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### Building in Egypt between craft and industry

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**THE AMERICAN UNIVERSITY IN CAIRO**  
**SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**  
**BUILDING IN EGYPT BETWEEN CRAFT AND INDUSTRY**

**A THESIS SUBMITTED TO**  
**DEPARTMENT OF ARABIC STUDIES**  
**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR**  
**THE DEGREE OF MASTER OF ARTS IN**  
**ISLAMIC ART AND ARCHITECTURE**

**BY**  
**OLA SALAH SAID**

**MAY 2003**

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C-1

THE AMERICAN UNIVERSITY IN CAIRO  
BUILDING IN EGYPT BETWEEN CRAFT AND INDUSTRY

A THESIS SUBMITTED BY

OLA SALAH SAID

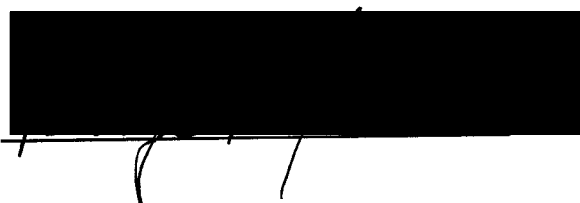
TO THE DEPARTMENT OF ARABIC STUDIES

MAY 2003

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF MASTER OF ARTS

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*To my dear parents and my beloved husband*

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## **Introduction**

While walking in al-Tabbana street and admiring some of the glorious monuments of al-Darb al-Ahmar district of historic Cairo, I particularly noticed the beautifully carved inscription band in the limestone façade of the Madrasa of Umm al-Sultan Sha'ban (1368 AD). In fact, whenever I passed through those medieval buildings, I always think about the effort and works involved, and wonder about the traditional guild system that nurtured such intriguing crafts. My thoughts were harshly interrupted when I continued my walk for a few meters further and observed a newly written script along the side facade of a concrete building. The latter script is painted with red paint over a white background. By comparing the two products many questions started to stir my mind and these became the initial inquiries of this thesis. Why are the stones of Umm al-Sultan Sha'ban meticulously carved and the façade of that contemporary building so sloppily painted? What went wrong with the quality of the craft? What are the differences between the medieval craftsmen and the contemporary ones? When was the turning point towards such an obvious degradation and why?

The inscription bands on building facades are architectural elements that have lived as a tradition through many centuries but the crafts involved in making them have apparently perished. Preliminary investigations into the subject proved that the development of building crafts in Egypt especially during the 19<sup>th</sup> and 20<sup>th</sup> centuries was barely analyzed. The available literature either discusses the traditional framework of the building practice in Egypt or describes the structure under which they are functioning today. An instantaneous comparison shows that the difference between those two groups of sources is in the way they denoted the subject. While the

first referred to “building crafts”, the second named it “building industry.” This shift in denotation implies that the human factor was snatched off the profession to render a machine-like image over it.

The first group of sources deals with the question of crafts in their legal, social, economic and political aspects. It also offers a geographical distribution of different crafts within the urban fabric of Egyptian cities, Cairo in particular. The material offered, however, is limited to a historic timeframe and does not further the investigation to link it with today’s working structure. The second group of source supported and incited the introduction of the industrialization system in Egypt and stressed its importance in the field of building construction. These studies parted the subject from its historic background, and consequently left us with a gap that kept the transition between one system to the other obscure. The question then was: what was the impact of such a shift on the deterioration of the building practices in Egypt?, what were the driving forces that led to the introduction of industrialization in the 19<sup>th</sup> and 20<sup>th</sup> centuries?, was there a process of transformation in the educational system that supported this industrialization? Was there any industrial training that was offered to craftsmen in order to propagate new building construction techniques? This thesis, hence, attempts to address these questions in order to fill the gap in identifying the shift in the building practices that started to appear from the time of Muhammad ‘Ali Pasha. It focuses on the period from the Pasha’s reign over Egypt until the first half of the 20<sup>th</sup> century.

I researched this topic as an engineer who learnt about modern construction techniques in the American University in Cairo and who got intrigued by the traditional building system through working in various conservation projects. The

course work during the Masters of Art in Islamic Art and Architecture helped me to link my educational background and my working experience offering a basis to set the analytical approach towards the topic of the thesis. There are some topics however, such as law, sociology and economics that are not of my expertise and therefore treated very briefly. Thus the thesis is really related to the development of building crafts in Egypt, one which opens doors for further in-depth research.

Chapter one offers an overview on the way the guilds system functioned, and describes the development of the working structure of the local craftsmanship. The changes that occurred to those guilds during the reign of Muhammad 'Ali is the focus of this chapter. It discusses the different types of guilds related to the building practices, how they developed to accommodate the new building typologies, and functioned vis-à-vis the ruling authorities.

The main stream of the investigation in chapter two is directed towards the changes during the reign of Khedive Isma'il and his successors. This chapter traces the introduction of new techniques in the building practice, how this contributed to the deterioration of the local traditional crafts and how it affected the formal existence of the guilds. The question then was directed to exploring the role of the new industrial schools, introduced in the first half of the 20<sup>th</sup> century, in replacing the learning process of the former guild system. The Arts and Industries School of Bulaq, among the many newly established industrial schools, was selected to investigate the contribution of that technical education system in the field of building practices.

Chapter three explains some of the reasons that obstructed this technical education system and hindered it from realizing its goals. As a consequence many local architects resorted to different approaches to remedy the situation. The chapter

goes on to discuss one of the earliest calls for reforms to upgrade the building crafts. It focuses on the opinion of Mustafa Fahmy, the then prominent architect, which was published in a 1926 article. In his article, Fahmy presented some of the reasons for the decay of building practices in Egypt that resulted, as he put it, from the lack of a proper technical education. The architect criticized the existing industrial education in Egypt and suggested a supporting plan for a comprehensive reform. It is interesting to note that the core of Mustafa Fahmy's discussion was based on a comparison with the French example that addressed earlier a disrupted situation similar to the one of Egypt at the first half of the twentieth century.

The thesis concludes with a brief description of the current craftsmanship in Egypt. It relates it to the sequence of its development described in the thesis, and questions its present working structure.

## **Chapter One: Deterioration of an Existing System**

### **1.1 The Guild System in Egypt: an Overview**

The groups referred to as *tawa'if* (guilds) characterized part of the social structure of Egyptian society since medieval times. Each group shared a common interest such as geographical location, religion, or profession. This research will focus on the professional groups and specifically on groups related to the building practices in Egypt. The reason for the inclusion of this section is to set the ground for the prospective study on the building practices of the twentieth century. In order to meet this defined goal, it would, consequently, be sufficient to explain the guild system in its operational mechanism, its involved parties, its relation to different authorities, and all the other parameters that shaped the organization.

#### **1.1.1 Operational Mechanism**

The craftspeople of Egypt were subdivided into guilds relative to different fields of specialty. It was essential for a craftsman to be affiliated to a specific guild for the many privileges it offered, whether it was political, economic, or professional support. The guild was an entity that worked in an organized fashion and had a particular internal structure and operational mechanism.

Each guild was bound by a set of regulations that managed the professional life and production of craftsmen, internal relations among its members, and regulated ties with the different authorities. The guild system was, for centuries, the representative body of craftsmen who chose among themselves a leader, the *shaykh*. He was to be fair, honest and a master of his own trade. As soon as he was selected, he was to be confirmed by the *qadi* and registered as the guild *shaykh* in the court

documents.<sup>1</sup> He was an important figure both to the respective guild and the authorities. First, he was responsible for inspecting whether the guild's members followed their internal regulations. Second, during any given job, the *shaykh* was to act as a supervisor to inspect the quality of work produced. Third, in front of the local authorities, he was considered the guild's representative and the person appointed for tax collection. In general, he was to work for the benefits of the professional guild and to act as liaison between the guild and the state.

Members of the professional guild were divided into three categories; the master, the assistant and the young apprentice who worked together following a hierarchical order. The master, referred to as *mu'allim (usta)*, had to have long years of experience in his craft and was the head of his group: the assistants (*sanai'is*) and young apprentices (*sabis*). The responsibility of the *mu'allim* was twofold: first, teaching, and second, the supervising work of his group. The hierarchy was a product of the guilds' organized program of apprenticeship that relied on the transmission of skill through an extensive process of practical training, considered to be the most crucial part in the formation of craftsmen in Egypt while operating under the guild system.

#### 1.1.2 Quality Control

It was recorded that upper class individuals were ranked together forming a sort of an informal committee with extensive powers and responsibilities. It was upon their recommendations that the government appointed the *shaykh* of the guild; they were also consulted on dubious issues within the guilds. These committees were

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<sup>1</sup> Nelly Hanna, *Construction Work in Ottoman Cairo (1517-1798)*, Supplement of the Annales

composed mainly of the most proficient *mu'allims*. This committee played an important role in exercising strict control and supervision over the professional guilds' work. Such a working system helped to maintain the professional level of workers and the high quality of craft products. For example, the *sabi* did not become a *sanai'i* unless he passed a very difficult exam which proved his abilities and experience in the craft. The *sanai'i*, as well, was not promoted to be a *mu'allim* unless he submitted to the committee a valuable work to prove his skills. Then, the committee had the choice and flexibility of accepting or rejecting the *sanai'i* among the category of *mua'llims*. It all really depended on their evaluation and judgement towards the *sanai'i*'s presented work

Following the guild rule, the *mu'allim* selected his group of apprentices personally. He was not allowed to take more than a limited number of apprentices depending on the craft's demands. An open and honest relation should be maintained between the *mua'llims* and the apprentices. They were expected to have a "father-to-son relationship".<sup>2</sup> The *mua'llim* was to teach his apprentices the principles of the craft applicable to their trade or craft, all in fulfillment, in some way, of a program for professional apprenticeship.

During the course of work, the guild imposed many regulations to control the quality of the end product. Only the *mu'allim* had the right to open his own shop where he could practice his craft freely. He had to obtain the *ijaza*, which was a license allowing the members to practice their craft. It was acquired through skill and

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Islamologiques, notebook 4, Cairo: Institut Français d'Archeologie Orientale, 1984, p. 2.

<sup>2</sup>Mustafa Fahmy, "al-Ta'lim al-sina'i fi fan al-bina' bil qutr al-masri," *Kitab jamiyyat al-muhandisin al-malakiyya al-masriyya*, Vol. 7, December 1926, p. 76.

craftsmanship from the *shaykh* of the relevant guild.<sup>3</sup> Also, at any given job, the *mu'allim* was liable to employ competent skilled assistants; and young apprentices only were allowed to undertake the few simple jobs available on site. It is important to note that these regulations were governed by the logic and rules of each craft, and hence, principally unique to each guild.

### 1.1.3 Guilds Related to Building Practice in Egypt

Specific studies on the available guilds related to the building practice in Egypt are very limited. In that sense, the work of Nelly Hanna is quite unique for the study of construction-related guilds. The information available relied on several historic sources such as the 1670 records of the Turkish traveler Evliya Celebi, the 17<sup>th</sup> and 18<sup>th</sup> century court documents, and the 1801 list prepared by the members of the French Expedition.<sup>4</sup> To the above I have added, in Table 1, guilds mentioned by Pascale Ghazaleh who relied on other primary sources such as the 1823 *Diwan al-ruznama*.<sup>5</sup> I have also selected the relevant guilds listed in the 1888 *al-Khitat al-tawfiqiya* of 'Ali Pasha Mubarak<sup>6</sup>.

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<sup>3</sup> Pascale Ghazaleh, "The Guilds between Tradition and Modernity," in Nelly Hanna ed., *The State and Its Servants: Administration in Egypt from Ottoman Times to the Present*, Cairo: The American University in Cairo Press, 1995, p. 70.

<sup>4</sup> Nelly Hanna, *Construction Work*, p. 9.

<sup>5</sup> The primary source is *Diwan al-ruznama, daftar al-mutasarif bi karakhant al-khurunfish* for the year 1823. See Pascale Ghazaleh, *Masters of the Trade: Crafts and Craftspeople in Cairo, 1750-1850*, Cairo Papers in Social Science, volume 22, Number 3, 1999, p. 131.

<sup>6</sup> Ali Pasha Mubarak, *al-khitat al-tawfiqiya*, Volume 1, 1888, p. 247-248, 250. This work listed the Arabic names of the most important guilds in Egypt. For the purpose of the thesis, I have selected the related ones to construction and building crafts and added the corresponding English translation in Table 1.



The following table is an expanded version of Hanna's work. It lists some of the reported guilds related to the building practice in Egypt, their respective denotation in English,<sup>7</sup> and the date the guilds were mentioned in the sources<sup>8</sup>:

**Table 1**

	<b>Guilds</b>	<b>(English translation)</b>	<b>Date</b>
1)	bana'in	(bricklayer, masons)	1888
2)	Barradin	(fitters)	1823
3)	Dahhanin	(wood painters)	17 <sup>th</sup> /18 <sup>th</sup> centuries
4)	fa'ala	(unskilled workers)	1670
5)	fa'ala	(unskilled workers)	1888
6)	Haddadin	(ironsmiths)	1823
7)	haddadin and barradin	(ironsmiths and fitters) <sup>9</sup>	1888
8)	hajjarin bi nahiyat tura	(stone quarriers of Tura)	1600
9)	hajjarin bi masr al-mahrusa	(stone quarriers of Egypt) of al-Muqattam	1666
10)	Jabbasin	(workers preparing Gypsum)	1670
11)		Workers preparing Gypsum in "Kaied Bey"	1801
12)		Workers preparing Gypsum in the quarter of "Seied" <sup>10</sup>	1801
13)		Workers preparing Gypsum outside of Cairo	1801
14)	Kharrat	(turner) of wood	1778
15)	kharratin hadid	(iron turners)	1823
16)	Muballatin	(pavers in stone)	1888
17)	Muballatin	(pavers in stone)	17 <sup>th</sup> /18 <sup>th</sup> centuries
18)	mubayyadin hittan	(plasterers of walls)	1888
19)		Architects of Bulaq	18 <sup>th</sup> century
20)		Architects of Cairo	18 <sup>th</sup> century

<sup>7</sup> I have translated to English all the Arabic guilds' names, however to avoid any mistakes, I did not include the Arabic translation for the guilds that were only denoted in English.

<sup>8</sup> For details on the sources that recorded the guilds one should refer to the following references:

Pascale Ghazaleh's *Masters of the Trade* for guilds no. 2,6,15,29,30,31,33,37,39, Ali Mubarak for guilds no. 1,5,7,16,18,23,24,27,32,34,35,36,38, and Nelly Hanna for all the other guilds.

<sup>9</sup> Both professions were listed under one guild, see Ali Pasha Mubarak, *al-Khitat al-tawfiqiya*, p. 248.

<sup>10</sup> *Kaied Bey* and *Seied* were the transliterations provided in the original reference. See Nelly Hanna, p. 9.

21)		Architects of Bulaq and Cairo	1801
22)	Muhandisin	(architects)	1801
23)	Murakhimin	(pavers in marble)	1888
24)	murakhimin shawam	(pavers in marble from al-Sham)	1888
25)		Different categories of stone workers	1670
26)	Nahhatin	(stone-dressers)	17 <sup>th</sup> /18 <sup>th</sup> centuries
27)	nahhatin hajjar	(stone dressers)	1888
28)	Najjarin	(different categories of carpenters)	1670
29)	najjarin arwam	(Turkish carpenters)	1823
30)	najjarin baladi	(local carpenters) tools and machines	1823
31)	najjarin ifrink	(European carpenters) <sup>11</sup>	1823
32)	najjarin daqa	(hammering carpenters)	1888
33)	Naqqashin	(painters)	1823
34)	Naqqashin	(painters)	1888
35)	Nashsharin	(sawyers)	1888
36)	Qamaratiya	(workers for windows known as qamariyat)	1888
37)	Sabbakin	(smelters) for plumbing work	1823
38)	Sabbakin	(smelters) for plumbing work	1888
39)	Samkariyya	(tinsmiths)	1823
40)	Tawwabin	(makers of bricks)	1670

Two additional sources denote specialization of workers not corresponding to any of the above mentioned guilds' activities. It is not known whether those professional workers were grouped under guilds or not, however, the listing gives a good idea about further types of specialization in the building field. The sources are the 1778 al-

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<sup>11</sup> According to the 1823 Diwan al-ruznama the European carpenters were paid twice as much as the Turkish carpenters, who were in turn paid twice as much as the local carpenters. See Pascale Ghazaleh, *Masters of the Trade*, p. 131-132.

diwan al-‘Ali<sup>12</sup> and the 1662 documents of the restoration project of the Mosque of al-Sultan Hasan<sup>13</sup> that were used for Table 2 and Table 3 respectively.

**Table 2**

<b>Profession</b>	<b>(English translation)</b>
Qabbab	(dome-makers)
Qanawati	(water installation in the construction job)
Nahhas	(workers of brass and copper)
Rassas	(Smelters, lead worker)
	Painters and writers of dates and inscriptions in gold and silver <sup>14</sup>

The following, Table 3, denotes a particular type of specialization that was mentioned in the restoration project executed in 1662 of the Mosque of al-Sultan Hasan. The job of the placement of the crescent at the tip of the dome involved the following workers:

**Table 3**

<b>Profession</b>	<b>(English translation)</b>
	(Molding worker) to shape the crescent
Qabbani hilal	(weigher)
Mubayyad	(polisher)
Nahhas	(brass worker) to nail the crescent in place
Samkari	(welding worker) to fix it to the dome

It should be noted that this listing is by no means comprehensive. It is rather difficult, if not impossible, to restructure the types of activities involved in a building construction in its completeness at a certain point in time. For example, both the Turkish traveler and the French Expedition do list twelve guilds related to the

<sup>12</sup> Nelly Hanna, *Construction Work*, p. 37, 39.

<sup>13</sup> Ibid., p. 40.

building craft, yet, not all matched.<sup>15</sup> A second difficulty is the modification in the denotation of certain guilds, a fact that created discrepancies and inaccuracies in pointing to a specific activity. For example, the *mubayyad* mentioned in historical records referred to several activities that might not be related at all to each other. The *mubayyad* sometimes denoted the work of a whitewashing painter, or a plasterer of walls, or a polisher of metals as seen in the example of Sultan Hasan mosque. Thirdly, there were guilds that dealt with a limited type of work such as the restoration worker that was not so well recognized. Those types of guilds were ignored, as they were not considered important enough for historians to mention.

Despite the above-mentioned complications, from cross comparison, some information can be inferred of a general scheme for the development of certain guilds. For example, some of the professions appearing for the first time might indicate approximate foundation periods. An instance is seen in the *muhandisin* guild, which emerged at the 18th century<sup>16</sup>, and the *qamaratiya* guild that appeared only in the 1888 list of Ali Mubarak. Also, a careful study of the alterations in the list of guilds gives further information of their development by time; e.g. the grouping of several professions under one guild, and the subdivisions of others into multiple guilds.

For example, there were two guilds for the *haddadin* and *barradin* in 1823, which were grouped into one in 1888. The same was true for the architects of Bulaq and Cairo guild who were grouped under one guild in 1801 while in the 18<sup>th</sup> century records mentioned an independent guild for each district. Examples of subdivision of

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<sup>14</sup> This work might be undertaken by the painters of the *dahhanin* guild, cf. Table 1.

<sup>15</sup> Nelly Hanna, *Construction Work*, p. 9.

<sup>16</sup> *Ibid.*, p.9.

guilds can be seen in the *jabbasin* profession that had only one guild in 1670 and then was multiplied into three guilds in 1801. Yet another example involves the carpenters' profession which was represented by one guild in 1670 and then expanded in 1823 to include three guilds of different origins of carpenters (baladi, arwam and ifrink). A fourth guild was again added in 1888, this time denoting a sub-specialization in the carpentry profession: namely *najjarin daqa* (hammering carpenters).<sup>17</sup> This constant change in the quantity and specialization of the different professions is a phenomenon that attests to the flexibility of the guild system to accommodate the development in the country to meet the market demand.

#### 1.1.4 Builders Guilds and the *mi'mar basha*

In Egypt, the main, most important, relation that tied the various guilds to the state was tax collection. In general, it followed the *hisba* system based on the *shari'a*. The market superintendent, the *muhtasib*, was appointed for this job. The criteria of selection to this office depended on the personal honesty, high morals and good knowledge of *fiqh and ahkam shar'iyah*.<sup>18</sup> In the Ottoman period, the state assigned different types of tax collectors for each group of guilds. While, for example, the *muhtasib* taxed the guilds of sellers of comestibles, the *mi'mar basha* (literally: Pasha of architecture) was authorized to collect the taxes from builders, masons, and similar guilds.<sup>19</sup> In summary, he was a state official who has obtained the tax farming over guilds related to building activities.

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<sup>17</sup> There are no studies that offer plausible explanation about the nature of work of the *najjarin daqa*, I assume that they were involved in wooden structural elements in buildings, such as the wooden logs and beams, door jams and lintels and so on.

<sup>18</sup> Mustafa Fahmy, p. 78.

<sup>19</sup> Gabriel Baer, *Egyptian Guilds in Modern Times*, Jerusalem: Israel Oriental society, 1964, p. 84.

In fact, tax farming was not the only responsibility of the *mi'mar basha* but also all public construction were under his direct supervision. He provided the State with the necessary craftsmen after communicating his demands to the *shaykhs* of relevant guilds. The craftsmen, in turn, had to work for the entire duration of the project. This kind of forced recruitment, for a reduced wage or no wage at all, was considered one of the duties of construction guild in Ottoman times. The funding of any given public construction was entirely handed to the *mi'mar basha*. His task involved a wide of variety of responsibilities; first, to purchase all required materials; second, to pay the wages of the workers; and third, to check the quality of work produced. In addition to his many duties, he was to inspect the professional level of the involved workers, to determine their training, duties, and wages.

The description of the post of the *mi'mar basha* is debated. While André Raymond describes his post as being equivalent to the chief architect (*kabir al-muhandisin* or *nazir al-'imara*) of the Mamluk period,<sup>20</sup> Nelly Hanna sees his work as more administrative than technical. She notes “ The *mi'mar basha* of the Ottoman period, was simply a government official and does not seem to have had any particular skills with regards to construction or to architecture. His presence on the construction site or in court inspections is in an official or administrative capacity rather than a technical one.”<sup>21</sup> The large duties and responsibilities of the *mi'mar basha* implies that he must have had a large technical background related to the construction work, which allowed him to attain his position.

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<sup>20</sup> André Raymond, *Artisans et Commerçants au Caire au XVIII<sup>e</sup> Siecle*, Damascus: Institut Français de Damas, vol. II, 1974, p. 610.

<sup>21</sup> Nelly Hanna, *Construction Work*, p. 8.

#### 1.1.5 Guild System as an Active Organization

The guild system provided many privileges, social power, and respect to the craftsmen of Egypt. They had the right to choose the type of goods or services they provided; second, to achieve a just price for their products; and third, to adjudicate the distribution of income among the members. Members of the guild had the freedom to choose their own *shaykh* and also had the right, in case of unfulfilled duties, to rebel against him. For example, in 1642 AD it was recorded that some of the members of the *dahhanin* guild went to court to complain about the incompetence of their *shaykh*. They were able to demonstrate that his actions contradicted the laws and regulations of the guild. The court, accordingly, ruled in favor of the plaintiffs and the *shaykh* was replaced. They were then permitted to select a *shaykh* more fitting and competent for the rule of their guild.<sup>22</sup>

At any given job, the craftsmen were quite respected and their rights were preserved. For instance, a contract was written once the arrangement was made between the owners and workers on recruitment for a private work. Such a contract could either be an informal agreement or in the form of a registered document in the court records. Also, the payment procedure, being an important issue, was predetermined before work started. As a rule, the craftsmen were given advance partial payment for the prospective job and upon completion were given the remaining compensation.

The relationship of guilds with the court was an important parameter that demonstrated their active involvement in the judiciary system. In cases of internal

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<sup>22</sup>Ibid., p. 58.

disputes not solved within the guild, the judgement was left to the court ruling. In some instances, the court relied upon guilds' members for a number of social services. For example, the court depended on guilds for fulfillment of a number of its duties. On many occasions, members of the construction guilds were called upon by the court to provide expert opinion about housing, rental rates, and divisions of a building according to inheritances. A technical inspection was hence required for which each participating member obtained a fee.

In fact, one very crucial characteristic of the guilds in Egypt was the degree of autonomy and freedom they enjoyed. Guilds followed a system that was comparable to an informal regime that involved the active population of Egypt. Indeed, the guild members had a substantial influence on the ruling authority.

## **1.2 Changes in the Reign of Muhammad 'Ali**

### **1.2.1 Political Centralization**

In the early Ottoman years in Egypt, the non-monolithic rule made the state appear weak in the face of the popular leaders, the *shaykhs*. In some instances, outside powers resorted to the *shaykhs* to maintain the law and order of the population of Egypt. This indicted the authority of *shaykhs* over the population and at the same time the minimal role of the state in matters of the populace order in times of public stress. The overall system in Egypt worked in a constant motion of mutual benefits and collaborative efforts between the authorities and the society, the latter usually represented by the *shaykhs*. The condition remained as such until the accession of Muhammad 'Ali to power. In the first years of his rule, he was confronted with a self-maintained, self-sufficient working system that was not at all dependent on the formal



authorities for regulations or help except, of course, for the authority of the judiciary, a situation that was not favored by the new Viceroy.

Muhammad 'Ali's plan for Egypt was to become an independent state from Istanbul. To do so and to achieve a political power on an international level, he decided to establish an independent military force. This required large amounts of money, which were not within the Pasha's reach. To remedy this financial shortage, Muhammad 'Ali feverishly tested all possible routes to attain the resources and wealth of the country. To this end, an aggressive program of centralization started in Egypt in 1814.<sup>23</sup> It was desirable for a central government to have an increased role and thus interfere in all the activities of society.

The ruling authority became responsible of the *waqf* transactions for which a new department was established under the government. They also exploited the income of the Egyptian farmlands by limiting the responsibility of *mamluk beys*, the governorate rulers. As described by Marsot: "a more centralized authority was set up, aimed at supervising and improving agricultural practices and extracting more surplus from the *fallahin*."<sup>24</sup> Hence, most of the formal attainable wealth of Egypt came under the direct control of Muhammad 'Ali.

However, one of the most challenging aspects, which faced Muhammad 'Ali Pasha was the control over Egyptian commerce and trade. These activities, representing a substantial amount of the wealth of the country, had been under the control of the guild system. Therefore, they were incorporated within the informal

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<sup>23</sup> Afaf Lutfi al-Sayyid Marsot, *Egypt in the Reign of Muhammad 'Ali*, Cambridge: Cambridge University Press, p. 101.

expansion in Egypt was the foundation of large industries in 1818. Under the monopoly of the state, the industrial factories of cotton and textiles, and *tarabish* were established. The small agglomerations of trades were hence replaced with the large industrial factories, which led to a shift of wealth and power towards the new class of large entrepreneurs. An ever-increased gap and class difference was created between the owners and the working mass.<sup>28</sup> By 1830, Muhammad 'Ali was full of confidence in the industrial expansion in Egypt and hence succeeded in the manipulation of trade production independently from any local power.

### 1.2.2 Control over the guild system

The government took harsh measures to eliminate any competition that might negatively affect the newly-founded large industries. Imported goods were restricted and private investments were banned. Under Muhammad 'Ali's orders, private industries were forbidden everywhere in Egypt. His reported verbal commands to his representative in the village of Girga were that the act of practicing, selling or buying goods privately produced was considered a crime, for which punishments could amount to a death penalty.<sup>29</sup>

Being the largest private investment organization in Egypt, guilds represented a threat to the state's industrial expansion. The guild system was a challenge to the state that was, at first, bypassed through the introduction of large industries, and then restrained and crushed through multiple means. Having succeeded in founding alternative solutions to the control of the trade, the state started to attack the structure

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<sup>27</sup> Afaf Lutfi al-Sayyid Marsot, p. 185.

<sup>28</sup> Dr. Moustafa Fahmy, *La Revolution de l'Industrie en Egypte*, p. 12-20.

of the guild system itself. This action was facilitated by the weakened status of guilds at the beginning of the 19<sup>th</sup> century.

The attacks by the state on the guild system started first, by minimizing the role of the *shaykhs*, second, by imposing monopoly on the raw material and end products; and third, by interfering in the internal regulations of the guilds of Egypt. The *shaykhs* were relieved of many responsibilities and became integrated within the structure of the government as appointed employees.<sup>30</sup> The guilds lost their independence and freedom as the power was no longer in the hands of *mu'allims* or *shaykhs* but rather in their employer, the state.

The position of craftsmen under the new factories system of Muhammad 'Ali limited their resources since the private investment under the guild system was replaced with wage earning and limited salaries. While the *shaykhs*, under the guild system, were responsible for the distribution of raw materials among the respective guilds and fixing just price for the end products, a government monopoly was applied under the new orders. As noted by an Egyptian scholar: "L'Égypte a déclaré officiellement sa révolution contre l'ancien régime corporatif en 1816 par le monopole gouvernemental des métiers et manufactures."<sup>31</sup> Gradually, Muhammad 'Ali succeeded in weakening the guilds' power and extending his control over their activities in Egypt.

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<sup>29</sup> Ibid., p. 17. This verbal order were recorded in the archival records at Abdin, register No. 3, document 257 dated 12 jumada al-'awal 1238 (March 1823).

<sup>30</sup> Pascale Ghazaleh. "The Guilds between Tradition and Modernity," p. 69-71.

<sup>31</sup> Dr. Moustafa. Fahmy, *La Revolution de l'Industrie en Egypte*, p. 115.

### 1.3 Muhammad 'Ali and the Architectural Commissions

Having discussed the efforts of Muhammad 'Ali toward the introduction of modern techniques and industrial expansion to Egypt, it becomes important to investigate the impact this might have had on his architectural patronage in terms of preferred style and the involved professionals. One of his commissions was the gardens of Shubra inaugurated in 1820. It comprised large fountains surrounded by galleries, recreational pavilions, and a mosque, all incorporated into one large garden. The appointed architect for this project was Pascale Coste. He who was of French origin had described the project as a reproduction on a smaller scale of the famous garden-palace of Versailles. Indeed the French influence is rather highlighted particularly in the design of the kiosk. The symmetrical facades and the imported decorative rococo style of the kiosk are both features that attest a new era since those elements never existed before in the architecture of Egypt (figure 1).

Pascal Coste's notes confirmed the involvement of several foreign architects in this commission:

Ce projet fut ajourné et pendant mon absence, les architects Turcs et Armeniens construisirent seulement la pièce d'eau avec ses galeries et les quatre pavillions diwans dans une moindre proportions, mais d'une décorations de mauvais goût; dont l'ensemble produit un pittoresque effet.<sup>32</sup>

This note points to the coexistence of multiple origins of foreign architects, Turks, Armenians and French in the project of Muhammad 'Ali. It also clearly highlights the state of uneasiness and rivalry between them and the negative perception of the French architect towards both the Turkish and Armenian architects. This was felt in

his notes of dismay from the bad taste of decorative elements executed by them. Those other professionals were employed in the time of absence of the main French architect. This infers indirectly that perhaps Muhammad 'Ali did not want to confine his choice of professionals in the field of architecture, to one nationality. The Pasha who had controlled the activities of local craftsmen through the imposed limitations on the various guilds, did not want another group, be it the French architects, to monopolize architectural activities in Egypt.

Religious architecture of the reign of Muhammad 'Ali also employed elements that are foreign to the Egyptian traditions. The first design of the mosque of Muhammad 'Ali in the citadel was reported to be by Pascal Coste.<sup>33</sup> Given the architect's interest in the local arts and architecture, he must have designed this mosque in the Mamluk style. Muhammad 'Ali as a modernist did not appreciate such a style and rejected such a visible affiliation to the former regime in Egypt. He then decided to choose another design of an obvious Ottoman style by an Armenian architect<sup>34</sup> (figure 2).

Muhammad 'Ali tried to emphasize the new formation of Egypt as a state that has no historic connotations with the Mamluks, and is independent of the then contemporary ruling Ottoman state. His political stance was manifested in several aspects in the design of the mosque. For example, he chose to demolish the remains of

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<sup>32</sup> Denise Jasmin, "Les Dessins d'Architecture Civile," *Pascal Coste, Toutes les Egypte*, Marseille 1998, p. 140.

<sup>33</sup> Gaston Wiet, *Mohammed Ali et les Beaux-Arts*, Cairo: Dar al-ma'arif, p. 265.

<sup>34</sup> The name of the Armenian designer was reported to be Youssef Bushna, however, Hasan Abdel Wahab argues that he was rather a Turkish Bosnian by the name of Youssef Bushnaq. See Hasan Abdel Wahab, "al-'Imara fi 'asr muhammad 'ali," *al-Imara*, 1941, Vol. 3-4, p. 57. For more details on this

the Mamluk palaces in the Citadel to replace it with his new mosque. He picked this site in particular for it was the highest point in Cairo and at the same time located opposite and *above* the large Sultan Hasan mosque: both aspects highlight the sovereignty of the Pasha's rule over Egypt relative to its former rulers. The two minarets of Muhammad 'Ali's mosque were an "act of rebellion" to the Ottoman Sultan since only imperial mosques were permitted to have two or more minarets.<sup>35</sup>

Some elements in the design showed that Muhammad 'Ali wanted to stress the Egyptian identity of the mosque despite its overwhelming Ottoman style. This can be seen in some minor variations in the use of lotus capitals and alabaster stone for the paneling of his mausoleum and walls of the mosque. The latter can be considered an element forced upon the design that was purposely inserted for such connotations. Even though, this material was not considered adequate in architecture since it deteriorates quickly, it was used abundantly in the mosque. Yet, it was convenient as a choice since it had never been used traditionally in earlier mosques though it was indeed quite representative of Egypt.

While Muhammad 'Ali inserted elements in the design of the mosque that would alienate himself from the Mamluks and partially from the Ottomans, he tried on the other hand to emphasize his affiliation to European ideologies and technology. This was manifested in the western decorations of the interior of the mosque and the ablution fountain, and particularly highlighted by the insertion of the French iron clock, a gift to Muhammad 'Ali by King Louis Philippe,<sup>36</sup> on the western wall of the

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subject see Mohammad al-Asad, "The Mosque of Muhammad 'Ali in Cairo," *Muqarnas*, vol. 9, 1992, p. 48.

<sup>35</sup> Mohammad al-Asad, p. 51.

<sup>36</sup> Doris Behrens-Abouseif, p. 169.

courtyard. In fact, the elevation of the mosque seen from its main facade highlights the centralized location of the iron clock between the two minarets and the large main dome. This position makes the clock appear as though it is the most appreciated element in the mosque and is to be seen as the frontispiece to the mosque. This emphasized the Pasha's strong inclination and affiliation to European civilization, in particular to the French as role models. Indeed since the reign of Muhammad 'Ali, Egyptian rulers had been greatly influenced by the French culture. Janet Abu-Lughod noted, "the use of French experts and the sending of educational missions to France by the Pasha (Muhammad 'Ali) tended to establish Paris as the first model of "Western" ways."<sup>37</sup>

The engineer responsible for the construction work for the mosque is not known. However, his assistant, Ali Hasan, was appointed as *munazim ahgar* (stone supervisor) in 1845.<sup>38</sup> The workshop designs for the mosque were implemented by *mu'allim* Ibram and Hekekian Afandi and the foreign missions' graduates plus some Egyptian engineers. A Rumi master (*usta rumi*) prepared the drawings for the brass windows of the mosque. However, the stone dressers and quarriers were all Egyptians.

The preferred style witnessed in Muhammad 'Ali architectural modes clearly matched his independent modern views that he tried to establish during his rule. An apparent foreign influence on his commissioned buildings became manifest in the substitution of traditional architectural modes by foreign methods and European

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<sup>37</sup> Abu-Lughod, Janet, p. 87.

<sup>38</sup> Hasan Abdel Wahab, p. 57. He extracted this information from al-wathiqah al-'arabiya # 3353 dated 7 jumadi al-thaniya 1263, located in the 'Abdin Palace archival records.

tastes. While foreign architects undertook the design and execution of his palaces and estates, local craftsmen were involved in the jobs related only to construction work and building crafts, a phenomenon that proves continuation of the activities of the builders' guilds in the Pasha's architecture. The presence of these guilds was more apparent outside the capital where local traditional architecture was still dominant (figure 3).



## **Chapter Two: Towards a New System of Building Practice?**

### **2.1 Changes under Khedive Isma'il**

Contrary to the rule of Muhammad 'Ali, in 1863 the new Viceroy was heading towards extensive development in the fields related to architecture and building practice in Egypt. The outcome was substantially affected by the ongoing changes underway in Europe, which Khedive Isma'il (r. 1863-79) has witnessed personally since he was among the members of the third Egyptian mission to France in 1844.<sup>1</sup> The industrial movement of the 19<sup>th</sup> century in Egypt echoed the building practice and architectural modes under the reign of Khedive Isma'il, resulting in some modifications to the construction materials, techniques and the involved workers. This importation of advanced techniques, among other factors, unfortunately highlighted the poor quality of local craftsmanship, which had been in continuous decline since the end of the 18<sup>th</sup> century. Such weakness presented a critical situation for Khedive Isma'il whose ambitious character and futuristic plans for a much developed Cairo are well known. The Viceroy, anxious to keep up with European development when confronted with this lack of appropriate local structure of building practice, had to resort to imported alternatives and employed foreign companies and builders.

#### **2.1.1 European Presence in the Egyptian Building Practice**

Foreign architects were invited to work in Egypt under the patronage of Khedive Isma'il, a fact witnessed by the numerous architectural remains of the second

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<sup>1</sup> Arafa Abdu Ali, *al-Qahira fi 'asr isma'il*, Cairo: al-Masriya al-libnaniya, 1998, p. 31.

half of the 19<sup>th</sup> century.<sup>2</sup> Since then, Egyptian building practice incorporated a large number of foreign contractors, foremen, artisans and craftsmen. Those foreign building contractors or the "Entrepreneurs des Travaux Publics" were mostly Europeans, especially Italians who came to Egypt to work on the Viceroy's palaces and public works.<sup>3</sup> Some of the listed Italian contractor's companies were G. Garozzo (who built the palace of Isma'il Pasha at Giza), P. Boyer and C. Perizot, Ghezze and Fredrigo, Carlo Silnagin (who had carried out repairs in the Sultan Hasan Mosque), and Padova Rollin & Co. (who had built the Heliopolis Palace hotel and employed 20 men in their office besides 40 engineers, surveyors, foremen and others on the site of their various constructions.)<sup>4</sup>

The category of foremen, artisans and workers in the building practice involved a variety of nationalities. A study in 1911 by the Frenchman Jean Vallet stated:

The general ratio of workers in Egypt were four Egyptians to one European with the exemption of zincmen and plumbers where the numbers were about equal, and electricians, mechanics and others where there was a ration of four Europeans to one Egyptian.<sup>5</sup>

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<sup>2</sup> For European commissions, see for example, Mercedes Volait and Marie-Laure Leconte. *L'Égypte d'un architecte: Ambroise Baudry (1838-1906)*, Paris: Somogy Editions d'Art, 1998, Mercedes Volait (ed.). *Architectures Européennes, Le Caire, Alexandrie, 1850-1950*, Cairo: Institut Français d'Archeologie Orientale, 2001, Robert Ilbert, *Alexandries- Histoire d'une Communauté Citadine*, Cairo: Institut Français D'Archéologie Orientale, 1996.

<sup>3</sup> Roger Owen, "The Cairo Building Industry and the Building Boom of 1897 to 1907," *Colloque International sur l'Histoire du Caire*, Ministry of Culture of the Arab Republic of Egypt, General Egyptian Book Organization, 25 Mars-5 April 1969, p. 341.

<sup>4</sup> A. Wright (ed.), *Twentieth Century Impressions of Egypt*, London 1909, p. 322-69. For a more detailed study on Italians in Egypt, see Ahmed Sedky, *The Modern Mosque in Egypt: The mosque of Mario Rossi for the Awqaf*. Master thesis submitted to the American University in Cairo, 1998, p. 11-18.

<sup>5</sup> Jean Vallet, *Contribution a l'Étude de la Condition des Ouvriers de la Grande Industrie au Caire*, Valence, 1911, p. 6, quoted from Roger Owen, p.341.

Here, according to Roger Owen, the “Egyptians” incorporated the Ottoman subjects, e.g., Turks, Syrians, Armenians, Jews, Greeks from Asia Minor, and Sudanese (working as excavators and carriers). The “Europeans”, on the other hand, were mainly the Italian and Greek workers. In addition to the above, other foreign workers came to Egypt on a temporary basis each year. For example, some of the Italian peasants came each winter from November to March to work in the Egyptian building industry when activities in their own fields were suspended.<sup>6</sup>

### 2.1.2 Pre-Fabrication of Islamic Art

Simultaneously in Europe, an increase in fascination with and admiration of oriental and Islamic art and architecture was apparent. This arose from the results of the European re-discovery of such art and architecture following Napoleon’s expedition to the country and the subsequent publication of the 1809 *Description de L’Egypte*<sup>7</sup> and the World Exhibitions for Universal Architecture, which both were large promoters of Islamic art on an international level.<sup>8</sup> These combined factors led some of the European contractors and architects to be inspired by the published plates and the idealized temporary buildings erected in the various exhibition grounds. The traditional construction techniques and systems, and the essence of the architectural concepts, however, were not packaged in the aforesaid inspiration. Instead, external appearance and decorative motives were of primary concern. The so-called Neo Islamic architecture was the result of such a process of modern interpretation of the

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<sup>6</sup> Roger Owen, p. 6.

<sup>7</sup> *La Description de l’Egypte*, Paris: Imprimerie Imperiale, 1809

<sup>8</sup> The international exhibitions of Architecture were held in London (1862), Paris (1867 and 1889), and Chicago (1893). For the effect of world exhibitions on perceiving Egyptian cultural heritage, see Timothy Mitchell, “The World Exhibition,” *Comparative Studies in Society and History*, 31.2, April 1989, p. 217-38.

historic architecture of Islamic civilization. Nevertheless, the attempt to combine the newly discovered values of industrialization with some traditional architectural modes produced quite an exotic architecture, one which quickly grew and spread beyond Europe. Oddly enough, the fascination dominated a certain social circle residing in Egypt, who imported it with its architects, contractors and, in most of the cases, its building materials. The importation, consequently, created a paradoxical competition between the traditional genuine product and the modernized modified version.

The infiltration of European architects and contractors into the Egyptian building scene had proved to be economically feasible given the extensive program of architectural development in the reign of Khedive Isma'il. It was an ideal situation for those who were involved in the reproduction of the Islamic style as a "business proposition" saleable to overseas markets. Among them was the Prussian architect Carl von Diebitsh, reputed in 1862 to be "the specialist of the Islamic style on the international level,"<sup>9</sup> who used traditional elements of Islamic architecture in the modern context. He worked on the prefabrication of decorative elements, such as cast iron *mashrabiyyas*, in a foreign factory. Those elements were later brought to Egypt to be assembled and affixed to the building structure.<sup>10</sup> This type of new production aimed to save on time and economy while employing standardized units that were adapted to local conditions. These ideals marked the first general introduction of the industrial enterprise in the architectural field in Egypt, involving a mechanized technique relative to large-scale production.

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<sup>9</sup> Elke Pflugradt-Abdel Aziz, "Orientalism as an Economic Strategy: The architect Carl Von Diebitsch in Cairo (1862-1869)," *Le Caire – Alexandrie Architectures Européennes 1850-1950*, Institut Français d'Archeologie Orientale, 2001, p. 7.

<sup>10</sup> Ibid., p. 8-9.

Several architectural commissions in Egypt employed the prefabrication technique, e.g. for the Mausoleum of Sulayman Pasha in Old Cairo (1864 AD) (figure 4),<sup>11</sup> and the northern portico of al-Jazira Palace, today the Marriott Hotel in Zamalek (figures 5 and 6).<sup>12</sup> This portico is composed of several cast iron elements that were prefabricated in Berlin from 1863 to 1868 and were later brought to Cairo to be assembled and affixed within the structure. The horse-shoe-arches of the portico show a clear influence of medieval Islamic architecture in Granada and in particular imitate the arcades in the Court of the Lions of the Alhambra (1354 AD) (figure 7). The difference between the original and the imitation lies in the new proportions and outline of the columns, the balustrades, the spandrels of the arches, and more significantly in the use of prefabricated cast iron instead of carved stone or stucco.

### 2.1.3 Changes in the Local Building Practice

Naturally, the building construction in Egypt was greatly influenced by the introduction of those foreign professionals. They had quite an impact on the way local craftsmanship progressed. Their active existence was also a moment of confusion for the local craftsmen. Should they ignore the growing trend that threatened their market hoping that it would quickly vanish, or should they join the trend of modernization as all the indications indicated that it would be the prevailing one? It would not be surprising to find some craftsmen moving to one direction and others to the opposite one.

The introduction of new building materials in Egypt, particularly reinforced concrete reported to be in use in 1863, was another disturbing event in the

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<sup>11</sup>Ibid., p. 21.

construction field in Egypt.<sup>13</sup> On the one hand, reinforced concrete offered flexibility in design and implementation, more budgetary gains and timesaving devices. On the other, it required new techniques, new skills and different levels of knowledge, necessitating a new hierarchy of designers and workers. Reinforced concrete fostered a new building market where traditional craftsmanship had little connection. This must have added more burdens to the already confused and alienated craftsmen.

The new working hierarchy in building construction involved the owners, entrepreneurs, subcontractors, *muazins* (leaders of gangs of laborers and semi-skilled workers), and finally the laborers. As a first step, the owner of the new commission would sign a contract with the entrepreneur who then subdivided the work among the sub-contractors. Those in turn would transfer some of their work to the *muazins* who were supplied by the sub-contractor with the necessary materials and tools and given a down payment for the work agreed upon.

The *muazins* were responsible for providing a certain number of men for a fixed duration of time and "supervising the work of their gangs, paying its individual members and providing replacements for those who were sick."<sup>14</sup> They were intermediaries between the contractors and the workers but were not organized in any regular way so as to compare them to the *mu'allims* of the 19<sup>th</sup> century. However, to some extent the role of the *muazin* can be compared to that of the *ra'is* under the guild

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<sup>12</sup> Ibid., p. 22.

<sup>13</sup> For a background history on reinforced concrete see, for example, Ali Raafat, *Fan al-'imara wa al-kharasana al-musalaha*. New York, 1958.

<sup>14</sup> Roger Owen, p. 342.

system, a term which commonly referred to a head master, a foreman or the purveyor of a gang of workers.<sup>15</sup>

#### 2.1.4 Local Craftsmen and the European Training

During the reign of Khedive Isma'il, it was reported that the European architects and contractors working in Egypt tried not to employ local workers on their building commissions. They wanted to avoid the unnecessary troubles, the language problems and the "core" of constant supervision and exclude the use of poor materials.<sup>16</sup> This and many other notes recorded the expressions of dismay at the Egyptian workers at the end of the nineteenth century.

As an alternative, some of those architects tried to import a complete team of foreign workers of different specialties. Unfortunately for them as many instances attest, they had to employ Egyptian workers in unforeseen jobs as the work progressed. For example, the Prussian architect von Diebtish, mentioned earlier, who was commissioned in 1862 to undertake the interior of Oppenheim's "Egyptian Palace" was faced with many troubles. The architect had planned to produce prefabricated stucco decorative elements in Berlin and bring German craftsmen to assemble them in Egypt. The problem, however, was that the prefabricated elements were smashed during their transport and even though those elements could have been easily repaired, the essential working tools had not yet arrived from Berlin.<sup>17</sup> This caused the architect to charge large sums of money much beyond the calculated original budget of the project. This so-called "entrepreneurial miscalculations" and

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<sup>15</sup> Gabriel Baer, p. 65-66.

<sup>16</sup> Elke Pflugradt-Abdel Aziz, p. 5.

other difficulties forced many European architects, contractors and other specialists living and working in Egypt to teach local craftsmen their modern techniques and to provide them with proper training through monitored practice. The Italian builders were the most influential in teaching the new techniques, in particular working with wood, iron, stonework and concrete. Examples of those Italian craftsmen are the Prinzivallis brothers and Giuseppe Parvis. The latter was an engraver who came to Egypt in 1860. He had worked on commissions under the patronage of Khedive Isma'il and had an atelier in Egypt from which many decorators had graduated. Parvis was one among many who had "transmitted their crafts and techniques to their Egyptian students, who formed, consequently, their own ateliers along the same lines as their Italian masters."<sup>18</sup> In 1926, this phenomenon was clearly emphasized by Mustafa Fahmy who wrote: "prior to the War [WWI], foreign builders employed Egyptian workers in their commissions and hence started training them until an excellent body of skilled laborers was created, specializing in all aspects of the building crafts."<sup>19</sup>

## **2.2 Khedive Tawfiq and the Dissolution of the Guild System**

The rising European presence in all aspects related to trade, commerce, building industry and other endeavors had created a general negative perception towards the disrupted local craftsmanship. This was transmitted not only to the foreign communities but also to Egyptians. The demand for the local products and craftsmanship decreased resulting in an unfortunate condition of the local

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<sup>17</sup> Ibid., p. 10.

<sup>18</sup> Ahmed Sedky, p. 16,17.

<sup>19</sup> Mustafa Fahmy, p. 70.



craftsmanship, which had lost all support. The upper class of Egypt was not very interested in supporting local craftsmen.<sup>20</sup> They favored a European architect even when the local architectural style was to be implemented. This negative attitude and other repressive factors were catalyst to the 1890 decree issued by Khedive Tawfiq (r. 1879-92), which affected the traditional working structure fostering the local craftsmanship, the guild system. The following is the section of the decree relevant to our topic:

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<DECREE>  
<We Khedive of Egypt>

On the proposition of the Minister of Finance and  
with the confirmation of the Council of Ministers,  
and the Treasury directors of Public Debt

We decree the following  
Chapter 1  
General decrees  
(Article 1)

It is allowed for any person living in Egypt to  
practice any profession or craft or art or trade with  
the exception of the hazardous industries or those  
related to items already monopolized by the  
government or can be monopolized by it in the future

Every person or company, practicing in Egypt a  
profession or craft or art or trade that is not  
mentioned in the second article of our decree here, is  
to pay the revenues (duty) of the license for the  
profession of his practice

With the exemption of foreigners and the foreign  
companies

Written at Abdin Palace, 9<sup>th</sup> of January 1890.

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<sup>20</sup> Elke Pflugradt-Abdel Aziz, p. 8.

<Muhammad Tawfiq>  
Khedivial order

President of the Council of Ministers and Minister of  
Finance  
(Riad)<sup>21</sup>

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The 1890 decree had a great repercussion on the quality of local craftsmanship since it essentially allowed the practice of the crafts without having to go through the pre-requisites of the guild system, which guaranteed the quality of the crafts. The complete freedom of all trades and crafts decreed above announced indirectly the formal abolition and dissolution to the power of the guild system in Egypt. It was the *coup de grace* to any remaining life the guild might have had by the end of the nineteenth century. The limitations on guilds which had started earlier under Muhammad 'Ali was accomplished in its entirety almost eighty years later by Khedive Tawfiq.

### 2.3 The State and the Industrial Education of the Twentieth Century

By the reign of Khedive 'Abbas Hilmi II (r. 1892-1912), the Egyptian building practice was at a standstill since not only it did lose its beautiful traditional craft but also it did not make use of the modern technology available at the time. After abolishing the apprenticeship under the guilds, the available scattered informal means of training were not adequate in the face of the rising demand of building

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<sup>21</sup> Fihrist al-'awamir al-'ulya wa al-dikritat al-sadira fi sanat 1890, 1890, p. 17. For the purpose of this research, I have translated into English the relevant article of the decree. The president of the Council of Ministers is Mustafa Riad Pasha who was appointed by Khedive Tawfik for the periods 1879 to 1881 and 1888 to 1891. *al-Wizarat al-masriya fi dhil hukm al-'usra al-'alawiya*, 1924, p. 48, 49, 105.

development in Egypt. The building practice indeed was at the time undertaken mostly by foreign architects and builders, however, those supplied only temporary solutions. To create a self-sufficient system, the state tried to develop a long-term plan of professional instruction that would ultimately create the required body of local professionals.

The authorities in Egypt began establishing European-based schools for technical and industrial education. *Madrasat al-handasa al-malakiya* (the Royal School of Engineering) dating back to 1834<sup>22</sup> and the Arts and Industries School of Bulaq dating back to 1839 were the only schools established to train engineers and skilled workers in Egypt. Beside the few attempts of the government, private institutions also picked up the initial efforts. In 1856, for example, a Commercial and Industrial School was established in Alexandria by the American Mission in Egypt.<sup>23</sup>

It was only in 1889 that the government initiated more efforts in the foundation of industrial schools. The first to be founded was reported to be *madrasat al-mansura al-sina'yya* (the Industrial School of Mansura). In 1903, *al-wirash al-'amiriya bi Bulaq* (the Government Model Workshops in Bulaq) were established and in the following year, another Industrial School was established in Abi al-Tig.<sup>24</sup> By 1906, the joint efforts of the private sectors and the government ultimately succeeded

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<sup>22</sup> Muhamad Ilhami al-Kirdani, "Tatawur ta'lim al-handasa fi misr," *Jamiyit al-muhandisin al-malakiya al-masriya*, 1941, p. 14. Other references on the history of the Engineering School and the emergence of the architecture profession in Egypt are, e.g., Mercedes Volait. *L'Architecture Moderne en Egypt et la revue al-'Imara* 1939-1959, *CEDEJ* Dossier 1987, p. 23; Edouard Dor: *L'Instruction Publique en Egypte*, Paris, 1872; J. Heyworth-Dune: *An introduction to history of education in Modern Egypt*, 1968; and the intervention of Ghislaine Alleaume in the seminar of CEDEJ-IFAO, section of 4 February 1986, under the title "Le genie des ingenieurs".

<sup>23</sup> Mustafa Fahmy, p. 93.

in establishing a network of industrial schools all over Egypt. The private society of *al-'urwa al wuthqa* was among the pioneers in adopting this move and it established *al-madrassa al-sina'iyya al-kubra bi il-iskindiriya* (the Industrial High School in Alexandria) in 1906. Another society, *al-jam'iya al-khairiya al-qibtiya* (Coptic Charitable Society), followed its footsteps and established in the same year *madrasat al-tawfiq al-sina'iya* (Al-Tawfiq Industrial School) in Cairo, and in 1909 established *al-madrassa al-sina'iyya al-kubra bi bulaq* (The Industrial High School in Bulaq).

In 1909, this move was further developed into a more formal existence following a decree that granted the Provincial Councils (*majalis al-mudiriyyat*) a budget to disseminate education all over the country. Those councils consequently acquired an administrative and financial support in a formal context, which enabled them to expand the number of industrial schools in Egypt. Accordingly, twenty-one industrial schools were established by 1923 in almost all *mudiriyyas* (provinces).<sup>25</sup> Meanwhile, the Ministry of Education had established three more industrial schools, *wirash asiut al amiriya* (the Model Workshops of Asiut)<sup>26</sup>, *madrasat al-Hiraf bi bur sa'id* (the Craft School in Port Said), and *madrasat al-tigara wal muhasaba bi al-qahira* (the Commercial and Accounting School in Cairo).<sup>27</sup> The workshops provided technical instruction of a more practical character that was established for the training

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<sup>24</sup> Abi al-Tig is some 25 Km south of Assiut. The name of the founder of this school was Mahmud Suliman Pasha. Mustafa Fahmy, p. 93.

<sup>25</sup> Ibid., p. 95.

<sup>26</sup> This model workshop provide accommodation for 300 student. "The training extends over four years. No fees are charged, and a small wage is given after the first half year. The trades taught are engineering, smiths' work, foundry work, metal-plate work, carpentry and wood-work, leather work, and painters' and decorators' work. The instruction is mainly practical, but a certain amount of class instruction in drawing and elementary technical subjects is also provided." *Twentieth Century Impressions of Egypt*, p. 225.

<sup>27</sup> Mustafa Fahmy, p. 96.

of the artisans' children. For further establishment, the government called upon private enterprise and benevolent societies to set up more industrial schools and workshops that would follow the model examples already established.

The Ministry of Education was responsible for the supervision, setting the curriculum, the internal regulations and grants in aid for most of the established Industrial schools. For an efficient dissemination of professional education, the government had founded a special technical department that was in charge of studying the needs and requirements of each area in order to draw the adequate curriculum and regulations of each school independently. Each school was to have a curriculum customized for the needs of its own vicinity. This approach involved a framework that contradicted the centralization approach adopted earlier under Muhammad 'Ali and in fact reinstated the values of the former guilds. "All this effort was to fill in the gap as a consequence of the abolition of the guild professional training which has caused the decay of industries in Egypt,"<sup>28</sup> Mustafa Fahmy commented in 1926. The inauguration of industrial schools was an initiative not particular to Egypt but rather, it followed the earlier footsteps of Europe. For example, "very soon after the dissolution of the guilds in France (1791), the École Polytechnique and the Conservatoire de Arts et des Métiers were founded (1795 and 1798), and the first National Industrial Exhibition was held (1798)."<sup>29</sup>

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<sup>28</sup> Ibid., p. 97.

<sup>29</sup> Nikolaus Pevsner, *Pioneers of Modern Design- from William Morris to Walter Gropius*. London, 1984., p. 44.

## 2.4 The Arts and Industries School of Bulaq

To investigate how those Industrial Schools functioned and to what degree they fulfilled the set goals to develop a new industrial basis in Egypt, this research has analyzed in detail the curricula and development of one of them. The School of Arts and Industries of Bulaq, [hereafter School of Bulaq] was selected since it was reputed to play a major role in reshaping local building construction. It was the first of its kind in Egypt; its foundation demonstrated that the Government became quickly aware of the problem of degrading the guild system. The analysis of the role of the school will be a core study here, for it adopted a curriculum that was partially, but efficiently, targeting the fields of building construction in Egypt. In addition, the life span of the School of Bulaq covered the time frame of our analysis.

The life span of the School of Bulaq is distinguished with four chronological phases. The first started with the initial foundation until its closure in 1854, to the re-establishment and expansion of the school under Khedive Isma'il until 1910, to the reinforcement of the school's building construction department, and finally to the eclipse of the school.<sup>30</sup>

### 2.4.1 Initial Foundation (1839 to 1854)

The technical school in Bulaq was established in March 1839 under the name of *madrasat al-'amaliyat* (School of Operations). Muhammad 'Ali Pasha founded this school in order to create a body of local technical engineers who would eventually replace the foreign experts who were invited to reshape various aspects (particularly the military) in the country. He needed local managers and directors to undertake the

newly founded workshops, and factories that supplied the military with necessary tools and machinery. For that purpose, the Pasha adjoined a workshop to the school that contained the imported machinery and tools required for the upkeep of the military weapons. It was like an industrial center having the largest state workshops, canon smelting works, materials for the railways, and a printing machine for the reproduction of all the recommended governmental schoolbooks.

The first director of the school was Yusuf Heqikian Bey, an Armenian by origin, who was educated in Egypt and then sent on an academic mission to Europe. He was the director of the Engineering School before being appointed to the School of Operations. The teaching staff for the school was chosen among the most experienced fellows who were likewise sent on educational missions to Europe. The school provided its students with shelter, food, cloth, monthly salaries, and yearly rewards for distinguished students. The nature of education in the School ranked as special military (*harbiya khussusiya*),<sup>31</sup> served its initial purpose as a support for Muhammad 'Ali's military ambitious. It did not last for more than fifteen years, for it was closed in 1854 during the reign of Abbas I (r. 1848-1854).<sup>32</sup> This phase is not deeply relevant to this study since the School of Bulaq did not yet acquire the role of preparing generations of building construction workers.

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<sup>30</sup> The eclipse phase of the Arts and Industries School is incorporated into chapter III, pp. 54-55.

<sup>31</sup> Amin Sami. *al-Ta'lim fi misr fi sanatai 1914, 1915*, Cairo, 1917, p. 10.

<sup>32</sup> Hussein Yassin, "Nabdha 'an tarikh madrasat al-handasa al-tatbiqiya", *Majalit al-handassa al-tatbiqiya*, Vol. 1, Cairo: 1940, p. 3. This article was published in the first volume of the *Applied Engineering* periodical. It was the outcome of a collaborative effort between the students and the professors and was issued three times a year.

#### 2.4.2 Re-Establishment and Expansion (1868 to 1910)

After 15 years of closure, in 1868, Khedive Isma'il re-opened the school and maintained its initial name *madrasat al-'amaliyat*. It was only at this stage that the school widened its scope to fulfill the industrial development of Egypt and the requirements of the government at the time. Despite the fact that school was inaugurated in 1839, Amin Sami attributed its establishment to the reign of Khedive Isma'il in January 1868.<sup>33</sup> This indicates the new status of the school at this second period, having reshuffled entirely its educational nature from special military to industrial involving new programs and curricula.<sup>34</sup>

The program of the School from 1868 until 1874 was arranged in such a manner as to follow the Institute of Arts and Industries in the city of Aix in France.<sup>35</sup> For this period the French engineer, Mr. Eloi Guigon, who was an old student of the school of Aix was appointed director.<sup>36</sup> The School, during this period, provided three years of study and a fourth year of training. The admission to the school was restricted to those who had completed the secondary school. In this period, the School of Operations was considered a final step of the technical education in Egypt.<sup>37</sup>

During the period from 1875 until 1910, the School experienced a series of alterations to its structure, objective, curriculum, years of study, and specialization. Beside the training year, the program of the school became five years and the admission was permitted for the holders of a primary school diploma. In January

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<sup>33</sup> Amin Sami, section 2, p. 4.

<sup>34</sup> Ibid., p. 19.

<sup>35</sup> Hussein Yassin, p. 4. The full name of the city was not recorded in the sources.

<sup>36</sup> Edouard Dor, *L'Instruction Publique en Egypte*, Paris, 1872, p. 228.



1877, the school was re-named *madrasat al-'amaliyat wal-sina'at* (the School of Operations and Industries), and in 1885 and for more than five decades, the adopted name of the School was *madrasat al-funun wal-sina'at* (the School of Arts and Industries).<sup>38</sup> Since then and during the course of the following twenty-five years, the curriculum of the School was altered six times. The general program of instruction was mainly practical and followed a daily schedule that incorporated certain amount of class instruction.<sup>39</sup> Since 1899, it was decided that the students of the fourth year should go on tours once a month each year, making surveys and hand sketches. Each student should work in one of the following workshops: 1) the workshop of fitters and metal turners, 2) iron smithing workshop, 3) smelting workshop, 4) ordinary and fine carpentry workshop, 5) welding workshop, 6) painting workshop, and 7) wood carving workshop.<sup>40</sup>

The students were engaged in the production of many building-related elements and artifacts. The most distinguished were sent to international exhibitions and were highly praised for their quality. Drawings were also exhibited along with the School's products.<sup>41</sup> On many local and international occasions, the School of Bulaq was given awards for its message and its performance. For example, it won a medal

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<sup>37</sup> Hussein Yassin, p. 4.

<sup>38</sup> Ibid., p. 5.

<sup>39</sup> The regulations of the school for the academic year 1887 fixed a strict daily schedule for the students to follow. Per day students took 3 hours of scientific theoretical teaching, 7 hours in practical handwork, 2 hours of study, 3 hours for lunch, recreational time and sports, and 9 hours of sleep. Amin Sami, section II, p. 17.

<sup>40</sup> Ibid., section II, p. 18. The School provided other occupations such as cloth fabrication, shoe making, letters printing and telegraphs. For details on the changes in the curriculum during that period one should refer to Amin Sami, section II, p. 17,18.

<sup>41</sup> Hussein Yassin, p. 4.

prize of merit from the exhibition of Vienna in 1873, a certificate of the Philadelphia 1876 exhibition, and a gold medal from the Berlin exhibition in 1896.

The success of the school's practical teaching did not overshadow its academic performance. In fact, during this period, the school was considered one of the most prominent high schools of Egypt. Most of its graduates were sent on scientific missions to Europe. Khedive Isma'il was keen on keeping up with the school and was reported to have inspected it once every two weeks.<sup>42</sup> This might be an exaggeration; however, the note indicates the high level of attention and interest of the authorities towards the School of Bulaq. Attention was also given to the teachers who were sent on academic missions to Europe under the orders of Khedive Isma'il. The school produced a wealth of works and studies that were published by its professors. Those were the main references for the students and which also constituted an academic research body for the school. The material encouraged the Ministry of Education to include such works in its official curriculum in 1895, and directed the school's press to undertake their publication. In addition to these academic activities, translation of foreign books related to the subjects taught was undertaken.<sup>43</sup>

These accomplishments of the School of Bulaq were praised by many and for three consecutive years, the British Viceroy, Lord Cromer, recorded the high demand for the students of the School of Bulaq who upon graduation were instantly hired by

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<sup>42</sup> Ibid., p. 4.

<sup>43</sup> Welfred Joseph Dilley, *al-'Imara al-'arabia bi-misr fi sharh al-mumayazat al-bina'iyah al-ra'isiyah li-al-turas al-'arabi* (Arab architecture in Egypt: an explanation of the principal construction assets of Arab heritage), translated into Arabic by Mahmud Ahmad, Cairo: al-Amiriyah, 1923, and Charles Gurly, *al-Turuz al-mi'mari al-italiya* (Italian architecture), translated into Arabic by the school teacher of the building department, Hussein Muhammad Saleh, Cairo: Dar al-kutub, 1927.

the government. It was also reported that its reputation was so popular that it encouraged some foreign students to enroll in the school.<sup>44</sup>

#### 2.4.3 Reinforcement of the Building Construction Department (1910 to 1932)

In October 1910, the curriculum of the school was subdivided into three specialized departments: 1) Mechanical and Electrical, 2) Buildings and Urban Planning, and 3) Arts and Decorative Industries.<sup>45</sup> Accordingly, the duration of education was reduced to four years and a fifth one was still required for training. A secondary schooling was preferred for the admission to the school. The specialization in the Mechanical and Buildings departments were declared in the third year. However, students were enrolled in the Arts and Decorative Industries department in the first year. This department was detached from the school in 1918 to form an independent faculty that became later *madrasat al-funun al-tatbiqiya* (the School of Applied Arts) in Giza.<sup>46</sup> It involved works such as wood carving, silk weaving, and rug-making (figure 8).<sup>47</sup>

Given the rising numbers of students, the Ministry of Education decided to relocate the school to a larger building in Abbasiyya designed by the architect Adolfo Brandani<sup>48</sup> in the neo-Islamic style on May 1932 (figure 9). It was hoped that the style and quality of building would inspire the students. The new establishment was

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<sup>44</sup> According to Lord Cromer the graduating class for the year 1900 had three Turks who were sent by the Turkish Sultan. Hussein Yassin, p. 4.

<sup>45</sup> Ibid., p. 7.

<sup>46</sup> Ibid., p. 7, this school was denoted as the School of Egyptian Arts and Crafts by the *Almanac for the Year 1928*, Cairo: Government Press Publications Office, p. 73.

<sup>47</sup> *Egypt and the Sudan- special Tourist number of "The Sphinx" Cairo 1925-1926*, Published by Authority of the Egypt Promotion Association, 1926, p. 49.

designed to follow the larger universities of Europe. It comprised fully equipped labs and workshops having modern machinery that did not exist in any other Egyptian institution.<sup>49</sup> The school had numerous lecture halls that were equipped with cinema projectors. With this upgrade, the curriculum of the school was altered and compressed into three years, and more regulations were imposed upon admission. In October 1932, the school incorporated more specialization in four departments: 1) Mechanical and Vehicles, 2) Electrical, 3) Buildings, and 4) Structural, these were declared in the first year of studies. In October 1937, the curriculum was again reshuffled to encompass four years of study. At this date, the school was named *al-Handasa al-tatbiqiya* (the School of Applied Engineering).

It was reported that by 1940, the school had graduated more than four thousands students who were scattered in the work field in all of the government ministries and the private sector. The teaching staff was formed mostly of graduates of Egyptian or European universities who had large professional experience.<sup>50</sup> In 1910 the Building department was reinforced and its curriculum was set in a way as to give a general background on various topics related to the building industry. Some of those topics dealt with Italian architecture, local building materials, construction specifications and quantity surveying, architectural drawing, and history of

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<sup>48</sup> Mercedes Volait, *L'Architecture Moderne en Egypt et la Revue al-'Imara 1939-1959*, CEDEJ Dossier Plate VI, picture 13.

<sup>49</sup> Hussein Yassin, p. 9.

<sup>50</sup> Ibid., p. 9.

architecture.<sup>51</sup> Hence, besides the extensive training in the workshops, the school offered a general theoretical background in the building and architectural fields.

The graduates of the Arts and Industries School were employed as contractors or chef-chantiers (foremen) for the construction works and many times were hired by the government in particular by the Ministry of Public Works as a base for the hierarchy for jobs related to quantity surveying.<sup>52</sup> They were to act as an on-site link between the designer and the worker. The graduates were indeed taught how to read the technical specifications and drawings of the designer and at the same time have the practical knowledge to communicate with the craftsmen on site.

Some of the graduates of the building department of the Arts and Industries schools who had continued education further pursued more prominent careers. For example, Mahmud Ahmad (1880-1942), an active member in the Comité de Conservation de l'Art Arab in the 20's and 30's, was appointed as *muhandis* (engineer/architect) in the "Bureau of Monuments" of the Awqaf in 1922.<sup>53</sup> Another graduate of the Arts and Industries Schools, Muhammad Abdel Kader, who studied in Britain, was working in 1943 as a teacher in the building department of the Arts and Industries School. He was active in the research field and had published the book of

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<sup>51</sup> The following are some of the assigned textbooks which were published by the teachers of the building department: Hussein Saleh, *al-Turuz al-mi'mariya al-italiya*, Cairo: Dar al-kutub al-masriya, 1927, Hussein Saleh, *Handasat al-bina' wa al-insha'at- al juzu' al-'awal (mawad al-bina')*, Cairo, 1930, Samuil Yussuf Hussein, *al-Muwasafat wal muqayasat lil 'insha'at al-handassiya*, Cairo, 1930-40, Baha al-Din Baraba, Ibrahim Naguib, *al-Rasm al-mi'mari*, Cairo: al-Amiriyah, 1940, and Muhammad Khalil naiyil, Muhammad 'Amin Abdel Qadir, *Tarikh fan al-'imara*, Cairo: al-Amiriyah, 1943.

<sup>52</sup> An interview with Yehia al-Zainy (1919-) on the 12<sup>th</sup> May, 2003. Al-Zainy is an Egyptian architect who currently teaches in the Architecture Department at the Fine Arts Faculty, Helwan University. He was the former Deputy Minister of Housing and Reconstruction and the former director of the Arab Architecture Bureau.

*History of Architecture*, which was included in the official curriculum of the Ministry of Education.<sup>54</sup>

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<sup>53</sup> Alaa El-Habashi, *Athar to monuments: the intervention of the Comite de Conservation des Monuments de l'Art Arabe*, University of Pennsylvania, 2001, p. 164.

<sup>54</sup> Muhamad 'Amin Abdel Qadir, *Tarikh fan al-imara*, Cairo: al-Amiriyah, 1943.

### **Chapter Three: Call for the Revival of the Building Crafts**

This chapter explores the difficulties and problems that surfaced after the establishment of the new technical educational system. This matter was expressed through different actions and viewpoints, from which three branches were selected: the resistance of the society, the criticism of personnel from within this educational system, and most importantly the investigation of professionals working in the field of building construction in Egypt. The last is the mainstream of the analysis as it links the educational system to its influence on the real processes of the local system of building construction. The reported problems and difficulties were recognized and tackled through a wide range of ideologies and approaches from the most conservative to the most liberal. The conservative leaders cherished the values of the past holding themselves aloof from the present. The representative of this group was the architect Hassan Fathy (1898-1989) who attempted to reinstate traditional techniques, shapes and forms. Another group of a liberal ideology searched for a totally new solution that had little to do with traditions and almost no relations with the characteristics of local customs. The protagonists of this group, led by the prominent architect Sayyid Karim (1911-), preferred to associate themselves to international architectural norms rather than to affiliate with the local situation. In that sense this group of builders and architects had modernists ideas.

Between those two extremes fell those who were moderate in dealing with the different existing parameters. Mustafa Fahmy, the architect, was a leading model for this group. He attempted to find solutions for the existing technical education and professional systems in the building practice while maintaining the essence and the values of the past. For the purpose of this thesis, the focus is directed to the last

intermediary approach as it represents rational analyses and realistic practical solutions for the technical training and professional education, the topic of this thesis.

### 3.1 What Went Wrong with the New Technical Education System?

#### 3.1.1 Resistance of Local Craftsmen

The craftsmen were directly affected by the introduction of the Industrial Schools and the associated changes in the working structure. Unfortunately, their reaction to such changes is not well documented as it appeared and grew in a mostly illiterate section of the population. We first hear about this in 1886 when the French Édouard Mariette wrote about the construction work in Egypt and observed that the local “chief workers, patrons and builders were not enthusiastic to learn and profit from the European methods in developing their own crafts.”<sup>1</sup> This lack of enthusiasm towards the new construction practices was echoed into the new technical education system established by the State. In 1888, the resistance of the local families towards the new European schools that was “implanted without transition” led to the following:

il se manifesta dans la population une vive opposition contre l'enseignement étranger. On accusa les médecins, les ingénieurs, les militaires, les légistes, en un mots, tout ceux qui s'occupaient des sciences importées d'Europe, de s'être vendus corps et âme, aux Européens et, qui plus est, d'être devenus des chrétiens, c'est-à-dire de se mettre hors la communion musulmane, ce qui les vouait de fait, à la réprobation publique en ce monde et au feu éternel dans l'autre. ... les musulmans ayant reçue l'instruction scientifique faisaient tout leur possible pour prouver qu'ils n'avaient pas, malgré cela, cessé d'être de véritables croyants.<sup>2</sup>

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<sup>1</sup> Mariette's own words were: “Les européens n'ont pas pu toujours exercer utilement leur activité et leur savoir-faire, parce que les chefs d'ouvriers, les patrons, les constructeurs indigènes, n'étaient pas assez soucieux de voir leur art profiter des essais divers et individuels tentés sous leurs yeux.” Édouard Mariette, *La Construction en Egypte*, Paris, 1886, p. 132.

<sup>2</sup> Yacoub Artin, *L'Instruction Publique en Egypte*, Paris: Ernest Leroux, 1890, p. 142, 144.



This was of a major concern to the local authorities. The State exploited all possible means to convince the families to enroll their children in the new educational system. For example, it was reported in 1909 that the attendance at the schools received "State encouragement in the form of exemption of the pupils from the obligatory military service."<sup>3</sup> Mariette and Artin's remarks and the State's struggle are indicative of the resistance of the local towards both the practical reform and the new educational system.

Later studies such as the 1917 Amin Sami's report on education in Egypt, confirmed that the resistance remained among the local craftsmen and Egyptian families in general who "were not in favor of the newly established schools".<sup>4</sup> The authorities resorted to extreme measures to attract locals to enroll in the new Industrial Schools. The extent of this problem can still be perceived today when the common means of apprenticeship in the building construction field is still based mainly on informal training (e.g. the training from father to son) despite the availability of a formal industrial education system.

### 3.1.2 Problems within the Ministry of Education

The industrial schools' theoretical prospects and development plans depended on three main criteria: 1) establish a strong relationship with work owners, engage them in drawing the curriculums and internal administrations procedures of the schools, 2) develop a plan for a self-financed system, and 3) create a body of capable

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<sup>3</sup> A. Wright (ed.), *Twentieth Century Impressions of Egypt*, London 1909, p. 225. The exemption from military service was mostly accorded to the Government affiliated Model Workshops and Industrial Schools. See Cromer, *Rapport de Lord Cromer sur L'Égypt et le Soudan – pour l'année 1906*, Cairo, 1907, p.120.

<sup>4</sup> Amin Sami, p. 11.

instructors. These criteria, as expressed by some governmental educational officials, were pre-requisites for the success of the newly founded system of technical education in Egypt.

In 1906, Mr. Sydney Wells, who was employed by the Ministry of Education to develop a plan for the promotion of technical education in Egypt, had associated the success of the Industrial Schools system to several conditions. According to him the success of this system depended largely on the degree of cooperation between the personnel of those Schools and the owners and patrons of the various Industrial Institutions whether they were government affiliates or not. Mr. Wells urged the directors of the Industrial Schools to study the requirements of the patrons and work owners and engage them in the development plans of the schools. Consequently, this would win their trust in the capabilities of the Industrial Schools and encourage them to employ the graduates of the Industrial Schools.<sup>5</sup>

Indeed, those conditions were met in the case of the School of Arts and Industries of Bulaq. At the re-opening of this school in 1868, it was reported that the patrons and work owners were actively involved in the administration of the school. For example, this aspect was manifested in the final examination of the fourth and fifth years, which were undertaken by an external committee composed of government officials, delegates from the concerned ministries and directors of the

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<sup>5</sup>Mr. Sydney Wells presented a report to the government in 1906. To extract information from this report I relied on Cromer, *Rapport de Lord Cromer sur L'Égypt et le Soudan – pour l'année 1906*, Cairo, 1907, p.121.

largest government technical departments.<sup>6</sup> In some instances, work owners were allowed to interfere and reshuffle the school's curriculum to fulfill their work requirements. For example, it was reported in 1894 that the State Administration of the Railway Department had criticized the poor quality and advanced age of the graduates of the Arts and Industries School of Bulaq. Knowing that this Administration hired most of the schools' graduates, the Ministry of Education immediately reacted by altering the curriculum and years of study of the school in order to fulfil the work requirements.<sup>7</sup>

Despite this promising start, in practice most of the initial prospects and plans for the success of the Technical Education system in Egypt were not efficiently met. Some of those unfulfilled prospects were, for example, finding a body of capable instructors and self-financing plans. The first attempts of the Ministry of Education to limit its expenses, by gradually abolishing free attendance and gratuities in the Europeanized schools and introducing higher fees in other schools, were not sufficient to support the self-financing system.<sup>8</sup> These unfulfilled prospects had great repercussions on the development and dissemination of industrial education in the country. The resultant financial shortage was most harmful to the Arts and Industries Schools that required large financial support both for their establishment and yearly

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<sup>6</sup> Among the students and school professors, the photograph of the graduating class of June 1906 for the School of Bulaq had external Managers from the Government Urban Planning, the Railway Departments, and the Director of the Roads and Bridges Department. Hussein Yassin, p. 6.

<sup>7</sup> Yacoub Artin, *Considerations sur l'Instruction Publique en Egypte*, Cairo, 1894, p. 152-3.

<sup>8</sup> *Twentieth Century Impressions of Egypt*, p. 226.

expenses. Hence, the pace of development and expansion of the Industrial Schools was slowed and in some instances halted completely.<sup>9</sup>

### 3.1.3 Criticism of Practitioners in the Field of Building Construction

The difficulties and shortages facing the industrial schools were not efficiently addressed so as to remedy the situation. This made these schools subject of criticism by personnel outside the educational system. Those who were working in the field of the building construction felt the inadequacy of these schools. In 1925, for example, Mustafa Fahmy, a leading figure in the local architectural field expressed concerns towards the system's structure. Fahmy was then the chief architect of the Service of Government Buildings (Maslahat al-mabani al-amiriya).<sup>10</sup> Beside his practical architectural works, Fahmy was quickly acquiring a reputation of a theoretician in the field. His membership in the Royal Egyptian Society of Engineers provided him with the intellectual arena to communicate his ideas to high officials and decision-makers.<sup>11</sup>

It was to this audience that Mustafa Fahmy talked about the technical education system in Egypt. On the 30<sup>th</sup> of December 1926, he presented a paper on "The Industrial Education and the Building Crafts in Egypt."<sup>12</sup> The lecture was discussed by Muhamad Bey Irfan (the General Director of the Governorates and

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<sup>9</sup> Yacoub Artin, *Considerations sur l'Instruction Publique en Egypte*, p. 154. The education in the Industrial School of Mansura was suspended for four years from 1891 to 1895 due to financial shortages. Amin Sami, section III p. 20.

<sup>10</sup> Mercedes Volait, *L'Architecture Moderne en Egypte*, p. 34.

<sup>11</sup> The Royal Egyptian Society of Engineers (*Jamiyyit al-muhandissin al-masriya al-malakiya*) was established on the 3<sup>rd</sup> of December 1920. For a brief on the legal status, goals, resources and other information about the Society one should refer to the introduction of the yearly periodical of *Kitab jamiyyit al-muhandissin al-malakiya al-masriya*, Vol. 3, March 1924, p. 1-27.

Provincial Councils), Dr. Abdel Aziz Ahmed (the Deputy Director of the Royal School of Engineering in Giza), and Hussein Siri Bey (the General Director of the Surveying Department in Giza). A discussion of this particular topic was requested by the Society members in order to "take decisions concerning the system of Industrial Education in Egypt"<sup>13</sup>

In his lecture, Fahmy criticized the measures the government had introduced in the early twentieth century to promote technical education in Egypt. According to Fahmy, the establishment of Industrial Schools was an insufficient measure and a waste of money and efforts. Coming from a practitioner who was all aware of the reality of the construction field in Egypt, the criticism of Mustafa Fahmy was real and linked to the actual field processes. He criticized the limitations in the capacities of those Industrial Schools, a fact that was earlier noted by Yacoub Artin in 1894 and by Mr. Wells in 1911. According to Fahmy, the Industrial Schools could not cope with the rising demands for the craftsmen in the building trade. He confirmed that the yearly graduates of such schools could supply only a minimal percentage (which he calculated as 4%) of the needed workers in the Egyptian market.<sup>14</sup> In fact, this was one of the strongest reservations of Fahmy against the Technical Education System introduced by the State. He confirmed that the base of the industries at the present moment was formed mainly of those workers "who were not lucky enough to enroll in such industrial schools."<sup>15</sup>

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<sup>12</sup> He had already presented this topic a year earlier in Paris when representing the government of Egypt in the International Conference for Buildings and Public Works.

<sup>13</sup> Mustafa Fahmy, p. 67.

<sup>14</sup> Ibid., p. 101.

<sup>15</sup> This and subsequent quotes are my translation of Fahmy's original Arabic paper. Ibid., p. 98.

He then argued that even if this fact could be disregarded, it is impossible to ignore the unrealistic educational approach applied in the Industrial Schools. The modern technologies and advanced machinery employed in the Industrial Schools were barely available in the construction field. The techniques used in School did not simulate the reality creating a wide gap between theory taught in the Arts and Industries Schools and the actual practice of the building industry of Egypt. Eventually, the few educated school graduates would be integrated in this undeveloped system without contributing to it or employing their technical education and hence the large sums of money spent on these schools would become a total waste.<sup>16</sup>

Later, these above-mentioned shortages combined with other deteriorating factors led to the failure of the Arts and Industries Schools. In the 1940's, the social perception of the school was at its lowest. This situation prompted the administration of the Arts and Industries School in Abbasiya to issue a periodical aiming at "rebuilding a better reputation for the school that was much needed at the time," as noted by the supervisor of the school.<sup>17</sup> The reason for such negative perception was explained in the following note:

The general perception of the society was not in favor of the school since it does not guarantee a governmental position or an office position. The industrial school should not be a solution for those who are seeking less educational years or those who could not join the universities. In response she wrote that the studies, which are theoretical in nature, are as difficult as the practical ones. In fact, the most difficult of all is the combination of both. A very great effort was required of

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<sup>16</sup>Ibid., p. 98.

<sup>17</sup> The introduction by Abd al Wahab Kamel, the supervisor of the school, in *Majalit al-handassa al-tatbiqiya*, Vol. 1, 1940.

the student of applied engineering, who will later be the skilled worker or his appointed supervisor.<sup>18</sup>

However, this general contempt of practical hands-on work persisted and affected personnel within the educational system. In 1945, Dr. Sayyid Murtada, a professor in the Faculty of Engineering at the Faruq I University (Cairo University in Giza), listed briefly the posts attained by the Industrial Schools' graduates. He had limited the scope of the school by excluding the Buildings and the Structural Departments. To give examples of the posts of the Industrial School of Bulaq's graduates, he listed the technical workers and drivers of the Land and Sea Engines, the technical workers in the Railways Department, and the technicians involved in the construction of railways, boats and steam engines.<sup>19</sup> Even though this and other misconceptions may not be based on good grounds, they were detrimental to the development of the Technical Education System. Later in 1950, the Arts and Industries Schools at 'Abassiya, was transformed into an Engineering Faculty (today 'Ain Shams University) marking an end to the Arts and Industries Schools in Egypt.<sup>20</sup>

### 3.2 Conservative Approach for Remedies

This failure of the industrial education has led some of the practitioners in the field to revive the program of apprenticeship under the guilds. This move was further reinforced since the industrial methods was unable to produce an art that was equally

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<sup>18</sup> The Applied Engineering was the new name of the Arts and Industries School of Bulaq after its transfer to 'Abbassiya in 1937. This quote was extracted from the article by the title of: "the message of the applied engineering school," written by an unknown female teacher who had received her degree in education and teaching methods from England. See, Anon, "Risalit al-handassa al-tatbiqiya", *Majalit al-handassa al-tatbiqiya*, Vol. 1, 1940, p. 24.

<sup>19</sup> Sayed Murtada, "al-Hayat al-handasiya fi 'ahd isma'il", *Majalit al-'imara*, No. 6/7 Vol. 5, 1945, p. 37.

<sup>20</sup> Mercedes Volait, *L'Architecture Moderne en Egypt*, p. 27.

as beautiful as the traditionally produced crafts. Many movements were established to counteract this deterioration. In Europe, William Morris (1834-1896), the founder of a well-recognized movement, "Arts and Crafts", called for reinstating the traditional crafts. He cherished progressive social ideals to return to a lifestyle in which workmen took pleasure in their craft. He called for a "destruction of evil machinery and a return to an impossible Middle ages of primitive handicrafts."<sup>21</sup> This movement flourished in England in the 1880's and its ideals were to produce "an architecture that blends into its environment by employing local materials available to produce the required shades, texture and color".<sup>22</sup>

In Egypt, the failure of the government to integrate properly the industrialization with the existing working structure had aggravated the situation even more. A medievalist ideology similar to Morris's Arts and Crafts movement was undertaken by some Egyptian architects in an attempt to remedy the deteriorating conditions of the crafts. In the first half of the twentieth century, the Egyptian architect Hassan Fathy adopted Morris's approach. He chose to disregard what was being introduced to the system of industrial restructuring and searched for the remedy in the medieval system. He promoted the revival of traditional crafts in Egypt by re-introducing the characteristics of traditional architecture into his contemporary buildings. Hassan Fathy indeed was a pioneer at his time in founding a movement to resist the influx of industrialization into the building construction field. His architecture was to revive the crafts and to reunite it with art while stressing the function and appropriate use of local materials. This reform movement was much

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<sup>21</sup>Michael Levey, *A History of Western Art*, London, 1970, p. 277-279.

<sup>22</sup>Banister Fletcher, *A History of Architecture*. University of London, 1975, p. 1132-1134.



needed at the time and indeed created its own philosophy and followers. Hasan Fathy chose to work in rural areas of Egypt, which were untouched by the new modes of construction. In his commission of al-Gurna in Luxor, Hassan Fathy applied his conservative ideology and adhered to the hereditary architecture of rural Egypt (figures 10 and 11).

In practice, Hasan Fathy's ideology was difficult to promote on a large scale. He was faced with a struggle between the advantages of machinery and the values of traditional art. The dilemma facing the followers of this conservative approach was felt in Morris' main question: "how can we recover a state of things in which all work would be 'worth doing' and at the same time 'of itself pleasant to do'? ... While Morris wanted an art 'by the people and for the people', he had to admit that cheap art is impossible because 'all art costs time, trouble and thought'"<sup>23</sup> In practice, those medievalist were trapped in a "hopeless struggle against modern methods of manufacturing."<sup>24</sup> Like Morris, Hassan Fathy's philosophy attracted much international acclaim; however, in practice his "architecture for the poor" was not sufficiently practical to use in the face of the other modern technologies.

### 3.3 Liberal Approach for Remedies

Another attempt, maybe totally different than Hassan Fathy's line and style, was made by the architect Sayyid Karim. He detached himself from any local heritage and resorted to "modern" approaches. His movement exploited the new possibilities offered by industry of cast iron and steel. Sayyid Karim said, "architecture is a

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<sup>23</sup> *The Collected Works of William Morris*, London, 1914, xxii, p. 75. To extract information from this source, I relied on Nikolaus Pevsner, p. 24.

reflection of the present reality,” which he admitted may be “unsatisfactory.” He argued that current customs and manners have departed from those of our ancestors and leading us towards an easy affiliation with other international cultures. In Karim’s point of view, this was “reflected in the change of cloth, means of transportation, and many other daily aspects. In this changing towards a scientific and machine civilization that provided us with new building materials and new industrial productions, we caused a rupture between our rational architecture and the one of today.”<sup>25</sup> According to Karim, all of these factors when combined urge up towards an international style common among all civilizations<sup>26</sup> (figures 12).

### **3.4 Moderate Intermediary Approach Proposed by Mustafa Fahmy**

#### **3.4.1 Long Term Measures**

Mustafa Fahmy did not leave the issue at a level of criticism, but pursued his analysis to offer solutions and remedies of a moderate approach. He did not detach himself from any of the realities at his time whether these existed in underdeveloped industries or in frail remnants of the Egyptian heritage. According to him, the upgrade of the building industry and crafts in Egypt would only succeed if the values of the guild system were incorporated into the new system. He believed that any new devised plan for industrial education aiming at the upgrade of local crafts should encompass measures shaped from the essence of the guild system’s values. Of these measures, Mustafa Fahmy offered the following:

- 1- Practical industrial training.

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<sup>24</sup> Nikolaus Pevsner, p. 26.

<sup>25</sup> Sayyid Karim. “al-Tabi’ al-qawmi wa al-’imara fi misr,” *al-Imara*, Vol. 5-6, 1940, p. 274.

<sup>26</sup> The ideas of Sayyid Karim were clearly represented in his architectural designs. The Akhbar al-Yum building in Cairo is but one example of his “International style” in architecture.

- 2- Strict supervision over the practical training.
- 3- Re-integrate passion into the spirit of the crafts in order to assure proficiency.
- 4- Founding a competitive market in which craftsmen would seek the highest quality and allow for those craftsmen to reach high ranks in their society.<sup>27</sup>

In drawing such measures, Mustafa Fahmy looked at the French experience of the craft revival. He concluded that the new system of technical education had utterly failed. He argued that this new system proved its inability to create the body of workers and instructors that could meet with the demands of building industry of the day. Mustafa Fahmy suggested having a training program in the work places that was officially set with regulations and strict supervision. The training however should be preceded by basic elementary education. After completion of the general training a more detailed one would follow on a higher professional level for the proficiency of the craft.<sup>28</sup>

In his article, Mustafa Fahmy offered a detailed description of the European working system in the field of industrial training. From such experience he highlighted eight pillars on which the training should be based: 1) Obligatory training for the workers wishing to specialize in any craft, 2) Obligatory contract for a fixed period of training to save the rights of both; the trainee and the employer, 3) Quality control of the graduates through examination after the completion of the industrial training period, 4) Supervision of the industrial training, 5) Limitation of the number of apprentices, 6) Obligatory primary education before the industrial training, 7)

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<sup>27</sup> Mustafa Fahmy, p. 83-4.

<sup>28</sup> Ibid., p. 103.

Compulsory higher industrial training for the proficiency of the craft, and 8) Urging the workshops owner to fix an adequate period of training by and for the trainee.<sup>29</sup>

Mustafa Fahmy realized that one should not adopt the experiences of the others blindly. He believed that the solution should be shaped according to the local situation, and thus called for a survey of the local system. He urged a study of several existing aspects that can be developed in the building industry such as 1) the type of industries existing in Egypt: the small and large industries, 2) economic situation for each industry, and 3) the available types of workers and trainees in the different industries.

He noted on the work of an investigation committee that was formed following a decree issued by the Ministry of Finance on 8 March 1916. He regarded that its role was confined to the investigation of the consequences of the World War I and the damages done to the national industry and commerce. Instead of looking at the means to upgrade the industries themselves, the committee aimed to create avenues and new markets for Egyptian products, to find local alternatives for the imported products, and to search for possible avenues of importation from comparable friendly countries.

For Fahmy, the investigation conducted by this committee was shortsighted and was not based on a futuristic vision. He hoped for an investigation that would generally and essentially aim at a national industrial reform and on its results the prospective local institutes were to be founded within each provincial district. He suggested that the Technical Sections of the Department of Industrial and Commercial

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<sup>29</sup>Ibid., p. 105-125.

Education of the Ministry of Education should direct such institutes. In order to link those prospective institutes to the practical sides of the industries, Fahmy suggested relating them to groups of businessmen and licensed workers.

He detailed the responsibilities of the prospective institutes and listed twelve points:

1. Studying the available industries in each provincial district and searching for means for their development.
2. Looking for possibilities of founding new industries.
3. Encouraging the work owners to train young workers.
4. Including training as a component of a compulsory education.
5. Introducing courses of elementary Industrial Education in kuttabs and preparatory schools.
6. Encouraging illiterate young workers to acquire preliminary education.
7. Directing graduates of elementary education towards special Industrial Educational programs.
8. Organizing competitions and lectures to develop an attachment for the profession.
9. Providing examinations after the accomplishment of the training and issuing certificates and diplomas for those who have passed them.
10. Encouraging the establishment of industrial schools or private lessons for the improvement in quality of work in certain professions.
11. Giving technical advice for the work owners in the provincial district.
12. Investigating the possibilities of introducing new work techniques to upgrade the level of workers.<sup>30</sup>

Fahmy proposed the establishment of those institutes in big cities and then to follow in the provinces according to demands. Those institutes would set a guideline for other Ministries to participate and to take part in the prospective reform. The reform that Fahmy sought was the one in which all of its aspects, technical, administrative, theoretical, practical, financial, and legal were incorporated.

He proposed a formal decree, in which regulations, duties, and rights would be set forth. In shaping this decree, Fahmy adopted the recommendations of the 1925

Paris Conference for Building and Public Works. The articles of the decree that he detailed safety requirements, organized the work environment and banned child (less than 12 years old) employment.<sup>31</sup>

Fahmy did not limit the prospective reform to the educational system but expanded it to the workshops and factories. Such work places in Fahmy's proposal would be restructured to accommodate training programs. In his viewpoint, the mutuality between training and education would be the foundation of a body of skilled workers that the industrial schools alone was incapable of producing. There should be a process of interchanging understating between both in order to guarantee the effectiveness of each.

Mustafa Fahmy in his article devoted a section to detail how the reform would include practical training. Unlike his plan for educational reform, here it was put in generic terms applicable to all sorts of industries. His ideas for the practical training targeted building construction in specific. Fahmy began his analysis by rationalizing the need for the reform. He questioned how to ensure the building quality while the authorities never thought of including it in the initial curriculum of the industrial schools? How to find proficient builders who would produce buildings similar to those of the past? For Fahmy those skilled builders no longer existed and with them the spirit of art, hence the core of a successful industry, was lost. The reasons for such decay were multifaceted: Fahmy listed many, most important of which was the European intrusion into the building practice. Fahmy explained it was impossible for the Egyptians who worked for foreign building contractors to grasp the whole

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<sup>30</sup>Ibid., p. 131-135.

structure of the new building industry they were involved in. The language barrier contributed in aggravated the matter.

Mustafa Fahmy noted that the workers who ventured in the construction of buildings that followed modes of modern architecture were by and large ignorant of what they were doing. They involved themselves in types of work that were "not related to their background", and consequently they became, as Fahmy put it "like silent machines in the hands of others".<sup>32</sup> Hence under the new ideologies and construction techniques imported from the west, no industrial education or training was introduced to fill the gap that was occasioned by the disappearance of the traditional guilds. According to Fahmy the Egyptian worker lost the spirit within the local industry, hence the traditional art, and was not even trained to understand the new imported system.

The building workers had suddenly been all considered unskilled labors, having no input except following orders. According to Fahmy, the quality of work was not only the responsibility of the manager or the engineer but also the responsibility of the various types of workers. For example, the mason was responsible for the solidity of the building and exactness of its lines; the carver was essential as the assistant of the mason who supplied him with the carved stones according to the drawings of the engineer; and the reinforced concrete worker was essential in the quality of the basic construction material employed. To this list Fahmy added the responsibility of the ordinary plasterer, the manufacturer of gypsum forms, and the gypsum ornamentation plasterer who were to re-create the engineer's thinking

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<sup>31</sup>Ibid., p. 135.

represented in the drawings. There were also the cutter of different types of marble, the carpenter in the different fields of carpentry, the joiners, the manufacturer of flat stones and pottery tools and mosaic, the painter, the plumber, locksmith, electrical worker, and so on. To Fahmy, it was impossible to ignore the contribution of these workers who on many occasions would have to add their own instinctive innovations to complete the work. Therefore, it was extremely important to develop their skill through a program of technical education, which would be based on solid ground of experience. To Fahmy these workers were as much contributors of the buildings as the engineers supplying the drawings.

To create a real body of skilled workers, their technical education should encompass a general introduction to the characteristics and the basic rules of , for example, reinforced concrete. On many occasions, the ignorance of the basics of the construction materials could lead workers to commit unintentional mistakes, which could be easily avoided through learning the basics. According to Fahmy, this basic education not only would make them understand the construction material they used daily but would encourage them to have an input in the process of development and innovation in the actual construction field.

For the development of the building industry, Fahmy not only stressed the education and training of the workers but also urged the establishment of high standard factories for the production of construction materials. According to him, the existing locally produced materials were of a poor quality, a phenomenon that pushed some contractors to purchase costly imported types. To remedy this situation, Fahmy

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<sup>32</sup> Ibid., p. 138.



urged the development of the local materials in terms of quality to produce the quantities to fulfill the rising demands of the construction market. The essential raw materials that needed upgrade were bricks, ceramics, tiles, mosaics, steel and most importantly cement, most of which were being imported in large quantities into Egypt at the time.

Mustafa Fahmy praised the work of two private institutes that had attained the best results in the education and training of skilled workers. The first was the Leonardo da Vinci Institute, established by the Italian Society of Dante Alighieri. This private institute had a large team of master workers and evening classes were offered in drawing, painting, model production and architecture.<sup>33</sup> This institute had, among many other nationalities, a large number of Egyptians. The other institute was L'École de Potiers in Rod el-Farag for the production of ceramics and pottery. This institute was established by Hoda Sha'rawi; its purpose of training workers in technical aspects of pottery manufacturing. These two institutes should, he argued, become role models for other ones of different specialties according to the demands of the market.

When evaluating a development plan for the building industry in Egypt, Mustafa Fahmy sought to benefit from other foreign experiences "as a basis on which we build our studies, taking into account what suits our country and what agrees with the traditions of the people."<sup>34</sup> For further detailed studies, Fahmy suggested sending representatives from the special search committee for the industries in Egypt to such foreign countries. Those representatives would examine closely the working system

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<sup>33</sup> The Italian language was taught in this institute since it was one of the goals of the Dante Alighieri Society. See <http://www.soc-dante-alighieri.it/>

<sup>34</sup> Ibid., p. 147.

and investigate the results of the different nations in order to benefit from their experiences in the different techniques associated with a given industry.<sup>35</sup>

#### 3.4.2 Short Term Measures

While waiting for his reform plan to materialize Fahmy insisted on the importance of an immediate action. He proposed establishing chambers of professions (a body that resembles professional unions) in the large central towns, and a preliminary system for the industrial training with its preceding primary education and the training courses in the proficiency of the buildings industries. Those chambers of professions could act like nuclei as centers of information for the research committees in the forthcoming system.

Further he proposed founding a Museum for the Arts of Construction in Egypt following the Museum at Budapest. This museum would be useful in displaying the principles of the building industries and the available construction materials. With those there would be a display of pictures showing the advantages and disadvantages of building materials and the defects that might occur from poor quality materials, the accidents that might occur to the buildings, the reasons for such accidents and what can be done to avoid them. The next step would be to transfer this museum as a department of a much bigger Museum of Construction Engineering adjoining to a laboratory for the testing and analysis of construction materials. This service would be very beneficial for all involved parties in the construction related industries since, at the time, it was only available in the chemical lab of the Ministry of Finance which was restricted to government affiliated work.

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<sup>35</sup>Ibid., p. 148.

The insufficient efforts and inadequate means of the authority to upgrade the building industries in Egypt was not the only aspect criticized by Fahmy. He also blamed the tolerance of the authorities in accepting "this army of merchants (if we have called them "merchants" we have honored them in describing them as such) who call themselves contractors, and sometimes engineers or architects."<sup>36</sup> Those contractors do not have a proper technical expertise or artistic knowledge to undertake the kind of work they are involved into. According to Fahmy, those "commercial building contractors" are a threat to the economic development of the country since they are merely seeking a profitable deal while neglecting the technical rules of the construction field and disregarding the quality of work. Their low cost proposals have unfortunately attracted many customers. This is why, as Fahmy put it, "our cities are filled with funny buildings (saying the least about them) which ruin the beauty and the scenery of our large streets."<sup>37</sup>

Fahmy's primary intention was to "draw the attention to the illness that distresses the art and its people and which has contaminated the category of workers as well." He urged the legislative courts and the concerned authorities to play a more active role to remedy this unfavorable situation. First the authorities should put limitations to the abuse of workers and second to issue decrees restricting the work of those "opportunistic contractors" by determining their ranks based on their capabilities and credentials as was the case in foreign countries. This vital social issue was discussed in length in the foreign countries and yet was not given proper attention in Egypt even though the need for it was essential. In his last phrase, Fahmy who hoped

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<sup>36</sup> Ibid., p. 151.

<sup>37</sup> Ibid., p. 152.

for support on his call expressed his objective by saying, "we have reached our goal if we have incited the passion to revive and develop our ancestors' glorious arts".<sup>38</sup>

It is important to note that Mustafa Fahmy, who probably knew of the dilemma that some have experienced when trying to employ doctrines of a medievalist nature in the era of industrialization, did not follow the same path. He rather urged for an intermediate solution that involved the new technical education while benefiting from the values of the former guild system. His intermediate solution was in fact the most realistic and practical of the three approaches. He, like the followers of William Morris, knew that modernization was an irreversible process that one should exploit. Charles R. Ashbee (1863-1942), an old disciple of William Morris, had renounced the doctrine of Arts and Crafts by saying: "Modern civilization rests on machinery, and no system for the encouragement or the endowment of the teaching of the arts can be sound that does not recognize this."<sup>39</sup> Fahmy in his architectural commissions was not a full modernist nor did he stick to mere tradition, instead he found a middle solution to express tradition in modern context<sup>40</sup> (figures 13, 14, 15 and 16).

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<sup>38</sup> Ibid., p. 154.

<sup>39</sup> Charles R. Ashbee, *Should We Stop Teaching Art?* London, 1893, p. 4. To extract information from this source, I relied on Nikolaus Pevsner, p. 26.

<sup>40</sup> The neo-classical style adopted by Mustafa Fahmy is seen in his commissions of, for example, the Doctor's Syndicate (1939) and the Fahmy Family's Mausoleum (1936). For more on Fahmy's architectural work see, for example, Mercedes Volait, *L'Architecture Moderne en Egypte et la Revue al-'Imara 1939-1959*, Tarek Sakr, *Early Twentieth-Century Islamic Architecture in Cairo*, Cairo: The American University in Cairo Press, 1992, and Tawfik Abdel Gawad, *'Amaliyat al-'imara fi al-qarn al-'ishrin*, Cairo, 1977.

## **Conclusion**

The history of development of building craft in Egypt is closely tied to two fields of research. The first is the traditional guilds and the changes that their system experienced with the introduction of industrialization in the nineteenth century. The second is the educational reform that was shaped to accommodate those changes and support their prospects. This thesis investigates the two field of research from the reign of Muhammad 'Ali until the first half of the twentieth century. The analysis focuses on the type and nature of building practice. By the type of building practice, I mean the different categories and specializations of builders employed in the process, and by nature I refer to the framework under which those builders functioned. In this research, the focus does not address issues that deal with architectural shapes and forms but rather traces the workmanship involved in the building processes.

The research proved that the guild system underwent continuous changes and modifications throughout the time. The list of guilds compiled sheds some light on this dynamic phenomenon. During the reign of Muhammad 'Ali Pasha, the changes and modifications were intense as a result of the Pasha's attempt to control and centralize the guilds along with many other social and economic activities. The effect of that centralization and its resultant economic monopoly affected negatively the guild activities. The Pasha's main goal, however, was to industrialize the manufacture of many products related to his military establishment. The guilds working in building construction, the research proved, were not directly influenced. The building construction generally maintained its traditional character, and even in the few

examples, where the Pasha introduced new building styles, traditional construction framework were followed.<sup>1</sup>

The influence was so apparent during the reign of Khedive Isma'il who invited large numbers of European builders to implement many architectural commissions. He encouraged the introduction of new building techniques, previously non-existent in Egypt. For example, we learn about architectural elements prefabricated in Europe being for the first time locally assembled. The wide adoption of these new techniques was detrimental to the local craftsmanship in general and in particular to the guild system. The Europeans working in the building practice in Egypt had to train local builders on-the-job in order to be economically feasible. This "training", however, was of a limited scope and was never treated comprehensively. Khedive Isma'il realized the problem, and in 1868 he established an Industrial School to provide technical training.

The condition of the weakened guild system was aggravated during the reign of Isma'il's successor, Khedive Tawfiq, who in 1890 issued a decree dissolving the guilds' power. The indirect objective of this decree was to abolish the guilds' apprenticeship system. To counteract the consequences, Khedive 'Abbas Hilmi II developed educational programs to disseminate technical education all over Egypt through a series of industrial schools and workshops. Analyzing the curricula of the Arts and Industries School of Bulaq, selected here as an example, showed that the new program aimed mainly at the support the European system adopted to building

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<sup>1</sup> In many instances, Muhammad 'Ali brought painters and stone carvers to Egypt to add finishes and decorations that were not familiar to the local craftsmen.

practice in Egypt. The graduates of the school assumed the role of foremen whose basic role was to translate the ideas of the designer to the local craftsmen.

The Industrial Schools alone did not offer the required comprehensive solution that would ultimately upgrade the building quality in Egypt. This urged many local architects to address the deterioration through different ideas and approaches. At this stage of the research some of these ideas were presented with a focus on the one, Mustafa Fahmy, that was the most realistic. He laid down a comprehensive plan for the reform of local building industry and addressed its weakness and inefficiency. Despite the logic of Fahmy's suggested reforms, it was not implemented, as it did not find the required awareness needed in various related fields. Fahmy's call was not a particular phenomenon to Egypt. The research placed it among other well-recognized series of international movements that tried to revitalize local crafts after the damaging consequences of the Industrial Restitution.

The thesis by stopping at these attempts does not mean that the issue did not receive any local further attention. In 1948, the newly founded Syndicate of Engineers tried to organize and control the activities of builders and engineers in Egypt. The latter were ranked into three different categories according to a set of qualifications. Category (A) involved the highly qualified certified construction companies and the graduates of the Polytechnique and the Beaux-Arts Schools. Category (B) encompassed the graduates of the Arts and Industries Schools, the intermediate Industrial Schools and their foreign equivalent. Category (C) was set for the non-certified builders and foreign companies who demonstrated a long working experience. Those were mostly the unofficial local builders, the French and Italian companies who worked and lived in Egypt. However, in order to continue their

practice, they had to provide certified documents that attest to a minimum of 15 to 20 years of experience. Once the builders were admitted in one of the categories, they were allowed for the license of practice. The Syndicate of Engineers was to provide this license and in time it allowed for a promotion to a higher category upon an evaluation by a professional committee. Each of those categories was allowed to undertake commissions of a certain type and size. This system continued to work efficiently until the Egyptian Revolution and the confiscation of foreign companies by Gamal Abdel Nasser, which has led to its gradual dissolution in the 1960's.<sup>2</sup>

In the 1960's, the Ministry of Culture established the Traditional Craft Center in the Wakalit al-Ghuri for the purpose of creating a new generation of skilled craftsmen. This center offered an intensive training by master craftsmen in the fields of woodturning, stucco glass windows, and metal and wood inlayed work. The trainee was also provided with a theoretical background through books and references in addition to field visits to monuments and museums. However, due to bureaucratic restrictions and financial problems this project came to an end in the 1970's. It was only in 1992 that the Ministry of Culture resumed its interest in reviving the traditional arts and crafts centers and in particular the Center of Wakalit al-Ghuri. To overcome the financial burdens, the Ministry adopted a new policy binding training with production through an economic mechanism targeting a self-sustaining process. For that purpose, a permanent exhibition hall was prepared on the ground floor of Wikalit al-Ghuri to market the craftsmen production.<sup>3</sup> Simultaneously, due to the rising need of craftsmen in the restoration projects, another school of traditional crafts

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<sup>2</sup> An interview with the architect Yehia al-Zainy on the 12<sup>th</sup> of May 2003.



was established in Bayt al-Sinnari at al-Sayida Zaynab. This school was set to train apprentices and craftsmen in turned wood, stucco colored glass and other related crafts.

In conclusion, it can be seen that the attempt at upgrading of the building crafts is indeed a recurring phenomenon ever since industrialization was introduced into Egypt. Similarly, the adjustment in the building practice presents an on-going process. In the midst of these repetitive cycles, it is noticed that most of the positive steps towards the reform of the building crafts were derived from the guild system. For example, it was necessary at the beginning of the twentieth century, as we learned, to decentralize the industrial education system and to customize its regulations and instruction programs according to the demands of the Egyptian Provinces. This was indeed one of the characters of the guild system, which usually modified to suit the demands and the resources of the areas it worked in. Moreover, when in 1926, Mustafa Fahmy urged for a technical education reform, he suggested a comprehensive training for the craftsmen that was similar to the apprenticeship process of the guild system. We also learned that, in 1948, the Syndicate of Engineers built a hierarchy based on the level of expertise, and was responsible in promoting practitioners from a category to another. This was not different from the role of the guild's committee of *mu'allims* that was responsible to promote an apprentice to an assistant craftsman, and finally to a master craftsman. The license of practice offered by the Syndicate is also similar to the guild's *ijaza* license.

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<sup>3</sup> Saleh Lamei, Fahmi Abdel Alim, Mohamad Zeinhom, Ezz el-din Naguib, *Light Screens*, Arab Egyptian Center, 1996, p. 24-25.

Since the 1960's, most of the efforts that attempt to upgrade the building crafts departed themselves from the practical framework of the guild system. Unfortunately those attempts disregarded the professional education and practical training in the formation of foremen and craftsmen. Today, a substantial portion of workers in the building practice has been trained informally.<sup>4</sup> Although this type of training might appear as remnants of the traditional apprenticeship system, it lost its quality and its hierarchical support. Meanwhile, the only existing technical training offered by the Ministry of Culture, described above, is limited in its scope. It treats traditional crafts from an artistic point of view separating them from the sphere of building construction. The current building practices were unable to find an "equivalent" to the guilds in modern times; and today, our buildings are neither purely crafted nor entirely industrialized.

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<sup>4</sup> The presence of informal training was recorded as early as 1911. It was reported that among other scattered training "the majority of Egyptian workers learned their trade from their father". Jean Vallet, *the workers' conditions in the large industries of Cairo*, 1911, p. 118, quoted from Roger Owen, p. 342.

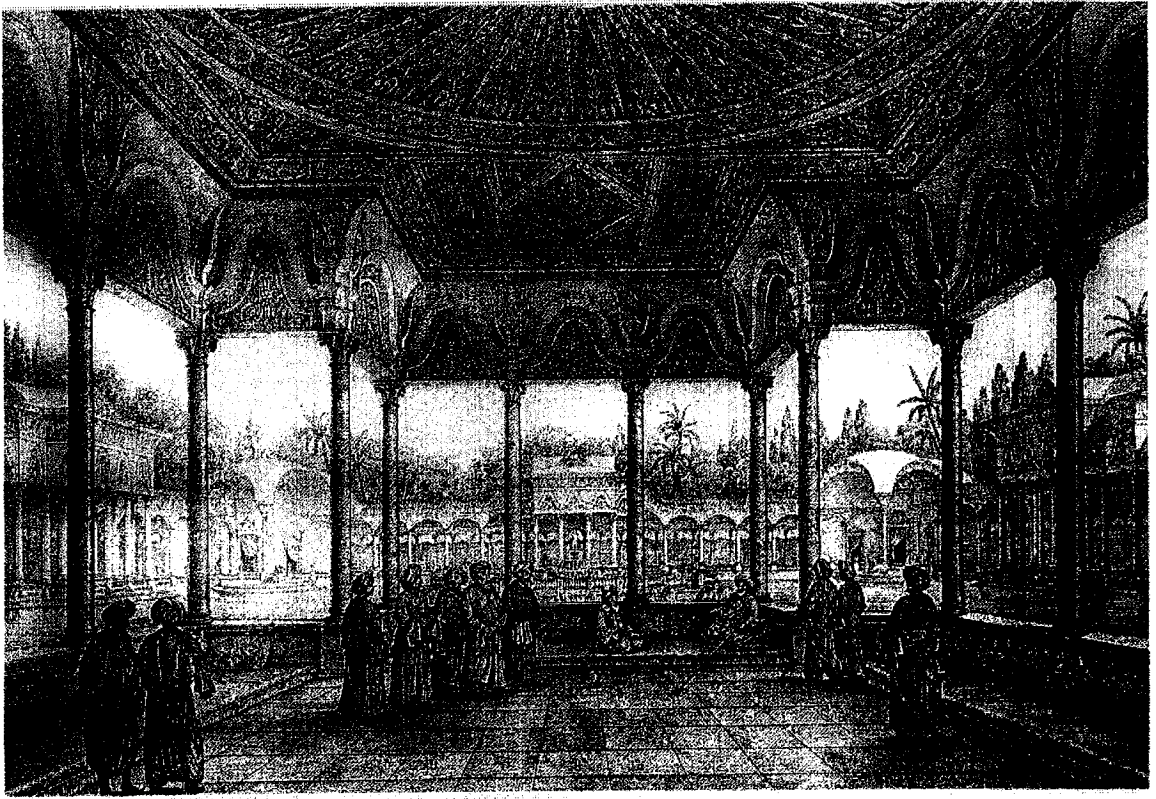


Figure 1: Muhammad 'Ali's Kiosk in Shubra, by Pascale Coste (1820).

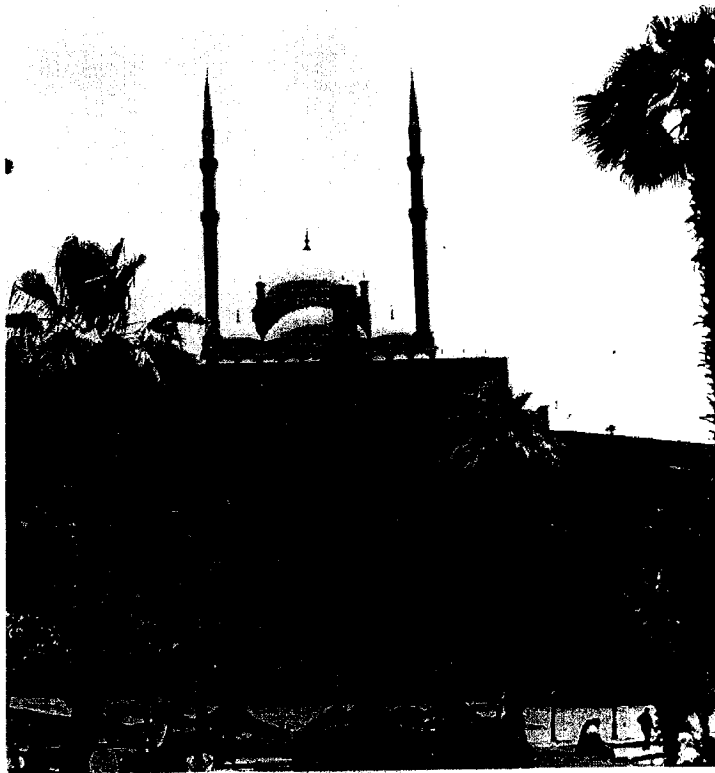


Figure 2: Mosque of Muhammad 'Ali, the western façade overlooking *maydan al-Rumayla*.

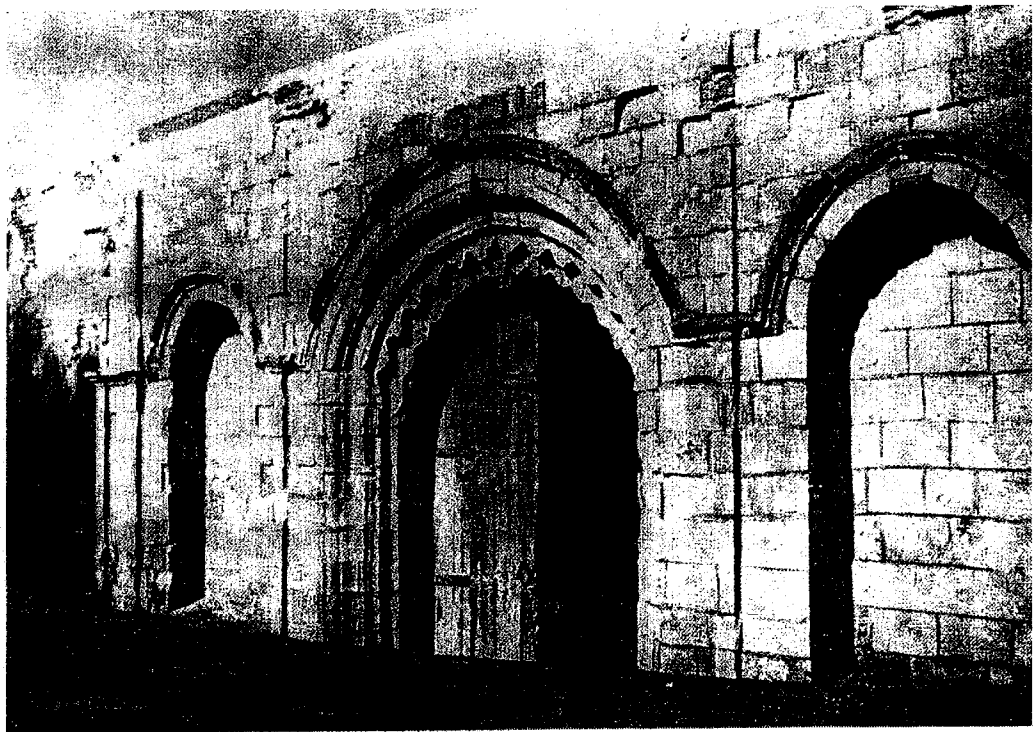


Figure 3: The *tarabish* factory in Fuwa (1824), the entrance portal.



Figure 4: Mausoleum of Sulayman Pasha in Old Cairo (1864).



Figure 5: The prefabricated northern portico at al-Jazira Palace (1868), now the Marriott Hotel

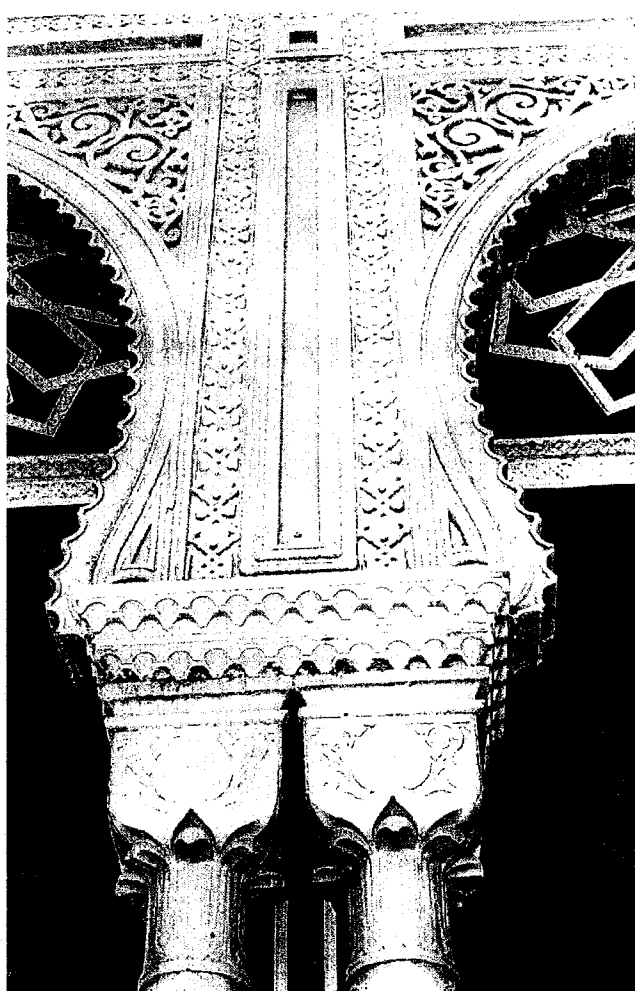


Figure 6: Detail of the portico at al-Jazira Palace, now the Marriott Hotel

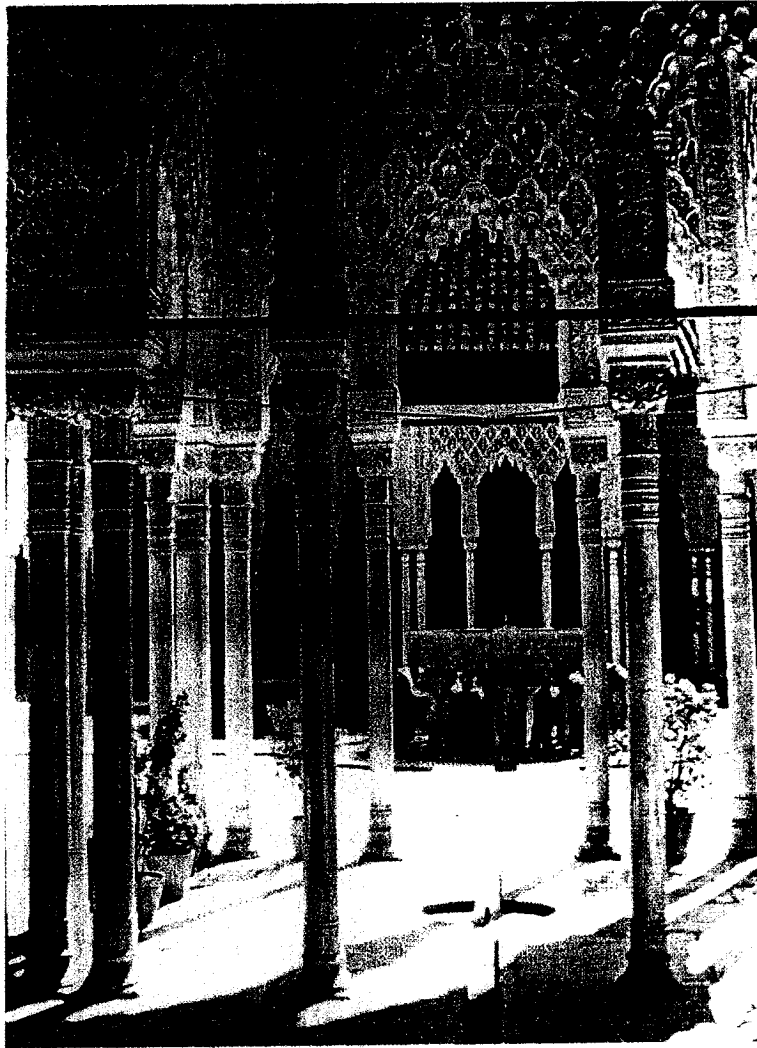


Figure 7: Court of the Lions in Alhambra (1354), Granada.



Figure 8: Students at the School of Applied Arts in Giza (1926).

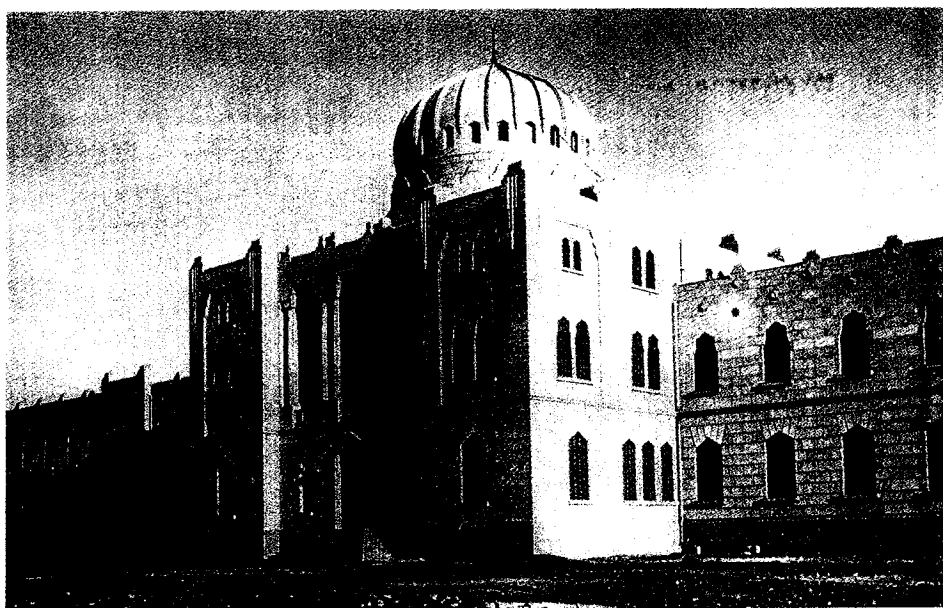


Figure 9: School of Arts and Industries in Abbasiyya, Cairo, now the 'Ain Shams University.

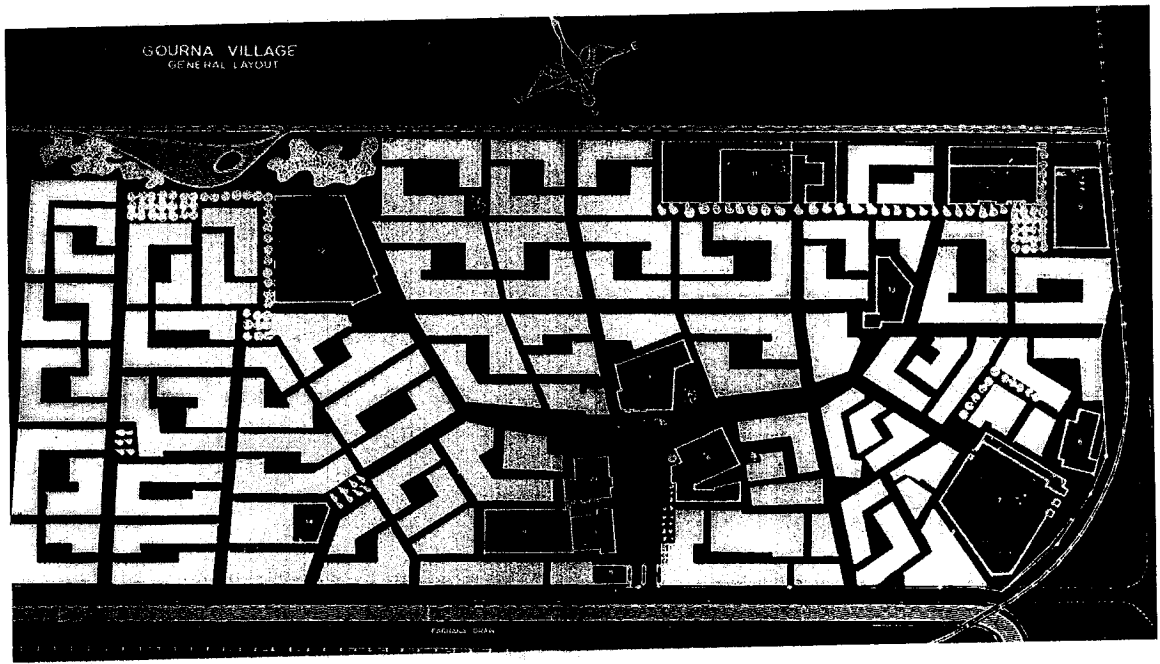


Figure 10: Plan of New Gurna (1947), Luxor.

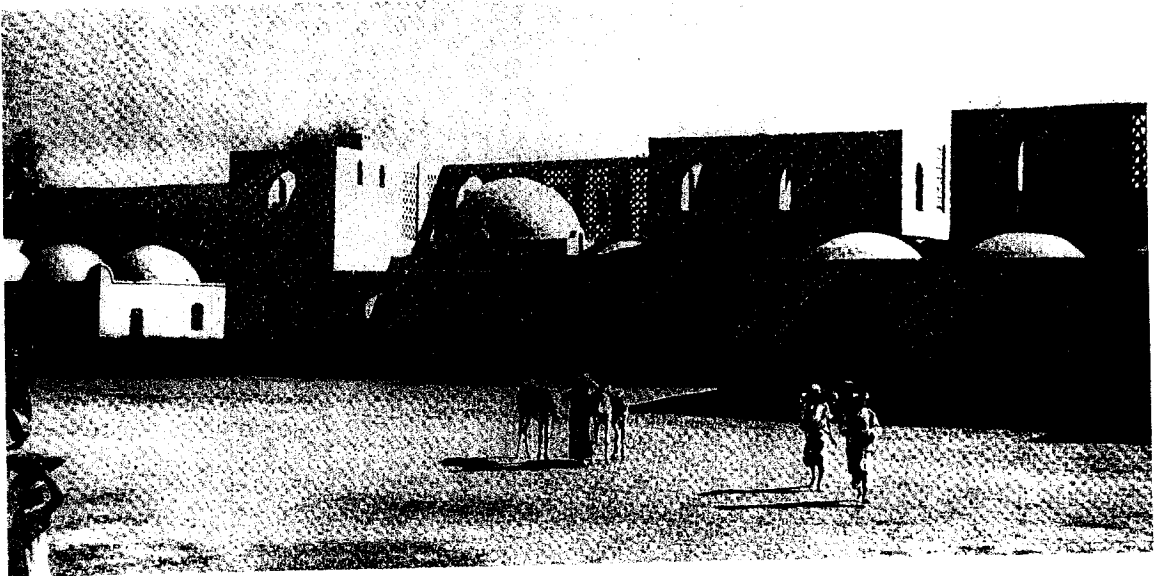


Figure 11: A street in the New Gurna, Luxor.





Figure 12: Headquarter of Akhbar al-Yom, the façade on al-Sahafa street.

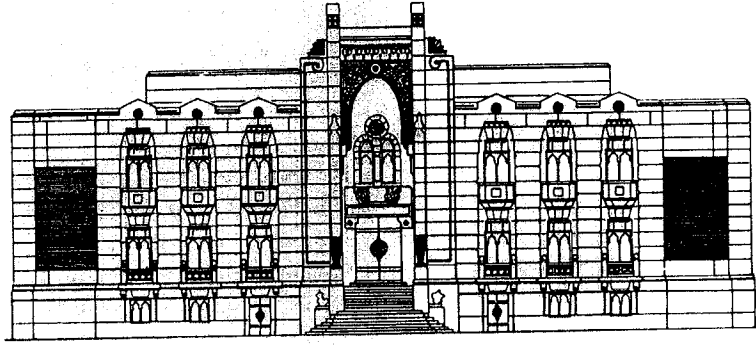


Figure 13: Doctors Syndicate (1939), Elevation of the main façade.

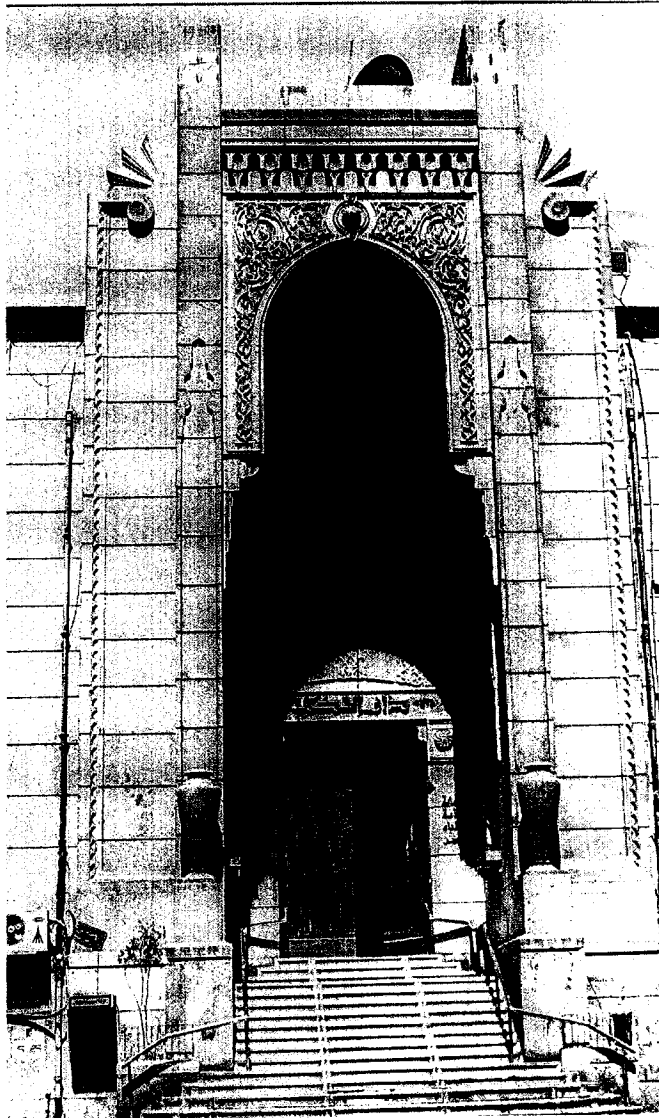


Figure 14: Doctors Syndicate (1939): Entrance portal of the main façade.



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