge from books, examples that they see around or from other craftsmen, as in the case of the Shalabi brothers. They have inherited their skills by working during week-ends and holidays in their father's workshop. With the help of their father and with practice, they were able to sculpt stone *muqarnas* of the highest standard. Those part-time professionals defy the notion that a man cannot really learn a job thoroughly unless he depends on it for his living from the first and gets long experience at it. David Pye, on this subject, wrote: "Two minutes experience teach an eager man more than two weeks teach an indifferent one... What matters in workmanship is not long experience, but to have one's heart in the job and to insist on the extreme of professionalism."<sup>18</sup>

Pondering upon this case study and reflecting upon this attitude towards crafts, an important question arises: is this part-time professional system the best approach or perhaps the only best approach left towards acquiring the skills of a handicraft?

No doubt, love for the work is essential to the quality of the work. But this never means that a good craftsman under pressure for production does not love what he is doing or does not take good care of his products. A sweeping look at cathedrals, mosques and traditional residential houses prove to us the love and care that were put in their work. Certainly, those traditional craftsmen were not competing with cheaper mass-produced objects, but it seems to me that this long-talked-about competition is not well founded today. Mass-produced objects and hand-crafted ones have totally distinct and different qualities and people are

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<sup>18</sup>In *ibid.* pp.79.

increasingly able to differentiate between them. Secondly, the risk involved in adopting building crafts as a source for living is dependent on the demand for architectural services which is but a part of the demand of building industry as a whole. The latter fluctuates with the state of the national economy, a state which is in permanent disequilibrium. In that sense, I believe that, the risk involved is not greater than the architect's whose services are not requested constantly.

Finally, although this last is, to my opinion, a legitimate way to acquire the skills of a craft, the frequent contact with the market and the experience gained by facing on-site difficulties are important factors which are lacking in the education of these amateurs. Most important of all is the fact that the construction market cannot depend solely on their whimsical attitude towards production, no matter how good these part-time professionals are.

There has been much discussion in recent years about the best method of organizing training. As it seems that there is no "one" way to become a craftsman. I think there should never be "one" method of training only. Each of the systems has its supporters, each its critics. Each single approach has characteristics and advantages that are not shared by others. We are fortunate, in this sense, that we do not have only one apprenticeship system. The different "schools" may enrich in their own way the general production rather than plague it.

It is good to note here, though, that none of these systems is stable. They are in a constant state of change trying to respond to rapidly changing circumstances technically and aesthetically. Naturally, the response to change is not as quick and as intense in all the systems. Again, we are fortunate in that sense, because the systems which are less receptive to those rapid changes may transcend the

capricious "penchant" for short-lived fashions. The transfusion is already taking place between the systems, although not as intensely as it should, and it seems more often unidirectional. The experience of the skilled craftsman is transposed to vocational schools where he is made a master of workshops or an instructor to give practical training courses. On the other hand, there is a definite lack of influence of the educational system on the artisan workshops. One of the foreseeable ways to overcome this problem is by advising that part of the training that is taking place in the artisan workshop to take place with the presence of educational provision. This is invariably spoken of as an excellent way of making good the deficiencies of workshop training, either in quantity or in quality.<sup>19</sup>

In more developed countries, training was dealt with by treating apprentices as part of the conventional learning force.<sup>20</sup> In that sense, efforts have been made to integrate apprenticeship into other forms of education, linking it to compulsory education and the various forms of secondary and higher education. The link between compulsory school and apprenticeship should be then forged to become an education-based work-study program starting at the age of fourteen or fifteen, allowing a smoother transition from one phase to another. One step along this line could be taken in our region by locating the central administrative control of apprenticeship in the ministry of education,<sup>21</sup> whose role partially consists in determining the trades to which apprenticeship is appropriate and the form the training should take.<sup>22</sup> This action would have a direct impact on the quality of

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<sup>19</sup>Pasem. Williams, Gertrude. Apprenticeship in Europe. Chapman & Hall, London , 1963.

<sup>20</sup>Organization for Economic Co-Operation and Development; Paris, 1979. Policies for Apprenticeship. pp.74.

<sup>21</sup>Netherlands did this as early as 1919. Denmark in the post-war period and Germany in 1972.

<sup>22</sup>Organization for Economic Co-Operation and Development; Paris, 1979. Policies for

training and the number of young apprentices who join this system. The artisan's workshop would then be treated like any other educational institution. Under the ministry's supervision, artisans would receive funds or scholarships from the latter to pay to the pupils for training. After two or three years, apprentices who prove to be competitive and useful to the artisan will continue the traineeship under his custody and at the reduced cost to the state.

During apprenticeship, its integration concerns the general education segment of the apprentice's training. This is the core and most difficult phase. Even in Western countries like Germany and France, whose methods of training for skills are more highly organized than those of most other countries, this phase is the least developed. Integration starts with the master craftsman who is supposed to take a master's certificate from the "Chambre des Metiers", or proves himself equally competent according to criteria agreed upon jointly by the Chambre and the trade union. Training apprentices then consists of practical work on the job and is supplemented by attendance at theoretical courses run by either the government technical schools and/or by the Chambre itself. The end of training is marked by a final examination which is organized by the Chambre and which, although conducted locally, is based on national standards. Successful candidates receive a certificate,<sup>23</sup> and after a further two years of work in the trade may present themselves for a higher qualification-- Le Patronat. The training is not confined to the manual skills involved but includes some understanding of organization, marketing, etc. for it is primarily intended for those setting up their own businesses.

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Apprenticeship.pp.82.

<sup>23</sup>Examen du Fin de l'Apprentissage Artisanal-- EFA.



As described above, this process seems to be adequate in transposing the traditional craftsman on to a wider "plateau", but conceptually seems to view the creativity of the apprentice only through the technical skill acquired. As it is desirable that the craftsman regain his position in the design process, I feel that a stress on enhancing or elaborating the design capabilities of the craftsman is basic not only to the production but to the existence and continuation of these trades. Therefore, I feel that a further emphasis should be put on including design courses that help to develop both the creativity and the imagination of the craftsman to allow him contribute effectively in the design process. In the same line of reasoning, I would argue that allied to the training of the craftsman is in the re-education of the architect who needs to acquire a certain knowledge of the techniques used in those building crafts and to learn to cooperate with the craftsman in the early design stages.

## **Conclusion: Revival of the building crafts?**

As we have seen in previous chapters, the economic degradation both in Lebanon and Syria affected the practice of the construction sector which relied heavily on the importation of materials and technologies and eventually brought it to a halt. A further issue, which added to the economic one, was the problem of the alienation of the architecture from society. My interest in the reanimation of traditional building trades and crafts stemmed from a consideration of these two major points.

In the course of this thesis we have looked, through case studies, at the actual conditions of the conventional construction sector in Lebanon and the socio-economic repercussions on both the construction sector and the availability of traditional skilled labour. The study encompassed the analysis of the conditions of traditional building crafts in Syria: the existing "markets" or patrons, the techniques used, the aesthetic contexts of their products and the possibility of continuing a traditional apprenticeship system today.

Equipped with this study, when we once turn to contemporary architectural production to see how craftsmanship might be re-integrated in that process in order to help solve this problem of alienation, several questions emerge. What do we mean by alienation? What are its causes? What is it that the re-animation of traditional building crafts is hoped to solve? And how is it going to solve it?

Alienation is a state of estrangement, withdrawal and non-belonging. This concept might be better understood if we identify its opposite. A non-alienating physical environment is an environment readily identifiable by a society as its own. It conveys a sense of specific identity and of "belonging", both on the human and the social levels.

Many people see in the rapid increase of architectural development and the inevitable change that has accompanied this development in the region the source of much of the alienation of architecture from society. In their belief, this problem will eventually dissipate with time. In my understanding, the problem of alienation exists at many levels. One of these levels could be seen as a result of the antihistoric intervention on the city scale both in urban planning and planning codes. "Haussmanization", a word that was used to convey the brutality (the Germanic thoroughness) with which the city of Paris has been transformed, was a recurring theme in the recent urban planning of many traditional cities. The aftermath of Haussmanization witnessed cities which were conceived to be doom-laden. "Boulevards" were the heart of the matter, and words like anonymous, blankness, sameness and chilling were key words with which the picture of the city was painted. Victor Hugo accurately foretells this image when he describes the city of Paris before the execution of the new plan of Haussman; he wrote: "*...I do not despair that Paris, seen from a balloon, should one day present that richness of line, that opulence of detail, that diversity of aspect, that hint of the grandiose in the simple and the unexpected in the beautiful, which characterizes the checkerboard.*"<sup>1</sup>

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<sup>1</sup>T.J.Clark. The Painting of the Modern Life. pp.32.

The straight lines and unreadable facades of the city were not the only source of alienation, though. The passing of a way of life in both its material and moral forms was also a serious source of this alienation. This was felt even in the heart of Europe. The entry in the Goncourts' journal of 18 November 1860 describes this alienation which was felt because of the changes of the modes in life in Paris: *"...Social life is going through a great evolution, which is beginning. ...Life threatens to become public. The club for those on high, the cafe for those below, that is what society and the people will come to... From this an impression of passing through these things, like a traveller. I am a stranger to what is coming, to what is, as I am to these new boulevards without turnings, without chance perspectives, implacable in their straight lines, which no longer smack of the world of Balzac, which smack of London, some Babylon of the future. It is idiotic to arrive in an age under construction: the soul has discomforts as a result, like a man who lives in a newly built house."*<sup>2</sup>

Changes of city character and urban life were not the only source of alienation, though. Contemporary architectural production suffers from the loss of aesthetic principles such as individuality, dignity of work, and the "figural" tradition. Machine aesthetics has prevailed over handicrafts aesthetics, individuality is replaced by mass production which is supported by corporeal industry. A syntactical architectural language, based on abstract formal elements purified of any reference to things outside themselves has replaced the representational tradition. The need for this shift to total abstraction is rooted in a philosophical change<sup>3</sup> that accompanied the industrial revolution. All fine arts, then, absorbed the

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<sup>2</sup>In Ibid. pp.34.

<sup>3</sup>Vergo, Peter. Abstraction: Towards a New Art. pp.12.

revolutionary aspect of the age. As in every revolution, there was first of all a denial of the established principles and forms of the past, since only in such denial could the revolution be relieved of the existing forms and conventions and move freely to its new positive contributions. Architects among painters and sculptors hastened to deny the principle of representation. Thus, instead of conveying *semantic* information which depicts or otherwise specifies some segment of the world apart from itself, whether real or imaginary, or some characteristics of the world in general, including social conditions, and the values pertaining in a particular culture through their work, they shifted to the other end of the pole by concentrating solely on *syntactic* information.<sup>4</sup> They were works of art which transmit information about themselves, their own properties and structure, the relations among their parts, the materials from which they are made and so on.<sup>5</sup> This approach was regarded as a logical extreme to a world shaped by "objectifying reason". Artists did not want works of art to depend for their worth on moral or didactic subjects, nor on allegories or emblems, nor indeed on any kind of narrative.<sup>6</sup> The preoccupation of the artist with concepts, or with narrative, or even with the meticulous observation with nature was thought to endanger the aesthetic response of the viewer altogether, "jolting [him] out of a state of pure, aesthetic contemplation."<sup>7</sup> Their field of research was music. They saw in the "pure" tones of music a sound structural foundation, and at the same time an undeniably rich expressive vocabulary.<sup>8</sup> In short "simplicity" stood for or was equated to

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<sup>4</sup> Both terms are borrowed from the Language of Information Theory.

<sup>5</sup> Osborn, Harold. Abstraction and Artifice in Twentieth-Century Art. pp.6.

<sup>6</sup> Vergo, Peter. Abstraction: Towards a new Art. pp.13.

<sup>7</sup> In Ibid. pp.13.

<sup>8</sup> In Ibid. pp.13.

"liberty"<sup>9</sup> and purity, it was responsible for the desire to ban decoration, for a search for machine mass-production expression and for the rejection of past traditions. From these views was formulated the answer or position that modernists took regarding the conflict between art and technology. Yorke in his influential *The Modern House* wrote in 1934: "There came a period of purification and, largely under the influence of Walter Gropius and Le Corbusier, the unnecessary was eliminated."<sup>10</sup> This simplicity became the central cry of the modern movement and of its system builders.

Although changes in urban life and in the character of both the city and its architectural components were integral parts for the cause of alienation, the reintroduction of traditional building trades and crafts could only hope to tackle the latter. Diversity, individuality, dignity of work, and the "figural" tradition are principles which were found in the tradition of building crafts and which are now largely lost in our contemporary architecture.

Factories have not yet found, except in certain restricted fields, how to produce diversity and exploit it. They prove able to produce nearly everything well except diversity because price is always the ruling factor. On the other hand, this aesthetic quality remains a main asset in the work of craftsmen. More often than not, they strive for diversity to break the monotony of life. Working to satiate an inner urge to produce, each piece of work is for him or her a new act of creation. In factories, there are essays in diversity in shapes and surfaces but these are generally restricted to such products as weaving and things made of glass or

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<sup>9</sup>Cork, Richard. Jacob Epstein And Charles Holden. A whitmanesque Collaboration In the Strand. AA Files 8. pp.65.

<sup>10</sup>Russell, Barry. (1981). pp.134.

translucent or semi-translucent plastics such as nylon or polythene.<sup>11</sup>The result is still crude and remain far less varied especially in the field of materials still worked by craftsmen, such as wood joinery and gypsum decoration.

Finally, it is important to note that the lack of want of diversity should be blamed not only on technologists but on designers as well, who "do not think enough about it, or do not think enough of it."<sup>12</sup> Pye, in his book rightly said: "Art is not so easy that we can afford to ignore any and every formal quality which will not go to a drawing board. Yet, the fact remains, I can offer no better suggestion than that, if people came to love diversity, they would find out ways of producing it."<sup>13</sup>

Other qualities that could not go on to the drawing board and were equally ignored in architecture are those of individuality and the dignity of work. George Braque once wrote : "*il y a des oeuvres d'art qui font penser a l'artiste, d'autres qui font penser a l'homme.*" Whether a work of art recalls "man" or the "artist" there is a strong link between the artistic piece and the human imprint on it. For unlike the relationship between modern machine-made materials and machine-like labour, the character of the craftsmanship, like handwriting, conveys personality instead of a mechanical formula. The dignity of work stems from the time and meticulous care that was put into the process of production. Both qualities form not

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<sup>11</sup>Because of their makeup, these industrially synthesized products, are rendered more distant from our experience and everyday understanding. and pose a different kind of question. Does Nylon or polythene, which can be chemically constituted and fabricated to order with any member of physical properties, have an architectural "nature"? (Gordon Simmons, Workmanship: key to Good Building. AIA Journal. November 1982. pp.54.)

<sup>12</sup>Pye, David. The Nature and Art of Workmanship. pp.74.

<sup>13</sup>In Ibid. pp.74.

only an integral part of good craftsmanship but they contribute to the representational aspect of the product as well.

Discussion of the meanings imbedded in the "figural" tradition will further explain my concern with the revival of crafts; in the course of it I will focus on the craftsmen who deal with this tradition.<sup>14</sup> By "figure", I mean, a configuration whose meaning is given by culture. Often, this meaning has a basis in nature. The representation of nature in the architecture of the Islamic world, for example, could be seen as a channel used to remind people of the Creator. When products which are designed and executed by craftsmen are embedded in the architecture, buildings acquire meanings recognizable by that culture. This is because the notion of figuration carries with it a pre-set language with shared meanings. All that is necessary then, I believe, is the conscious recognition of the types which a designer can pick upon and use. If not, there could be no stability of meaning. This representational character, that many today hope to bring back to architecture, helps to humanize and sharpen the identity of the environment, an identity with which the users associate themselves with.

But an increasingly widening gap is separating traditional building crafts from the process of production. It came about as one of the repercussions of the industrial revolution upon architecture. Industrialization in its process of production contributed to a widening disunion of head and hand, alienating in this respect the craftsmen from the design process. Different circumstances and changes led to this form of alienation. Reorganization concentrated the design process in the hands of fewer and fewer men. A new differing level of specialization was going in the

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<sup>14</sup>This view of the "figural" tradition is inspired from a lecture given by prof. John Whiteman at Harvard.



building process that traditional craftsmen were unaware of, and incapable of dealing with. Traditional craftsmen, in Syria, were away from the scene of teaching and learning processes, which were concentrated in institutions constantly fed by scientific discoveries and industrial researches. Although in building the relationship between design and production was, and still is, necessarily different from that which obtains in manufacturing industries (the distinction between site operations and workshop operations, between mass-produced components and unique adaptations, can never be completely dissolved) the making of most building components has been increasingly transferred from artisans to the factory. As a result, architects have abdicated their traditional work of designing elements in close collaboration with craftsmen, and have increasingly limited their responsibility to determine the disposition of the components that they may choose from the thousands of pages of manufacturers' catalogs. As Gordon Simmons<sup>15</sup> noted, that there is a danger greater than mechanization-- a threat to the human sense of workmanship itself. An antiworkmanship has resulted from the fiscal focus of big business. He wrote: "with a workmanship outlook, technological efficiency and proficiency are centered on the worker and the product. Management for business gains means that work is valued for the price it will bring."<sup>16</sup> This concentration of the construction business in the hands of the developers whose overriding goal is monetary gain has led the craftsman to have a diminishing control over what he is doing. For while the old craftsman made his name with quality, he was replaced by the block contractor whose success depended upon speed and cheapness.

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<sup>15</sup>Mr. Simmons is a practicing architect and an associate professor of architecture at the University of Cincinnati's college of design, architecture and art.

<sup>16</sup>Simmons, Gordon. Workmanship: Key to Good Building. *AJA Journal*/November 1982. pp.53.

A further complication has been the education of architects and the climate in which they work. In third world countries in general and in our area of study in particular, current programmes of architectural curricula were, in the near past, not persuasively linked to materials and techniques that were available and appropriate to the region; instead they were linked, at least implicitly, to architectural forms found in western countries and to the technologies that support those forms.<sup>17</sup>

Moreover, architects today work in a climate that is very different from that of their predecessors. Not only have clients' value judgments changed, but they have become more demanding, and time and money are the key issues. The construction systems and materials which are used have changed completely and traditional craftsmen, lacking encouragement, have been alienated from the scene. It follows that designers and producers have shared less and less common knowledge and purpose. The greater the distance between them has increased the harder it has been to convey information from the former to the latter. Fearing bad workmanship, designers resort to simplicity in design in the hope of better execution.<sup>18</sup> The stated attitudes of approach to "simplicity" were thus, ironically, detrimental to the quality of architecture and were the main causes behind the ills of alienation.

From what has preceded, it seems that the reintegration of building crafts into architecture to bring back and reflect into this architecture those lost principles is a complex procedure. Adding to these difficulties is the nature of the production of

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<sup>17</sup>Prof. Porter, William. *Technology, Form and Culture in Architecture, Misconception and myth*. pp. XX. Architecture Education in the Islamic World. Proceedings of Seminar Ten in the Series. Architectural Transformations in the Islamic World, Held in Granada, Spain. April 21-25, 1986.

<sup>18</sup>Pye, David. The Nature and Art of Workmanship. pp.25.

handicrafts. Works of craftsmen are commonly associated with the "figural" tradition; but a simple reading of the history of the Arts and Crafts movement will tell us that this has not always been the case. The movement was strewn with examples of craftsmen who strove for objects that "preached the gospel of simplicity."<sup>19</sup>The following lines depict Gustav Stickley's position towards the "figural tradition".<sup>20</sup> His principles reveal a "modernist" approach which proves that even a craftsman can follow a stream of logic different from the traditional one and that his products do not always have an autonomous singular effect on the eye of the beholder. He wrote: "*Non-structural objects, those whose forms present a chaos of lines which the eye can follow only lazily or hopelessly, should be swept out from the dwellings of the people, since, in the mental world, they are the same as volcanoes and earthquakes in the world of matter. They are creators of disorder and destruction.*"<sup>21</sup>

In this respect, several questions pose themselves. One: is the return of traditional building crafts to architectural production feasible in our day? Two: what is the nature of the relation between machines and handicrafts? And three: what is the nature of the reconciled relationship between crafts and architecture?

Looking at the social, economical and educational problems that seem to create this gap between the craftsmanship system and contemporary architectural

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<sup>19</sup>Stickley, Gustav. Thoughts Occasioned By An Anniversary: A Plea For a Democratic Art. The Craftsman. Volume: VI-X, 1904-1906. pp.119.

<sup>20</sup>Stickley is a well known craftsman-- a cabinet-maker --in the Arts and crafts movements in the United States.

<sup>21</sup>In Ibid. pp.122.

production will give us hints to possible and necessary ways to be taken to bridge that gap. Some of these have been initiated already. The affluence born of technology and mechanization, which primarily constituted the main cause of extinction of the crafts, ironically may yet seem to hold the key to their survival. We are in a phase in society where people are looking back to traditional products, whether we like it or not, and a revival of craftsmanship is accompanying this. In the West, the consumer, after half a century of fascination with the products of machines, has finally begun to desire handmade goods. People are willing to pay for handcrafted products, even in building, in a way that has not happened in a century.<sup>22</sup> There is also an increasing desire among people to engage handiwork in themselves, at many levels of the society. For instance, in a Western modern society, women are again doing embroidery or sewing, and men are more involved in carpentry and practical work in the house. This is also manifested in the objects of everyday life. We notice, today, a preference to the beauty of a salt-glazed jar as an alternative to the plastic dishes that set most tables, the richness of handwoven fabrics over the sterile cotton prints produced bolt after bolt by the textile industry, even the return of expensive handmade bricks shows the extent of which people are looking nowadays for those missing values inherent in handcrafted products. This trend has led to a proliferation of "do-it-yourself" books as well as T.V. programs focusing on the "craftsman" homes. With this development, the workmanship of the craftsman is much more appreciated than it is used to be. Many people know now what they are paying for, when they buy a beautiful piece of embroidery or a beautiful handcrafted dress or a suit. We have seen in our case study how young educated individuals have taken pleasure in either collecting or decorating their

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<sup>22</sup>We could even see, nowadays, brochures publicizing handmade manufactured bricks.

surroundings with handcrafted objects. In that sense, there is a new educated market for handcrafted products which did not exist twenty or thirty years ago. This trend is helping to bridge the gap between the craftsmen and the contemporary market. In Cairo, for instance, the demand for mother-of-pearl-inlaid furniture and for *mashrabyahs* is increasing nowadays, encouraging craftsmen to go back to the production of those products.

Officials are also showing an increasing awareness and interest in the preservation of not only old monuments and palaces but of whole traditional urban residential quarters as well. On the other hand, those same officials are resorting to the use of traditional building crafts in new projects which need to carry or reflect a "national identity."<sup>23</sup>

This fairly new trend could also be explained as a manifestation of people's search for, or a nostalgic feeling about, values and meanings that are no more found in their environment. Pitched roofs and *mushrabyiehs* are two mundane but important examples that prove my point. Architects continue to design buildings with flat roofs as a sign of modernity, despite all the problems of the build up of heat, thermal movement, ultraviolet rays, condensation, rain penetration and so on, which were not such serious problems in the older forms of roof. Although industry had developed techniques that at least had a chance of success, architects under the pressure of clients have often returned back to pitched roofs.<sup>24</sup> A feeling of homeliness and comfort seems to be attached or associated, in certain societies, with the pitched roof, a fact that has led to its return despite all effort and potential

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<sup>23</sup>There is no attempt here to identify the base of preference of people for crafts. It could be solely based on stylistic preferences or on the fact that those objects are executed by hand or it could be based on both.

<sup>24</sup>Davies, Colin; Crafts or Calculation? Architectural Review. Jan-June 85. pp.20/5.

success that has attended finding solutions to the problems of flat roofs.

*Mashrabyiehs* also seem to have been attributed meanings of security and protection in some Middle-Eastern societies, in addition to their original functions of providing privacy and the microclimatic control of sun and humidity. We can observe nowadays the return of the *mashrabyieh* long after the notion of privacy has drastically changed in the society. It seems to me that people are reusing it because they feel that their houses lack a sense of security and control and a peculiar character of light that for them was familiarly beautiful.

By surrounding themselves with those elements, people show an awareness in considering their "quality of life" which goes beyond the hard facts of simple economics. This notion has been overshadowed during the recent period of rapid mechanization and has been supplanted by a concern with the "necessities of living." Quality of life is not only manifested in the variety of designs and the meanings associated with elements but is also manifested in their durability and good workmanship.

As Pye said: "A world in which everything was ephemeral would not be worth working for."<sup>25</sup> Aged objects are important to our lives because they transcend the age of a human being and sets a link with a former generation. Likewise, objects produced in our era are supposed (at least some of them) to transcend our life to reach future generations. Buildings, for instance, are expected to last a long time, not just for the sake of the client's investment but for the stability of the environments of town and cities, "the forms and spaces of which embody the deepest aspects of culture."<sup>26</sup>

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<sup>25</sup>Pye, David. *The Nature and Art of Workmanship*. pp.41.

<sup>26</sup>Davies, Colin; *Crafts or Calculation?* *Architectural Review*. Jan-June 85. pp.20/5.

On the other hand, when objects were not manufactured to last, social life would be negatively affected and would be deprived of two aesthetic notions. By designing things to go wrong or break-- so much occurent in manufacturing industries --the user is forced to spend money on replacing that thing instead of using that money for other purposes. Although many people are still living in an age of materialism, and still have a passion for novelty and will be glad to replace those objects, some people now would rather save the money to pursue other ends ( altruistic, learned or artistic?).

Yet, the most serious loss lies in the fact that non-lasting objects deny society the beauty of aging. Age and wear diversify the surfaces of things in ways that nothing else will. "If nothing ever lasted," Pye said, "we should be denied that beauty."<sup>27</sup>Durable objects reflect the beauty of the imprint of age and set us apart from current changing fashions. They form, for us, a solid background against the restlessness of our present life and the insecurities of the future.

Moreover, we know that the major factor which has put aside traditional crafts lay in simple economics. A standard manufactured wooden door is cheaper than one that is designed and executed by a craftsman-one expert in "*Khayt el-Arabi*", for instance.This is essentially true because by the time a craftsman finishes executing one door the factory would have produced dozens. The crafts, however, will still have a slight indirect economic importance. The indispensable knowledge and experience that the craftsman has, allows him to make decisions in the design process that insure feasibility and practicability-- which may in turn reduce a considerable proportion of unnecessary costs --as well as good workmanship. Also, designers working closely with craftsmen will be able to make relatively

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<sup>27</sup>Pye, David. *The Nature and Art of Workmanship*. pp.43.

intricate designs with many variations and diversities which manufacturing industries will deny them, and also continue to work on certain materials that have fallen out of use. But the ultimate economic reward may lie in the good workmanship, for which people are increasingly prepared to pay high prices. This is one of the very few assets that retain a distinction between handcrafted objects and manufactured goods.

"For the crafts in the modern world", Pye wrote, "there can be no half measures. There can be no reason for [crafts] to continue unless they produce only the best possible workmanship, free or regulated, allied to the best possible design, in other words, unless they produce only the very best quality."<sup>28</sup> The best quality of workmanship is usually achieved only by the craftsman spending an apparently inordinate amount of time on each job. Theoretically, this should lead to a higher price. This differential in price between a product of craft of the best quality, and a product of manufacture varies, though, according to the trade. We have seen, for instance, how in Syria it was necessary to return to traditional local building trades (brick manufacturing and vault technology) because the foreign materials that fed the manufacturing industries, as well as the maintenance of those industries became prohibitively expensive after the development of a shortage in foreign currency.

This may reverse the equation; for while the high cost of the handcrafted object was primarily due to the input of time in its making, statistics show us that in Syria at this time, the relative percentage of labour building cost per hour is at its lowest. This may not extensively lower the price of the products, in some trades, to such an extent that it would become equal to the price of its manufactured counterpart, but it will bring it down to a level affordable by those who cherish

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<sup>28</sup>In Ibid. pp.76.



unique, handmade quality in their products.

Another layer of complexity revolves around the perception of "traditional crafts". "Traditional building crafts" are popularly perceived as solely manual and no machine work is allowed; if it were introduced, the machine would be artistically degrading to the product. This perception is erroneous. It is an expression of revolt against the lack of vitality or of artistic quality in a great mass of machine-made products that owe their existence solely to the artificial demand created by commercialism. Merely to make things by hand implies an artificial restriction imposed on the development of handicrafts. After all, it was the sense of vitality that distinguished the handiwork of former days from that of products of machines. As a matter of fact, given the fundamental creative urge of the craftsman for production and the desire for honest self-expression, the machine can be put to all its legitimate uses as an aid to, and a preparation for, the work of the hand, and the result be quite as vital and satisfying as the best work of the hand alone. As Gustave Stickley has said<sup>29</sup>: "*the mere question of hand work as opposed to machine work is largely superficial. The prime object of the industrial art is to produce articles which satisfy some material or mechanical requirement, and any method of working is allowable which really effects that object in the simplest and most straightforward manner. The modern trouble lies not with the use of machinery, but with the abuse of it, and the hope of reform would seem to be in the direction of a return to the spirit which animated the workers of a more primitive age, and not merely to an imitation of their method of working.*"

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<sup>29</sup>The Craftsman, volumes XI-XV, 1906-1909. The Use and Abuse of Machinery, and Its Relation to the Arts and Crafts.

Finally, craftsmen ought to play a bigger role in the design process. Leon and Rob Krier, Grassi and to some extent Charles Moore are nowadays advocating a return to handicraft.<sup>30</sup> The importance attached to reconnecting the ties between the architect and the craftsman stems from both technical and aesthetic considerations. Design is that which, for practical purposes, can be conveyed in words and by drawing: workmanship is that which, for practical purposes, can not be so conveyed.<sup>31</sup> For that special reasons, the craftsman ought to be able to make a contribution to the design process.<sup>32</sup> Through his intervention and contribution, the craftsman understands better what he is doing, the fact that will inevitably lead to a better execution and a better quality of work.<sup>33</sup>

From the aesthetic point of view-- although this cannot be universally generalized --the building craftsman who spends his life working on one single material fabricating artifacts of similar functions will become a master in the sense of his knowledge of the potentials of this material. The possibilities are thus much greater for him to produce better designs than an architect who has less knowledge of the material and who does not design those artifacts so often.

It remains to be observed that not every craftsman is a born designer. For there are no born designers. People are born with or without the makings of a designer in them, but the use of those talents is only to be learnt very slowly by much practice.<sup>34</sup> A craftsman should nourish his senses by observation<sup>35</sup> and

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<sup>30</sup>Prak, George. Architects: the Noted and the Ignored. pp.205.

<sup>31</sup>Pye, David. The Nature and Art of Workmanship. pp.1.

<sup>32</sup>It is not meant here, of course, the preliminary design stage, but rather the detailed design of the parts.

<sup>33</sup>It is assumed here that the craftsman is a skilled worker by definition. For this process will not make bad workmen produce good workmanship.

travel. This is necessary to broaden up one's horizon, because it will nourish one's imagination and constitute a continuous source of inspiration and enrichment to one's knowledge. The whole future of the crafts turns on the question of design.

The feasibility of reconnecting the ties between designers and crafts lies in the willingness of the architect to give up the "prima donna" image and allow some space for craftsmen to express themselves in their objects. The second way could be seen as an intervention on the level of the municipality. While British building rules, until recently, forbade the architect to build any project without a contractor, Scandinavian building authorities have always give more room for the architect to work with builders on projects or even to assume the role of the builders himself. While in the former case, the policy of banning the architect from the actual building process led to a total disconnection between the designer and the builder, the latter encouraged this close interrelation between them.

But the biggest step that one should take towards this reconciliation resides in the return of the craftsman to the creative process. That attitude of giving them respect as artists and not regarded them as simple workmen who must do whatever they are told is an important factor in bringing back the lost potentials of the crafts. This means educating the new architect and developing a new architectural process that brings the craftsman back to contribute to the design stage. This seems a very difficult task, especially because clients and developers want fixed budgets in advance, and a fixed time schedules in advance; they would not be happy at being uncertain about what they are going to get. So the general public and the architects

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<sup>34</sup>Pye, David. *The Nature and Art of Workmanship*. pp.80.

<sup>35</sup>*Usta Abouzaid* , the carpenter in Khan el-Khalili, owes his success partially to his innumerable visits to various museums, mosques and madrasas who displayed similar works.

have to develop new attitudes of mind, much like those of patrons commissioning works of music or painting, that they accept that they do not know what the outcome will be in advance, and are willing to take that risk. No one would argue that the outcome today will not be as rewarding as in the past. The element of risk that has gone out of the architectural process is that element that actually makes the difference between a work of art or craftsmanship and the work of industry.<sup>36</sup>

What is needed is a less pedantic attitude towards architecture in order to get back the life, vitality, individuality and diversity of craftsmanship. Architecture is an art and should contain individual elements which are works of art and these are necessarily more expensive, more of a risk and at the end more exciting and bring more vitality than the architecture that we are used to accept in the last fifty years, because of our acceptance of the limits of industrialization. Craftsmen, through their works, merge tradition, change, feelings, learning, and self-realization into forms of art. The return of their crafts could be an important factor in bringing back this quality into architecture.

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<sup>36</sup>Pye, David. *The Nature and Art of Workmanship*.

## ***Appendix I***

# ISTICHAARAT CONSULTANTS FOR THE MIDDLE EAST

Société à Responsabilité Limitée au Capital de 600.000 L.L.R.C.B. 25111

DEPARTEMENT ETUDES DE MARCHES

MARS 87

NO. 33

BULLETIN de la  
CONSTRUCTION du  
BATIMENT & TRAVAUX PUBLICS

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## SERIE DES PRIX

### L'INDEXATION AU DOLLAR DEVIENT PRESQUE TOTALE

L'évolution ascendante des taux de change des devises étrangères amène les fournisseurs de matériaux aussi bien importés que produits localement à libeller leur prix en devises.

Pour le mois de Mars on constate le passage de nouveaux produits vers une indexation au dollar. Cela se reflète par une augmentation globale très proche de l'augmentation du taux du billet vert qui a coté fin Mars + 26,2% par rapport à la clôture du mois de Février.

Parmi les rares fournisseurs qui acceptent encore une cotation en livres libanaises, on remarque une stagnation des prix. Ceci reflète le marasme économique dans lequel baigne le secteur de la construction. Cette stabilité des prix est surtout enregistrée dans les secteurs peintures, parpaings & hourdis, le galvanisé léger et moyen, les meubles de cuisine et revêtement en mosaïque.

D'un autre côté on remarque l'augmentation importante des prix du matériel électrique, et des tuyaux de chauffage qui ont plus que doublé en un mois.

Face à cette situation on note cependant certaine initiative en vue de trouver des produits de remplacement ayant un meilleur rapport qualité/prix.

En effet, on peut noter ce mois la disparition de notre liste de deux produits d'étanchéité importés : Produit noir solution (ERTOMIX) et émulsion (COLLAMIX) qui ont été remplacés par un produit importé nouvellement par Sodap Liban (Petromine FK60).

Dans le domaine de la production locale on note, fait assez rare, une diminution du prix de la tonne de ciment mais qui a été plus que compensée par l'augmentation des taxes et du transport du aux conditions politiques et militaires difficiles.

En revanche la main d'œuvre s'est plutôt maintenue dans des limites acceptables avec une stagnation de la main d'œuvre qualifiée et une légère hausse des manœuvres locaux et étrangers.

# ISTICHAAT

## SERIE DES PRIX

PRIX ENTREPRENEURS FIN DE MOIS(1)

( SERIE DES PRIX EN L.L. )

( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS87/ FEV.87	MARS87/ MARS 86	JANV. 84 BASE 100
<b>MATERIAUX</b>									
<b>CIMENT NOIR :</b>									
PORTLAND (EX USINE)	B55 12-50	T	355.00	3550.00	3750.00	765.00	-5.3%	364.1%	1000
TAXES SUR TRANSPORT		T	27.00	325.00	175.00	50.00	85.7%	550.0%	1204
TRANSPORT & DECHARGEMENT*		T	23.00	325.00	175.00	35.00	85.7%	828.6%	1413
TOTAL PRIX CIMENT NOIR	B55 12-50	T	405.00	4200.00	4100.00	850.00	2.4%	394.1%	1037
ADJUVANTS DU BETON(PEPSOPLAST)	PLASTIFIANT	Fut	625.00	8000.00	6000.00	2700.00	33.3%	196.3%	1280
<b>FER ROND A BETON :</b>									
COSTEEL(GRADE 60)	Sect. 10-32mm	T	1550.00	27012.00	21396.00	5600.00	26.2%	382.4%	1743
FER DOUX	Sect. 6- 8mm	T	1550.00	27012.00	21396.00	5700.00	26.2%	373.9%	1743
TREILLIS SOUDES (C.S.L)		T	2350.00	39392.50	31202.50	7000.00	26.2%	462.8%	1676
TRANSPORT*(MINIMUM 15 T)		T	12.50	175.00	175.00	20.00	0.0%	775.0%	1400
GRAVIER (15 M3) PLUS TRANSPORT*	3/8 - 7/8	M3	35.00	325.00	325.00	60.00	0.0%	441.7%	929
SABLE (15 M3) PLUS TRANSPORT*	< 3/8	M3	33.00	300.00	250.00	57.00	20.0%	426.3%	909
PARPAINGS & HOURDIS + TRANSPORT*	Toute Ep.	cm	0.12	0.90	0.75	0.18	20.0%	400.0%	750
	Ep. 10cm	U	1.20	7.50	7.50	1.80	0.0%	316.7%	625
	Ep. 14cm	U	1.70	10.50	10.50	2.52	0.0%	316.7%	618
	Ep. 18cm	U	2.10	13.50	13.50	3.24	0.0%	316.7%	643
<b>COFRAGE :</b>									
<b>BOIS DE COFRAGE :(FILS B. KARAM)</b>									
SAPIN ROUMAIN PLANCHE,10 a 15cm	LONGUEUR 4 M	M3	1150.00	14631.50	11589.50	2500.00	26.2%	485.3%	1272
SAPIN ROUMAIN MADRIER,75*75 mm	LONGUEUR 4 M	M3	1200.00	15757.00	12481.00	2600.00	26.2%	506.0%	1313
CONTREPLAQUE MARIN FINLANDAIS	1.22 x 2.44 M	M3	4200.00	73157.50	57947.50	13500.00	26.2%	441.9%	1742
DECOFFRANTS (ERTO DECO - SODAP)	P/R BOIS,METAL	Fut	750.00	11500.00	9800.00	3225.00	17.3%	256.6%	1533



# ISTICHAARAT

## SERIE DES PRIX

### PRIX ENTREPRENEURS FIN DE MOIS(1)

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	PRIX ENTREPRENEURS FIN DE MOIS(1)				VARIATION DES PRIX		JANV. 84 BASE 100
			JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS87/ FEV.87	MARS87/ MARS 86	
<b>MATERIAUX</b>									
<b>PEINTURE, PRIMER &amp; UNDERCOTING :</b>									
<b>PEINTURE (E.G. BERBERI FRES) :</b>									
A L'HUILE (MANDERLAC)**	BSS	M2	30.00	63.00	63.00	63.00	0.0%	0.0%	210
A L'HUILE (PLUS 5)**	BSS	M2	26.00	58.00	58.00	58.00	0.0%	0.0%	223
EMULSION LAVABLE (SHIELD)**	BSS	M2	20.00	47.00	47.00	47.00	0.0%	0.0%	235
EMULSION LAVABLE (STAR)**	BSS	M2	18.00	41.00	41.00	41.00	0.0%	0.0%	228
EMULSION NON LAVABLE (SOLIDEC)**	BSS	M2	9.75	23.00	23.00	23.00	0.0%	0.0%	236
CREPI FIN TEXTURE (STARTEX)**	BSS	M2	16.50	51.00	51.00	51.00	0.0%	0.0%	309
A L'HUILE (MANDERLAC)	BSS	GALLON	72.00	1513.80	1199.07	297.00	26.2%	409.7%	2102
A L'HUILE ( PLUS 5 )	BSS	GALLON	58.00	1289.82	1021.66	253.00	26.2%	409.8%	2224
EMULSION LAVABLE (SHIELD)	BSS	GALLON	55.50	1145.76	907.55	224.00	26.2%	411.5%	2064
EMULSION LAVABLE (STAR)	BSS	GALLON	35.75	832.87	659.71	164.00	26.2%	407.8%	2330
EMULSION NON LAVABLE (SOLIDEC)	BSS	GALLON	23.75	587.51	465.36	115.00	26.2%	410.9%	2474
CREPI FIN TEXTURE (STARTEX)	BSS	GALLON	35.00	630.28	499.24	126.00	26.2%	400.2%	1801
<b>PRIMER (E.G. BERBERI FRES) :</b>									
ALCASTAB ou BINDECOAT	BSS	GALLON	72.00	1332.59	1055.54	261.00	26.2%	410.6%	1851
SEALER STAR	BSS	GALLON	30.00	562.75	445.75	108.00	26.2%	421.1%	1876
<b>UNDERCOATING (E.G. BERBERI FRES) :</b>									
UNDERCOATING POUR MANDERLAC	BSS	GALLON	72.00	1402.37	1110.81	275.00	26.2%	410.0%	1948
UNDERCOATING POUR PLUS 5	BSS	GALLON	58.00	1220.04	966.39	239.00	26.2%	410.5%	2104
UNDERCOATING POUR SHIELD	BSS	GALLON	72.00	1402.37	1110.81	275.00	26.2%	410.0%	1948
ENDUIT IMPERMEAB. & DECOR. FACADE (ERTO DECOR)	M2		12.00	112.00	60.00	51.00	86.7%	119.6%	933
PEINTURE SOL & RESINE POUR BETON (ERTO DUR)	M2		8.50	180.00	100.00	35.50	80.0%	407.0%	2118

\*TRANSPORT CHANTIER BEYROUTH

\*\*Y inclus Main d'oeuvre

B.C.B. 2

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84
			84	87	87	86	FEV. 87	MARS 86	BASE 100
SANITAIRE :									
-----									
APPAREILS SANITAIRES, S.D.B.(1) :									
MODELE SIDON (LECICO) (2)	BLANC	U	536.00	6527.35	5661.55	1850.00	15.3%	252.8%	1218
MODELE SIDON (LECICO)	COLORE	U	618.00	7559.65	6553.45	2085.00	15.4%	242.6%	1223
MODELE SIDON (LECICO)	COLORE(LUXE)	U	-	--	--	2712.00	--	--	-
MODELE ZGORTA (LECICO)	BLANC	U	586.00	7417.10	6434.30	2035.00	15.3%	244.5%	1266
MODELE ZGORTA (LECICO)	COLORE	U	673.00	8414.95	7468.35	2350.00	15.4%	246.6%	1280
MODELE ZGORTA (LECICO)	COLORE(LUXE)	U	-	11728.30	10183.90	3058.00	15.2%	283.5%	-
MODELE CAMELIA(LECICO)	BLANC	U	773.00	8464.75	7411.75	2485.00	14.2%	240.6%	1095
MODELE CAMELIA(LECICO)	COLORE	U	887.00	10865.55	9438.15	2865.00	15.1%	279.3%	1225
MODELE CAMELIA(LECICO)	COLORE(LUXE)	U	1392.00	14854.20	12888.60	4090.00	15.3%	263.2%	1067
SERIE LARA (CEMATE)	BLANC	U	1490.00	37521.40	17258.00	5575.00	117.4%	573.0%	2518
SERIE LARA (CEMATE)	COLORE	U	1800.00	42766.59	19422.00	6575.00	120.2%	550.4%	2376
SERIE LARA (CEMATE)	SPECIAL	U	2620.00	50720.08	23870.00	7375.00	112.5%	587.7%	1936
BAIGNOIRE IMPORTEE (LECICO)	SERIE NORMALE	U	-	6737.50	5286.05	1050.00	27.5%	541.7%	-
BAIGNOIRE IMPORTEE (LECICO)	SERIE LUXE	U	-	10150.00	7963.40	1450.00	27.5%	515.2%	-
BAIGNOIRE EN ACIER (CEMATE)	BLANC	U	240.00	7443.80	5286.05	1000.00	40.8%	644.4%	3102
BAIGNOIRE EN ACIER (CEMATE)	COLORE	U	245.00	8029.00	7963.40	1100.00	0.8%	629.9%	3030

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84
			84	87	87	86	FEV. 87	MARS 86	BASE 100
SANITAIRE :									
-----									
TUYAUX SANITAIRES :									
FONTE(KASSARDJIAN)	3 Inchs	2ML	60.55	1087.23	861.19	214.00	26.2%	408.1%	1796
FONTE(KASSARDJIAN)	4 Inchs	2ML	66.25	1173.90	929.83	231.00	26.2%	408.2%	1772
FONTE(KASSARDJIAN)	5 Inchs	2ML	83.45	1486.79	1177.67	293.00	26.2%	407.4%	1702
FONTE(KASSARDJIAN)	6 Inchs	2ML	123.55	1867.20	1479.00	434.00	26.2%	330.2%	1511
FONTE(KASSARDJIAN)	8 Inchs	2ML	198.00	3265.08	2586.24	694.00	26.2%	370.5%	1649
FIBRE CIMENT(ISO)-ETERNIT	4 Inchs	3ML	36.25	521.11	412.76	100.00	26.2%	421.1%	1438
FIBRE CIMENT(ISO)-ETERNIT	5 Inchs	3ML	47.45	644.91	510.83	122.50	26.2%	426.5%	1359
FIBRE CIMENT(ISO)-ETERNIT	6 Inchs	3ML	55.80	513.23	406.52	146.00	26.2%	251.5%	920
U-PVC NON PLASTIFIE-ETERNOPLAST	3 Inchs	ML	5.50	96.75	56.00	13.50	72.8%	616.7%	1759
U-PVC NON PLASTIFIE-ETERNOPLAST	4.5 Inchs	ML	9.85	141.50	99.00	24.50	42.9%	477.6%	1437
U-PVC NON PLASTIFIE-ETERNOPLAST	5.5 Inchs	ML	20.50	437.75	205.00	50.85	113.5%	760.9%	2135
POLYETHYLENE(BSS)-ETERNOPLAST	1/2 Inchs	ML	2.90	30.39	24.07	6.00	26.3%	406.5%	1048
POLYETHYLENE(BSS)-ETERNOPLAST	3/4 Inchs	ML	4.20	42.77	33.88	8.65	26.2%	394.4%	1018
POLYETHYLENE(BSS)-ETERNOPLAST	1 Inchs	ML	6.25	60.78	48.14	13.00	26.3%	367.5%	972
GALVANISE-S.LEGER(STE DES TUBES)	1/2 Inchs	ML	3.90	46.00	46.00	10.50	0.0%	338.1%	1179
GALVANISE-S.LEGER(STE DES TUBES)	3/4 Inchs	ML	5.00	67.00	67.00	15.25	0.0%	339.3%	1240
GALVANISE-S.LEGER(STE DES TUBES)	1 Inchs	ML	7.50	93.00	93.00	21.00	0.0%	342.9%	1240
GALVANISE-S.MOYEN(STE DES TUBES)	1/2 Inchs	ML	4.50	60.00	60.00	13.00	0.0%	361.5%	1333
GALVANISE-S.MOYEN(STE DES TUBES)	3/4 Inchs	ML	5.40	72.00	72.00	17.00	0.0%	323.5%	1333
GALVANISE-S.MOYEN(STE DES TUBES)	1 Inchs	ML	8.70	108.00	108.00	25.50	0.0%	323.5%	1241
GALVANISE-S.MOYEN(STE DES TUBES)	3 Inchs	ML	34.10	351.00	351.00	87.00	0.0%	303.4%	1029
GALVANISE-S.MOYEN(STE DES TUBES)	4 Inchs	ML	50.80	528.00	528.00	131.00	0.0%	303.1%	1039
GALVANISE-S.MOYEN(STE DES TUBES)	5 Inchs	ML	71.70	706.00	706.00	176.00	0.0%	301.1%	985
GALVANISE-S.MOYEN(STE DES TUBES)	6 Inchs	ML	84.70	834.00	834.00	208.00	0.0%	301.0%	985

(1)SALLE DE BAIN:LAVABO A COLONNE,SIEGE,BIDET & ACCESSOIRES(12 pieces au total pour Lecico & 13 pour Cemate).

(2) PRIX\_PUBLIC POUR LECICO

# ISTICHAAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

SPECIFICATIONS UNITE			JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84	
FACTEURS			84	87	87	84	FEV.87	MARS 84	BASE 100	
SANITAIRE :										
-----										
ACCESSOIRES SANITAIRES :										
TE SANITAIRE FONTE(KASSARDJIAN)	4	Inchs	U	38.45	689.93	546.49	136.00	26.2%	407.3%	1794
TE SANIT. FIBRE CIMENT(ETERNIT)	4	Inchs	U	26.90	292.63	231.79	74.10.	26.2%	291.7%	1088
TE F FONTE (KASSARDJIAN)	4	Inchs	U	27.80	552.62	437.73	109.00	26.2%	407.0%	1988
TE F FIBRE-CIMENT (ETERNIT)	4	Inchs	U	18.60	195.84	155.12	37.80	26.2%	418.1%	1053
COUDE P SIPHON (KASSARDJIAN)	4	Inchs	U	31.10	563.88	446.64	111.00	26.2%	408.0%	1813
COUDE 90° FONTE (KASSARDJIAN)	4	Inchs	U	18.80	343.28	271.91	68.00	26.2%	404.8%	1826
COUDE 90° FIBRE-CIMENT(ETERNIT)	4	Inchs	U	16.75	147.44	116.79	27.90	26.2%	428.5%	880
MELANGEURS-S.D.B. (1) :										
1er CHOIX(KASSARDJIAN)		CRISTAL	U	463.10	6685.47	5295.51	1313.00	26.2%	409.2%	1444
1er CHOIX(KASSARDJIAN)		CUIVRE CHROME	U	503.20	7106.41	5628.93	1397.00	26.2%	408.7%	1412
2nd CHOIX(KASSARDJIAN)		CRISTAL	U	429.55	6256.65	4955.85	1230.00	26.2%	408.7%	1457
2nd CHOIX(KASSARDJIAN)		CUIVRE CHROME	U	469.65	6716.98	5320.47	1319.00	26.2%	409.2%	1430
MELANGEURS-CUISINE(LUXE) :										
MONTE SUR EVIER(KASSARDJIAN)		CRISTAL	U	72.65	1087.23	861.19	214.00	26.2%	408.1%	1497
MONTE SUR EVIER(KASSARDJIAN)		CUIVRE CHROME	U	85.40	1124.37	890.61	221.00	26.2%	408.8%	1317
MONTE SUR MUR (KASSARDJIAN)		CRISTAL	U	57.90	967.93	766.69	191.00	26.2%	406.8%	1672
MONTE SUR MUR (KASSARDJIAN)		CUIVRE CHROME	U	71.35	1093.99	866.54	215.00	26.2%	408.8%	1533
TUYAUX CHAUFFAGE-EAU CHAUDE :										
-----										
FER NOIR-S.LEGERE(STE DES TUBES)	1/2	Inch	ML	2.75	37.00	27.60	8.50	34.1%	335.3%	1345
FER NOIR-S.LEGERE(STE DES TUBES)	3/4	Inch	ML	3.75	51.00	38.40	12.25	32.8%	316.3%	1360
FER NOIR-S.LEGERE(STE DES TUBES)	1	Inch	ML	5.40	67.00	22.97	16.00	191.7%	318.8%	1241
FER NOIR-S.LEGERE(STE DES TUBES)	1 1/4	Inchs	ML	6.85	85.00	29.59	21.00	187.3%	304.8%	1241
FER NOIR-S.MOYENNE(ST DES TUBES)	1/2	Inch	ML	3.75	46.00	15.05	10.50	205.6%	338.1%	1227
FER NOIR-S.MOYENNE(ST DES TUBES)	3/4	Inch	ML	4.05	54.00	19.51	13.70	176.8%	294.2%	1333
FER NOIR-S.MOYENNE(ST DES TUBES)	1	Inch	ML	6.50	82.00	27.86	19.50	194.3%	320.5%	1262
FER NOIR-S.MOYENNE(ST DES TUBES)	1 1/4	Inchs	ML	8.05	102.00	36.58	25.50	178.8%	300.0%	1267

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UMITE	JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84
			84	87	87	86	FEV.87	MARS 86	BASE 100
SANITAIRE :									
-----									
ETANCHEITE & PRODUITS D'ETANCHEITE :									
-----									
ETANCHEITE :(LIBAMAT-MEPL)*									
BICOUCHE ELASTOMERE AUTOPROTEGE	Pente nulle	M2	60.00	936.42	741.73	180.00	26.2%	420.2%	1561
MONOCOUCHE ELAST. AUTOPROTEGE	Terrasse pentee	M2	45.00	662.92	525.09	140.00	26.2%	373.5%	1473'
PRODUITS D'ETANCHEITE(SODAP)									
PRODUIT NOIR SOLUT.& EMULS. (PETROMINE FK60)		20 l	91.45	1744.53	1379.50	349.06	26.5%	399.8%	1908
COLLE DE REPRISE (EMULTOR)		Fut	1275.00	24000.00	17000.00	5490.00	41.2%	337.2%	1882
BASE POUFRE (ERTO PRESS)		M2	9.00	120.00	70.00	34.50	71.4%	247.8%	1333
POUDRE + RESINE (ERTO FLEX )		M2	20.00	590.00	178.00	83.00	231.5%	610.8%	2950
BOIS DE MENUISERIE :									
-----									
SAPIN (FILS DE BECHARA KARAM)		M3	1150.00	30951.25	24516.25	2500.00	26.2%	1138.1%	2691
CHENE		M3	4000.00	73157.50	57947.50	15900.00	26.2%	360.1%	1829
TECK		M3	5000.00	57963.25	45912.25	16500.00	26.2%	251.3%	1159
ACAJOU/MOGANO		M3	3100.00	46145.50	36551.50	11100.00	26.2%	315.7%	1489
SUEDE		M3	1450.00	18682.17	14798.01	3500.00	26.2%	433.8%	1288
CONTRE PLAQUE FINLANDAIS		M3	4200.00	73157.50	57947.50	13500.00	26.2%	441.9%	1742
LATTE		M3	2300.00	36578.75	28973.75	6950.00	26.2%	426.3%	1590

(1)MELANGEURS-S.D.B. ;BAIGNOIRE,BIDET & LAVABO

\* Avec pose pour chantiers de grande surface .

B.C.B. 4

# ISTICHAARAT

( SERIE DES PRIX EN L.L.

( VARIATION DES PRIX

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS	MARS87/	MARS87/	JANV. 8
			84	87	87	86	FEV.87	MARS 86	BASE 10
-----									
MENUISERIE ALUMINIUM :(AFNOR)**									
-----									
BAIES COULISSANTES,SYSTEME TECHNAL:									
DEUX PANNEAUX G.K. (TAMCO)	120*240cm	U	1110.00	16896.01	13383.20	3339.00	26.2%	406.0%	1522
DEUX PANNEAUX G.K. (TAMCO)	180*240cm	U	1206.00	17931.47	14203.38	3625.00	26.2%	394.7%	1487
DEUX PANNEAUX G.K. (TAMCO)	240*240cm	U	1302.00	20024.90	15861.57	3912100	26.2%	411.9%	1538
FENETRES COULISSANTES,SYSTEME SIDEM:									
DEUX PANNEAUX P.C.S.(TAMCO)	120*150cm	U	533.00	8647.22	6849.39	1808.00	26.2%	378.3%	1622
DEUX PANNEAUX P.C.S.(TAMCO)	180*150cm	U	597.00	9906.65	7846.98	2036.00	26.2%	386.6%	1659
DEUX PANNEAUX P.C.S.(TAMCO)	240*150cm	U	662.00	11162.71	8841.90	2265.00	26.2%	392.8%	1686
PORTES , SYSTEME SIDEM:									
UN BATTANT OUVRANT D.S.(TAMCO)	85*210cm	U	902.00	10525.68	8337.31	2339.00	26.2%	350.0%	1167
-----									
VITRAGE :(STE GLACES & MIRROIRS)**									
-----									
FLOAT BLANC(1.80 a 1.90m*) .18m)	6 mm	M2	70.00	866.64	686.46	161.00	26.2%	438.3%	1238
FLOAT BLANC	8 mm	M2	100.00	1688.25	1337.25	272.00	26.2%	520.7%	1688
FLOAT BLANC	10 mm	M2	150.00	2138.45	1693.85	378.00	26.2%	465.7%	1426
FLOAT COLORE,BRONZE & GRIS	6 mm	M2	85.00	1125.50	891.50	220.00	26.2%	411.6%	1324
FLOAT COLORE,BRONZE & GRIS	8 mm	M2	150.00	1688.25	1337.25	322.00	26.2%	424.3%	1126
FLOAT COLORE,BRONZE & GRIS	10 mm	M2	225.00	2251.00	1783.00	405.00	26.2%	455.8%	1000
FLOAT REFLECTIF ARGENTE	6 mm	M2	500.00	4727.10	3744.30	945.00	26.2%	400.2%	945
MIRROIR BLANC	4 mm	M2	120.00	1406.88	1114.38	283.00	26.2%	397.1%	1172
MIRROIR BLANC	6 mm	M2	150.00	1980.88	1569.04	396.00	26.2%	400.2%	1321
MIRROIR COLORE,GRIS & BRONZE	4 mm	M2	130.00	1744.53	1381.83	349.00	26.2%	399.9%	1342
MIRROIR COLORE,GRIS & BRONZE	6 mm	M2	180.00	2307.28	1827.58	463.00	26.2%	398.3%	1282

# ISTICHAARAT

( SERIE DES PRIX EN L.L.

( VARIATION DES PRIX

FACTEURS	SPECIFICATIONS	UNITE	SERIE DES PRIX EN L.L.				VARIATION DES PRIX		
			JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS87/ FEV.87	MARS87/ MARS 86	JANV. 8 BASE 10
-----									
MENUISERIE BOIS :									
-----									
PORTES (ELCIR):									
PLEINES SANS HUISSERIES	80*205cm	U	520.00	--	--	2260.00	--	--	--
PLAQUE BOIS ACAJOU & VERNIE	80*205cm	U	820.00	13956.20	11054.60	3540.00	26.2%	294.2%	1702
PLAQUE CHENE OU NOYER & VERNIE	80*205cm	U	1110.00	17005.18	13469.67	4770.00	26.2%	256.5%	1532
PLAQUE BOIS TECK & VERNIE	80*205cm	U	1150.00	17005.18	13469.67	4975.00	26.2%	241.8%	1479
PLAQUE DE STRATIFIE 10/10	80*205cm	U	715.00	15419.35	12213.55	3075.00	26.2%	401.4%	2157
TRANSPORT ET INSTALLATION*		U	90.00	10%	10%	250.00	--	--	--
PORTES PLATAL (MEKER):									
avec huisserie et quincaillerie									
METALL. PLASTIFIEE+POLYURETHANE	80*210cm	U	800.00	7878.50	6240.50	2140.00	26.2%	268.2%	985
METALL. PLASTIFIEE+POLYURETHANE	90*210cm	U	825.00	8216.15	6507.95	2200.00	26.2%	273.5%	996
METALL. PLASTIFIEE+POLYURETHANE	110*210cm	U	940.00	10016.95	7934.35	2520.00	26.2%	297.5%	1066
TRANSPORT ET INSTALLATION*		U	100.00	500.00	500.00	200.00	0.0%	150.0%	500
PLACARD (ELCIR):									
SANS FOND NI COTES, MIN.4 M2		M2	800.00	5965.15	4724.95	3250.00	26.2%	83.5%	746
COMPLET ,BOIS ACAJOU & VERNIE		M2	1300.00	11141.32	8824.96	5370.00	26.2%	107.5%	857
COMPLET,CHENE OU NOYER & VERNIE		M2	1750.00	12155.40	9628.20	7240.00	26.2%	67.9%	695
COMPLET BOIS TECK & VERNIE		M2	1820.00	12155.40	9628.20	7510.00	26.2%	61.9%	668
TRANSPORT & INSTALLATION*		M2	90.00	10%	10%	275.00	--	--	--
PLACARDS (MEKER):									
COMPLET,PARTICULE & MELAMINE		M2	700.00	8891.45	7042.85	1500.00	26.2%	492.8%	1270
TRANSPORT & INSTALLATION*		U	100.00	500.00	500.00	100.00	0.0%	400.0%	500

\*TRANSPORT CHANTIER BEYROUTH

\*\* Y inclus transport & pose .

B.C.B. 5

# ISTICHAARAT

( SERIE DES PRIX EN L.L. )

( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	SERIE DES PRIX EN L.L.				VARIATION DES PRIX		
			JANVIER 84	MARS 87	FEVRIER 87	MARS 84	MARS87/ FEV.87	MARS87/ MARS 86	JANV. 84 BASE 100
FAUX PLAFONDS* :									
ALU., PROFALUX, MIN. 1.5M2 (ELCIR)	Ep. 10 cm	M2	80.00	1913.35	1515.55	320.00	26.2%	497.9%	2392
BOIS, MIN. 1.5 M2 (ELCIR)	Ep. 5 cm	M2	190.00	2587.52	2049.56	575.00	26.2%	350.0%	1362
VOLETS ROULANTS*:									
ALU. & CAISSON (MONOBLOC) & MENUISERIE		M2	750.00	14630.37	11588.61	3000.00	26.2%	387.7%	1951
BOIS, MIN. 5 M2 (ELCIR)		M2	235.00	5402.40	4279.20	875.00	26.2%	517.4%	2299
ALUMINIUM, MIN. 4 M2 (ELCIR)		M2	230.00	4725.97	3743.41	825.00	26.2%	472.8%	2055
MEUBLES DE CUISINE :									
& plan de travail stratifié ou Inox									
ENTIEREMENT METALLIQUE (RAYES)	HAUT	ML	600.00	3250.00	3250.00	1500.00	0.0%	116.7%	542
ENTIEREMENT METALLIQUE (RAYES)	BAS	ML	1100.00	6650.00	6650.00	2250.00	0.0%	195.6%	605
FACADE EN CHENE MASSIF (RAYES)	HAUT	ML	950.00	6250.00	6250.00	2860.00	0.0%	118.5%	658
FACADE EN CHENE MASSIF (RAYES)	BAS	ML	1500.00	9150.00	9150.00	3740.00	0.0%	144.7%	610
& Plan de travail en résine (MEKER)									
C & P** EN TOLE PLASTIFIEE	HAUT	ML	880.00	19921.35	15779.55	2000.00	26.2%	896.1%	2264
C & P** EN TOLE PLASTIFIEE	BAS	ML	1435.00	27912.40	22109.20	2000.00	26.2%	1295.6%	1945
C & P PARTICULE, PEINT POLYURETANE	HAUT	ML	940.00	8103.60	6418.80	2000.00	26.2%	305.2%	862
C & P PARTICULE, PEINT POLYURETANE	BAS	ML	1585.00	11592.65	9182.45	2600.00	26.2%	345.9%	731
C & P EN RESINE	HAUT	ML	1750.00	36241.10	28706.30	5000.00	26.2%	624.8%	2071
C & P EN RESINE	BAS	ML	2585.00	51547.90	40830.70	6300.00	26.2%	718.2%	1994
CHASSIS RESINE, PORTE BOIS MASSIF	HAUT	ML	2250.00	16181.31	12817.10	3500.00	26.2%	362.3%	719
CHASSIS RESINE, PORTE BOIS MASSIF	BAS	ML	3210.00	19875.20	15743.00	4300.00	26.2%	362.2%	619
TRANSPORT & INSTALLATION*			10%	10%	10%	0.10	0.0%	0.0%	100



# ESTIMAT

( SERIE DES PRIX EN L.L. )

( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	( SERIE DES PRIX EN L.L. )				( VARIATION DES PRIX )			
			JANVIER 84	MARS 87	FEVRIER 87	MARS 84	MARS87/ FEV.87	MARS87/ MARS 86	JANV. 84 BASE 100	
CHAUFFAGE & EAU CHAUDE :										
RADIATEUR ALU.C 600(LACOMPACT)	170	Kcal/h	Sect.	42.00	1102.50	863.73	185.00	27.6%	495.9%	2625
RADIATEUR ALU.RAL 600(FERROLI)	125	Kcal/h	Sect.	40.00	857.50	671.79	140.00	27.6%	512.5%	2144
RADIATEUR ALU.RAL 700(FERROLI)	145	Kcal/h	Sect.	45.00	918.75	719.78	150.00	27.6%	512.5%	2042
CHAUDIERE FONTE GH 660 (FERROLI)	137	Kcal/h	Sect.	31.70	813.75	637.52	130.00	27.6%	526.0%	2567
CHAUDIERE FONTE NG 20 (FERROLI)	20000	Kcal/h	U	840.00	21612.50	16931.85	3458.00	27.6%	525.0%	2573
CHAUDIERE FONTE NG 30 (FERROLI)	30000	Kcal/h	U	1065.00	28000.00	21936.00	4480.00	27.6%	525.0%	2629
CHAUDIERE FONTE NG 40 (FERROLI)	40000	Kcal/h	U	1375.00	34300.00	26871.60	5488.00	27.6%	525.0%	2495
CHAUDIERE FONTE NFR 20 (FERROLI)	20000	Kcal/h	U	1065.00	28875.00	22621.50	4620.00	27.6%	525.0%	2711
CHAUDIERE FONTE NFR 30(FERROLI)	30000	Kcal/h	U	1340.00	35525.00	27831.30	5684.00	27.6%	525.0%	2651
CHAUDIERE FONTE NFR 40 (FERROLI)	40000	Kcal/h	U	1600.00	42525.00	33315.30	6804.00	27.6%	525.0%	2658
CHAUDIERE FONTE NFR 80(FERROLI)	80000	Kcal/h	U	2740.00	72975.00	57170.70	11676.00	27.6%	525.0%	2663
CHAUD. FONTE NLR 100(FERROLI)	10000	Kcal/h	U	3800.00	95375.00	74719.50	15260.00	27.6%	525.0%	2510
CHAUD. FONTE NLR 140(FERROLI)	14000	Kcal/h	U	4865.00	126875.0	99397.50	20300.00	27.6%	525.0%	2608
BRULEUR/MAZOUT 99 FRD(CARLIN)	0.50- 2.25	GPH	U	2100.00	34327.75	27190.75	6750.00	26.2%	408.6%	1635,
BRULEUR/MAZOUT 200CRD(CARLIN)	2.00- 5.00	GPH	U	3150.00	48959.25	38780.25	10400.00	26.2%	370.8%	1554
BRULEUR/MAZOUT 501 CRD(CARLIN)	6.00-10.80	GPH	U	4000.00	59088.75	46803.75	12500.00	26.2%	372.7%	1477
BRULEUR/MAZOUT SYNCRO(BALTUR)	24500- 44800	Kc	U	1100.00	24500.00	19194.00	3750.00	27.6%	553.3%	2227
BRULEUR/MAZOUT BT 6G(BALTUR)	26500- 63200	Kc	U	1200.00	25812.50	20222.25	3950.00	27.6%	553.5%	2151
BRULEUR/MAZOUT BT 18G(BALTUR)	86700-183600	Kc	U	2100.00	40250.00	31533.00	6250.00	27.6%	544.0%	1917

\* Y INCLUS TRANSPORT & INSTALLATION

\*\* C & P : CHASSIS ET PORTE

B.C.B. 6

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS 86	MARS 87/	MARS 87/	JANV. 84	
			86	87	87	86	FEV.87	MARS 86	BASE 100	
-----										
MATERIEL ELECTRIQUE :										
-----										
TUBE ICD 6 GRIS APE-11(ARNOULD)	NF C15-100	ML	1.50	49.13	17.85	7.20	175.2%	582.3%	3275	
TUBE ICD 6 GRIS APE-13(ARNOULD)	NF C15-100	ML	1.75	61.69	22.90	9.20	169.4%	570.5%	3525	
TUBE ICD 6 GRIS APE-16(ARNOULD)	NF C15-100	ML	2.00	78.38	28.56	11.60	174.4%	575.6%	3919	
TUBE ICD 6 GRIS APE-21(ARNOULD)	NF C15-100	ML	3.00	114.75	40.46	16.80	183.6%	583.0%	3825	
TUBE ICD 6 GRIS APE-29(ARNOULD)	NF C15-100	ML	6.50	178.88	65.45	26.40	173.3%	577.6%	2752	
BOITE POINT CENTRE 84mm(ARNOULD)	NF C15-100	U	2.20	84.56	35.40	11.60	138.9%	629.0%	3844	
BOITE APP. ENTRAXE 60mm(ARNOULD)	NF C15-100	U	1.60	23.06	20.64	8.80	11.7%	162.1%	1441	
FIL NYA 1.5 mm2(LIBAN CABLE)	VDE 100 YO		21.35	365.79	289.74	86.65	26.2%	322.1%	1713	
FIL NYA 2.5 mm2(LIBAN CABLE)	VDE 100 YO		35.10	596.52	472.50	141.60	26.2%	321.3%	1699	
FIL NYA 4 mm2(LIBAN CABLE)	VDE 100 YO		50.20	886.89	702.50	209.50	26.2%	323.3%	1767	
FIL NYA 6 mm2(LIBAN CABLE)	VDE 100 YO		75.60	1304.45	1033.25	308.00	26.2%	323.5%	1725	
FIL NYA 10 mm2(LIBAN CABLE)	VDE 100 YO		111.25	2075.42	1643.93	491.20	26.2%	322.5%	1866	
CABLE NYM 3x16+10mm2(LIB.CABLE)	VDE	ML	8.85	158.70	125.70	35.80	26.2%	343.3%	1793	
CABLE NYM 3x25+16mm2(LIB.CABLE)	VDE	ML	13.05	244.23	193.46	54.30	26.2%	349.8%	1872	
CABLE NYM 3x35+16mm2(LIB.CABLE)	VDE	U	17.55	320.77	254.08	73.50	26.2%	336.4%	1828	
TAB. MONOPHASE 6 DEPARTS(ITE)	AMERICAINES	U	35.00	1125.50	690.00	244.00	63.1%	361.3%	3216	
TAB. TRIPHASE 12 DEPARTS(ITE)	AMERICAINES	U	205.00	5402.40	3480.00	1160.00	55.2%	365.7%	2635	
TAB. TRIPHASE 18 DEPARTS(ITE)	AMERICAINES	U	295.00	7540.85	3900.00	1640.00	93.4%	359.8%	2556	
TAB. TRIPHASE 24 DEPARTS(ITE)	AMERICAINES	U	360.00	9116.55	4820.00	2000.00	89.1%	355.8%	2532	
TAB. TRIPHASE 30 DEPARTS(ITE)	AMERICAINES	U	405.00	10016.95	5325.00	2200.00	88.1%	355.3%	2473	
DISJONCTEUR MONOPHASE(ITE)	AMERICAINES	U	18.00	450.20	248.00	96.00	81.5%	369.0%	2501	
DISJONCTEUR TRIPHASE(ITE)	AMERICAINES	U	144.00	3376.50	2099.00	728.00	60.9%	363.8%	2345	
INTERR.SIMPLE ALLUMAGE(ARNOULD)	NF C15-100	U	14.60	536.25	172.00	74.00	211.8%	624.7%	3673	
INTERRUPT. VA & VIENT (ARNOULD)	NF C15-100	U	17.60	644.06	229.00	90.00	181.3%	615.6%	3659	
INTERR.DOUBLE ALLUMAGE(ARNOULD)	NF C15-100	U	26.20	979.31	354.00	140.00	176.6%	599.5%	3738	
POUSSOIR (ARNOULD)	NF C15-100	U	15.00	426.94	193.00	78.00	121.2%	447.4%	2846	
PRISE COURANT 10/16A+T(ARNOULD)	NF C15-100	U	19.00	653.25	285.00	105.00	129.2%	522.1%	3438	
PRISE TELEPHONIQUE(ARNOULD)	NF C15-100	U	21.40	1367.06	413.00	113.00	231.0%	1109.8%	6388	
PRISE T.V. (ARNOULD)	NF C15-100	U	17.80	586.88	264.00	97.00	122.3%	505.0%	3297	

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

-----  
 SPECIFICATIONS UNITE JANVIER MARS FEVRIER MARS MARS 87/ MARS 87/ JANV. 84  
 FACTEURS 84 87 87 86 FEV.87 MARS 86 BASE 100  
 -----

CONDITIONNEMENT D'AIR :(CARRIER)  
 -----

SPECIFICATIONS	UNITE		JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS 87/ FEV.87	MARS 87/ MARS 86	JANV. 84 BASE 100
SPLIT SYSTEM	22000 BTU	U	9270	157570	124810	27694	26.2%	449.0%	1700
INSTALLATION CENTRALE	36000 BTU	U	11160	183457	145315	33823	26.2%	442.4%	1644
	48000 BTU	U	13590	218347	172951	39800	26.2%	448.6%	1607
	60000 BTU	U	14850	238043	188552	43600	26.2%	446.0%	1603
CUIVRE(installation centrale)		ML	60.00	675	535	110	26.2%	513.9%	1126
DUCT D'ISOLATION*		ML	150.00	1050	950	325	10.5%	223.1%	700

ASCENSEURS :\*  
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SPECIFICATIONS	UNITE		JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS 87/ FEV.87	MARS 87/ MARS 86	JANV. 84 BASE 100
SIMPLE VITESSE, 4 ARRETS(RAYES)	.75m/sec.	U	60000	650000	580000	121000	12.1%	437.2%	1083
DOUBLE VITESSE, 6 ARRETS(RAYES)	1m/sec.	U	68000	680000	600000	138000	13.3%	392.8%	1000

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 \* Y COMPRIS TRANSPORT & INSTALLATION

B.C.B. 7

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84
			84	87	87	84	FEV.87	MARS 84	BASE 100
CARRELAGE & REVETEMENT :									
CERAM. EMAILLEE 2nd CHOIX(SPEA)	15*20cm	M2	32.00	462.00	362.47	100.00	27.5%	362.0%	1444
CERAM. EMAILLEE 1er CHOIX(SPEA)	20*25cm	M2	65.00	1115.63	875.29	250.00	27.5%	346.3%	1716
CERAM. EMAILLEE 2nd CHOIX(SPEA)	20*25cm	M2	45.00	962.50	755.15	185.00	27.5%	420.3%	2139
CERAM. EMAILLEE COMMER. (SPEA)	20*20cm	M2	45.00	612.50	480.55	120.00	27.5%	410.4%	1361
CERAM. EMAILLEE 1er CHOIX(SPEA)	30*30cm	M2	70.00	1312.50	1029.75	220.00	27.5%	496.6%	1875
CERAM. EMAILLEE 2nd CHOIX(SPEA)	30*30cm	M2	35.00	265.00	265.00	180.00	0.0%	47.2%	757
CERAMIQUE COMMERCIALE(UNICERAMIC)	10*20cm	M2	35.55	450.20	300.00	75.00	50.1%	500.3%	1266
CERAMIQUE COMMERCIALE(UNICERAMIC)	20*20cm	.96M2	41.85	506.48	325.00	75.00	55.8%	575.3%	1210
CERAMIQUE COMMERCIALE(UNICERAMIC)	30*20cm	.96M2	43.65	562.75	200.00	100.00	181.4%	462.8%	1289
MOSAIQUE(CAILLOUX LOCAL)	20*20cm	M2	16.00	52.40	52.40	32.50	0.0%	61.2%	328
MOSAIQUE(CAILLOUX LOCAL)	25*25cm	M2	20.00	84.00	84.00	40.00	0.0%	110.0%	420
MOSAIQUE(CAILLOUX LOCAL)	30*30cm	M2	35.00	102.00	102.00	60.00	0.0%	70.0%	291
MOSAIQUE(ECLATS DE PIERRE)	40*40cm	M2	60.00	185.00	185.00	110.00	0.0%	68.2%	308
MOSAIQUE(CAILLOUX IMPORTE)	20*20cm	M2	25.00	90.00	90.00	50.00	0.0%	80.0%	360
MOSAIQUE(CAILLOUX IMPORTE)	25*25cm	M2	28.00	110.00	110.00	60.00	0.0%	83.3%	393
MOSAIQUE(CAILLOUX IMPORTE)	30*30cm	M2	40.00	145.00	145.00	80.00	0.0%	81.3%	363
TRANSPORT*(MOSAIQUE)		M2	1.50	14.00	14.00	5.00	0.0%	180.0%	933
MARBRE TRAVERTINO REVET.(ITALIE)	Ep. 2cm	M2	200.00	1200.00	1200.00	600.00	0.0%	100.0%	600
MARBRE DE CARRARE(SCIE LOCAL )	Ep. 13mm	M2	125.00	936.00	936.00	350.00	0.0%	167.4%	749
GRANITE (LABRADOR)	Ep. 2cm	M2	550.00	2850.00	2850.00	1450.00	0.0%	96.6%	518
COLLE CARRELAGE (ERTO COLLE)		M2	3.00	52.00	52.00	12.60	0.0%	312.7%	1733

# ISTICHAARAT

( SERIE DES PRIX EN L.L. ) ( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS	UNITE	JANVIER	MARS	FEVRIER	MARS	MARS 87/	MARS 87/	JANV. 84
			84	87	87	86	FEV.87	MARS 86	BASE 100
<b>BITUME + AGREGATS (HABIB HAKIM &amp; FILS)</b>									
ROULEMENT	55 KILOS	T	140.00	1150.40	963.20	375.00	19.4%	206.8%	822
BASE	45 KILOS	T	130.00	1060.36	891.88	340.00	18.9%	211.9%	816
<b>MAIN D'OEUVRE :</b>									
CONTRE-MAITRE (LIBANAIS)	GROS-OEUVRE	JOUR	180.00	475.00	475.00	215.00	0.0%	120.9%	264
AIDE CONTRE-MAITRE(LIBANAIS)	GROS-OEUVRE	JOUR	140.00	350.00	350.00	155.00	0.0%	125.8%	250
CONTRE-MAITRE (LIBANAIS)	ELECT. ,SANIT.	JOUR	140.00	330.00	330.00	170.00	0.0%	94.1%	236
AIDE CONTRE-MAITRE(LIBANAIS)	ELECT. ,SANIT.	JOUR	100.00	275.00	275.00	125.00	0.0%	120.0%	275
MANOEUVRE:LIBANAIS		JOUR	110.00	300.00	275.00	125.00	9.1%	140.0%	273
LIBANAIS-DEBUTANT		JOUR	85.00	250.00	220.00	110.00	13.6%	127.3%	294
EGYPTIEN		JOUR	90.00	250.00	220.00	125.00	13.6%	100.0%	278
INDIEN,PAKISTANAIS,SRI-LANKAIS		JOUR	70.00	250.00	220.00	115.00	13.6%	117.4%	357

\* TRANSPORT CHANTIER BEYROUTH

(1) LES PRIX-ENTREPRENEURS DE CERTAINS MATERIAUX SONT INFERIEURS A LA LISTE DE PRIX PUBLIC DE 5% A 15% SUIVANT LES PRODUITS .

B.C.B. 8

# ISTICHAARAT

( SERIE DES PRIX EN L.L. )

( VARIATION DES PRIX )

FACTEURS	SPECIFICATIONS UNITE	SERIE DES PRIX EN L.L.				VARIATION DES PRIX		
		JANVIER 84	MARS 87	FEVRIER 87	MARS 86	MARS87/ FEV.87	MARS87/ MARS 86	JANV. 84 BASE 100
<b>MACHINES ET EQUIPEMENTS(BALADI FRERES &amp; CO)</b>								
Betonniere BFC 360 SH & treuil-levage 8 M3/H	U	22000	360160	285280	72000	26.2%	400.2%	1637
Betonniere BFC 750/500 lit. 15 M3/H, & scrapage agregats, compteur d'eau & balance hydraulique.	U	80000	1283070	1016310	256500	26.2%	400.2%	1604
BFC-ARBAU. Centrale a beton 30 M3/H, automatique 2 screws, cabine et pan mixer 750/500 litres .	U	250000	7129763	5585660	1062100	27.6%	571.3%	2852
BFC Ascenseur-chantier, SL 1000 P charge utile 1000 Kgs, selecteur-etages, parachute. Haut. 30M	U	50000	917283	726573	183375	26.2%	400.2%	1835
SHWING, Pompe a beton 30 M3/H & 100 M tuyaux.	U	250000	9247088	7244433	1377500	27.6%	571.3%	3699
ITALMACHINE, Dumper/Mixer-capacite 1,3 M3.	U	140000	3376500	2674500	675000	26.2%	400.2%	2412
B.P.R.:Grue a tour GT 112, charge 1,2 T/42 M H.S.C. 33 M	U	375000	12060563	9448589	1922000	27.6%	527.5%	3216
PETTIBONE MK 40, Grue telescopique, mobile, 20 T.	U	866200	16747440	13265520	3348000	26.2%	400.2%	1933
JCB 3CX , chargeuse excavatrice & pelle-retro.	U	237300	4614550	3655150	922500	26.2%	400.2%	1945
JCB 418, Chargeuse sur pneumatique 2.5 Cu.yard.	U	409700	7315750	5794750	1462500	26.2%	400.2%	1786
JCB 807 C, Pelle, excavateur sur chenilles 18 T.	U	458900	8103600	6418800	1620000	26.2%	400.2%	1766
PIGON Pelle 14C, sur pneumatique. 120 H.P.	U	357200	12644100	9905749	2015000	27.6%	527.5%	3540
HYSTER, Chariot Elev./Pneumatique Cap. 3000 Kgs.	U	86000	1853801	1411638	333300	31.3%	456.2%	2156
ALBARET: Rouleau Compresseur, VA 12 ST, 0.5/10 T	U	319100	9142613	7162584	1457000	27.6%	527.5%	2865

# ISTICHAAT

## INDICE DU COUT DE LA CONSTRUCTION

+37.16% EN MARS CONTRE + 10,09% EN FEVRIER

Un nouveau coup d'accélérateur dont l'origine est maintenant connue et aucun signe de baisse pour l'avenir immédiat.

### POURCENTAGES

FACTEURS	JANVIER	JANVIER	JANVIER	JANVIER	MARS
	84	85	86	87	87
GROS OEUVRE	21.41	22.12	24.03	27.41	25.64
SECOND OEUVRE ET FINISSAGE	6.60	6.82	5.78	6.92	6.11
MENUISERIE INTERIEURE	5.86	6.05	7.91	8.18	8.29
MENUISERIE EXTERIEURE	5.88	6.25	7.08	6.99	7.08
CARRELAGE ET REVETEMENT	5.01	6.87	4.86	3.81	3.88
PEINTURE	1.46	1.48	1.98	3.02	3.06
MEUBLE DE CUISINE	2.78	3.07	3.45	1.86	1.49
SANITAIRE	5.80	5.82	7.07	8.18	7.94
CHAUFFAGE EAU CHAUDE	6.27	6.63	10.69	14.03	14.39
INSTALLATION ELECT.& ASCENCEUR	7.29	7.41	10.38	10.07	13.93
MAIN D'OEUVRE	31.63	27.48	16.75	9.54	8.20
TOTAL	100.00	100.00	100.00	100.00	100.00

Nous avons choisi ce mois d'examiner les pourcentages de matériaux et main-d'oeuvre constituant notre modèle et l'évolution de ce pourcentage depuis Janvier 84 dans la tourmente inflationniste que connaît le pays.

Dans l'ensemble les résultats du tableau ci-dessous sont assez prévisibles. En effet on remarque une baisse très importante de la main d'oeuvre qui ne représente plus en Mars 87 que 8.20% du prix du panier choisi alors qu'elle représentait 31% à l'origine du modèle.

Les hausses les plus importantes étant surtout enregistrées dans les catégories importées chauffage de 6.27% à 14.39%, Installation électrique de 7.29% à 13.93% et peintures de 1.46 à 3.06%.

Pour les autres catégories on trouve une baisse relative du surtout à des composants fabriqués localement meubles de cuisine de 2.78% à 1.49%, carrelage de 5.01% à 3.88% et une certaine stabilité pour les catégories mixtes telles que le gros oeuvre de 21% à 25% dans lequel le ciment diminue de 7.05% à 6.79% et le fer augmente de 7.55% à 12.23%

B.C.B. 10



# ISTICHAAT

## INDICE DU COUT DE LA CONSTRUCTION

FACTEURS	SPECIFI CATIONS	UNITE	PRIX UNITAIRE LL			QUANTITE PAR M2		PRIX TOTAL LL(1)		POURCENTAGE %		VARIATION DE PRIX	
			JANVIER	MARS			JANV.	MARS	JANV.	MARS	MARS 87/ JANV.84	MARS 87/ DEC.84	
			84	87			84	87	84	87			
<b>GROS OEUVRE :</b>							153.80	1981.56	21.41%	25.64%	1188.44%	34.07%	
CIMENT PORTLAND	BSS12-58	T	405.00	4200.00	0.125	50.63	525.00	7.05%	6.79%	937.04%	61.54%		
FER ROND A BETON(C.S.L.)	10-32mm	T	1550.00	27012.00	0.035	54.25	945.42	7.55%	12.23%	1642.71%	22.34%		
GRAVIER	3/8-7/8	M3	35.00	325.00	0.280	9.80	91.00	1.36%	1.18%	828.57%	116.67%		
SABLE	< 3/8	M3	33.00	300.00	0.140	4.62	42.00	0.64%	0.54%	809.09%	138.10%		
BOIS SAPIN MADRIER(F.B.KARAM)	75*75mm	M3	1200.00	15757.00	0.020	24.00	315.14	3.34%	4.08%	1213.08%	22.34%		
HOURDIS	Ep.14cm	U	1.75	10.50	6.000	10.50	63.00	1.46%	0.82%	500.00%	0.00%		
<b>SECOND OEUVRE &amp; FINISSAGE :</b>						47.40	471.96	6.60%	6.11%	895.70%	42.05%		
CIMENT PORTLAND	BSS12-58	T	405.00	4200.00	0.045	18.23	189.00	2.54%	2.45%	937.04%	61.54%		
SABLE	Ouzal	M3	33.00	300.00	0.175	5.78	52.50	0.80%	0.68%	809.09%	138.10%		
PARPAINGS	Ep.10cm	U	1.20	7.50	12.000	14.40	90.00	2.01%	1.16%	525.00%	0.00%		
ETANCHEITE BICOUCHE(LIBAMAT)	Pente 0	M2	60.00	936.42	0.150	9.00	140.46	1.25%	1.82%	1460.69%	36.10%		
<b>MENUISERIE INTERIEURE :</b>						42.10	640.97	5.86%	8.29%	1422.50%	25.10%		
PORTE PLAQUEE ACAJOU(ELCIR)	80*205cm	U	820.00	13956.20	0.030	24.60	418.69	3.43%	5.42%	1601.98%	22.34%		
PLACARD PARTICULE (MEKER)		M2	700.00	8891.45	0.025	17.50	222.29	2.44%	2.88%	1170.21%	30.67%		
<b>MENUISERIE EXTERIEURE :</b>						42.22	547.21	5.88%	7.08%	1196.10%	22.34%		
PORTE ALU.1 BAT.OUV.(TAMCO)*	85*210cm	U	902.00	10525.68	0.035	31.57	368.40	4.40%	4.77%	1066.93%	22.34%		
FLOAT BLANC(S.GLACES & MIRR.)*	6mm	M2	70.00	866.64	0.070	4.90	60.66	0.68%	0.78%	1138.05%	22.34%		
VOLET ROULANT ALU. (ELCIR)		M2	230.00	4725.97	0.025	5.75	118.15	0.80%	1.53%	1954.77%	22.34%		
<b>CARRELAGE &amp; REVETEMENT :</b>						35.95	299.69	5.01%	3.88%	733.68%	117.75%		
MOSAIQUE,CAILLOUX LOCAL	20*20cm	M2	16.00	52.40	0.550	8.80	28.82	1.23%	0.37%	227.50%	32.32%		
CERAMIQUE COMM.(UNICERAMIC)	20*20cm .96M2		41.85	506.48	0.350	14.65	177.27	2.04%	2.29%	1110.22%	189.41%		
MARBRE DE CARRARE/REVETEMENT	Ep.13mm	M2	125.00	936.00	0.100	12.50	93.60	1.74%	1.21%	648.80%	71.43%		
<b>PEINTURE :</b>						10.52	236.12	1.46%	3.06%	2145.01%	22.34%		
EMULSION NON LAVABLE SOLIDEC	BSS GALL.		23.75	587.51	0.170	4.04	99.88	0.56%	1.29%	2373.73%	22.34%		
PEINTURE A L'HUILE MANDERLAC	BSS GALL.		72.00	1513.80	0.090	6.48	136.24	0.90%	1.76%	2002.50%	22.34%		

# ISTICHAARAT

## INDICE DU COUT DE LA CONSTRUCTION

FACTEURS	SPECIFI CATIONS	UNITE	QUANTITE			POURCENTAGE				VARIATION DE PRIX	
			PAR M2		PRIX TOTAL LL(1)		%				
			JANVIER	MARS	JANV.	MARS	JANV.	MARS	MARS 87/ JANV.84	MARS 87/ DEC.84	
			84	87	84	87	84	87			
-----											
MEUBLE DE CUISINE :					20.00	115.25	2.78%	1.49%	476.25%		0.00%
MEUBLE CUISINE METALL.(RAYES)	HAUT	ML	600.00	3250.00	0.015	9.00	48.75	1.25%	0.63%	441.67%	0.00%
MEUBLE CUISINE METALL.(RAYES)	BAS	ML	1100.00	6650.00	0.010	11.00	66.50	1.53%	0.86%	504.55%	0.00%
SANITAIRE :					41.67	613.32	5.80%	7.94%	1371.78%		29.86%
SALLE DE BAIN,CAMELIA(LECICO) COLOREE		U	887.00	10865.55	0.020	17.74	217.31	2.47%	2.81%	1124.98%	20.13%
TUYAU FONTE(KASSARDJIAN)	3 Inchs	2ML	60.55	1087.23	0.250	15.14	271.81	2.11%	3.52%	1695.60%	36.09%
TUYAU GALVANISE(S.DES TUBES) 3/4 Inch		ML	5.00	67.00	0.350	1.75	23.45	0.24%	0.30%	1240.00%	32.94%
MELANGEUR-S.D.B(KASSARDJIAN)	CHROME	U	469.65	6716.98	0.015	7.04	100.75	0.98%	1.30%	1330.21%	36.09%
CHAUFFAGE-EAU CHAUDE :					45.00	1112.33	6.27%	14.39%	2371.83%		29.28%
RADIATEUR ALU.C600(LACOMPACT)	170 Kc	Sect	42.00	1102.50	0.600	25.20	661.50	3.51%	8.56%	2525.00%	29.15%
CHAUDIERE FONTE NFR40(FEROLI) 40000Kc		U	1600.00	42525.00	0.006	9.60	255.15	1.34%	3.30%	2557.81%	29.15%
BRULEUR BT6G(BALTUR)	26500-63200Kc	U	1200.00	25812.50	0.006	7.20	154.88	1.00%	2.00%	2051.04%	29.15%
TUYAU FER NOIR(S.DES TUBES) 3/4 Inch		ML	3.75	51.00	0.800	3.00	40.80	0.42%	0.53%	1260.00%	32.81%
INSTALLATION ELECT.& ASCENCEUR :					52.35	1076.39	7.29%	13.93%	1956.10%		103.74%
ASC. SIMPLE VITESSE(RAYES)*	.75m/sec	U	60000	650000	0.0004	24.00	260.00	3.34%	3.36%	983.33%	91.18%
TUBE IC06 GRIS APE16(ARNOULD)	NFC-15	ML	2.00	78.38	0.400	0.80	31.35	0.11%	0.41%	3818.75%	174.42%
FIL NYA 2.5 mm2 (LIBAN CABLE)	VDE 100 Y		35.10	596.52	0.010	0.35	5.97	0.05%	0.08%	1599.47%	36.09%
TABL.TRIPHASE 18 DEPARTS(ITE)	U.S.A.	U	295.00	7540.85	0.060	17.70	452.45	2.46%	5.85%	2456.22%	93.36%
PRISE/COURANT 10/16A(ARNOULD)	NFC-15	U	19.00	653.25	0.500	9.50	326.63	1.32%	4.23%	3338.16%	129.21%
-----											
TOTAL MATERIAUX					491.00	7094.80	68.37%	91.80%	1344.96%		39.75%
-----											

\* Y COMPRIS TRANSPORT & INSTALLATION

(1) LE PRIX TOTAL NE REPRESENTE PAS LE COUT DU METRE CARRE CONSTRUIT,MAIS UNIQUEMENT LE COUT DU PANIER DE MATERIAUX & MAIN D'OEUVRE DE NOTRE MODELE.

B.C.B. 11

# ISTICHAARAT

## INDICE DU COUT DE LA CONSTRUCTION

FACTEURS	SPECIFI CATIONS	PRIX UNITAIRE LL		QUANTITE PAR M2		PRIX TOTAL LL(1)		POURCENTAGE %		VARIATION DE PRIX	
		UNITE	JANVIER	MARS	JANV.	MARS	JANV.	MARS 87	MARS 87/ JANV.84	MARS 87/ DEC.86	
			84	87	84	87	84	87			
<b>MAIN D'OEUVRE :</b>											
CONTRE-MAITRE (LIBANAIS) Gros-Oeuvre	JOUR	180.00	475.00	0.200	36.00	95.00	5.01%	1.23%	163.89%	5.56%	
AIDE CONTRE-MAITRE(LIBANAIS) Gros-Oeu	JOUR	140.00	350.00	0.150	21.00	52.50	2.92%	0.68%	150.00%	16.67%	
CONTRE-MAITRE (LIBANAIS) Elec/Sanit.	JOUR	140.00	330.00	0.130	18.20	42.90	2.53%	0.56%	135.71%	3.13%	
AIDE CONTRE-MAITRE(LIBANAIS) Elec/San	JOUR	100.00	275.00	0.120	12.00	33.00	1.67%	0.43%	175.00%	10.00%	
MANOEUVRE:LIBANAIS	JOUR	110.00	300.00	0.700	77.00	210.00	10.72%	2.72%	172.73%	20.00%	
LIBANAIS-DEBUTANT	JOUR	85.00	250.00	0.200	17.00	50.00	2.37%	0.65%	194.12%	13.64%	
EGYPTIEN	JOUR	90.00	250.00	0.200	18.00	50.00	2.51%	0.65%	177.78%	13.64%	
PAKISTANAIS,SRI-LANKAIS	JOUR	70.00	250.00	0.400	28.00	100.00	3.90%	1.29%	257.14%	13.64%	
<b>TOTAL MAIN-D'OEUVRE</b>					<b>227.20</b>	<b>633.40</b>	<b>31.63%</b>	<b>8.20%</b>	<b>178.79%</b>	<b>13.59%</b>	
<b>TOTAL MATERIAUX &amp; MAIN-D'OEUVRE</b>					<b>718.20</b>	<b>7728.20</b>	<b>100%</b>	<b>100%</b>	<b>976.05%</b>	<b>37.16%</b>	

(1) LE PRIX TOTAL NE REPRESENTE PAS LE COUT DU METRE CARRE CONSTRUIT,MAIS  
UNIQUEMENT LE COUT DU PANIER DE MATERIAUX & MAIN D'OEUVRE DE NOTRE MODELE.

PERMIS DE CONSTRUIRE

LEGERE REPRISE DES PERMIS ACCORDES : + 10%

Malgré une activité au niveau de la construction déprimée depuis le début de l'année, il semble qu'à l'approche du printemps une certaine reprise devrait avoir lieu.

PERMIS DE CONSTRUIRE

MOHAFAZA	FEV. 87		MARS 87		CUMUL 87		CUMUL 86		CUM 87/MARS 87/		MARS 86
	M2	%	M2	%	(3 MOIS)	%	(3 MOIS)	%	CUM 86	MARS 86	
BEYROUTH	2360	1%	28095	10%	41941	6%	63568	7%	-34%	35%	10909
MONT-LIBAN	212820	83%	173863	62%	504153	74%	625821	69%	-19%	-30%	-18%
SUD-LIBAN	24272	9%	60285	21%	89476	13%	138795	15%	-36%	16%	148%
BEKAA	17157	7%	20068	7%	44487	7%	75415	8%	-41%	-18%	17%
<b>TOTAL</b>	<b>256609</b>	<b>100%</b>	<b>282311</b>	<b>100%</b>	<b>680057</b>	<b>100%</b>	<b>903599</b>	<b>100%</b>	<b>-25%</b>	<b>-18%</b>	<b>10%</b>

SOURCE : ORDRE DES INGENIEURS DE BEYROUTH.

Le mois de Mars a enregistré une hausse globale de 10% par rapport à Février 87 et cela malgré une diminution de 18% dans la région du Mont-Liban. Cependant le niveau d'activité n'a pas encore atteint celui de la même période en 86 avec - 25% en données cumulées.

Après avoir été marginalisé en Février (1%) Beyrouth reprend une petite part (10%) du marché pour atteindre 6% en cumul 87.

Le Sud-Liban avec 21% du volume mensuel réussit lui aussi à doubler sa part du marché global mais la part prédominante reste au Mont-Liban avec 62% en Mars et surtout 74% sur l'ensemble des trois mois de 87. par ailleurs on peut noter que malgré un recul global de 25% par rapport aux 3 mois de 86 le Mont-Liban n'a enregistré que - 19% alors que les trois autres régions reculent entre 34 et 41%

# ESTIMATIONS

## SUMMAIRE LOCAL DE CIMENT

### LA DIMINUTION DES LIVRAISONS DE CIMENT S'ACCENTUE : 39% PAR RAPPORT A 86

Comme en Février, la dégringolade s'est encore accrue ce mois-ci pour atteindre les niveaux de Février 85.

#### CONSOMMATION LOCALE DE CIMENT (tonnes)

	MARS 87	%	FEV. 87	%	CUMUL 87 (3 MOIS)	CUMUL 86 (3 MOIS)	CUMUL 87/MARS 87/ CUMUL 86	87/MARS 87/ FEV.87	87/ MARS 86
SOCIETE DES CIMENTS LIBANAIS	47112	68%	52397	55%	176574	242998	-27%	-10%	-55%
CIMENTERIE NATIONALE	20582	30%	40468	42%	91458	127750	-28%	-49%	-57%
IMPORTATIONS *	2000	3%	3100	3%	7100	78000	-91%	-35%	-92%
TOTAL	69694	100%	95965	100%	275132	448748	-39%	-27%	-61%

CIMENT SYRIEN, GREC & CHYPRIOTE (ESTIMATIONS).

Le mois en cours a été caractérisé par des conditions météorologiques assez défavorables et par une situation économique tendue, tout ceci a provoqué un gel assez important de l'activité du secteur immobilier, les livraisons de ciment chutant de 27% en un mois ne représentant ainsi que 39% des livraisons de Mars 86.

Une telle situation paraît désastreuse sur la longue surtout qu'avec un peu moins de 70.000 tonnes de ciment livrées, Mars 1987 représente ainsi un record de baisse de livraison après février 1985 (-48%). Cette forte dépression ne pouvait que se répercuter négativement sur le premier trimestre 1986.

En effet le cumul (3 mois) 87 ne représente plus que 61% de la consommation en ciment de la même période en 1986.

Cette diminution ne peut pas être imputée à la hausse du prix de la tonne de ciment local qui est passée de 4100 à 4200 LL étant donné la diminution des importations.

# ISTICHAARAT

## ANNONCES - IMMOBILIER

HAUSSE CONTINUE AU NIVEAU DE L'OFFRE : + 40% ET DE LA DEMANDE : +30%

Avec une hausse globale de 40% pour Mars 1987 v/s Fevrier 1987, l'Immobilier semble de nouveau attirer une clientele encouragee a y investir pour eviter la degradation de leur patrimoine vu la tranformation du marche foncier en marche libelle en devise.

MOIS	MARS 87				I	FEV.87	I	MARS 87/ FEVRIER 87	I
	BEYROUTH	MONT- LIBAN	AUTRES REGIONS	TOTAL					
OFFRE-VENTE	192	211	2	405	I	286	I	42%	I
OFFRE-LOCATION	32	20	0	52	I	60	I	-13%	I
DEMANDE-ACHAT	27	14	0	41	I	34	I	21%	I
DEMANDE-LOCATION	40	13	0	53	I	50	I	6%	I
TOTAL APPARTEMENTS	291	258	2	551	I	430	I	28%	I
OFFRE-VENTE	56	37	0	93	I	35	I	166%	I
OFFRE-LOCATION	27	0	0	27	I	4	I	575%	I
TOTAL IMMEUBLES	83	37	0	120	I	39	I	208%	I

MOIS	MARS 87				FEV. 87	MARS 87/
	BEYROUTH	MONT-LIBAN	AUTRES REGIONS	TOTAL	TOTAL	FEVRIER 87
						%
OFFRE-VENTE	129	41	6	176	118	49%
OFFRE-LOCATION	19	3	0	22	19	16%
DEMANDE-ACHAT	16	0	0	16	2	700%
DEMANDE-LOCATION	12	0	0	12	4	200%
TOTAL MAGASINS/DEPOTS	176	44	6	226	143	58%
OFFRE-VENTE	10	70	3	83	84	-1%
DEMANDE-ACHAT	2	4	1	7	9	-22%
TOTAL TERRAINS	12	74	4	90	93	-3%
TOTAL ANNONCES	562	413	12	987	705	40%
- TOTAL OFFRE	465	382	11	858	606	42%
- TOTAL DEMANDE	97	31	1	129	99	30%

SOURCES : NAHAR ,L'ORIENT-LE JOUR & SAPHIR.

Au niveau de l'offre on notera l'augmentation + 42% pour la vente d'appartements et plus 49% pour celle des depots et magasins, seule l'offre de location d'appartements ayant diminuee de 13%. La demande reste quand a elle soutenue pour les appartements et fait un bond spectaculaire dans le secteur commercial (magasins et depots) et cela surtout a Beyrouth ou le nombre d'annonces a pour la premiere fois depasse celui de la region du Mont-Liban. Cette situation est cependant assombrie par la diminution des demandes d'achats de terrains - 22% qui a lui seul traduirait une baisse ou une saturation de l'activite de construction de nouveaux logements dans le proche avenir.



## **Appendix II**

### **WHAT DO THOSE NUMBERS MEAN ?<sup>1</sup>**

To facilitate the analysis I thought to translate some of the information given into graphs. I felt the following ones would be essential for the analysis.<sup>2</sup>

Percentage increase of dollar price per year:

1st year: 84-85 : 150%

2nd year: 85-86 : 300%

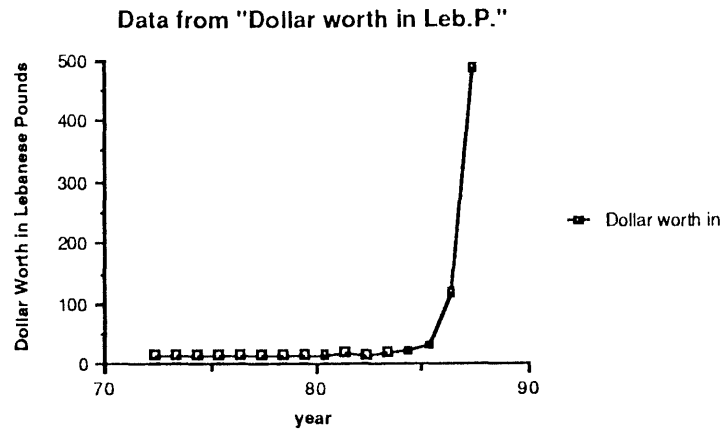
3rd year: 86-87 : 200%

From January 84 to March 87 the percentage increase of the dollar price is : 1566%

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<sup>1</sup>Analysis and graphs are based on the statistics provided in the bulletin ( appendix I ). Reading through that appendix would be helpful in understanding the following analyses.

<sup>2</sup>throughout the analyses the period studied will be the one that is furnished by the bulletin i.e. from 1984 to March 1987



Graph n° 6. Depreciation of the Lebanese Pound with respect to the U.S. Dollar.

During the same period, the percentage increase in cost of material is :

$$\begin{array}{r}
 491 \text{ ----- } 6603 \\
 100 \text{ ----- } x \quad \frac{6603 * 100}{491} = 1345\%
 \end{array}$$

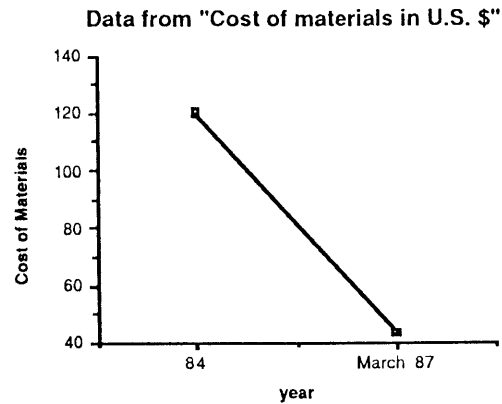
$$\text{Proportion : } \frac{1345}{1566} = 0.85$$

This implies that 85% of the material was affected by the rise of the dollar price. This does not mean, definitely though, that 85% of the construction material is imported because :

- 1) Prices of local materials are also affected by the rise of cost of imported ones by at least 50%.<sup>3</sup>

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<sup>3</sup>20x20 mosaic tiles, for instance, although it is locally made, has increased by 227.5%, gravel and sand have increased by 828.57% and 809.09% respectively.



Graph n° 7. Cost of construction materials in Lebanon, in U.S. Dollar.

2) On the other hand there is a probable decrease in the quality of the products which costs less and makes the accurate judgement on the percentage of material directly affected by the rise of dollar price, very difficult. We note, by looking to graph n° 7 that the steady increase of dollar price is coupled by a steady decrease, in US \$, of the cost of materials:

$$\begin{array}{ccc} 81 & \text{-----} & 10 \\ 100 & \text{-----} & x \end{array} \quad \frac{10 * 100}{81} = 12.34\%$$

which is actually due to three factors :

a- Contractors, engineers and architects are more concerned, nowadays, in the cost of construction and are trying to control the use of materials through a more

tight design calculations<sup>4</sup> : ( quantities of steel, cement, tons of refrigeration, piping etc...).

b- There is an increasing reliance on local resources rather than imported ones: e.g. sanitary equipments, tilling etc...).

c- The third factor is that the upward movement of construction costs, caused contractors and developers to exert a downward pressure on quality: cheaper materials, simpler and above all faster methods of work.<sup>5</sup> Contractors in that way, were able to maintain their profits and keep the prices from going too high.

In summary, by looking to graph n<sup>o</sup> 9 with conjunction to the statistics in the bulletin ( appendix I ) we note that the total increase in the cost of material ( in Lebanese pounds ) is majorly due to :

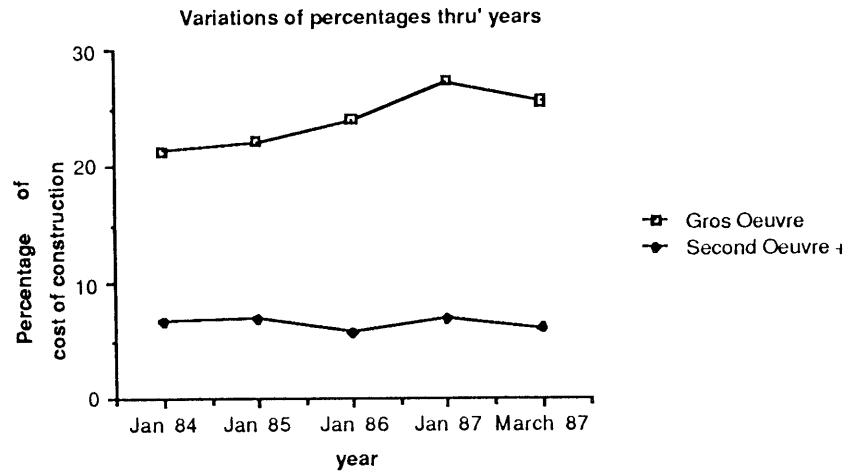
I- Mechanical heating system based on hot water: 2371.83% increase in price and 129.5% increase on its percentage with respect to the total cost of construction<sup>6</sup> ( from 7.29% in January 84 to 14.39% in March 87 ).

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<sup>4</sup>That holds true although " the fee structures in the established way of practice have a built-in incentive to increase the cost of the buildings, since the fees are calculated as percentages of costs rather than by the time, effort and work put into the design" ( Hans Harms ).

<sup>5</sup>Park, G. , Architects: the Noted and the Ignored. pp.22.

<sup>6</sup>excluding price of land.



Graph n°8. Changes in the percentage cost of both structural and architectural works.

II- Electric installations and lift : 1956.1% increase in price and a change of percentage from 7.29% in January 84 to 13.93% in March 87).

The major repercussion is on the drastic decrease of the percentage of labour cost to the cost of construction which used to present 31.63% in 1984 and does not present more than 8.2% in 1987 of the total construction cost. The decrease is of 74%.<sup>7</sup>

This particular aspect has a major impact on the construction sector and the quality of the endproduct.

The price of hand labour has decreased so much that skilled labour has migrated out of the country. The remaining unskilled labour has become

<sup>7</sup>See graph n° 9

totally incompatible with the type of materials handled<sup>8</sup> Moreover, the residing workmen are becoming more and more unsatisfied with their wages, and have lost any incentive for creativity. This aspect has left a major imprint on the quality of the architecture in the area. Moreover, if we look deeply into the situation we note that the material is becoming more important than the human labour, which is to my opinion, totally abnormal and has a major impact on the society in general and architecture in particular.

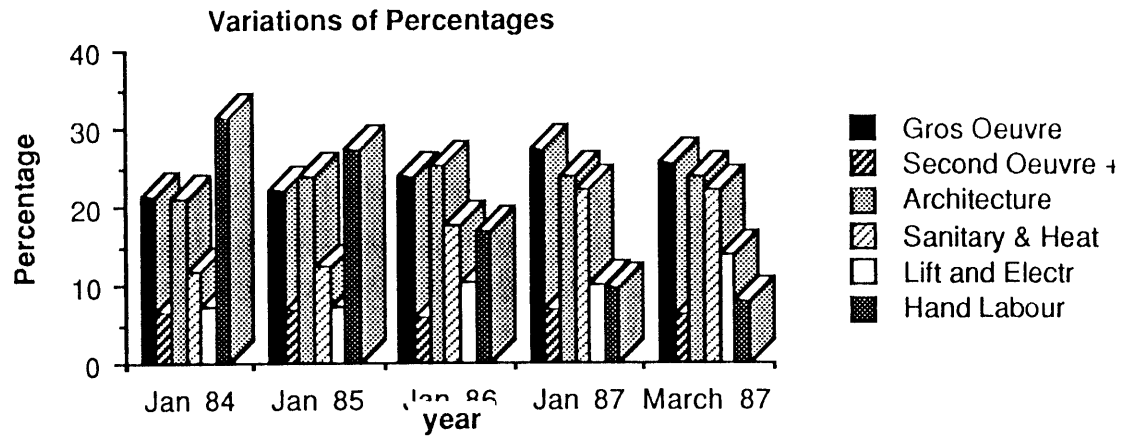
Feasibility of building construction nowadays:

Contractors, not being able to charge any profit on imported materials, install their profit on the remaining part of construction materials and hand labour. Local materials, as it has been mentioned before, are also sensitive to the rise of the dollar price and prices go up at least by a ratio of 50%. If 45% of construction material is imported, 55% is not. The percentage that will be affected by the increase of dollar price would be :

$$\frac{55 * 50}{100} + 8\% = 35.5\%$$

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<sup>8</sup>One cannot control the mishandling of building equipments or items, because their price is much higher than the wages of the hand labour. The result is a very bad workmanship.



Graph n° 9. Variations of percentages of cost of construction in Lebanon.

If we assume that 5% profit is imposed on imported materials and 20% on the remaining, the ratio of profit would be:

$$\frac{(27.5 + 45) * 5}{100} = 4.02\%$$

Total profit would be :

$$4.02\% + \frac{35.5 * 20}{100} = 11.12\%$$

which is less than the nominal interest rate which, at the time of this study , is equal to 12%.

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