

**Attitudes towards architectural conservation,
the case of Cairo**

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In the name of God, The Compassionate, The Merciful

To my mother and my father with much love

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Hossam Mahmoud Mahdy

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Abbreviations

BSG	Building / Settlement Graph (see page 150).
Comite	<i>Comite de Conservation des Monuments de L'Art Arabe</i>
EAO	Egyptian Antiquities Organisation
ICOMOS	International Council of Monuments and Sites
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
<u>MAE</u>	<u>The Muslim Architecture of Egypt</u> , 2 vols., Clarendon Press, Oxford, 1960, by Creswell, K. A. C.
<u>Khitatt</u>	<u>Kitab al-Mawa'iz wa'l-i'tibar bi-dhikr al-Khitatt wa'l-Athar</u> , 2 vols., <i>Dar al-Tiba'a al-Misriyya</i> , Bulaq, 1270AH (1853AD), by al-Maqrizi.

Notes on translations

The system of translation of Arabic characters adopted in this thesis (see below), is the system of The Encyclopaedia of Islam, with the difference of J for the Arabic letter ج and q for the Arabic letter ق instead of dj and k used in The Encyclopaedia of Islam. And with the exception of the different quotations which are quoted in the thesis without changing their translation systems.

- *Italic* is not used in the text for Arabic terms which are used in European languages without translation, such as madrasa and mihrab.
- The Arabic letter ج is pronounced by the Egyptian dialect in Cairo g , rather than J. Nevertheless, Arabic words containing this letter are written in the text with J.
- Arabic terms which are translated within the text, and not used repeatedly thereafter, are not mentioned in the glossary.
- Names and terms are written in the text without *al* (e.g. Maqrizi, and not al-Maqrizi; madrasa, and not al-madrasa).
- The plural of an Arabic term is written by adding an (s) to the actual singular word (e.g. *Amirs, Mamluks, zawyas*), unless the Arabic plural is used to name a place, an event, or a community (e.g. *mujahideen, muballigheen, Wahiyya, awqaf*).
- It is inevitable that an Arabic term is sometimes translated to more than one English term (e.g. waqf and wakf) due to the different existing systems of translation from Arabic. Avoiding these differences is not always realistic. For example there is a governmental body which is called (according to governmental documents) the Ministry of Wakfs, and the same body is called in other governmental documents the Ministry of Awqaf.

Consonants

ء	' (except when initial)	ز	z	ق	q
ب	b	س	s	ك	k
ت	t	ش	sh	ل	l
ث	th	ص	s	م	m
ج	j	ذ	d	ن	n
ح	h	ط	t	ه	h
خ	kh	ظ	z	و	w
د	d	ع	'	ي	y
ذ	dh	غ	gh		
ر	r	ف	f		

Vowels

ا	a
و	u
ي	i

English quotations or names of authors or books are left the way they are, even if they do not abide by the above system. French and Dutch names and words are written without punctuation.

Glossary

<i>Al</i> (or <i>el</i>)	The.
<i>Adhan</i>	The call to prayers.
<i>Allah</i>	God.
<i>Amir</i>	The title given to great military commanders.
<i>Arif</i>	A leader of a guild and consequently an assistant to the Muhtasib.
<i>Bab</i>	A gate.
<i>Bey</i>	A title held by held by leading Mamluk officials, later a title of honour in state service.
<i>Caliph</i> (or <i>Kalif</i>)	The supreme head of the Muslim community.
<i>Dikka</i>	An elevated platform in a mosque for Qur'an readers, or for a <i>muballigh</i> .
<i>Din</i>	Religion.
<i>Diwan</i>	An administrative office, or a state department.
<i>'Eid</i>	One of the two annual islamic feasts.
<i>Farrash</i>	A person who cleans and takes care of a building.
<i>Fiqh</i>	The knowledge of a subject from islamic point of view.
<i>Fisqiya</i>	A fountain, usually used for ablution.
<i>Hadith</i>	Tradition or reported speech of the Prophet
<i>Halal</i>	Permitted by <i>shari'a</i> .
<i>Haram</i>	Prohibited by <i>shari'a</i> .

<i>Haret</i> (or <i>harah</i>)	An alley or a narrow street.
<i>Hijri</i> (or AH)	A date on the Islamic calendar, starting from the day on which the Prophet migrated to Madina in 622 AD - year one of the Muslim calendar.
<i>Hajj</i>	Pilgrimage to Mecca.
<i>Hima</i>	A protected zone.
<i>ihسان</i>	An act which is beautiful, truthful, and good. The highest degree of the islamic faith.
<i>ijma'</i>	A consensus of agreement among jurists or scholars
<i>ijtihad</i>	To exercise personal reasoning.
<i>iltizam</i>	Obligation, used for obligatory taxes.
<i>imam</i>	A leader of a school or law, a prayer leader, a Caliph.
<i>Iman</i>	The islamic belief.
<i>iwan</i>	A vaulted space in a mosque or a house.
<i>Khanqah</i>	A Sufi monastery.
<i>Khedive</i>	Although used informally earlier, a title officially granted to Isma'il in 1867 to assure him a higher status than that of previous Ottoman governors; from a Persian word meaning lord, master, god.
<i>Khutbah</i>	A speech before prayer on Friday.
<i>Kuttab</i>	An elementary Qur'anic school.
<i>Ma'dhana</i>	A minaret.
<i>Madrassa</i> (or <i>Madrasat</i>)	A school for religious teaching.
<i>Maida'a</i>	A fountain or a little structure for ablution before praying.
<i>Mamluk</i>	A white male slave

<i>Masjed</i>	Mosque.
<i>Madhhab</i>	A school of law or rite.
<i>Maqsura</i>	A box or stall in a mosque near the <i>minbar</i> reserved for the ruler.
<i>Maristan</i> (or <i>Bimaristan</i>)	A hospital, infirmary.
<i>Mihrab</i>	A niche in a religious building directed towards Mecca.
<i>Minbar</i>	A pulpit for the <i>imam</i> to use for Friday speech.
<i>Mu'adhin</i>	The man who calls for prayers
<i>Mu'min</i>	A believer.
<i>Muballigh</i> (pl. <i>Muballigheen</i>)	A person who repeats what the <i>imam</i> says during the Friday prayers when the prayers (attendants) are great in number. It became a tradition in some mosques, so that a <i>muballigh</i> will perform even with a little number of prayers.
<i>Muhtasib</i>	An administrative official with several duties including policing and inspection of markets.
<i>Mujahid</i> (pl. <i>Mujahidin</i>)	A fighter for the sake of Allah.
<i>Qadi</i>	A Judge.
<i>Qadi al-Qudat</i>	The chief Judge.
<i>Qias</i>	Legal reasoning by analogy.
<i>Qibla</i>	The direction of Muslim prayers towards Mecca.
<i>Riwaq</i>	A bay in a mosque
<i>Sabil</i>	A public drinking water fountain.
<i>Shari'</i>	A street.
<i>Shari'a</i>	The islamic legal system.

<i>Sheikh</i>	A religious scholar, or an elderly man.
<i>Shilla</i>	A group of friends and / or allies.
<i>Sikat</i>	A path, or a narrow street.
<i>Sultan</i>	A king or a ruler.
<i>Sunna</i>	The Prophets conduct and behaviour.
<i>Suq</i>	A marketplace.
<i>Takbir</i>	(lit.) Saying Allah Akbar (God is Greatest), also used for <i>adhan</i> .
<i>Takkiyya</i>	A small Turkish monastery.
<i>Wahi</i> (pl. <i>Wahiyya</i>)	A person from a oasis in the desert.
<i>Wakala</i>	An enclosure for commercial purposes (shops, stores, and hotel services).
<i>Waqf</i> or <i>wakf</i> pl. <i>awqaf</i>)	Endowment, endowed. a pious foundation in which (the property is held in perpetuity with the income devoted to charitable purposes or specific function(s) or group of people.
<i>Warsha</i>	A workshop, usually run by a family or kin relatives.
<i>Zabbal</i> (pl. <i>Zabbaleen</i>)	A garbage collector.
<i>Zawyah</i>	A small mosque
<i>Zeriba</i>	A pig yard with an attached dwelling.
<i>Ziyadah</i>	An added area to the original building, usually an extension of a mosque used during Friday prayers.

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Introduction

Cairo, as an important medieval city, enjoys the interest of many scholars and experts in the field of architectural conservation. Many studies, conferences, campaigns and so on have been devoted to "historic Cairo". All agree that the medieval buildings of Cairo deserve to be saved. Several conservation projects have been completed, are continuing, or are awaiting funding. However, enthusiastic international proposals are often handicapped before leaving the conference halls by intense problems of bureaucracy, an absence of information about ownership, public services such as drainage, and a general lack of interest. Even projects by governmental agencies such as the Egyptian Antiquities Organisation are amazingly unrealistic. Very often completed projects fail to play a useful and integral role in the daily life of the city. Historic buildings are conserved as isolated monuments with little or no account taken of the needs or desires of local people. A restored historic building, a technically perfect work of restoration such as the sabil-kuttab Abdel Rahman Katkhuda for instance, stands like a museum piece in al-Jammaliyya quarter. As if it needs a sort of display case to protect it from its destructive surroundings, i.e. polluted air, unstable soil, rising ground water, leaking sewers, deterioration of adjoining buildings, public misuse like damage done by street traders erecting stalls against the building, and governmental misuse like using the building as a convenient attachment for electricity and telephone cables, and so on. If such problems were restricted to only a few buildings they would not represent a major problem, but unfortunately it seems to be the destiny of any conserved building in Cairo.

What is wrong?

Are there cultural, ideological, social, economic, or technical forces which

produce a peculiar attitude towards conservation and make people in Cairo so careless about their architectural heritage? During my architectural conservation work in Cairo, in 1985, I was feeling guilty for caring so much for historic buildings while human beings are striving so hard for survival. Which is more important, stone or man? Why, how, and for whom are historic buildings conserved? Everything seemed so false and empty. Until an old poor man said once to me, pointing to the mosque of Mahmoud Muharram, "if this old building collapsed I will die, I cannot imagine life without it. It existed as far as I can remember." Only then, I realised that Cairenes do care for their architectural heritage, but they do in a different way than the professional and academic would expect.

I realised that my guilt was not justifiable, and that I posed the wrong question. It should have been: How can, cultural and ideological forces as well as social, economic, and technical development work with architectural conservation for the well being of Egyptians in particular and all the world in general?

I started my research by a provisional list of contents, which I sent away for different scholars to get advice. The most exciting answer I got was from the Swiss conservation architect Philipp Spiser, which fired my enthusiasm:

Looking through your provisional list of contents, I got particularly interested in 'Attitudes to historic buildings in Cairo'... This could be one of the most interesting points for the foreign (i.e. European) conservationists, because nobody has so far attempted to explain in a serious way, why the attitude is a different one in the region. Knowing both cultures you are in ideal position to comment on the different tastes and concepts of restoration e.g. in the Middle East and Maghreb. By this I mean, there is less worry about replacing broken elements by new ones and to apply modern fittings like neon-tubes instead of glass lamps etc. Even to pull down a historical mosque and to rebuild it in a different style, would never arouse the same criticism as in Europe. It seems to me, that such phenomenon can not any longer be qualified with the much too simple formula 'right or wrong', it should lead to much more balanced comments.

The research has changed directions many times since Speiser's letter. However, the study of attitudes became more central to the whole work. Many times I came to a dead end, in other times I fell into the details of a sub-subject. The continuous difficulty was always the absence of previous works on the subject.

Different disciplines, with different research tools had to be used. Therefore, I decided to tackle the subject from different angles, and sometimes different methods, to get to the same point. The research is arranged in seven chapters, grouped in four parts. The methodology followed in each chapter is explained in its separate introduction.

Part one: History of conservation in Cairo, is divided in two chapters. The Napoleonic Expedition to Egypt in 1798AD is used as a symbol for the changes that happened in attitudes. Chapter 1 tackles Pre-Napoleon attitudes, whereas Chapter 2 tackles Post-Napoleon attitude. Methodology used in the two chapters is totally different: The absence of any previous study on attitudes in Pre-Napoleon Cairo, made it necessary to use a method of analysis and observations on certain buildings in order to extract attitudes of the time. Whereas Chapter 2 is a mere collection of observations and writings on Post-Napoleon attitudes.

Part two: Different aspects of conservation, is divided in three chapters. **Chapter 3, Ideological and cultural aspects**, discusses the influence of the ideology of Islam and the cultural characteristics of Arabic on attitudes. This chapter is inherently controversial, as it tackles the heart of Speiser's question. And unavoidably it challenges a well established branch of Western academia, Orientalism. **Chapter 4, Social, economic and cultural aspects**, addresses the particular development / conservation attitudes, problems, and possibilities in Cairo. The main approach of this chapter is to learn from the informal sector how to survive through hardships. **Chapter 5, Technical aspects**, reviews problems

of Cairo on different scales without losing sight of other aspects of conservation, which do affect attitudes.

Part three, Attitudes to architectural conservation, consists of one chapter.

Chapter 6, Range of possible attitudes, acknowledges the wide range of possible attitudes. A study trip to Cairo, Damascus, Lahore, and San'a' made it possible to meet theoretically possible attitudes with actual existing attitudes. The collection of theoretically possible attitudes, is the result of previous conservation education and experience, as well as the heated discussions with Tony Vogt, lecturers, and students at the Mackintosh School of Architecture.

Part four, Case study consists also of one chapter. **Chapter 7, The mosque of Ulmas**, brings together the findings of the present research in a practical way. It proposes a new approach to the conservation of Ulmas mosque. The proposal is essentially open-ended project which has to be finalised during the course of its application, so that it leaves room for local attitudes to participate.

The conclusions highlight the strong and weak points of the research, and summarises its findings.

The works of Maqrizi (*Khitatt*), Creswell's MAE, and Abu-Lughud's Cairo, 1001 years of the city victorious, were my main bibliographical sources for Chapter 1.

Whereas a big number of articles on the conservation of medieval Cairo, published in Europe around the end of 19th century and the beginning of 20th century, were the main sources of Chapter 2. Said's Orientalism, ibn Khaldun's *Muqaddimah*, Sacks' Seeing voices, various works on Islam written by Arab-Muslim scholars, and most importantly the Holy Qur'an were the main sources for Chapter 3.

Feilden's Conservation of historic buildings, and UNESCO's report on the conservation of Cairo are the main sources of Chapter 5. Many unpublished studies and documents, as well as local publications in the four cities were the main source of Chapter 6. Dr. Karim's unpublished Ph.D. thesis, on the works of

the Amirs of al-Nasir Mohammed, is the main source for part four. The research development would not have been possible without the reading and examining of many works, not all of which are cited in the text. Therefore, the **Bibliography** at the end of the text lists all consulted sources which influenced the research directly or indirectly.

During the course of my research, I was given the chance to participate in the Aga Khan International competition for the revitalisation of Samarqand, within a team from the Mackintosh School of Architecture. I was also given the chance to contribute to two conferences, and to participate as an observer in a third. Furthermore, I was given the chance to give a few presentations to the students of the Mackintosh School. And I also joined the tutorial staff of the first year in the School on a part time basis for two years. All these chances and activities were excellent vehicles for my research.

PART ONE: HISTORY OF CONSERVATION IN CAIRO

Chapter 1: Pre-Napoleon Cairo

... history can never be separated from politics unless it is reduced to a recitation of dates. Any explanation of human behaviour naturally requires a degree of subjective judgement or opinion.¹

It is almost impossible to read history objectively without being influenced by one's attitudes, as well as attitudes of the time and place. The task becomes more difficult when understanding attitudes is the aim of history reading. As it gets troublesome to differentiate between actual attitudes and attitudes of the historian who wrote them. For example we learn about Fatimid history from Maqrizi who lived in Mamluk times. Every introduction, explanation, or justification Maqrizi wrote was subject to his own attitudes as well as the attitudes and the set of values of his time and place (i.e. Mamluk Cairo).

In the absence of a concise architectural conservation history for Cairo, attitudes are traced, in this chapter, from the history of conservation of a building. The congregation mosque should be ideal as a case study because it is usually the best documented building in a Muslim city.²

There are two reservations on this approach. The first is that attitudes to a building cannot be generalised for other types of buildings. Neither can it be generalised for architectural conservation in Cairo. Therefore, notes and observations on different historic periods of the city, should set the context of different attitudes. The second reservation is that attitudes to a mosque could have been because of certain conditions or circumstances particular of that mosque and not applicable to other mosques. Therefore, more than one mosque should be looked at.

After the completion of al-Hakim mosque in the beginning of the Fatimid period, four mosques became equally important as the congregation mosques of Cairo and its environs. Mufaddal ibn Abi'l-Fada'il says:

...I have seen in the life of al-Hakim that on Friday, the 9th Ramadan 399 (7th May 1009) the Friday prayer was instituted in the new mosque of al-Hakim and the Khalif used then to give his address in it one Friday, in the mosque of al-Azhar on another Friday, in the mosque of ibn Tulun on another Friday, in the mosque of Misr (i.e. the mosque of 'Amr) on another Friday.³

The equal importance of the four mosques at the time suggests that attitudes towards their conservation should have been similar. Nevertheless, the situation did not continue for very long, and every one of the four mosques thereafter went through a different process of flourishing and neglect. The difference in attitudes towards every mosque, after al-Hakim's era, should be according to different values, meanings, and functions each mosque possessed. External factors (such as political decline, or natural catastrophe) should have affected the four mosques equally. In other words, on the 7th of May 1009AD, the four mosques stood on the same spring board and were given the same chance to survive. Therefore the comparison of ups and downs in the conservation state of each mosque, should indicate the values within a building which initiate either negative or positive attitudes. The chapter is organised in three sections: a) Introduction: Every one of the four mosques, its state at al-Hakim's time (i.e. the time when the four mosques were equally important), and its state at the time of Napoleonic Expedition (i.e. the time of great change in attitudes in Cairo). b) Context: The major events occurring during each period of Cairo's history, and the conservation events that every mosque underwent during each period (i.e. putting in context the Pre-Napoleon history of conservation of the four mosque. c) Explanation: A review of conservation history for each mosque as a whole, and an essay on explanation of conservation history for the four mosques.

a. Introduction

1) The mosque of 'Amr

The mosque of 'Amr was the first mosque to be built in Egypt and Africa (Fig.1.1), founded by 'Amr ibn al-'As in 641AD/ 21AH. It was the seat of government, a centre for preaching and teaching of Islam, and an urban centre for the newly established settlement of al-Fustat.⁴

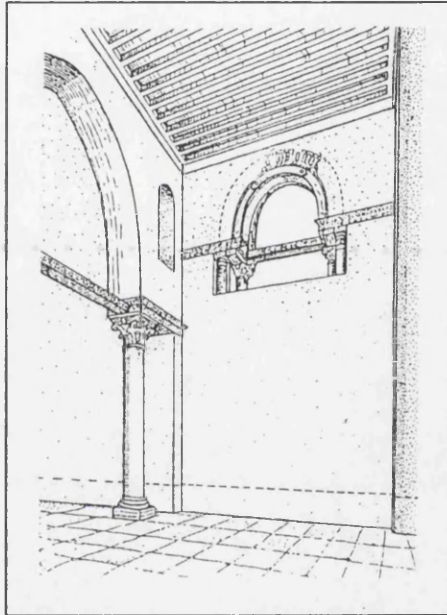


Fig.1.1 Creswell's reconstruction of a bay in the mosque of 'Amr

The mosque at the time of its construction was built as a shaded area of palm trees columns 25m x 15m x 3m, defined by a mud brick wall. It was free standing building surrounded by streets from four directions, with 6 doors, and without *mihrab* nor a minaret.⁵

The mosque at the time of al-Hakim: In the tenth century Muqaddasi mentioned the mosque of 'Amr and described glass mosaics which decorated the walls of the mosque as well as the four minarets.⁶ And in 1047AD, shortly after al-Hakim's era, Nasir-i-Khusrau mentioned the mosque in his Safar Nama:

... the *qibla* wall was entirely panelled with white marble on which was engraved, in beautiful characters, the entire text of Qur'an. Every night more than one hundred lamps were lit. The *Qadi, al-Qudat* held his court in the mosque.⁷

From the above mentioned descriptions it is obvious that the mosque of 'Amr did not maintain its modest original character. Furthermore, its area was enlarged to 109.82 x 86.70 m by several additions shown in the famous Corbet's diagram (fig. 1.2). Also the mosque had a courtyard, a *mihrab*, a *mayda'a*, and 5 minarets. Its ceiling was lifted to a higher level than its initial 3 meters height.⁸

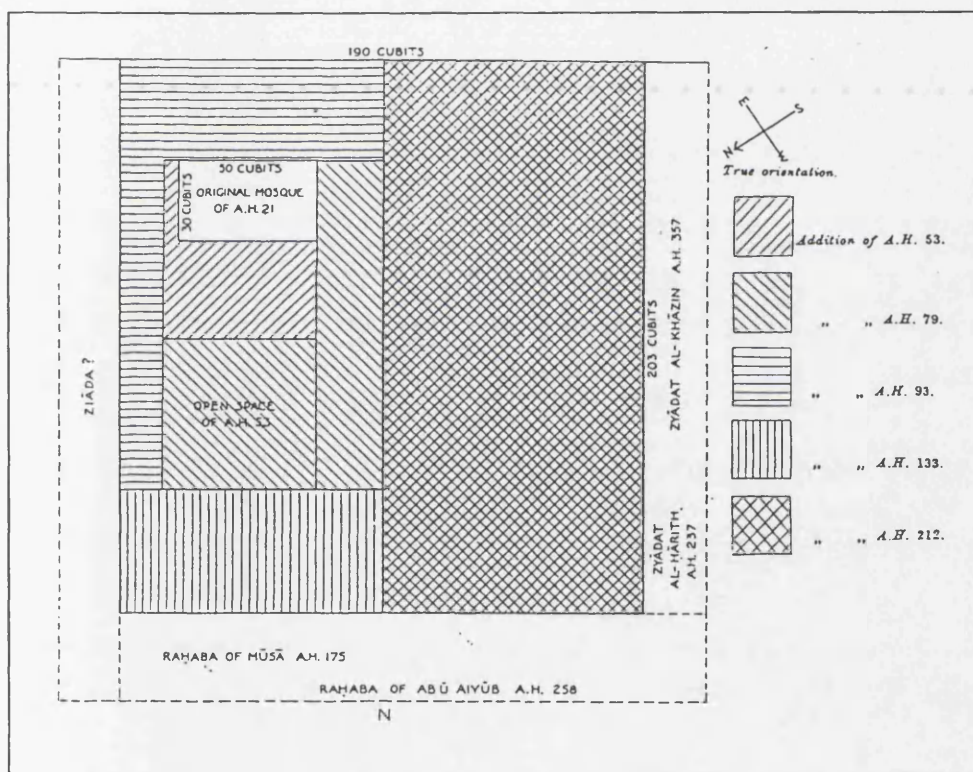


Fig. 1.2 Corbet's diagram of the mosque of 'Amr modified by Creswell

At the time of Napoleonic Expedition: An account of Murad Bey's restoration of the mosque in 1798 by his contemporary historian al-Jabarti, mentions the state of the mosque at the time of the French occupation of Egypt:

... the mosque had fallen into disuse and stood amongst mounds and dust-heaps, the nearest houses being some distance away. Moreover, the inhabitants of the latter did not use it, but went instead to small mosques in the immediate neighbourhood...the building was in a ruinous state, the roof and columns having fallen, and the right-hand half (i.e. the south west *riwaq*) being out of the perpendicular, had fallen likewise.⁹

The mosque's plan at the beginning of the 19th century (Fig.1.3), was more or less as it was at the time of al-Hakim. Only two minarets existed and the whole building was badly deteriorating.

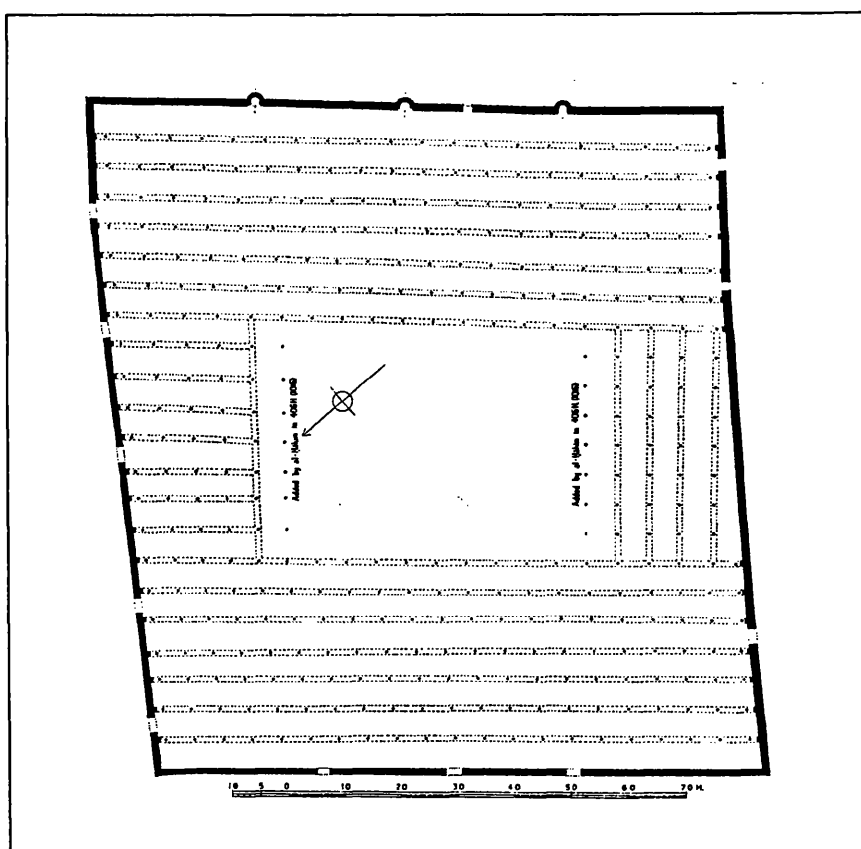


Fig.1.3 Creswell's reconstruction of the plan of the mosque of 'Amr after the exposure of the foundations

2) The mosque of ibn Tulun

The mosque of ibn Tulun was the third mosque to be built in Egypt (Fig.1.4) after the mosques of al-Fustat (the mosque of 'Amr), and the mosque of al-'Askar. It was built by al-'Abbas Ahmed ibn Tulun in 263-265 AH/ 876-879

AD. Stories were said about the money used for constructing the mosque, and the reasons for the mosque's architectural design.

...ibn Tulun said to people who had criticised, amongst other things, the absence of columns: '...As far as the columns are concerned, I have executed the work with lawful money, namely with the treasure which I have found, and I will not mingle it with anything else: columns can only be got from chapels and churches and I wish to keep the mosque from that'...¹⁰

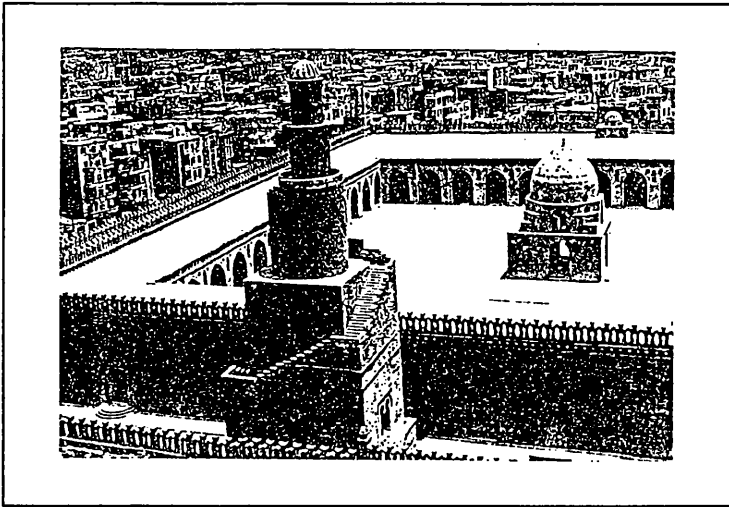


Fig. 1.4 A general view of the mosque of ibn Tulun

The mosque at the time of its construction consisted of four *riwaqs* surrounding a 92,m² courtyard with a fountain in its centre (Fig.1.5). The *qibla riwaq* was five aisles deep, whereas the other three *riwaqs* were two aisles deep. The minaret which was heavily influenced by the minaret of Samarra', was located outside the mosque proper in the north-west side.

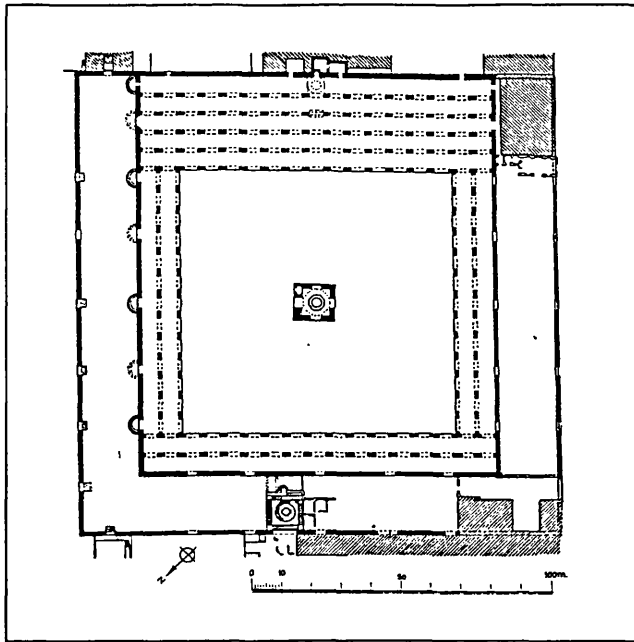


Fig.1.5 : The mosque of ibn Tulun (from Creswell).

The mosque at the time of al-Hakim: No major changes have happened to the mosque since its construction until the time of al-Hakim. And it seems that its deterioration started at the time of al-Hakim. Creswell says in his later history of the mosque:

Nasir-i-Khusrau (439AH-1047AD) says that under the reign of al-Hakim the descendants of ibn Tulun sold the mosque to him for 30 000 dinars. Shortly after, they began to demolish the minaret (presumably for the sake of the stone). When al-Hakim asked them for an explanation they replied that they had not sold the minaret. The Khalif then made them repurchase the minaret for 5 000 dinars. It is therefore possible that the minaret was seriously damaged at this time.¹¹

At the time of Napoleonic Expedition: 'Ali Pasha Mubarak says that the mosque was turned to a workshop for the manufacture of woollen girdles and such like in the time of Mohammed Bey Abu al-Dahab (1773-5AD).¹² The drawings of the mosque in *Description de l'Egypte* suggest that no major architectural changes had happened to the building.

3) Al-Azhar mosque

The mosque (Fig.1.6) was built by Jawhar al-Siqilli as the central congregation mosque of the newly founded princely city al-Qahira. The first Friday prayer held in it took place in 7th Ramadan 361- 22nd June 972.¹³

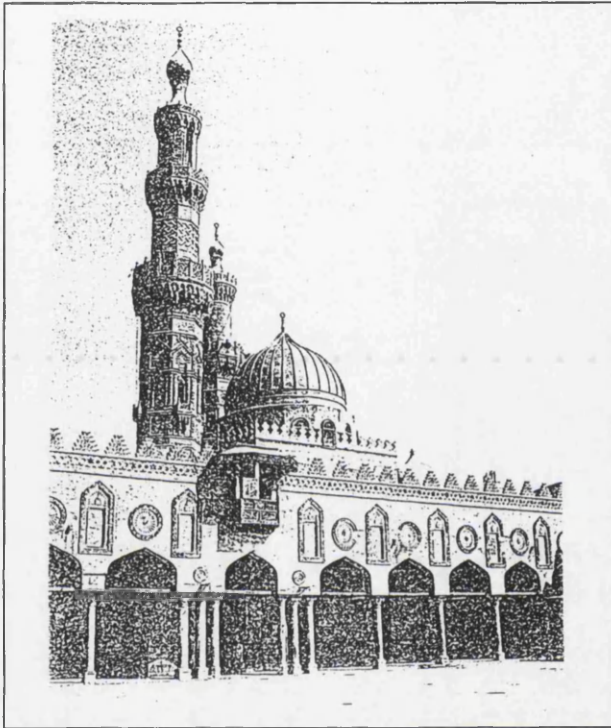


Fig. 1.6 The courtyard of al-Azhar mosque

The mosque at the time of its construction, according to Creswell's reconstruction, consisted of three *riwaqs* around a courtyard. The *qibla riwaq* was five aisles deep, cut through the centre by a transept. There was no *riwaq* on the north-western side (Fig.1.7). Whereas it had two *riwaqs* on the other two sides.¹⁴ It had a small minaret above the main entrance, built of brick.¹⁵

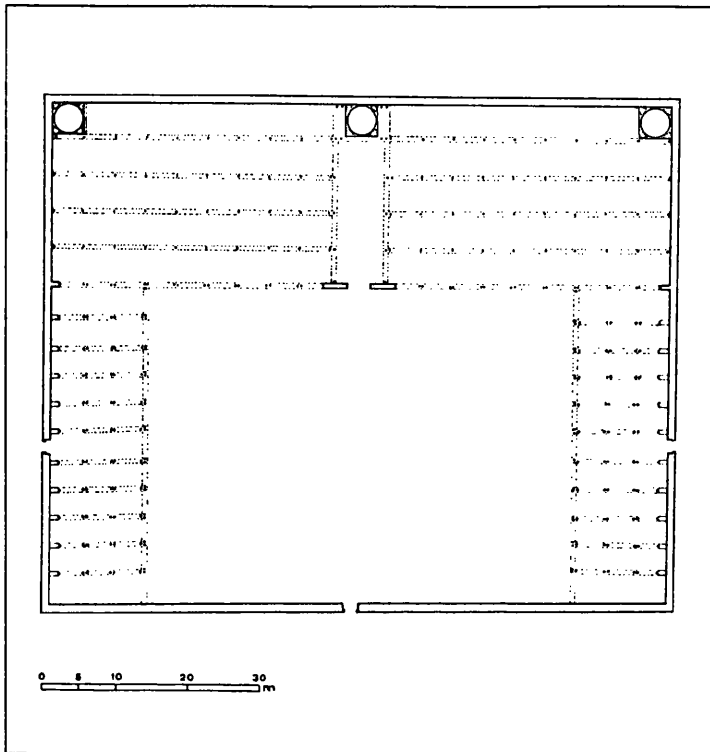


Fig.1.7 proposed reconstruction of al-Azhar mosque
at the time of its construction (from Creswell)

The mosque at the time of al-Hakim, was gathering momentum as an important centre for teaching shi'ite doctrine. Architecturally, the mosque was enriched by more decorations and furniture pieces, and its roof was raised by a cubit.¹⁶

The mosque at the time of Napoleonic Expedition:

...On 11 *Jamada I*, 1213 (21st Oct. 1798) the French, in order to suppress a serious riot, bombarded Cairo by means of batteries in the citadel and on the mounds which extend along the east side of the city; al-Jabarti says that their fire was directed on al-Azhar and its neighbourhood.¹⁷

This event shows that by the time of the Napoleonic Expedition al-Azhar became not only an important university, but also a civic centre and a national symbol. Towards the end of 18th century the building grew in area

and was composed of different architectural elements which represent all styles of Cairo's architecture since the Fatimids (fig. 1.8).

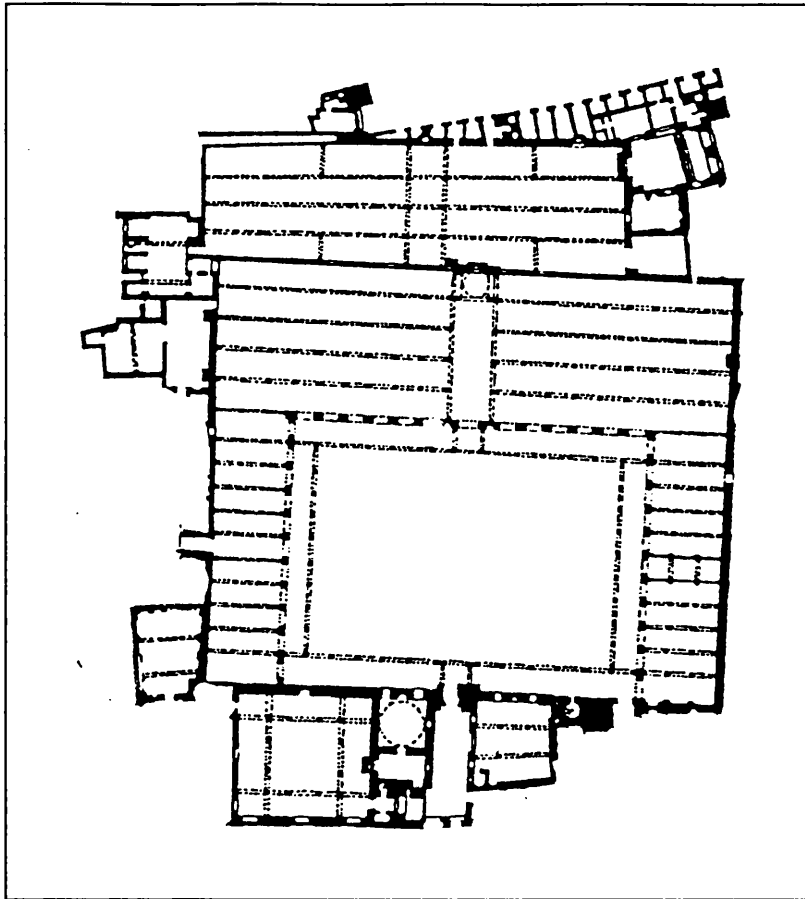


Fig. 1.8 Creswell's plan of al-Azhar (excluding Post-Napoleon additions)

4) Al-Hakim mosque

This mosque (Fig.1.9) was founded by al-'Aziz bi-Allah in 380AH-990AD, and completed by his son al-Hakim in 395AH-1002 AD. It was just out of Bab al-Futuh, north of al-Qahira, and when Badr al-Jamali rebuilt the city walls the mosque became inside the walls.¹⁸

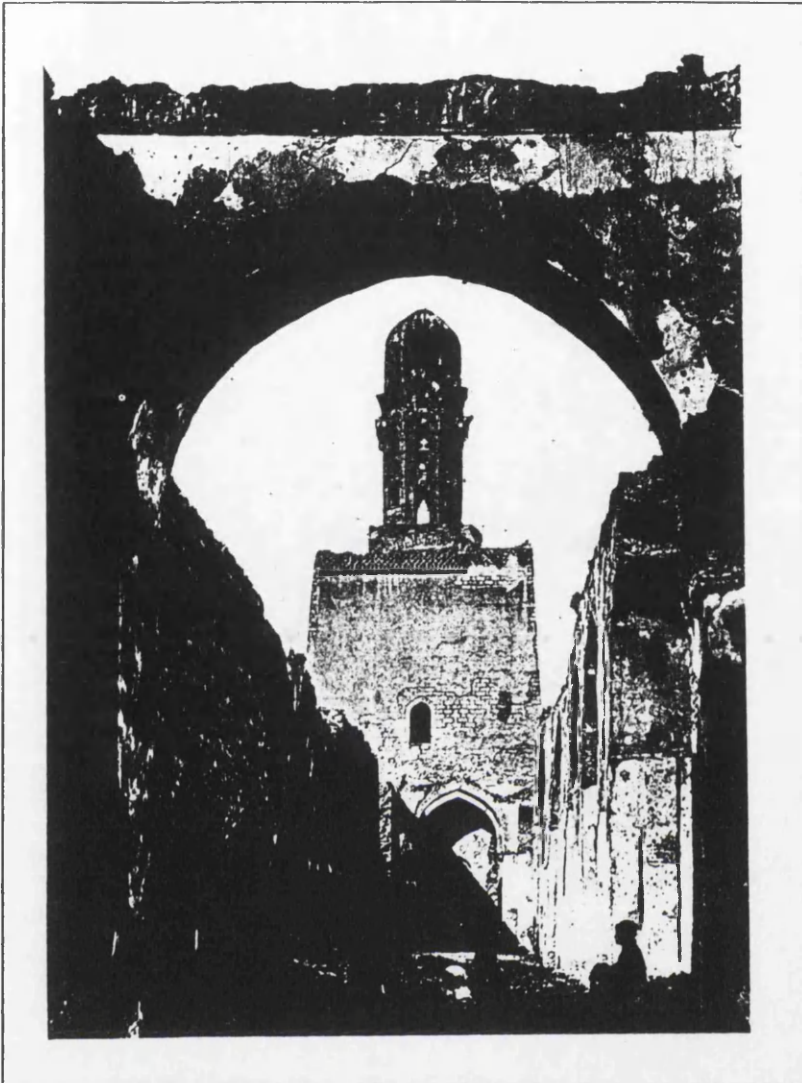


Fig. 1.9 One of the two minarets of al-Hakim mosque

The mosque at the time of al-Hakim: The plan of the building was a rectangle measuring 113.01m x 120.78 m. It consisted of four *riwaqs*, the biggest was the *qibla riwaq* (5 aisles deep), with a transept running from the courtyard to the *mihrab*. The north west *riwaq* was two aisles deep, whereas the other two were three aisles deep.¹⁹ Three domes were built at the *qibla* end of the *qibla riwaq*. A monumental entrance was located on the main facade, and 12 more lesser entrances were distributed over the three other facades (fig. 1.10).

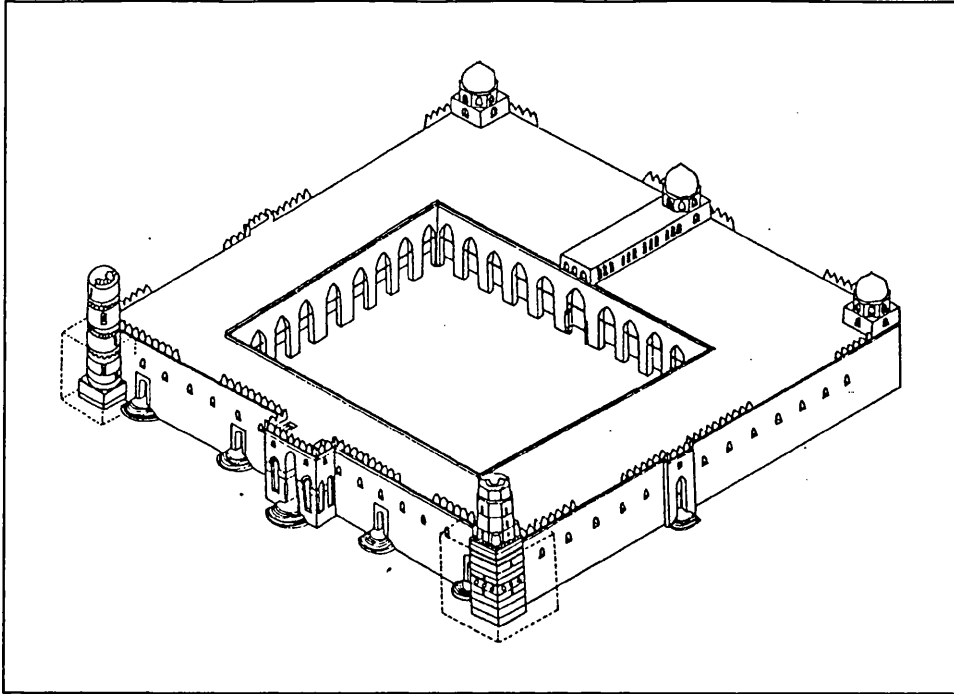


Fig. 1.10 Creswell's reconstruction of al-Hakim mosque

The mosque at the time of Napoleonic Expedition: It was adapted to a fortress and its minarets were used as watch towers by the French occupiers.²⁰ From a drawing of the mosque's courtyard published in *Description de l'Egypte* (Fig.1.11), it is obvious that the mosque was in a ruinous state. Except a minaret added to the *qibla riwaq* in 1424AD, the mosque did not have major architectural changes since the time of al-Hakim.

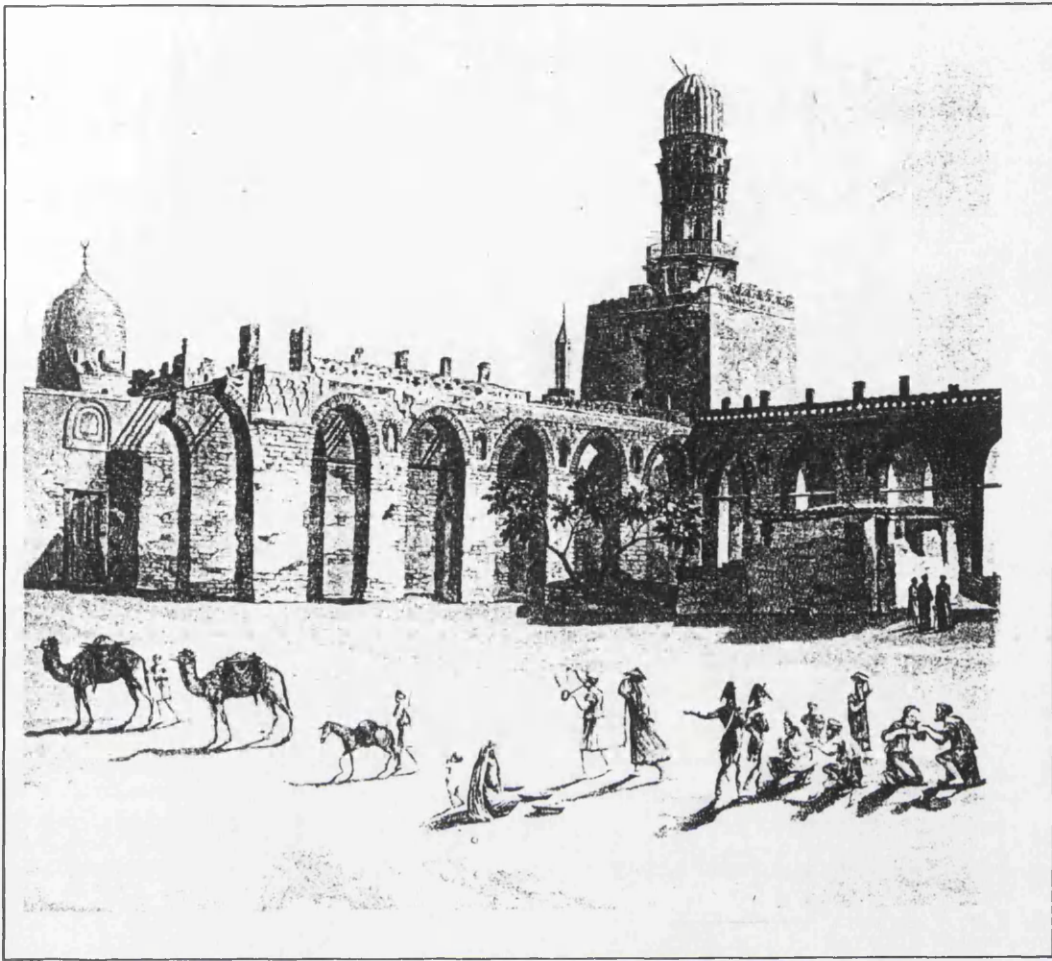


Fig. 1.11: A drawing of the courtyard of al-Hakim mosque
(from *Description de l'Egypte*)

b. Context

The conservation history of every mosque is reduced to mere listing of works from Maqrizi's Khittat and Creswell's MAE. In order to be able to understand and analyse these lists, historic background information for each historic period is reviewed. Chronological list of events is derived from Grabar,²¹ and Bacharach.²² Urban characteristics are from Aboulughod.²³ and Al-Sayyad.²⁴ Architectural characteristics are from Behrens-Abouseif.²⁵

1) Fatimid Period (297-567AH/ 969-1169AD)

Chronological list of events

358/969	Fatimid armies from North Africa take Fustat. Foundation of the walled city of Cairo (al-Qahira)
365-86/975-96	Reign of al-'Aziz
386-412/996-1021	Reign of al-Hakim
428-87/1036-94	Reign of al-Mustansir
458-69/1066-72	Ruination by drought and pestilence. Fatimid treasuries dispersed.
480-84/1087-91	New walls and gates (Futuh, Nasr, Zuwayla) built. Threat of invasion by Seljuk Turks.
490/1096	First Crusade begins.
492/1099	Jerusalem falls to the Franks.
558-63/1163-68	Syrians and Franks battle for control of Egypt.
563/1168	Fustat burned to prevent it falling to the Franks.
564/1169	Salah al-Din al-Ayyubi takes control of Egypt.

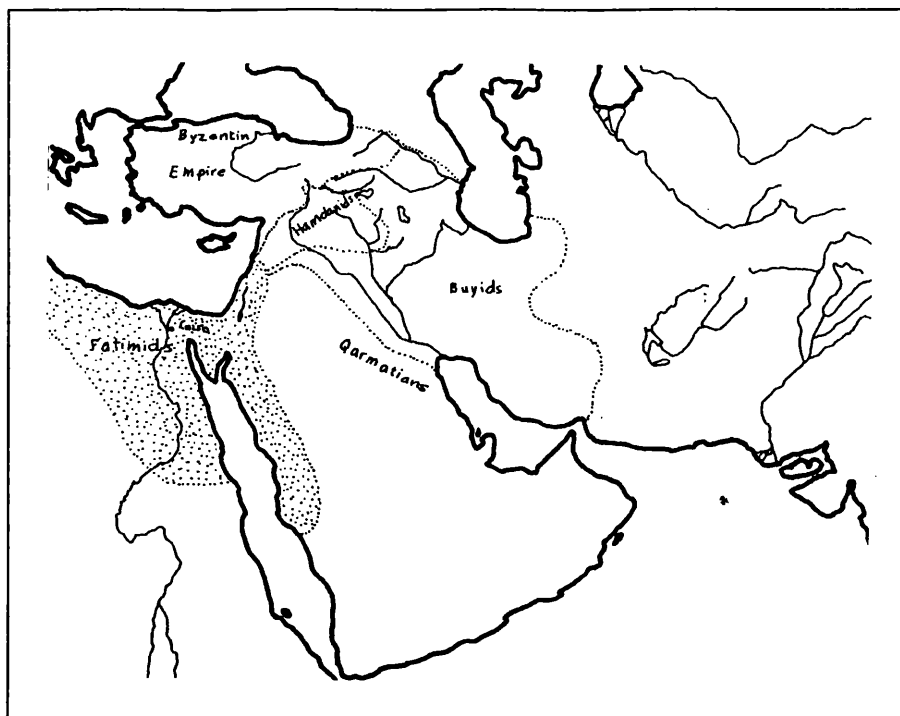


Fig1.12 Egypt and south west Asia, late 10th century (from Bacharach)

Urban characteristics

Two cities co-existed, Cairo (al-Qahira) and al-Fustat (Misr). Cairo was the princely city for the rulers, whereas al-Fustat was the city of industry, commerce, and the residential quarters for the general public (fig. 1.13). Each of the two cities had its port on the river Nile.

Socio-economic characteristics

- Internal organisation of al-Qahira was according to occupation and / or ethnic group.
- The physical order of the city reflected its social hierarchy.
- Al-Qahira did not have big markets as it was mainly a residential and administrative princely city.
- All activities within al-Qahira was completely controlled and mostly run by the state.
- Membership in professional guilds was obligatory for most trades and crafts.

- Only religious endowments *waqf* were common.

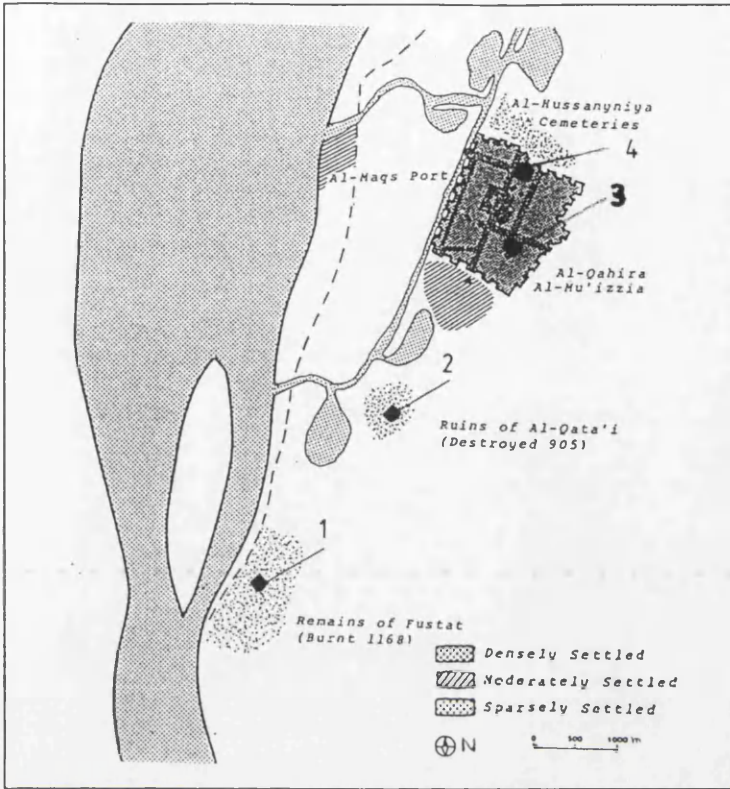


Fig.1.13 Cairo at the end of Fatimid rule (from Al-Sayyad)

Architectural characteristics

- An indigenous style in art and architecture particular to Cairo had emerged. Which means that any addition or restoration of an existing building had to address the stylistic question.

- The construction of many big and small mosques in the same city was a phenomenon new to Cairo which faced the problem of the need to respect two different directions, the street aligning and the direction to Mecca. A brilliant architectural solution to the problem appeared in al-Aqmar mosque (built in 1125AD).

- The relationship between a religious building and the urban fabric of the city became more developed than ever before. The location of visual elements

such as minarets, domes, entrances, and facades are examples for such development.

- A new treatment for the mosque in a dense urban fabric appeared in raising the mosque above a floor of shops as in the case of the mosque of al-Salih Tala'i' (built in 1160AD).

- Decorations of facades and external elements such as minarets and doorways became very elaborate.

- Shrines dedicated to descendants of the prophet formed a new type of building which was introduced by the shi'ite Fatimids, despite the fact that most of the Egyptians continued to be sunni. And it is forbidden by sunni doctrine neither to build over tombs, nor to attach tombs to mosques.

Conservation history

- The mosque of 'Amr (mosque 1):

By the time of al-Hakim the mosque of 'Amr was in a very good state architecturally as well as functionally. Al-Hakim bought the mosque from the descendants of 'Amr ibn al-'As for 100 000 dinars and carried out massive construction and decoration works in it.²⁶ From al-Hakim's time until al-'Adid's (the last Fatimid Khalif), the mosque underwent a series of additions, decorations, and renovations. The first draw back happened to the mosque was in 536/ 1141 when one of its corners was struck by lightning.²⁷ The worst crisis in the mosque's history was when Shawar the *wazir* of al-'Adid set fire to al-Fustat to prevent the Crusades from capturing it.²⁸ Not only physical damage occurred to the mosque, but also the destruction of al-Fustat reduced the mosque of 'Amr from a religious urban centre to a ruin in the middle of no where.

- The mosque of ibn Tulun (mosque 2)

The mosque did not undergo any major changes throughout the whole Fatimid period. It never fired the enthusiasm of any Khalif to embellish it with

rich decorations, or add a minaret or a *riwaq*. The position of al-Qata'i'²⁹ affected the conservation state of the mosque. Under the Fatimids al-Qata'i' became less attractive to live in, and gradually fell into ruins. The mosque was virtually losing its *raison d'être* as a religious and urban centre. This situation was accelerated by the great drought of 458/1066.

... in the days of al-Mustansir, and when al-Qata'i' and al-'Askar fell into ruin and nobody lived there all that surrounded the mosque was in ruin... time passed and the mosque deteriorated and the greater part of it became ruined. Later the Maghrebiyin (men from Morocco) stopped there with their camels and their baggage when they passed through Egypt on their pilgrimage.³⁰

- The mosque of al-Azhar (mosque 3)

When al-Hakim gave the Friday *Khutba* in the four mosques (each in turn), he actually reduced al-Azhar from being the congregation mosque for the princely city al-Qahira to one of four equally important mosques. Nevertheless, the mosque continued to flourish under all the Fatimid Khalifs after al-Hakim. Every Khalif in his turn either presented the mosque with some elaborate decoration, added a new part to the building, or allocated a generous sum of money towards it (directly or indirectly through an endowment).

- The mosque of al-Hakim (mosque 4)

Salah al-Din's choice of al-Hakim mosque as the only congregation mosque of Cairo, gave the mosque more importance than it actually possessed before. No major architectural changes happened to the building throughout the whole Ayyubid period.

2) Ayyubid period (564-650AH/1169-1252AD)

Chronological list of events

- 597-615/1200-18 Reign of al-Malik al-'Adel
- 615/1218 Fifth Crusade lands at Damietta
- 615-36/1218-38 Reign of al-Malik al-Kamil
- 627/1229 Peace treaty between Sixth Crusade led by Frederick II and al-Malik al-Kamil
- c.638/c.1240 Elite corps of Turkish Mamluks (slaves) formed by Sultan Malik al-Salih.
- 647/1249 Seventh Crusade led by St. Louis (Louis IX) lands at Damietta.

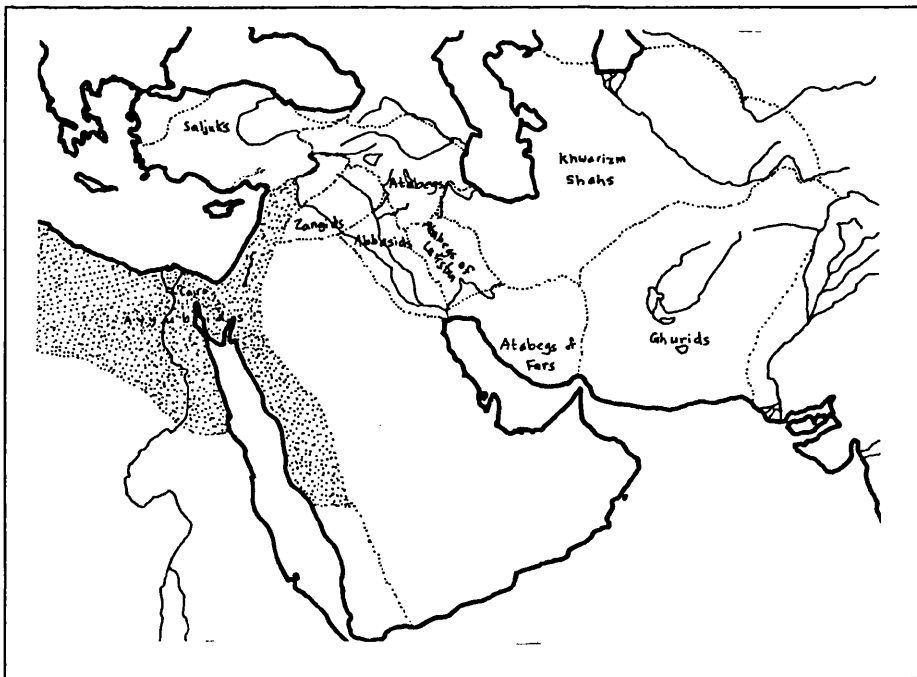


Fig.1.14 Egypt and south west Asia, late 12th century (from Bacharach)

Urban characteristics

Al-Qahira and Misr were integrated into one city as the princely city was opened up for the general public (Fig.1.15). But it is important to note a dramatic change in how the - formerly two cities- functioned in Ayyubid times.

Al-Fustat never really recovered from the great fire and destruction at the end of the Fatimid rule. It became sparsely populated and developed as a suburb of al-Qahira, and not the other way round. The citadel was built not only as a fort but also as a seat of power for the sultans.

Socio-economic characteristics

- The rulers were absorbed into the population, and gaps between different social classes were reduced.
- Commercial activities were shifted from al-Fustat to al-Qahira.
- The power of *al-muhtasib* was enforced to control commercial activities.
- Endowments to support social services became more common.

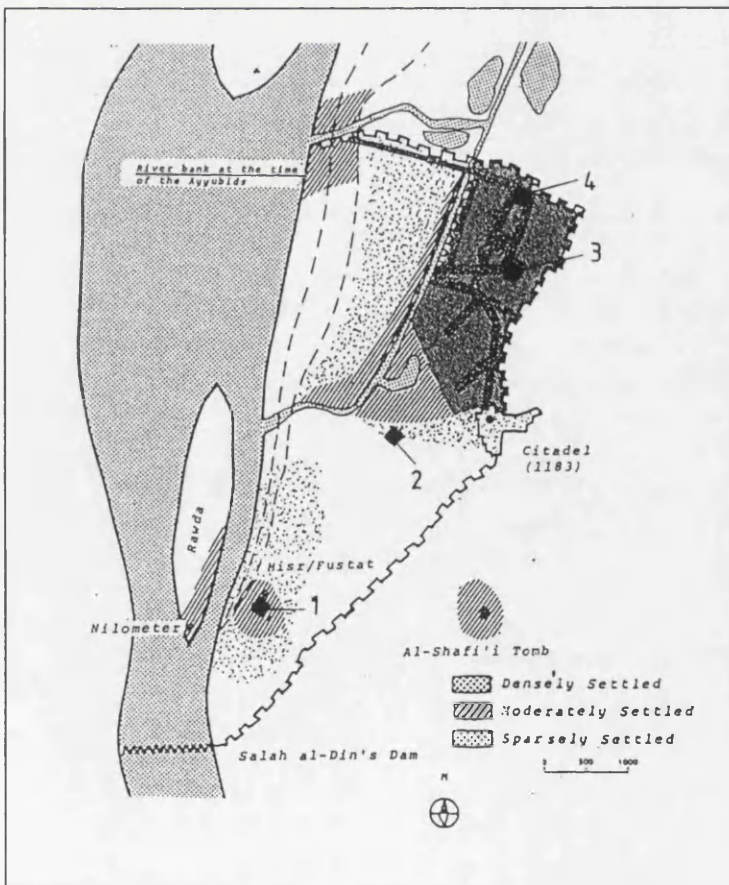


Fig.1.15 Cairo at the end of Ayyubid rule (from Al-Sayyad)

Architectural characteristics

- No new major mosques were built by the Ayyubids. Probably because of the shafi'i sunni principles they followed, which allowed only one Friday mosque within an urban area.
- Two types of religious buildings appeared for the first time in Cairo, the madrasa (school for Islamic teaching), and the khanqah (convent for sufis). Many historians suggest that the reason for the appearance of these new types of buildings was due to the Ayyubid desire to propagate sunni teachings, as opposed to shi'ite teachings propagated by the Fatimids in mosques like al-Azhar.
- Despite their sunni faith, the Ayyubids continued the tradition of building domed tombs which the shi'ite Fatimids have started.
- Decorations of architectural elements became finer and more elaborate under the Ayyubids. The application of arabesque and geometric decorations on internal and external surfaces are one example. And the appearance of stalactites, perhaps for the first time in Cairo is another example. This might have been due to the prosperous position Cairo began to acquire in the Islamic World which might have attracted skilled craftsmen from the whole region.

Conservation history

- The mosque of 'Amr (mosque 1)

Except Salah al-Din's restoration of the mosque, it was neglected throughout the whole Ayyubid period.

ibn Sai'd al-Maghribi, who visited Egypt between AD.1241 and 1250, gives us a vivid picture of the state of the mosque: ' Then I entered, and saw a great mosque, of ancient structure, without decoration, or any pomp in the mats which ran round part of the walls and were spread on the floor. And I observed that the people, men and women alike, made a passage of it... passing through from door to door make short cut... and the roofs and the corners

and walls were covered with cobwebs; and children played about the court; and the walls were written upon with charcoal and red paint in various ugly scrawls written by the common people.³¹

-The mosque of ibn Tulun (mosque 2)

No mentioning of the mosque neither by Maqrizi nor Creswell. From the stories of the mosque in Fatimid period we know that the mosque was declining, and that towards the end of the Fatimid rule, the mosque lost its function. As the accounts of the mosque in Bahri Mamluk period speak of a completely neglected and deserted building, we assume that the mosque stayed in a ruinous state throughout the whole Ayyubid period.

- The mosque of al-Azhar (mosque 3)

We learn from Maqrizi that after Salah al-Din's restoration, the mosque was abandoned during all the Ayyubid period:

... and the *khutba* was discontinued from al-Azhar mosque when sultan Salah al-Din came to power. As he assigned Sadr al-Din 'Abd al-Malik ibn Derbas as Qadi al-Qudah, who implemented the Shafi'i (the school of thought to which he belonged) rule, which does not allow more than one Friday prayer to be held in the same built area. So he stopped the *khutba* in al-Azhar and approved the *khutba* in the mosque of al-Hakim because it is bigger in area. Since then al-Azhar was not used for more than one hundred years...³²

- The mosque of al-Hakim (mosque 4)

Except a fountain and a *ziada*, no changes happened to the mosque since its completion by al-Hakim. Probably, its use as the only Friday mosque within al-Qahira, a decision by *Qadi al-Qudat* (the chief Judge), is the reason it survived as a functioning mosque.³³

3) Bahri Mamluk period (668-782AH/1250-1382AD)

Chronological list of events

- | | |
|-----------------|-----------------------------------------------------------------------------|
| 648/1250 | Shajarat al-Durr, female ruler of Egypt |
| 657/1258 | Mongols take Baghdad and murder the Abbasid Caliph. |
| 659/1260 | Mamluk victory at 'Ain Jalut over Mongols |
| 659-76/1260-77 | Reign of Baybars |
| 660/1261 | Sultan Baybars sets up an Abbasid survivor as Caliph in Cairo. |
| 664/1265 | Baybars becomes overlord of the Holy cities of Mecca and Medina. |
| 676/1277 | Bybars defeats the Mongols in North Syria. |
| 678-89/1279-90 | Reign of Qalawun |
| 692/1292 | Last Frankish enclaves captured. |
| 702/1302 | The great earthquake, caused much damage to Cairo. |
| 709-740/1309-40 | Reign of Al-Nasir Mohammed Ibn Qalawun, greatest Mamluk builder and patron. |

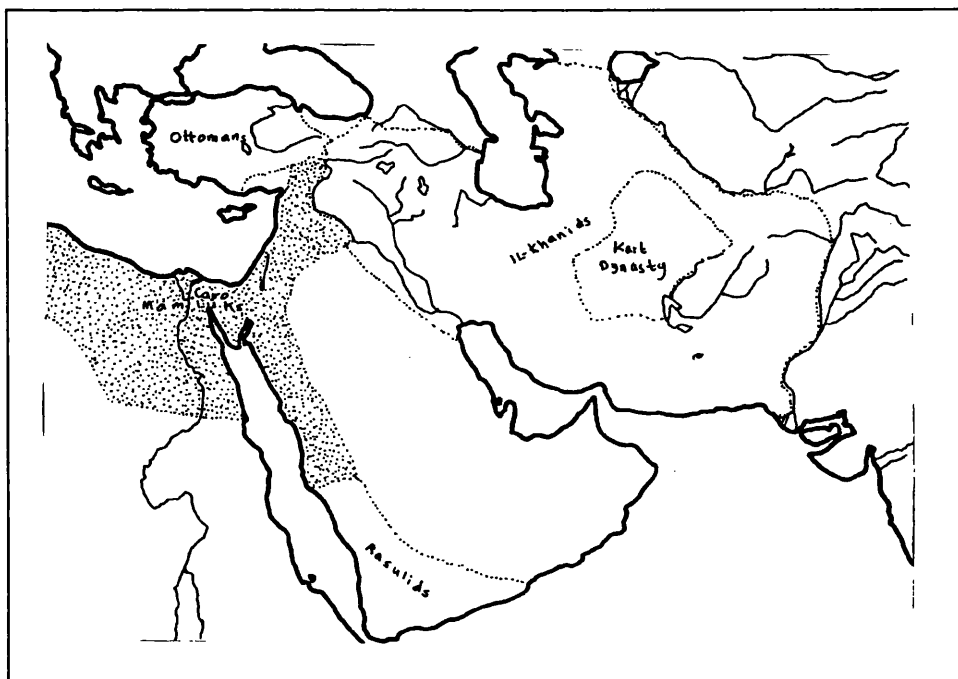


Fig.1.16 Egypt and south west Asia, early 14th century (from Bacharach)

Urban and characteristics

Cairo expanded from all sides. And with the westward shift of the Nile course the island of Bulaq became inland to be the port of the city on the river. The cemetery was established east of al-Qahira. Al-Khalij al-Masri as well as the new al-khalij al-Nasiri fed a few ponds and gardens of which Cairo became very famous for the following few centuries (Fig.1.16).

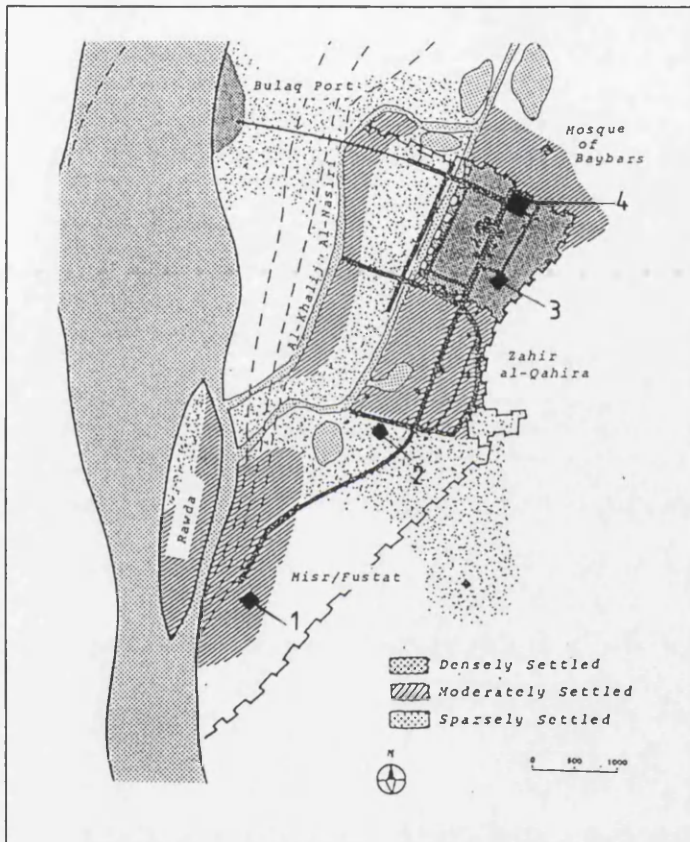


Fig.1.17 Cairo at the time of Bahri Mamluks (from Al-Sayyad)

Socio-economic characteristics

- The rulers had never managed to diminish the gap between them and the indigenous population.
- Zoning of living and working for craftsmen, ethnic, and religious groups became highly developed.
- Commercial activities flourished inside al-Qahira as well as outside its walls.

- Strict and close regulations were applied for guilds of crafts and commerce.
- *Al-muhtasib's* role got more complicated and was assisted by *arifs*.
- Endowments reached their zenith in Cairo.
- A system of building regulations was applied efficiently.

Architectural characteristics

- More religious buildings were built and used as mosques in prayer times, and as the urban fabric got dense, the mosque's plan got more irregular. The problem of respecting two directions (i.e. the street aligning and the Mecca direction) were solved in different innovative ways, and became characteristic of Cairene religious buildings.
- Two elements were added to religious buildings. Firstly, the tomb of the founder housed under a dome. And occupying an important location in relation to the prayer's hall, the entrance, and the street. Secondly, the *sabil-kuttab* (public drinking water on the street level, and orphan's school on the upper level), which were located usually at one end of the main facade.
- Facade arrangements (i.e. panels, recess, windows, stalactites...etc.) were developments of Fatimid and Ayyubid achievements.
- Minarets, domes, and entrances reached new innovative designs which became particular of Cairo, and reached their zenith in Circassian Mamluk period.

Conservation history

- The mosque of 'Amr (mosque 1)

The conservation history of the mosque during the Bahri Mamluk period is one of desperate efforts to save a great monument from destruction. The three conservation operations which the mosque underwent in this period were either saving it, or rebuilding it. Firstly, Baybars al-Bunduqdari carried out great conservation works in 666/1267, after the mosque became in a

ruinous state³⁴. Secondly, it was the same case when 'Izz al-Din al-Afram, under sultan Qalawun, carried out some repairs.³⁵ Thirdly, the restoration of Amir Salar was within the national action to repair the damage caused to the city of Cairo by the great earthquake of 702/ 1303³⁶.

date

- The mosque of ibn Tulun (mosque 2)

... ibn Duqmaq says that in 696H.(1296), when Husam al-Din Lajin al-Mansuri killed Sultan al-Ashraf, he fled and hid in the mosque for a year. Maqrizi says that the mosque 'was then entirely abandoned. At night only a single lamp was lit and no one ascended the minaret to make the call to prayers. A man only stood at the door to make *adhan*'. ibn Duqmaq continues: 'He vowed that if God favoured him and gave him power and wealth he would restore this mosque and endow it with a large *waqf*. When God gave him the throne he kept his vow and restored it, and he entrusted the work to the Amir 'Alam al-Din Sanjar... and he restored it extremely well, and installed there the teaching of law, *Hadith*, the Qur'an and medicine and other things... and its condition has remained until now (i.e. before 1399AD) in the best possible state'. Maqrizi says that 'he removed the debris, had it paved and whitewashed, and organised courses for *Fiqh* for the four rites and a course for the interpretation of the Qur'an, another for *Hadith*, another for medicine... appointed an *Imam*, *Mu'adhdhins*, *farrashes* and supervisors'. He gives the cost of the restoration and the endowments as 20 000 dinars (say £10000).³⁷

Lajin's restoration is an extraordinary event in the history of the mosque of ibn Tulun. It indicates two important points; the first is that the mosque was in such a ruinous state that it was possible for a "sultan's killer" to hide in it for a year without being caught. The other point is the great momentum which this operation gave the mosque and kept it going for quite a long while after that.

- The mosque of al-Azhar (mosque 3)

In 665/1266-7 the works of sultan Baybars al-Bunduqdari brought al-Azhar back to life as a major congregation mosque in Cairo. Not very long after, the mosque was destroyed again by the great earthquake of 702/1302. Salar's restoration in the same year, brought the building back to shape and function. Four different conservation works thereafter secured al-Azhar's ever-rising

date

position as a major congregation mosque in Cairo throughout the Bahri Mamluk period³⁸.

- The mosque of al-Hakim (mosque 4)

After the great earthquake of 702/1302, al-Hakim mosque was restored by Amir Baybars al-Jashinkir. No major changes happened to the mosque since then. And it seems that it had been losing ground as an important congregation mosque on the scale of Cairo.

4) Circassian Mamluk period (782-923AH/1382-1517AD)

Chronological list of events

784-801/1382-98	Reign of Barquq
826-41/1422-37	Reign of Barsbay
871-5/1466-70	Inconclusive war between Mamluks and Ottomans
872-901/1468-96	Reign of al-Ashraf Qaytbay, apogee of Circassian Mamluk period.
906-21/1501-16	Reign of Qansuh al-Ghuri

Urban characteristics

Political instability at the end of Bahri Mamluk period plus three bubonic plagues in one decade, reduced Cairo to a ghost city by the time of the Circassian Mamluks.³⁸ Some parts of the city never fully recovered such as al-Hussaynnia. Also al-Fustat had never completely joined al-Qahira. Furthermore, it continued to deteriorate. Nevertheless, most of Cairo was rebuilt. The palaces and gardens between al-khalij al-Nasiri and al-khalij al-Masri returned to their former glory. The cemetery was built up with few madrasas, khanqas, and mausoleums. Bulaq flourished as the city's port. In short Cairo regained its universal fame as a great imperial capital (Fig.1.18).

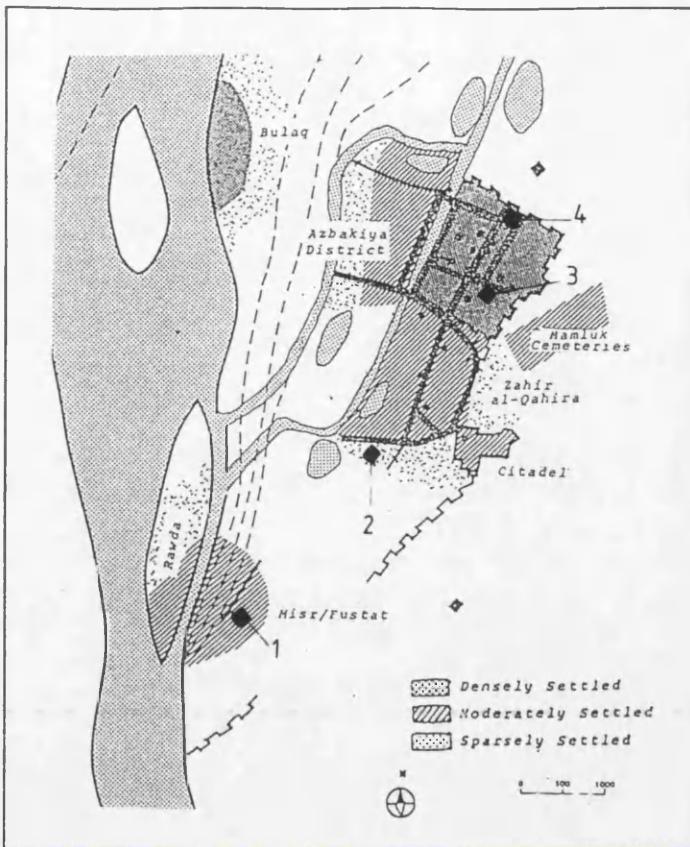


Fig.1.18 Cairo at the time of Circassian Mamluks (from Al-Sayyad)

Socio-economic characteristics

- Social structure and commercial activities continued in a very similar way as they were under the Bahri Mamluks.

Architectural characteristics

- This period witnesses the gathering of different functions in big religious complexes. And the building of religious buildings such as khanqas and madrasas without living units, which opened them to the general public.
- Many small sized mosques and *zawiyas* for sufi *sheikhs* were built.
- Ribbed and decorated stone domes over mausoleums became characteristic features of Circassian Mamluk Cairo, with no parallel in the Muslim World. Also minarets became very elegant in proportions and very richly decorated with skilled stone carving techniques.

Conservation history

- The mosque of 'Amr (mosque 1)

" Maqrizi says that the mosque was once more in a ruinous state, that 'its arches were out of the perpendicular, and it was on the point of collapsing, while the great ones of the realm after the death of sultan Barquq [801H=1399] had too much other business and pleasure to attend to'. A certain Burhan al-Din, Chief of the merchants, took up the matter and resolved to restore the mosque at his own expense, and that of his fellows."³⁹

Burhan's restoration, and the two restoration works by sultan Qayt Bey (the first in 876/1471, and the second in 879/1474)⁴⁰, were all telling the same story of the mosque becoming a ruin over the years and then a restoration job boosts its physical condition for few years before it starts slowly to fall again into ruin.

- The mosque of ibn Tulun (mosque 2)

It is probably Lajin's restoration in the Bahri Mamluk period which kept the mosque going until Qaytbay's restoration in 873-83/1468-82. Creswell assumes that the mosque was in regular use at the end of 15th century, but probably was gradually deteriorating.

- The mosque of al-Azhar (mosque 3)

At least ten different conservation works along the years of Circassian Mamluk period contributed to better, beautify, and enlarge the mosque. As well as to secure its financial support by allocating endowments towards its repairs, its welfare functions, and its religious and teaching functions.

- The mosque of al-Hakim (mosque 4)

...the mosque was restored and the whole of it paved during the time of al-Nasir Hassan, son of Mohammed ibn Qalawun, during his second reign in 760 (1359)... The mosque at present is in a dilapidated condition, for a long time there has not been one of its roofs from which pieces have not been falling. The *mida'a* of this

mosque was small and situated near the present one, between it and the door of the mosque. Its site is now a store with a floor above it... The present *mida'a* was made later and the *fişqiya* in it established by ibn Kausun about 780 (1378/9). The latter whitewashed the two minarets of the mosque. Then a merchant reconstructed the *ma'dhana* above the door next to the *minbar*; it was finished *Gumada II*, 827 (May 1424). An opening was made in the roof of the mosque, so that the *mu'adhinnin* could descend from the roof to the *dikka*, when they made the *takbir* behind the Imam.⁴¹

A conservation operation kept the mosque going until the middle of 15th century when Creswell states according to al-Sakhawi,⁴² that 1452 was the last date in which the mosque is known to be in use.

5) Ottoman period (923-1213AH/1517-1798AD)

Chronological list of events

923/1517	Selim I, Ottoman Sultan of Turkey conquers Egypt, which becomes a province of the Ottoman Empire.
931-2/1524-25	Revolt of Ahmed Pasha.
945/1538	Last Cairene Abbasid Caliph dies and bequeaths the title of Caliph to the Ottoman Sultan of Turkey.
1182/1768	Sheikh Ali Bey revolts against the Ottomans, takes part of Arabia and tries to annex Syria.
1186/1772	Revolt put down.
1213/1798	Napoleon defeats the Egyptian forces at the Battle of the Pyramids.

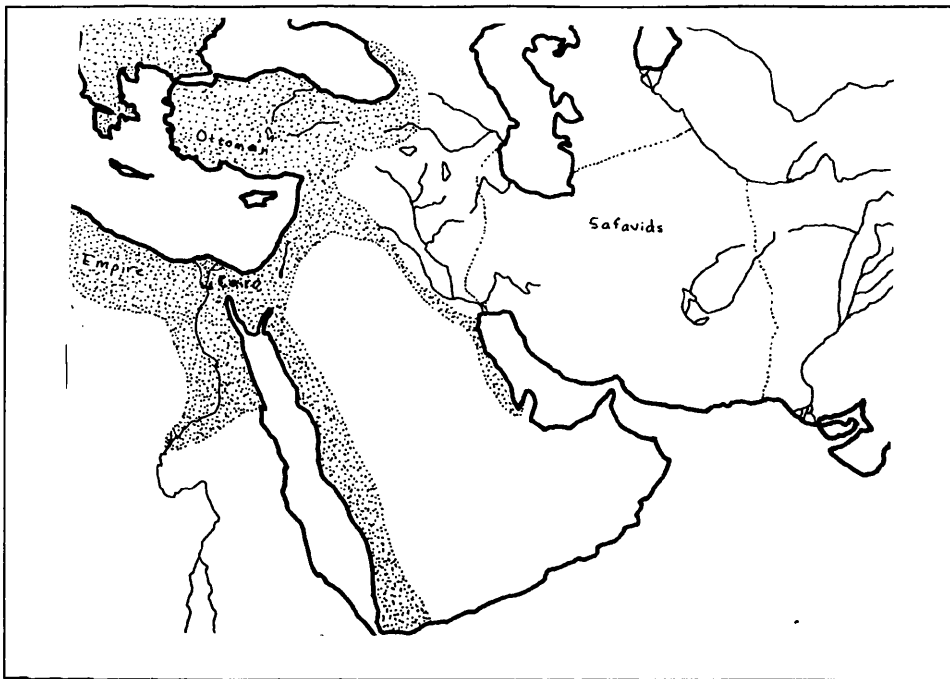


Fig.1.19 Egypt and south west Asia, 17th century (from Bacharach)

Urban characteristics

Cairo declined steadily over the three centuries of Ottoman rule. Its centre shifted westward. And by the time of the Napoleonic Expedition it was less impressive to travellers and historians, nevertheless it became more homogeneous as one whole city (Fig.1.20).

Socio-economic characteristics

- Big gaps developed between different social classes.
- Al-Qahira declined socially and economically, as its regional and universal importance declined.
- The *hara* social structure got stronger and developed a territorial and administrative system.
- Despite the sharp economic and commercial decline, the local commerce was sufficient for the local market.

glossary.

- No changes happened in the endowment systems nor building regulations. What really changed was the loss of strictness and the strong grip of the state on socio-economic activities. Thus, inhabitants intruded upon public spaces more often than ever before.

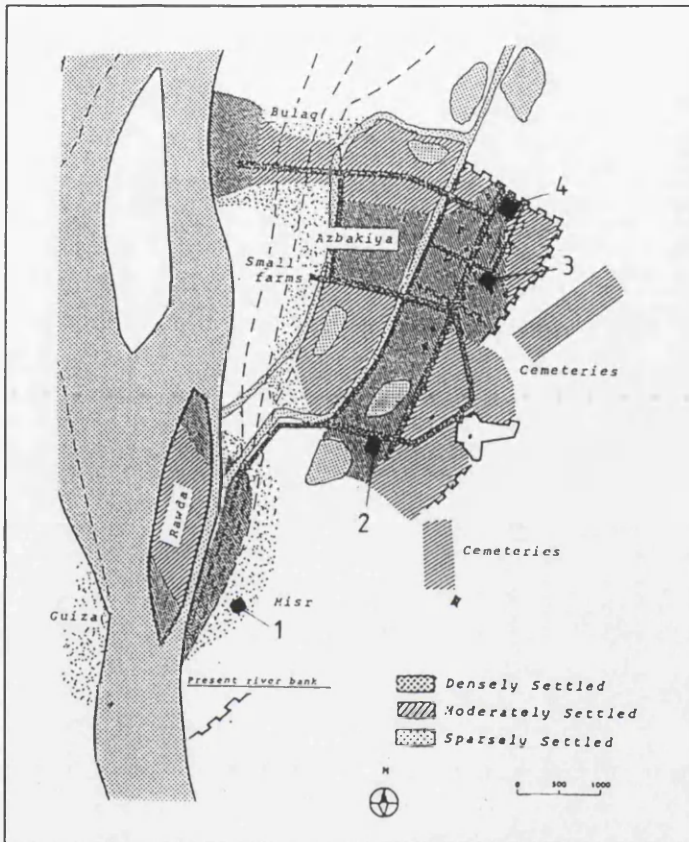


Fig.1.20 Cairo at the Ottoman times (from Al-Sayyad)

Architectural characteristics

- Mosques were built either in Ottoman style or Mamluk style or with an intermediate one. The fact that the Ottomans reduced Cairo from an imperial capital to a provincial city can be easily noticed on the architecture of this period.
- The Turkish *takiyya* replaced the Mamluk *khanqah* for sufi students and scholars.

- Domes, minarets, and portals declined in quality after the Ottoman conquest to Egypt. This is probably due to the Ottoman tradition of taking home local craftsmen and masons from conquered countries and introducing their own craftsmen to these countries.
- Many free standing *sabil-kuttab* buildings were spread all over Cairo, whereas the number of mausoleums was reduced dramatically. Probably because Cairo became no more than a stage in a governor's career rather than the place in which he lived and died.

Conservation history

- The mosque of 'Amr (mosque 1)

The only account of the mosque not being in a ruinous state is that of Maillet in *Description de l'Egypte*⁴³, of which Creswell says: "... Curiously enough he [Maillet] speaks of it [the mosque of 'Amr] being well kept, and mentions columns of various kinds of marble, granite..."⁴⁴ Al-Jabarti's description of Murad Bey's restoration speaks of the mosque being in a badly ruinous state. He also speaks of the mosque being out of use⁴⁵.

- The mosque of ibn Tulun (mosque 2)

No single indication that the mosque was of any importance during the whole Ottoman period. It is doubted that it was at all used as a mosque. As the only accounts of the building speak of it as a workshop, or in a ruinous state.

- The mosque of al-Azhar (mosque 3)

The important position of the mosque continued to rise during the Ottoman period. It became the greatest university of Egypt, if not of the Muslim World. Also it became the house of people, and indeed the most important congregation mosque of Cairo. The remarkable works of 'Abd al-Rahman Katkhuda show the great interest in the mosque at the time:

... He built (*ansha'a*) and enlarged the *maqsurra* of the Mosque of al-Azhar to the extent of one half in length and breadth including fifty marble columns carrying as many arched (*maqsurra*), lofty and spacious bays (*ba'ikas*) of cut stone. He roofed the upper part with fine wood. He also built in it a new *maihrab* and a pulpit (*minbar*). And he made (*ansha'a*) for it a great door in the direction of Haret Kitama and built in the upper part of it a school (*maktab*) with arches (*qanatir ma'quda*) resting on marble columns, for the teaching of the Qur'an to Mohammadan orphans, having within it a spacious court, a large cistern and a place for drinking (*siqaya*) for a dome having under it a cenotaph (*tarkiba*) of marble of wonderful workmanship.

And there was likewise a *riwaq* for students from Upper Egypt, devoted to the quest of knowledge, approached from that court by a stair leading up to the *riwaq* and fitted with conveniences and facilities, a kitchen small rooms and libraries. He built a minaret at the side of this door. He also built another door, in the direction of the kitchen of the mosque, with a minaret above it.

He built up (*bana*) the Tybarsiya madrasa and reconstructed it (*ansha'aha*) entirely anew, putting it, with the Aqbughawiya madrasa opposite it, within the great doorway which he built outside both in the direction of the vaulted passage leading to (*qabbw muwassil ila*) the *Mashhad* of Husayn and the Khan al-Sharakisa. This great doorway consists of two great doors, each having two leaves, with a minaret to the right of them and a school above the doorway. Within it, on the right of one passing outside the Tybarsiya, there was a *mida'a* for ablutions for which he made a water-wheel (*saqiya*) in order to bring water to it, and within the *mida'a* was a stair leading up to the minaret and the *riwaq* of the people of Baghdad and India. This doorway and the Tybarsiya madrasa inside it, the Aqbughawiya madrasa and the *riwaqs*, turned out to be one of the finest in size and dignity and nobility.⁴⁶

- The mosque of al-Hakim (mosque 4)

It seems that the mosque stayed in a ruinous state since the mid 15th century throughout the Circassian Mamluk, and Ottoman periods. The first account of the mosque since then appears in 'Ali Mubarak's account as a ruin used by the French as a fortress, and its minarets as watch towers.⁴⁷

c. Interpretation

1) The mosque of 'Amr

There is one striking event throughout the whole history of this mosque, which influenced its history more than any other event. It is the setting of al-Fustat to fire in 1168AD by Shawar. This single event caused the actual death of the mosque of 'Amr. It is interesting to note that the damage of the surrounding urban fabric rather than the building itself which brought the remarkable role of the mosque to an end. None of the conservation works after the great fire succeeded to bring life to the function of the mosque (table 1.1). Despite the repetitive signs of death the building showed, it attracted many notables' efforts to conserve it. Probably this is due to the great symbolic value of the mosque, and also all the glorious memories it carries. None of the conservation works the mosque underwent seemed to have built any conscious relationship with the original design or fabric of the mosque. Out of the 9 conservation works, only al-Afram's work was accompanied by endowing *waqf*. This might explain why it was always difficult to upkeep the building, since *waqf* money was the financial source for maintenance expenses of the building.

Date		Patron	Nature of work	Arabic term	Part of the building
AH	AD				
1	378	988	Abu al-Faraj Ya'qub ibn Yusuf ibn Kalas added to the building	<i>zada fihi</i>	roof, minbar, fountain
2	387	997	Burgwan al-Kadim	<i>jaddada</i>	interior arrangements
3	403-6	1012-15	al-Hakim bi-Amr Allah	' <i>amala</i>	structural works & interior arr.
4	438	1046	al-Mustansir bi-Allah ibn al-Zahir	' <i>amala</i>	mihrab, minaret, interior arr.
5	442	1050-1	al-Qadi 'Abdullah	' <i>ammara</i>	maqsurah, mihrab
6	445	1053	al-Qadi 'Abdullah	<i>bana</i>	minaret
7	515	1121/2	al-Afdal	?	the great minaret & south minaret
8	564	1168	Shawar ibn Mujir al-Sa'adi	<i>ahraqa</i>	the whole city of al-Fustat
9	568	1172	al-Sultan Salah al-Din	' <i>ammara</i>	minbar, structural works, interior
10	666	1267	al-Zahir Rukn al-Din Baybars	' <i>ammara</i>	structural works, interior arr.
11	687	1288	Amir 'Izz al-Din al-Afram	' <i>amara</i>	interior arr.
12	696	1296	al-Sahib Taj al-Din	' <i>amala</i>	structural works, interior arr.
13	702	1302	Amir Salar	' <i>ammara</i>	structural works, interior arr.
14	804	1401/2	al-Rais Burhan al-Din Ibrahim	' <i>imarat</i>	structural works, interior arr.
15	876	1471/2	Sultan Qayt Bey	?	structural works
16	879	1474	Sultan Qayt Bey	?	structural works, interior arr.
17	1037	1627	Bayram Bey	?	?
18	1212	1798	Murad Bey	?	minaret, structural works, interior

* The work is accompanied by allocating endowments (*waqf*).

2) The mosque of Ibn Tulun

From the beginning of the Fatimid period, the immediate surroundings of Ibn Tulun mosque were deteriorating. Travellers and historians spoke always of the deserted ruinous al-Qata'i'. The mosque, therefore, was losing its role and function. The 4 conservation works by different Fatimid Khalifs could not save the building from continuous deterioration. Unlike the mosque of 'Amr, the mosque of Ahmed Ibn Tulun does not stand for any great religious symbols or memories. On the contrary, the source of the money with which Ibn Tulun constructed the mosque, was always the subject of suspicion for Cairenes. Which might have added to the cause of the mosque's deterioration.

... Ibn Duqmaq says that when the mosque was finished people refused to come there to pray, alleging that it had been built with money of which they did not know the source, so Ibn Tulun one Friday ascended the *minbar* and assured them that he had built the mosque by means of a treasure which he had found on the mountain. The people, thus reassured, came in crowds on Fridays... The truth probably is that Ibn Tulun was in possession of sufficient funds because in 259H. (873) he had refused to send the tribute to the Khalif at Baghdad, and that he invented the story of the treasure to disguise the fact.⁴⁸

Strange as it seems, with absolutely non-religious motivation, Lajin's restoration did not only save the building, but also restored its function and role in the city of Cairo. The generous *waqfs* Lajin allocated towards the mosque, kept the mosque going until the middle of 15th century AD. Since then the mosque underwent a process of deterioration similar to its pre-Lajin condition. According to Creswell and other archaeologists, it seems that all conservation works done in the mosque have respected its original design.

Table 1.2: A list of conservation events took place in the mosque of Ahmed Ibn Tulun

Date	Patron	Nature of work	Arabic term	Part of the building
AH	AD			
1	Al-'Aziz Bi-illah Ibn al-Mu'izz	built	<i>bana</i>	whole building
2	Badr al-Jamali	restored	?	whole building
3	al-Afdal	added to the building	?	<i>mihrab</i>
4	al-Hafiz	constructed	?	?
5	Lajin	restored*	<i>'ammara</i>	structural works, interior arr.
6	al-Qadi Karim al-Din al-Kabir	constructed	<i>Jaddada</i>	two minarets
7	Amir Yalbugha al-'Amri	renewed*	<i>jaddada</i>	?
8	Amir Makin	renewed waqfs*	<i>jaddada fi awqafih</i>	?
9	'Ubayd ibn Mohammed	restored	<i>jaddada</i>	fountain, <i>riwaq</i>
10	Qayt Bay	built	?	fountain

* The work is accompanied by allocating endowments (*waqf*).

3) Al-Azhar mosque

The conservation history of this mosque is a remarkable story of success. Obviously al-Hakim's decision to pray in the four mosques, one in a turn, reduced al-Azhar's position as the congregation mosque of al-Qahira. Nevertheless, this situation did not continue for very long. Two forces may have contributed to bring al-Azhar back to its former position in the heart of the public life of Cairo. The first is its symbolic weight as the university for shi'ite teachings, and the second is its urban value as it is located in the physical heart of Cairo. Throughout the Ayyubid period its association with the shi'ite doctrine, caused the mosque's neglect and deterioration. Meanwhile, the other force (i.e. its urban value), was growing very fast with the opening up of al-Qahira for the general public, and the concentration of urban political and economic elements in the formerly walled al-Qahira. As soon as Baybars restored the mosque in 1266/7AD, it acquired a new symbolic value associated with sunni teaching this time. Since then it became the university of sunni teaching not only in Cairo, but also one of the most important Islamic universities in the World. By the time of the Napoleonic Expedition it was a great institution, and much larger in area than its original plan, thanks to 20 conservation works since Salah al-Din's restoration of the building. Ibrahim Bey's restoration which was with illegal money shows that the suspicion which gave the mosque of ibn Tulun a bad name could not do any harm to the great name of al-Azhar:

Ibrahim Bey, without paying for it, took a house alongside the mosque, near the Gawhariya madrasa, added a piece of land to it, and constructed the *riwaq* al-Sharqawiya... using stone and a great column from the mosque of Baybars on the road to 'Abbasiya.⁴⁹

All additions and alterations did not follow any geometric or stylistic relationship with the original plan of the mosque which can be easily traced.

Table 1.3: A list of conservation events took place in the mosque of al-Azhar

	Date		Patron	Nature of work	Arabic term	Part of the building
	AH	AD				
1	359-61	969-71	al-Qadi Jawhar al-Katib al-Saqalli	founded*	<i>ansha'a</i>	
2	378	988	al-'Aziz bi-illah abu Mansur Nizar	renovated*	<i>jaddada</i>	interior arr.
3	400	1009	al-Hakim bi-amr Allah	renovated*	<i>jaddada</i>	ornaments
4	427-87	1035-94	al-Mustansir	restored	<i>jaddada</i>	?
5	519	1125-6	al-Amir	added	?	<i>mihrab</i>
6	524-44	1130-49	al-Hafiz li-Din Allah	restored	<i>jaddada wa ansha'a</i>	<i>maq̣sura</i>
7	569	1173	Salah al-Din	added	?	<i>sabil-kuttab</i>
8	665	1266-7	Sultan Baybars al-Bunduqdari	repaired*	<i>'ammara</i>	<i>maq̣sura</i> , interior arr.
9	702	1302	Amir Salar	reconstructed	<i>imarat</i>	?
10	709	1309-10	?	built a minaret	?	<i>madrasa, riwaq</i>
11	725	1325	Qadi Nejm al-Din Muhammed al-Idrisi	restored	<i>jaddada</i>	?
12	734-40	1333-44	Amir Aqbugha	constructed	<i>bana</i>	minaret
13	761	1359-60	Amir Bashir al-Jamdar	restored*	<i>jaddada</i>	<i>maq̣sura, sabil-kuttab, gate</i>
14	800	1397	?	reconstructed	<i>hadama wa 'ammara</i>	minaret
15	810	1407-8	Amir Badr al-Din Jankal ibn al-Baba	constructed	<i>bana</i>	<i>maida'a</i>
16	817-8	1414-5	?	rebuilt	<i>hadama wa bana</i>	minaret
17	827	1420	?	rebuilt	<i>hadama wa bana</i>	minaret, cistern
18	831	1429	Jawhar al-Qunqbay	built	?	minaret
19	850	1446	Amir Sudun	constructed	<i>'imarat</i>	<i>mihrab</i> , interior arr.
20	873	1469	Sultan Qayt Bay	constructed	?	minaret
21	881	1477	Sultan Qayt Bay	restored	?	minaret, gate
22	900	1494	Sultan Qyt Bay	restored	?	<i>maq̣sura</i>
23	906-22	1501-16	Sultan al-Ghuri	added	?	minaret
24	1004-5	1595-8	Sayyid Muhammed Pasha	restored	?	?
25	1148-9	1735-6	Amir 'Uthman Katkhuda	constructed	?	<i>madrasa, riwaq</i>
26	1165	1751-2	Amir 'Abd al-Rahman Katkhuda	built	<i>ansha'a</i>	different parts
27	1129	1778	Ibrahim Bey (governor of Cairo)	constructed	?	?
28	1203	1789	the Pasha of Egypt	repaired	?	interior arr.

* The work is accompanied by allocating endowments (*waqf*).

4) Al-Hakim mosque

The boost which al-Hakim gave to his mosque was prolonged by Salah al-Din's decision to establish the only Friday prayer of Cairo in al-Hakim's mosque. Like the other three mosques, al-Hakim mosque was restored after the earthquake of 1302 AD, but it never really recovered since then. Two reasons might have caused the sudden failure of the mosque's function and role. The first can be the terrible tyranny and mental illness with which al-Hakim's name is associated. The other reason can be the closeness of the mosque to al-Azhar's mosque. The small distance between the two great mosques might have left room for only one mosque of such scale to survive, which naturally was al-Azhar. All conservation works done to this mosque did not really change much of its original design. Even al-Hakim's decision to change the shape of the minarets made by his father, was carried out with a unique practice; he hid the original minarets by building walls, square in plan, giving the impression of two cubes projecting out of the facade. This highlights how much care was given to the shape of a new addition in relation to the original design.

The possibility cannot be excluded that he disliked the minarets built by his father and therefore decided to hide them behind the cubes.... The fact that the original minarets were only hidden, not pulled down, may have been the architect's device to preserve these two masterpieces of stonework, which are unparalleled in Cairo's minaret architecture.⁵⁰

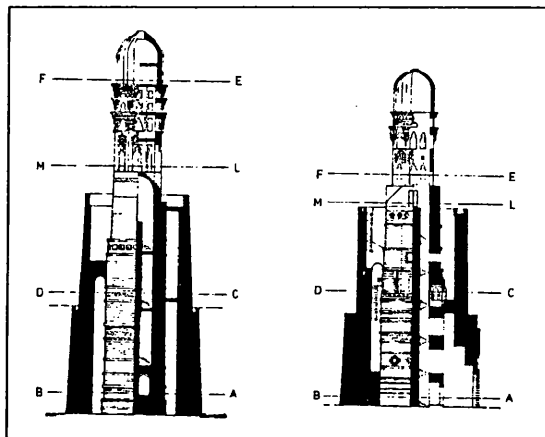


Fig.1.21 The minarets of al-Hakim (from Creswell)

Table 1.4: A list of conservation events that took place in the mosque of al-Hakim

Date		Patron	Nature of work	Arabic term	Parts of the building
AH	AD				
1	380	al-Aziz bi-illah Nizar al-Mu'izz	founded and built	<i>assasa</i>	walls
2	395	al-Hakim bi-amr Allah	constructed	<i>bana</i>	whole building
3	403	al-Hakim bi-amr Allah	completed*	<i>tamma bina'u</i>	interior arr., minaret, <i>mqsur</i>
4	?	al-Sahib 'Abd Allah ibn 'Ali ibn Shukr	built	<i>bana</i>	fountain
5	411-27	al-Zahir 'Ali (son of al-Hakim)	built	<i>bana</i>	<i>ziada</i>
6	564-89	al-Malik al-Nasir Salah al-Din	demolished	<i>hadama</i>	church built previously in the court
7	637-47	al-Salih Ayyub ibn al-Kamil	restored	<i>bana</i>	<i>ziada</i>
8	660	al-Qadi Taj al-Din ibn Shukr	abolished	<i>azala</i>	part annexed previously
9	703	Amir Rukn al-Din Baybars al-Jashenkir	restored*	<i>rammama</i>	minaret, structural works, interior
10	760	al-Malik al-Nasir Hassan ibn Muhammad ibn Qalawun	renewed*	<i>jaddada</i>	?
11	780	ibn Kursun al-Marahili (a merchant)	repaired	<i>'ammara</i>	minaret, fountain, interior
12	827	a merchant	reconstructed	<i>istajadda</i>	minaret, interior arrangement.

* The work is accompanied by allocating endowments (*waqf*).

d) Concluding remarks

A sketchy graph (fig. 1.22) can be drawn out of the four tables (1.1, 1.2, 1.3, and 1.4). This graph is far from being accurate in the mathematics sense. It is no more than a visual aid to facilitate looking at the conservation state of the four mosques along the train of Cairo's history. After putting the four mosques within the context of the different historic periods, and then looking at the history of each mosque in its own right, we should be able to understand values within a building which initiate either negative or positive attitudes towards its conservation:

Urban characteristics

The urban setting of a building was the most important factor in its conservation. The urban setting of al-Azhar mosque had always initiated positive attitudes towards its conservation. In contrast, the mosques of 'Amr and ibn Tulun suffered badly from their urban setting, after the ruination of al-Fustat and al-Qata'i'. Al-Hakim mosque, on one hand enjoyed a good urban setting as opposed to the mosques of 'Amr and ibn Tulun. On the other hand, it suffered from a less important urban setting than al-Azhar's.

Architectural characteristics

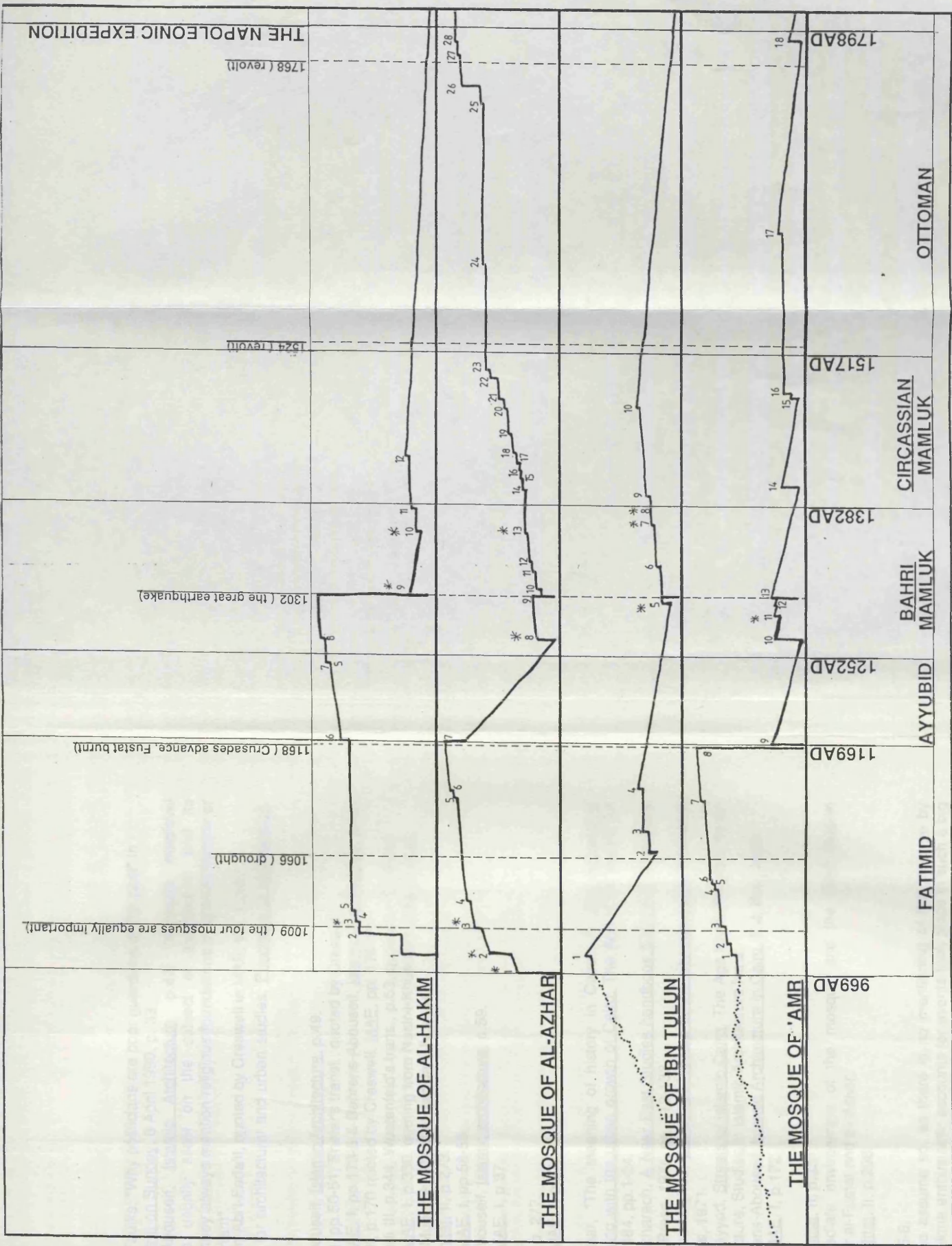
A building which was built to last did not fail to keep its architectural form along its history. There is a certain power in the architectural forms of the mosques of ibn Tulun, al-Hakim, and al-Azhar, as opposed to the mosque of 'Amr. These strong architectural characteristics guaranteed the conservation of the original form of these three mosques. It was al-Azhar mosque only which underwent many additions and alterations to its form without losing the traces of its original architectural design.

Financial and functional aspects

Financial aspects guaranteed success for architectural conservation, only if they guaranteed the continuation of the functions and maintenance of the building. Lajin's endowments for the mosque of ibn Tulun revived the functions of the building for a long span of time. As the revived functions attracted more financial contributions, which in their turn kept the functions going. And the financial-functional circle went on for more than a century.

Symbols and memories

A building which stands as a great symbol did initiate positive attitudes towards its conservation. On the other hand, a building which became grand because of its urban, architectural, and functional characteristics, did attract great symbols and meanings to be housed in it. And therefore, it initiated positive attitudes towards its conservation. The mosque of 'Amr, from the first day of its conservation, stood for a unique symbol and great memories. This probably had substituted the weakness of its architectural characteristics in initiating positive attitudes to its conservation. The mosque of al-Azhar housed many great events which became great symbols and meanings in the history of Cairo. Many of these events could have happened in any large assembly place in the heart of Cairo, but it became a tradition to use al-Azhar. In the case of the mosques of al-Hakim and Ibn Tulun, symbols and memories worked always against their conservation.



All information and dates are derived from Creswell and/or Maqrizi. Numbers given to different works are corresponding with numbers in the tables 1.1, 1.2, 1.3, and 1.4. Horizontal axis is for the progress of time, and vertical axis is for the conservation state of each mosque. * indicates that the work had been accompanied by allocation of waqf.

Fig. 22 A sketchy graph illustrating the conservation state of the four mosques from 1009 to 1798AD.

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Notes:

- 1) Sebastian Faulks, "Why politicians are poor guardians of the past" in The Independent on Sunday, 8 April 1990, p. 33.
- 2) Behrens-Abouseif, Islamic Architecture, p.47: "Although medieval historians are usually silent on the subject of architecture and its development, they always mention religious foundations of special historic or religious importance".
- 3) Mufaddal ibn Abi'l-Fada'il, quoted by Creswell in MAE, vol. 1, p.37.
- 4) The centre for architectural and urban studies, Principles of architecture, p.13.
- 5) Ibid.
- 6) Behrens-Abouseif, Islamic Architecture, p.49.
- 7) Safar Nama, pp.50-51, Shefer's transl., quoted by Creswell.
- 8) Creswell, MAE, I, pp.173-5 & Behrens-Abouseif, Islamic Architecture, p.49.
- 9) Al-Jabarti, III, p.170 quoted by Creswell, MAE, pp. 176-177.
- 10) Qalqashandi III, p.344, Wustenfeld's trans., p.63, quoted by Creswell.
- 11) Creswell, MAE, I, p.336, quoting from Nasir-i-Khusrau's Safar Namah.
- 12) 'Ali Pasha Mubarak, Khitat al-Jadidah, IV, p.84.
- 13) Maqrizi, Khitat, II, p.273.
- 14) Creswell, MAE, I, pp.58-59.
- 15) Behrens-Abouseif, Islamic architecture, p.59.
- 16) Creswell, MAE, I, p.37.
- 17) Ibid., p. 41.
- 18) Maqrizi, II, p. 277.
- 19) Creswell, MAE, I, p.67.
- 20) Ibid., p.67.
- 21) Oleg Grabar, "The meaning of history in Cairo", in The Expanding Metropolis coping with the urban growth of Cairo, The Aga Khan Award for Architecture, 1984, pp.1-24.
- 22) Jere L. Bacharach, A Near East Studies handbook 570-1974, University of Washington Press, 1974, pp. 112-133.
- 23) Janet L. Abu-Lughod, Cairo, 1001 years of the city victorious, Princeton University Press, 1971.
- 24) Nezar al-Sayyad, Streets of Islamic Cairo, The Aga Khan Programme for Islamic Architecture, Studies in Islamic Architecture No:2.
- 25) Doris Behrens-Abouseif, Islamic Architecture in Cairo, E.J. Brill, 1989.
- 26) Creswell, MAE, I, p.172.
- 27) Ibid. p.173.
- 28) Maqrizi, Khittat, II, p.251.
- 29) The immediate environment of the mosque and the third Muslim settlement after al-Fustat and al-Askar.
- 30) Maqrizi, Khittat, II, p.268.
- 31) Ibid. p.341.
- 32) Ibid. pp.275-6.
- 33) It is safe to assume so, as there is no mentioning of the mosque by historians, let alone enthusiastic accounts for events took place in such a big congregation mosque.
- 34) Maqrizi, Khittat, II, p.251.
- 35) Ibid. 252.
- 36) Ibid.

- 37) Creswell, MAE, I, p.337 quoting Ibn Duqmaq and Maqrizi.
- 38) Maqrizi, Khittat, II, p.276/
- 39) Creswell, MAE, I, p. 176 quoting Maqrizi.
- 40) Ibic. p.176.
- 41) Ibid. pp.66-7, quoting al-Sakhawi.
- 42) Al-Sakhawi, al-Tibr al-Masbuk, p.170.
- 43) Description de l'Egypte, pp.196-7.
- 44) Creswell, MAE, I, p.176.
- 45) Al-Jabarti, III, p.170.
- 46) Ibid. II, p.5.
- 47) 'Ali Pasha Mubarak, Khittat al-Jadidah, IV, p.81.
- 48) Creswell, MAE, I, p.336.
- 49) Ibid. p.40.
- 50) Behrens-Abouseif, Islamic Architecture, p.64.

Chapter 2 : Post-Napoleon Cairo

Until the arrival of Bonapart's expedition in 1798, Egypt had existed in more or less comfortable isolation from the West. The French presence ended that isolation and inaugurated a period of bittersweet interaction between East and West. Egyptians fought tenaciously throughout the nineteenth century to escape Western influence while paradoxically trying to absorb Western ideas and scientific know-how as rapidly as possible. What the West had to offer was genuinely admired by some; it was grudgingly accepted by others as essential to the struggle for national survival.

The entire fabric of Egyptian life was in transition during the nineteenth century. The glory and assumed superiority of a centuries-old cultural tradition now had to be called into question, and it was done so with understandable reluctance. The literature of apologetics abounded, testifying to the efforts of Egyptians and Muslims in general to salvage as much of their own heritage as possible in the midst of a torrent of new ideas. In the end, however, the tide of Westernisation proved irresistible, and the Egypt of 1922 was a very different place from that of 1798.¹

"Post-Napoleon" is not another period of Cairo's history which can be defined by changes in urban, socio-economic, and architectural characteristics. It is a new phase in the city's history, in which Islam and local traditions were pushed to the backstage. Islamic historic buildings were conserved not as living and functioning buildings, but as artistic and archaeological treasures from the past. The aim of the present chapter is to understand the impact of "Westernisation" on the architectural conservation of Islamic Cairo.

a. The process of Westernisation

1. Chronology

- 1798 July: Bonapart's victory at battle of Pyramids outside Cairo.
July: Admiral Nelson destroys French fleet at Abu Qir.
- 1801 French evacuation of Egypt.
- 1807 British occupy Alexandria.
- 1811 March 1: Massacre of Egyptian Mamluks by Mohammed 'Ali.
- 1811-18 Mohammed 'Ali's campaigns against Wahhabis.
- 1820-1 Sudanese campaigns of Mohammed 'Ali.
- c.1827 Establishment of Bulaq press.
- 1827 Oct. 20: Establishment of medical school in Cairo.
battle of Navarino. Ottoman-Egyptian navy defeated by Admiral Carington and Western forces.
- 1828 Egyptians evacuate Greece.
- 1832-41 Egyptian involvement in Syria under Ibrahim.
- 1848-54 'Abbas Hilmi I, Viceroy of Egypt.
- 1854-63 Sa'id, Viceroy of Egypt.
- 1863-79 Isma'il, Viceroy and then Khedive of Egypt.
- 1869 Nov. 17: Suez Canal officially opened.
- 1875 Establishment of mixed Courts of Egypt.
Britain acquires Khedive's shares in Suez Canal Company.
- 1876 May: Establishment of *Caisse de la Dette* and Dual control in Egypt.
- 1879-92 Mohammed Tawfiq, Khedive of Egypt.
- 1882 Jan. 8: British-French Gambetta Note on developments in Egypt.
July: British bombard and occupy Alexandria.
- 1882 Sep.: British defeat Egyptians at battle of Tal al-Kabir.

- 1883-1907: Lord Cromer, British Consul General in Egypt.
- 1892-1914: 'Abbas Hilmi II, Khedive of Egypt.
- 1914 Dec.18: British declaration of a protectorate over Egypt.
- 1914-17 Hussayn Kamil, Sultan of Egypt.
- 1917-36 Ahmad Fu'ad, King of Egypt.
- 1936-52 Faruq, King of Egypt.
- 1942 Oct.: German defeat at al-'Alamyn, Egypt.
- 1948 May: warfare between Arabs and Israelis.
- 1952 July: Egyptian Revolution led by Gamal 'Abd al-Nasir(Nasser).
- 1954 Oct.: Egyptian-British agreement on evacuation of British Suez bases.
- 1956 Oct.: Britain bombs Egyptian military bases.
Nov.: Anglo-French forces invades Canal Zone.
- 1967 June: Arab-Israeli war (six day war).
- 1970 Gamal 'Abd al-Nasir dies, Anwar al-Sadat becomes president.
- 1973 Arab-Israeli war.

2. The Muslims defeated

The Napoleonic Expedition to Egypt was a turning point in the economic and political relations between the Muslim Block and the European Christian Block of the eighteenth century. But the changes in these relations started as early as the end of the fifteenth century

By the end of the 15th century, European hegemony began to become apparent with the beginning of the successful expansion of European commerce to far-flung parts of the globe. Ocean

voyages led to the conquest of the Americas and gradually to the overcoming of the obstacle or counter-pressure of the Ottoman Empire, which had preserved a large share of world trade in Africa and Asia. Europeans succeeded in Asian trade, not through superiority in commercial ability or organisational skill, but through use of superior weaponry. Their ships were strong enough to mount cannon effectively, and with them they could cripple other trading vessels. The effective use of naval artillery led to the setting up of coastal forts along the trade route, thereby increasing the degree of control and profitability of the trade.²

"Europeans" developed their interest in markets everywhere. The industrial revolution and its by products (such as the need for big markets, and also the need for raw materials) developed the European interest in Egypt as a market. In the second half of the 18th century the French developed their influence and involvement in Egypt:

...by the 1760's, it is possible to detect a new and enlarged French involvement in Egypt. The direction this took is clear. Rather suddenly, France developed a local client community to carry on its trade. The support which France gave this group of traders, who were Christians and recent immigrants from Syria, permitted them to unseat the Egyptian Jewish community from its control of the lucrative *iltizam* (tax farm) of the customs *diwan*. The Egyptian Jewish community had received the nominal support of Venice. The principal support which France was able to give by virtue of her trade position was consular protection to merchants of her choice. This *beratil* status in turn gave the bearer an important advantage vis-a-vis the indigenous Muslim merchant community. The *beratil* merchant would pay one-half or less of the customs duties that an indigenous merchant would have to pay...The indigenous merchant community of Egypt was never again able to gain control of its own trade with Europe until the twentieth century.³

Towards the end of the 18th century France was getting more and more dependant on Egypt for wheat and other crops. Many French farmers left their farms and worked in factories as a result of the industrial revolution. Also the French Revolution caused more disorder and shortage in wheat and other grains

supply. Jean Baptiste Trecourt wrote a book on the Egyptian economy . In his book he tried to prove that the taxes which the Egyptians imposed on the export of wheat to France and Europe, was the reason of the poverty of Egypt! and he proposed as a solution to lift all taxation on all Egyptian exports to Europe. Of course what he actually meant was a solution to the problems and poverty of France (and not Egypt). Peter Gran considers the issue of the French need for the Egyptian wheat as one of the strong justifications for the Napoleonic Expedition to Egypt :

On the one hand, there was the fact that Egyptian wheat fed southern France; on the other hand, the French merchant community was unable to pay for the wheat.⁴

The bitter defeat the Egyptians got from the Napoleonic Expedition (fig.2.2) taught them a shocking fact : The Industrial revolution had promoted the Europeans at a breath-taking speed ahead of the Muslims. But modern technology and administrative systems were merely one face of the coin. The other face was the growing European appetite for colonialism to guarantee the continuity of the new gigantic industrial, agricultural, and financial machines. Mohammed Ali (ruled Egypt from 1220-64/1805-48) and his ancestors were anxious to modernise Egypt. They wanted one face of the coin, but what they actually got was the other face. In the process of modernising Egypt, they opened the door for European colonialism.

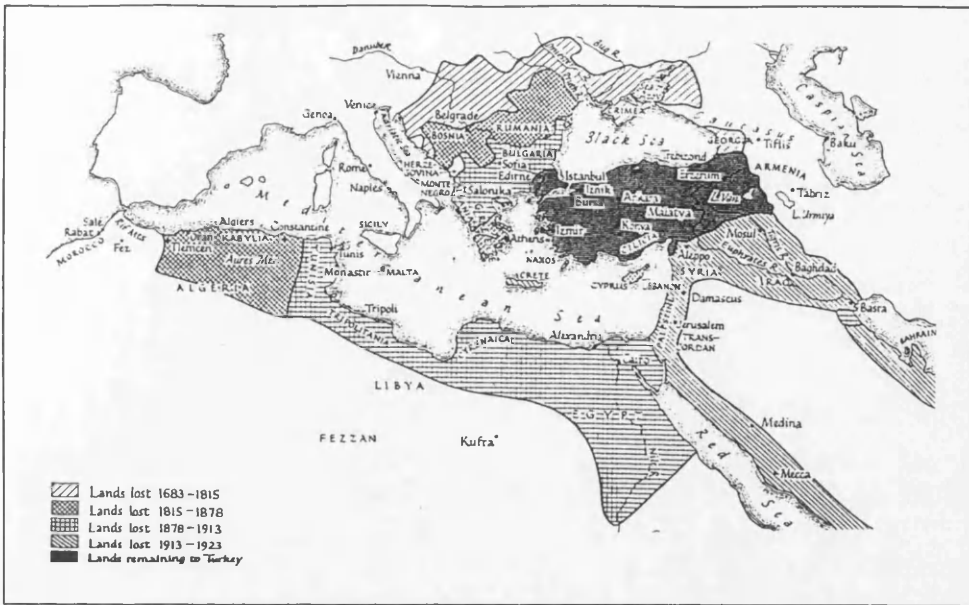


Fig. 2.1 Territorial losses and the partition of the Ottoman empire: 1683-1923.

(from Shaw)

3. European interest in Egypt

In the 19th century Europeans, encouraged by the increased ease of travel, flooded to the Arab world. The first artists were often attached to military, scientific or diplomatic missions; later artists went to discover new subjects and colours and escape the darkness of the European winter. The result was a large number of works now loosely categorised as "Orientalist", a term that originated with those paintings exhibited in the 'Salon des Orientalists' from 1899.

Brian MacDermot, 1985.

Since 1798AD Egypt had become a point of interest and curiosity for Europeans. Also the country became open and secure for foreigners to have direct contact with the local people for the first time.⁵ Explanation for the increasing European interest in Egypt can be summarised in the following points:

- Colonisation and improved transport by the end of 18th century lead to the popularity of travel and travel literature.⁶
- Many travellers were attached to one of the political, economic or religious

European institutions.⁷

- Some of the travels to Egypt were as an approach to "the interior of Africa",⁸ Palestine or the Far East.

- Many of travellers were motivated by their interest in antiquity (fig.2.2) and antiquarian research.⁹

The number of Europeans actually resident in Egypt grew steadily throughout the nineteenth century. In technical fields Egypt had to depend on such men ever since the reign of Mohammed 'Ali, but during Ismail's time even more technicians were recruited from the West, and the country was thrown wide open to Western influence in non-technical areas as well. In 1878 there were 68,653 Europeans living in Egypt. By 1882 this number had increased to 90,886, and it soared to 112,526 in 1897. Since these foreigners were concentrated in the large cities and for the most part held high positions, their influence was out of all proportion to their number. By the turn of the century knowledge of one or more European languages had become essential to every 'educated' Egyptian.¹⁰



Fig.2.2 "Nubian Women at Kortie on the Nile" by David Roberts'. The exaggerated resemblance with ancient Egyptians, shows Robert's interest in Egypt's history rather than what he was actually seeing.

4. The Europeans' image of Egypt

European travellers failed to understand the political structure of Egypt mainly because of misunderstanding of the country's history, neither did they succeed to understand Islamic ideology and faith. They regarded Egyptians in one of two ways:

1) Degenerated people from the ancient Egyptians, a good example of this image is what Prof. J. White wrote :

Where shall we find a degeneracy like the present race of Egyptians, or where an ancient inheritance of greatness and glory , which has been so totally wasted and lost.¹¹

2) Primitive or barbaric people as all Arab peoples were seen by Westerners of the time.¹² Christian values, classical taste and other fashionable attitudes at the time were behind such images of Egypt and the Egyptians. Also the re-evaluating or reassessment of Eastern society was an European intellectual fashion.

A striking example of the European misunderstanding was their belief that Egyptians were looking for the independence of Egypt from Turks and Mamluks. A judgement can only be done by Westerners who always failed to see that Egyptians considered themselves Muslims and not much else.¹³ The continuity of this misunderstanding was due to serious problems of communication:

- Inadequacy of time (for local problems such as political unrest)
- Travellers' ignorance of Arabic language.
- The isolation of the non-Muslim community in Egypt.
- The continuous oppression of the Beys for foreigners either to extract money from them or for religious fanaticism.
- They were directly affected by the struggle between Arab and Frank merchants

in Egypt at the time, which caused acts of religious fanaticism.

- The lack of objective correct sources of information. The available sources of the time could not afford to be in favour of Arabs or Muslims, an attitude which would have been unpopular or moreover unacceptable. Furthermore, the general knowledge books (such as Encyclopaedia Britannica) were influenced by Travel literature which put the "liveliness and style" before accuracy in writing about a place like Egypt.¹⁴

5. Cultural colonisation

The militarily, political and economic colonisation of Egypt (fig.2.3) made it quite easy to introduce the most effective of colonial powers: the cultural colonisation. By the late 19th century "the Europeans' image of Egypt" was well established, supported by many Orientalists and a great library of "Orientalism" literature.

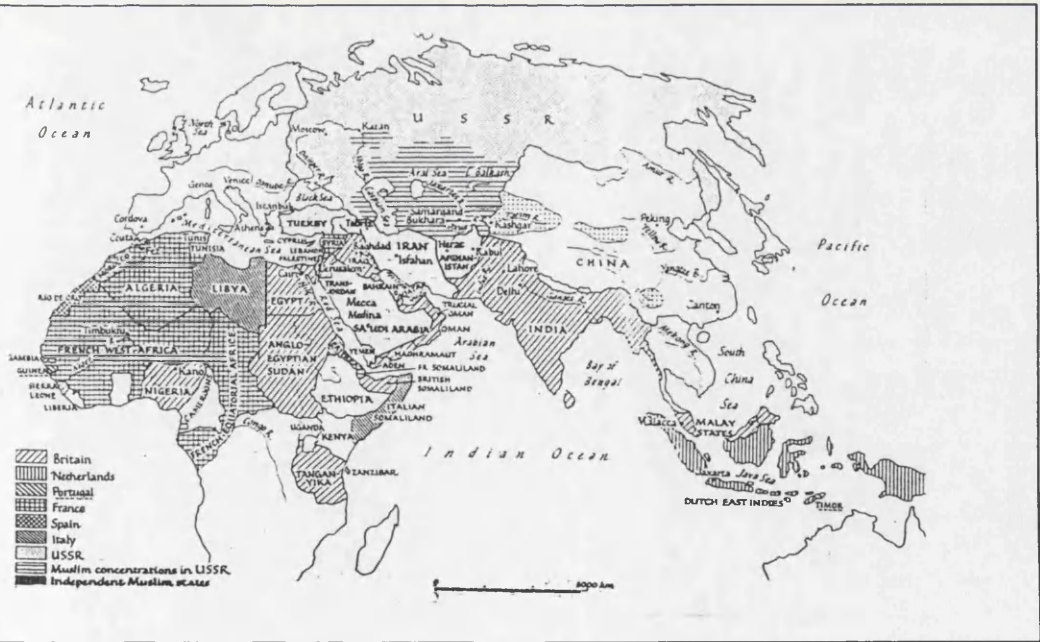


Fig.2.3 European domination and the Muslim World: c.1920 (from Robinson)

This European image of Egypt began to replace "the actual Egypt" even in the minds of Egyptians, beginning with the Khedive himself (fig.2.4) who was subject to an amazing brain-washing operation, not only during his educational stay in Paris, but also by his participation in many of the cultural events in Europe:

About that time (1844), the viceroy decided to send a large student mission to Paris, one which included his sons, Husayn and Abd al-Halim, and two of his grandsons, Ahmed and Ismail, the future Khedive...Those who went on this mission were destined for fame as future leaders: of the eighty members of the group whose biographies are recorded by Umar Tussun, fifty-four became beys and Pashas. Friendships and personal contacts were made that lasted a lifetime...¹⁵

Fig.2.4 Changes in appearance and costumes show the changes over the time in attitudes:



a) Mohammed 'Ali (1805-48), the reformer of the first half of the nineteenth century Egypt.



b) Khedive Isma'il (1863-79), the impatient Europeaniser and reformer of the second half of the nineteenth century Egypt.



c) King Farouq (1936-52), the last to rule Egypt from Mohammed 'Ali's family.

By the end of 19th century the cultural colonisation of Egypt was completed.

There was no need, anymore, for brain-washing operations to the Egyptian elite, because they volunteered to adopt "the European image of Egypt" and advocate it as "the modern and objective understanding of Egypt". Thus, there was a local regeneration for this image, and there was no need for Europeans to intervene to keep it going (what the late architect Hassan Fathy called "the state of auto-colonisation"). The industrial revolution and the materialistic advances in Europe made the whole approach more convincing. The divorce of secular matters from the church also helped, not only for science and technology, but also for social, political and economic development of Europe. It was believed that it is the same case in Egypt, modernisation and development must start by divorcing Islam from everyday life. Egyptian intellectuals, feeling embarrassed to belong to such a "degenerated people", they preferred to see themselves intellectually and culturally among the Europeans. Putting themselves above all local values and traditions including Islam. Since then, just like their European masters, Egyptian intellectuals failed to see the actual Egypt, its people and values. Consequently, Egypt has become dependent culturally on the West, even after the so-called independence in 1954.

Ever since Mohammed 'Ali's time Egypt had been drawing most of her cultural inspiration from France - a state of affairs that changed gradually under Cromer and his successors in the late nineteenth century. The [British] occupation deliberately sought to upgrade the position of English by a series of measures, the first of which was 'Ali Mubarak's decision in 1888 to have natural science, history and geography taught in either French or English rather than Arabic. In 1891 Mubarak further stipulated that only mathematics would be taught in Arabic, and in 1897 that too was finally removed from the Arabic language part of the curriculum.¹⁶

b. Attitudes towards conservation of Islamic architecture

1. A shift in the responsibility for architectural conservation

One of Mohammed 'Ali's most important reforms was to establish a centralised bureaucracy which gradually replaced the old concessionaire administration. Unlike his monopoly system and the new industries, which were dismantled in the last years of his reign, the centralised structure he created not only survived his death but also grew so rapidly in subsequent years that "bureaucracy" became almost synonymous with the modern state in Egypt.¹⁷

Attitudes to conservation did not actually change in Post-Napoleon-Cairo. What changed was the decision makers. Egyptian Muslims were not, anymore, in charge of affairs. Europeans and "Europeanised Egyptians" centralised the administration, and were in complete control of the country.

After establishing the Department of *AWQAF* , and the Department of Public Works, the establishment of the Comite was the last nail in the coffin of Egyptian cultural independence. Formal attitudes to conservation, since then, were essentially European (i.e. non-Muslim). And whenever formal attitudes contradicted with local attitudes, the "European image of Egypt" would give an explanation in favour of the first and ridiculing the second. If that did not work, then the cultural colonisation would show its ugly face, imposing decisions with no excuse nor explanation. The efforts to establish the Comite show clearly that the whole argument of conservation of Islamic monuments in Cairo was treated as an European issue.

2. Establishing the Comite

P. J. Vatikiotis calls Khedive Ismail: The impatient Europeaniser, in his book The

modern history of Egypt. Not surprisingly, the Khedive decided to "modernise" Cairo by introducing French boulevards and Italian villas to show his friends from the European nobility that Cairo is not less "civilised" than Paris, London, or Milan (fig.2.5). To achieve his ambitious reforms the Khedive appointed all the important posts in the government to "gentlemen with good taste" who "happened to be Europeans" and few Egyptians who were "very well educated in Europe". Ali Mubarak was one of the few native Egyptians who held the post of Director of the Department of Public Works. He also held the post of Director of the Department of Charitable Endowments (*awqaf*) during the reign of Khedive Ismail.

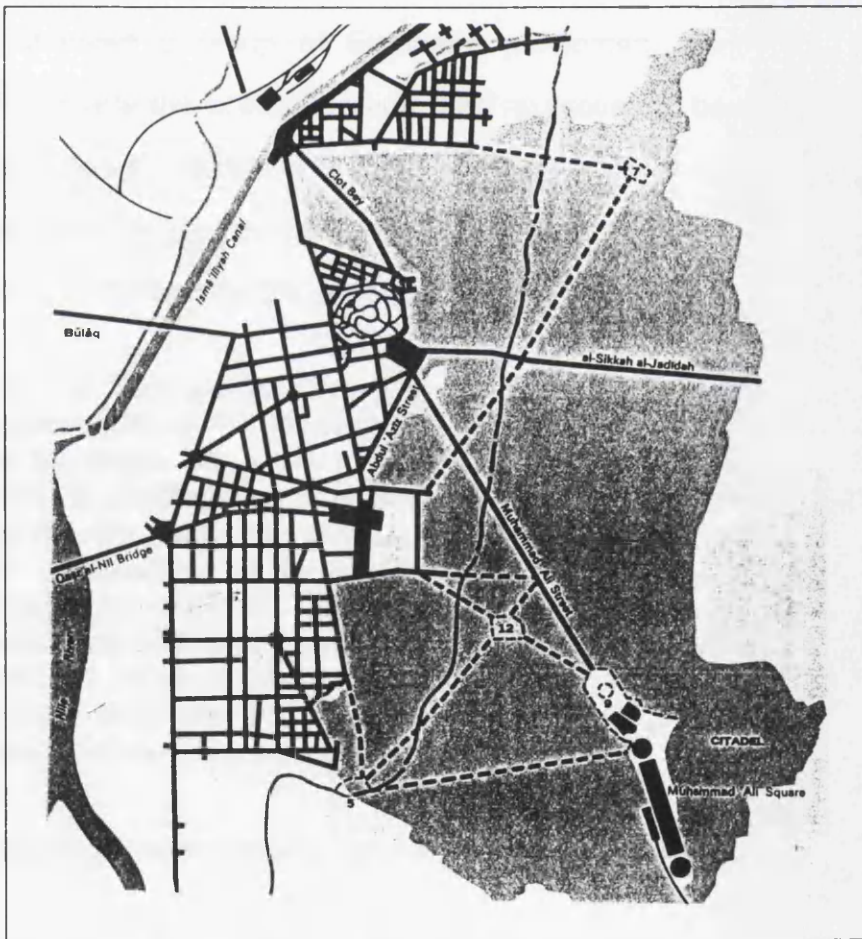


Fig.2.5 The city developments added by Isma'il, 1869-1870 (from Abu Loghud)

Hunter describes Mubarak's involvement in the Khedive's reforms:

Spending forty days in the French capital, Mubarak visited the schools, studied the latest publications on education, and inspected the city's sewer system for his master, who was planning to build a new *Cairo a la Haussmann*.

In order to direct Ismail's program of educational reform and super-intend the construction of new Cairo, Mubarak was appointed director of public works and education on April 15, 1868. The following October, he was made director of railway and communications. For the greater part of the next four years, Mubarak was concurrently in charge of Education, Public Works, and Charitable Endowments-the first native Muslim in modern times to have enjoyed such a concentration of power.¹⁸

The modernisation efforts by the Khedive and the learned Egyptians such as 'Ali Mubarak annoyed a group of European gentlemen, who thought that the Khedive had made the wrong decision. And he proved to be "uncivilised" by his brutal destruction of the "noble fairy city of Cairo". One of the various attacks on the Khedive was by Stanley Lane Poole who wrote in The Academy describing the problems of conserving the Arab monuments in Cairo :

...,such a measure would involve very delicate negotiations with the Khedive, who is the principal sinner in the matter of art-demolition, and the negotiations, we may confidently prophesy, would end in smoke. If anyone is to move in this matter it is the Khedive himself: and the Europeanising tendencies of his Highness do not favour the supposition he would be willing to take any steps in the conservative direction. He would perhaps ask whether Parisian boulevards and Italian villas planted in the historical soil of Egypt were not more artistic than tumble-down mosques and ruined houses? And would it be possible, even with the temper of an angel, to answer such a question?¹⁹

Another attack on the Khedive's plans was launched by Amelia B. EDWARDS :

Twenty years ago, Cairo - the Cairo of the Kalifs - was intact, save for the ravages of time. Its fairy minarets, its treasured mosques

and street-fountains, its noble gates, though crumbling slowly away in a land where nothing is ever done to arrest the progress of decay, were more lovely in the pathos of their gradual dissolution than they could have been even in their prime. Then came Ismail Pasha, and with him an era of "improvement"-in other words, of travesty and demolition. To Haussmannise Cairo was his darling ambition. The plans for this gigantic act of Vandalism were actually drawn and sanctioned; and but for his Highness's fortunate financial collapse, he would undoubtedly have driven miles of yawning Boulevards and dozens of formal French thoroughfares through the shady and romantic labyrinths of his capital.²⁰

Not only the Europeanisation operations were the subject of European critics' attacks, but also the attitude of local Egyptians towards the monument of their capital. The worst of criticism was always directed at the Egyptian bureaucracy although, bitterly and funnily as it seems, this had been modernised, arranged, and directed by European experts!

In works of "restoration," two methods are employed. The first and simplest is to entirely demolish the ancient structure and then to rebuild it in a base imitation-Italian-Gothic style. The second is to pull it partly down; to strip the ceiling of its carved wood-work, and the walls of their precious tiles and panellings; then to replace the former with cement and stucco, and the latter with slabs of polished granite or alabaster. In either case, the tiles are sold to tourists and *bric-a-brac* dealers, and the carved wood-work comes in usefully to light the workmen's fires when they make their coffee. The mosques of Sitteh Zeyneb and El Hassaneyn are among those which have been restored according to the first method; the mosques of Keyssoon, El Moaiyud, and El Yoosefee, or Ezbek, are cited as specimens of the second. Even the famous tomb-mosque of Kait-Bey, which Mr. Fergusson ranks above the Alhambra for elegance and perfection of style, has not wholly escaped patch-work restoration of this barbaric kind. Scores of the loveliest mosques in Cairo-including the noble tomb-mosque of Sultan Hassan, the Western mosque of El-Ghoree, and Merdanee, which is contemporary with Koossoon and probably designed by the same architect - are falling, or have fallen, into hopeless ruin. All might have been saved by a few cheap and timely repairs; but ruin is better than ignorant and vulgar restoration. Such 'repairs' as are occasionally executed consist in pulling down the dilapidated part of a building, and leaving the rest to fate. A vast number of

beautiful minarets have, on this system, been ruthlessly truncated, and , in many instances, unnecessarily sacrificed.²¹

Meddleton, in his article in The Academy in 1883, was more honest and realistic. He did not restrict his blame to the Egyptians for local practice of restoration. But he could see that these practices were not actually done by Egyptians:

In many cases a beautiful old mosque has been pulled down, with all its gorgeous decorations of mosaic, stained glass, carving, and beautiful furniture, to be rebuilt by some ignorant European or Turkish architect in the most miserable mongrel style that can be imagined, substituting for the priceless old building such things as the expensive and yet mean-looking mosques of El-Hassanein, Setti-Zeynab, and the like.²²

The khedive's Europeanisation schemes were not the only problem. The curiosity and greed of European travellers in one hand, and the ignorance, carelessness and poverty of native Egyptians in the other hand caused another serious problem. The centralisation of administration which was introduced to Egypt by Mohammed Ali and developed vastly by Khedive Ismail, posed the question of priorities. As the Pharaonic monuments caught more attention of scholars and travellers, they also attracted the money and efforts of conservation by central administration:

Among the minor questions which Lord Dufferin has wisely included in his general revision of Egyptian affairs, the protection of the monuments of Cairo deservedly holds a prominent position. It is known, says a writer in the *Times*, that His Excellency has already suggested to the Khedive's Government a scheme for their better preservation, and that the scheme will probably embrace alike the ancient monuments of the Nile valley and the Mediaeval architecture of Cairo. This comprehensive view is clearly the simplest and wisest mode of dealing with the historical and artistic interests of Egypt; but it is the first time that the Arab monuments have been held worthy of a place beside the remains of ancient Egyptian art. The monuments of the Pharaohs and Ptolemies have naturally excited the greater interest, and have been

proportionately better cared for. Till late years, however, this care has been altogether inadequate. Tourists have been suffered to chip off pieces of inscriptions and statues, and to blacken the sculptured walls of tombs with their ruthless candles and torches; and even the leading explorers and scholars have joined in the work of spoliation, and thought more of enriching the museums of their own countries than of the lamentable gaps they left in Egypt itself. Even now, though M. Maspero is as vigilant and single-minded as could be desired, his staff and his powers are not sufficient adequately to control the vandalism of travellers.²³

Sir W. H. Gregory went a further step in his criticism to include the Khedive's new mosque although, sadly enough, was designed by an European, non-Muslim architect:

The mosque of Sultan Hassan, one of the grandest structures of Oriental architecture, is gradually falling into decay, while opposite to it was being reared by the late Khedive, though it has now come to a standstill, a huge, unsightly new mosque, which has already cost a prodigious amount of money, and will never be finished. While lavishing these sums on this wretched structure he did not think it worth his while to spend a few thousands upon the magnificent work of former ages, the ornament of his city, but on the contrary levelled a portion of it. In almost every mosque the hand of the destroyer is visible: the ivory incrustations are chiselled out of the doors and pulpit, the rich designs in coloured marbles and mother-of-pearl are knocked off for visitors and curiosity-dealers, and large squares of mosaic work have been removed from the floor to decorate the palace of some pasha or amateur. The guardians of these buildings have not the slightest regard for them, and I am convinced that if I set my heart on any particular inlaid work in the greater part of the less used mosques, I could have it conveyed to my hotel at nightfall for a small consideration. But this is not all; as if to add insult to injury, in a vast number of cases the colouring of time on the stone and wood work has offended the eye of the authorities, and the most ruthless and vile wash of cobalt, vermilion, and yellow ochre has been applied with unsparing profusion, and covers the delicate traceries and all the variety of arabesques and carvings which until recently rejoiced the eye.²⁴

Also SPAB (The Society for the Protection of Ancient Buildings) joined the party

criticising and putting pressure on the Khedive. Bentley writes in 1883 :

...the society have already addressed a letter to the Khedive on the subject, and have received a polite but indefinite answer-probably meaning little or nothing.²⁵

The poor Khedive, realising the threat to his "civilised image of Egypt", decided to please the angry European critics by appointing the Commission for the Conservation of Arab Monuments (the Comite), founded in December 1881. The effective members of the Comite were either "authentic Europeans" or "Europeanised Egyptians". The Saturday Review published in 1892:

It would, indeed, be difficult to pick out a stronger or more representative body of men than those who formed the Commission at the date of the publication of the Report [the Comite's annual report of 1891]. Besides Ali Pasha Riza, the Director General of Waqfs, and Sir C. Scott-Monerieff, Minister of Works, they included Yakub Pasha Artin, under-secretary of Public Instruction, a highly-cultivated man; Mustafa Pasha Fehmy, President of the Council; Tigrane Pasha, Minister of Foreign Affairs; Franz Pasha, the ex-architect of the Waqfs Department, and a first-rate authority on Saracenic architecture; Dr. Vollers, the Khedive's librarian; M. Grebaut, Director of the Giza Museum, and other influential persons; whilst the support of lovers of Arab art in Paris, Berlin, and London is invited by the addition of honorary members. A Commission so constituted is able to hold its own against most of the opposition which it is bound to encounter in the anaesthetic bureaucracy of Egypt.²⁶

The fact that most of the Comite members were not Muslims nor Arabic-speaking did not bother anybody at the time. Furthermore, another suggestion was:

One very serious consideration remains. The members of the Commission are for the most part busy men with enough official work to do without their honorary services on the Commission. If the powers and functions of the Commission are increased, it is not

easy to see how the members can find time to exercise them. What is wanted is a body of men who can give their undivided attention to the work which has so ably begun. Of all countries in the world Egypt would appear to be the one in which a Ministry of Fine Arts would be most obvious and appropriate. and there is no reason why the creation of such a department should throw much additional expense on the Treasury. It would only be necessary to make the Director of Archaeological Research and head of the Boulak Museum one and the same person with the Minister of Fine Arts, appoint an under-secretary for Arab art, and establish a competent staff of surveyors, inspectors, and clerks, By levying a fixed entrance fee on all visitors to public monuments, ancient and mediaeval, the cost of administration would easily be repaid; real students of Egyptian and Arab art would gladly submit to the imposition of an extra charge, and tourists would be indifferent to a small increase in the national custom of baksheesh. A Ministry of Fine Arts, holding control over all the monuments of Egypt, would meet every requirement, **provided the staff were mainly European and properly trained**, and there are already enough students of ancient and mediaeval Egyptian art to remove all doubt on that score.²⁷

The Architect & Contract reporter published in March 1896 a proposal, in which the cultural colonisation of Egypt seemed to have been complete:

Mosques and other buildings in every quarter of the city urgently demand the attention of the Commission, and numerous estimates for important repairs lie in its bureau awaiting the necessary funds. The root of the difficulty is in the administration of the "Waqfs" a sort of ecclesiastical commission which professes to manage the pious endowments of Egypt, and which is natural authority under which the Preservation Commission at present is obliged to work. The income of the "Waqfs" is estimated at nearly 300,000L. per annum, but how it is spent no one knows. The department -alone among departments in Egypt-is entirely in native hands, and no European so far has been allowed to have a finger in it. Last June, however, the Egyptian Government consented to a thorough audit by Europeans, and until this is carried out it is quite impossible to say what the "Waqfs" can or cannot afford. One thing may be predicted, however. The present system of attaching certain trusts to certain mosques, & c., will be found to be based upon no sound documentary evidence; the separate endowments have become hopelessly mixed, and whole trusts will have to be lumped together and administered to the best advantage of the religious foundations

as a whole. Pious founders' intentions, even if ascertainable (which is extremely doubtful), must be overruled, and the money applied not chiefly to well preserved mosques which do not need it, but to their decaying neighbours which lost their endowments by the successive confiscations and peculations of sovereigns and trustees...If the 'Waqfs' cannot or will not be brought into line with the other well-organised Egyptian departments the question will arise whether the Commission ought not to be removed from its control, and either transferred to the Department of Public Works with fixed Government grant, or constituted a new Department of Fine Arts. Unless the 'Waqf' administration mends its way, some such change will undoubtedly have to be made if the Commission is to be liberated from its present trammels and set free to carry on with larger means and a more adequate staff the admirable work it has so well begun.²⁸

3. The Comite's attitude

The Saturday Review published in its issue of September 3, 1892 describing the duties of the Comite :

These are, first, to make an inventory of all existing Arab monuments in Cairo (and now, it appears, in all Egypt) which possess artistic importance; secondly, to decide what repairs are needed in the ever-crumbling buildings of mediaeval Cairo, and to see by constant inspection that their recommendations are properly carried into effect; thirdly, to preserve in their library plans and photographs of the monuments surveyed, and records of the observations and identifications and inscriptions noted in their periodical inspections; and lastly, to remove to the Museum of Arab Art any objects of art which cannot be safely preserved in their original situations.²⁹

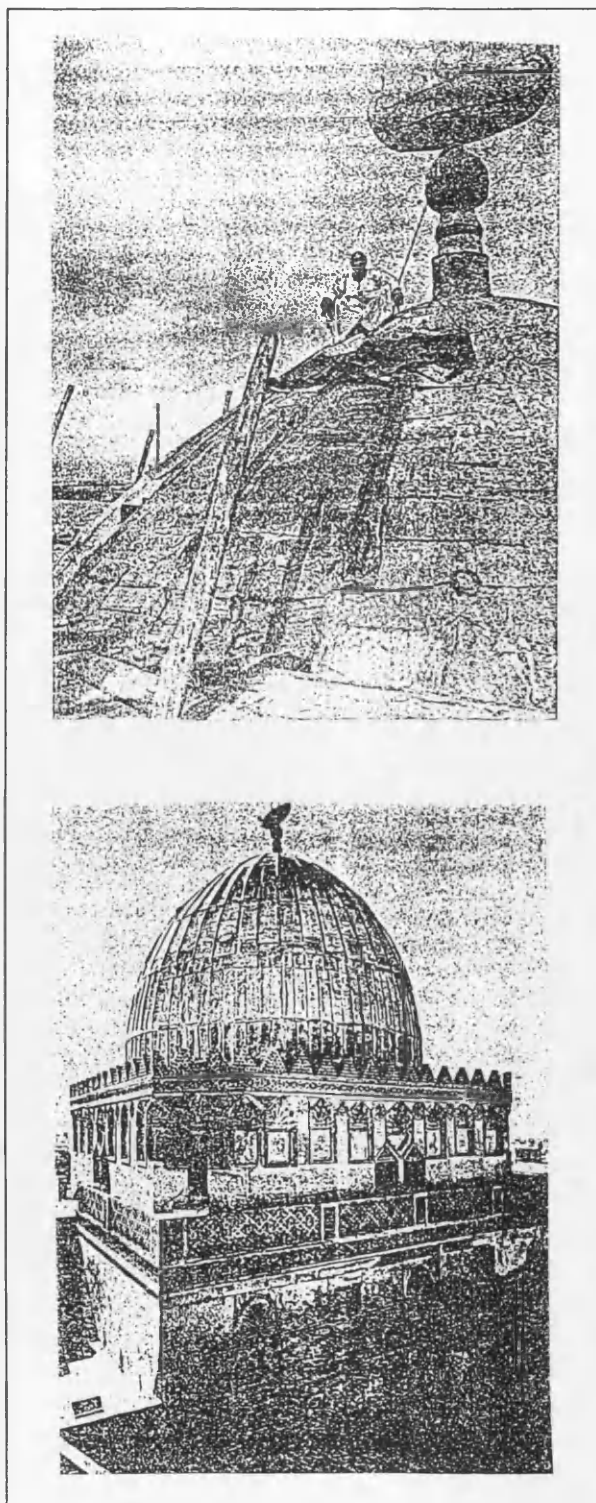
Naturally the attitude to conservation adopted by the Comite was very much the same as the attitudes in Europe at the time. This includes attitudes to conservation of historic buildings in one hand and to Islamic, Arab, and Egyptian cultural and architectural heritage in the other. Any local issue was seen by the Comite within "the European image of Egypt" which was taken for granted even by the Egyptian members. The Comite's practice followed, to a certain extent,

the French school of conservation. Its conservation of Islamic monuments in Cairo resembled Violet-Le-Duc's conservation of Gothic monuments in France. Not only the Comite's name and language was French, but also its attitudes. The following photographs are from the Comite's report for conservation work which took place in the years 1946-1953. Photographs in fig.2.6 are mere extractions from the Comite's annual reports. The first set of photographs (fig.2.7.a) shows technical reparations of the dome of al-Shafi'i, which can be considered straight forward "preservation" operation. The second set (fig.2.6.b) shows an operation of clearing up the caravanserai al-Ghuri from alterations and vernacular additions. No sympathy nor concern were shown to the function of the building, nor to the local people who used it. The third set of photographs (fig.2.6.c) shows a public fountain (Sabil Omm Husein) transferred to a new site. The function of the fountain was not in consideration, nor its urban role. It was transferred to a site with matching surroundings, rather than a site which needs drinking water facilities. The fourth set (fig.2.6.d) shows a reconstruction of the minaret of Tamim al-Rasafi mosque according to stylistic research. It was restored in Mamluk style, may be more "proper Mamluk" than the original design of the minaret as it existed in Mamluk times. A scholarly and professional "restoration" job. The fifth set of photographs (fig.2.6.e) shows the ornamental reconstruction of the ceiling of al-Nassir Mohammed mosque in the citadel. The authentic wood carving and painting were copied reproduced in the whole ceiling. No differentiation was made between the original and the copy. This archaeological insensitivity manifests that artistic and stylistic values were to be preserved before anything else.

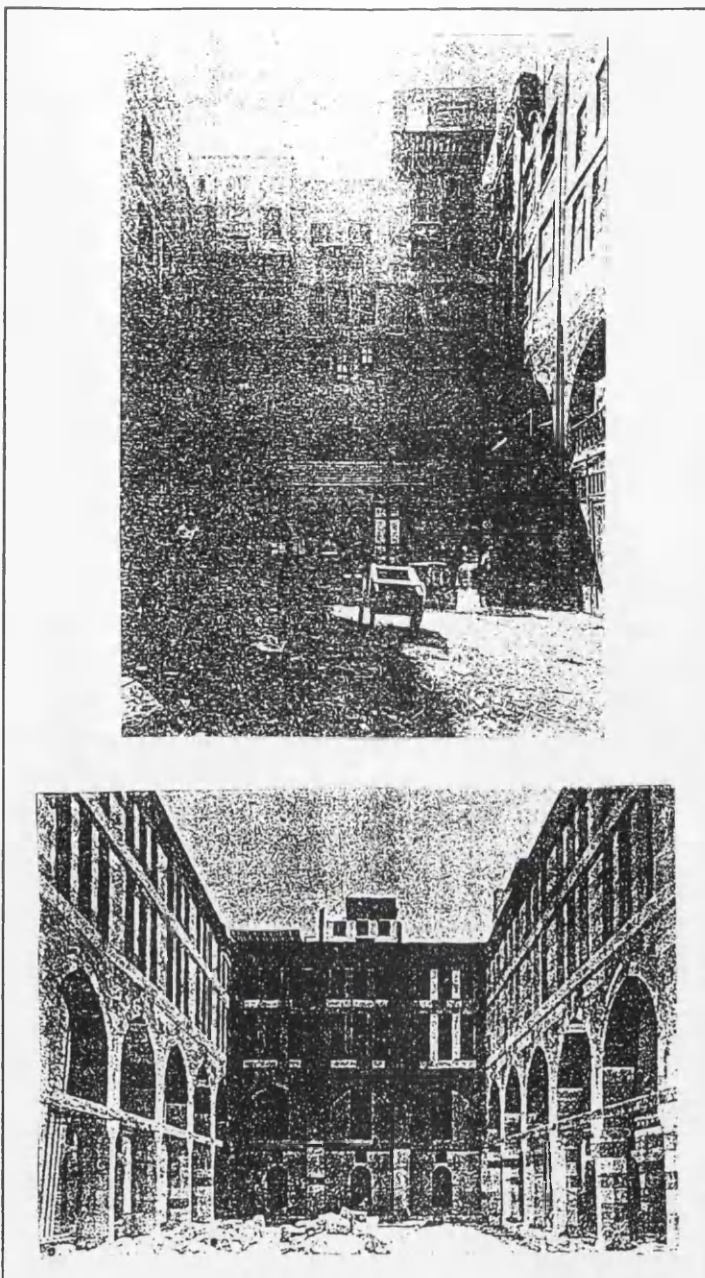
The above mentioned conservation works summarise the Comite's attitude. An attitude which stands obviously for artistic and stylistic qualities rather than historic, archaeological, or romantic qualities. No attention, whatsoever, was paid

by the Comite to functional, economic, urbanistic, sociological, political, or religious issues. The Comite's attitude, therefore, was a remarkable turning point in attitudes towards the conservation of historic buildings in Cairo.

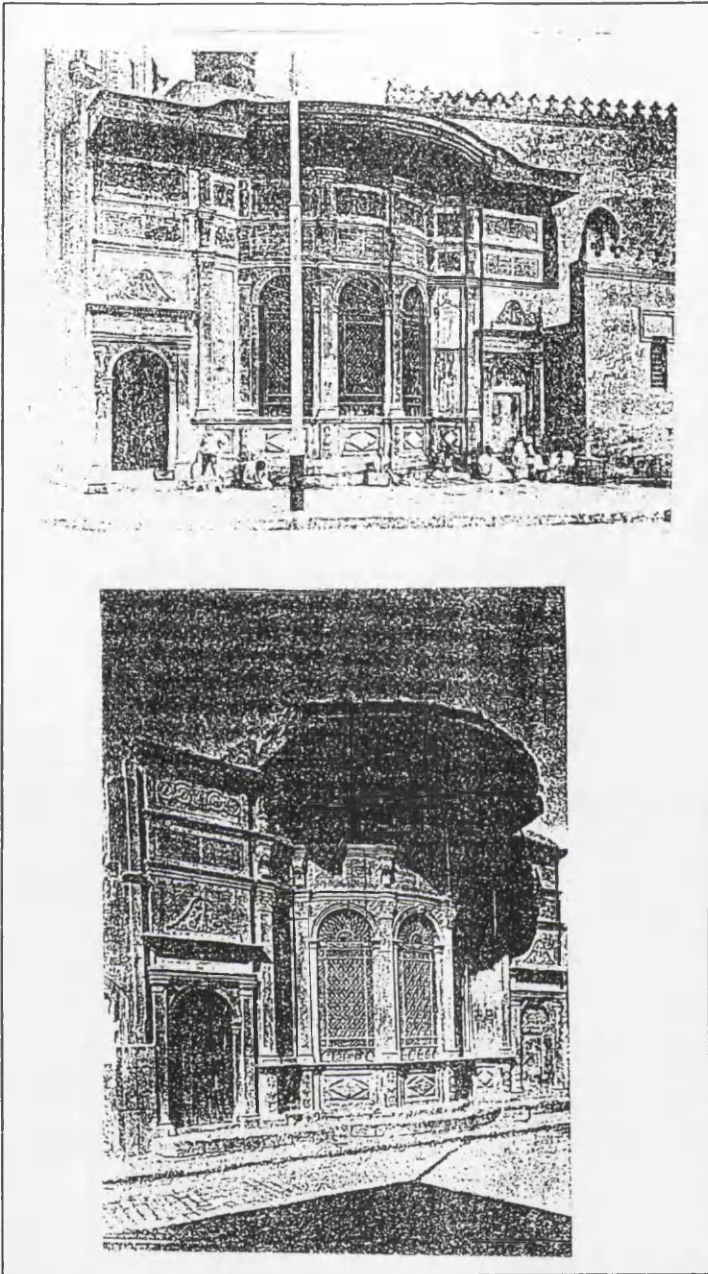
Fig.2.6 Conservation practice of the Comite



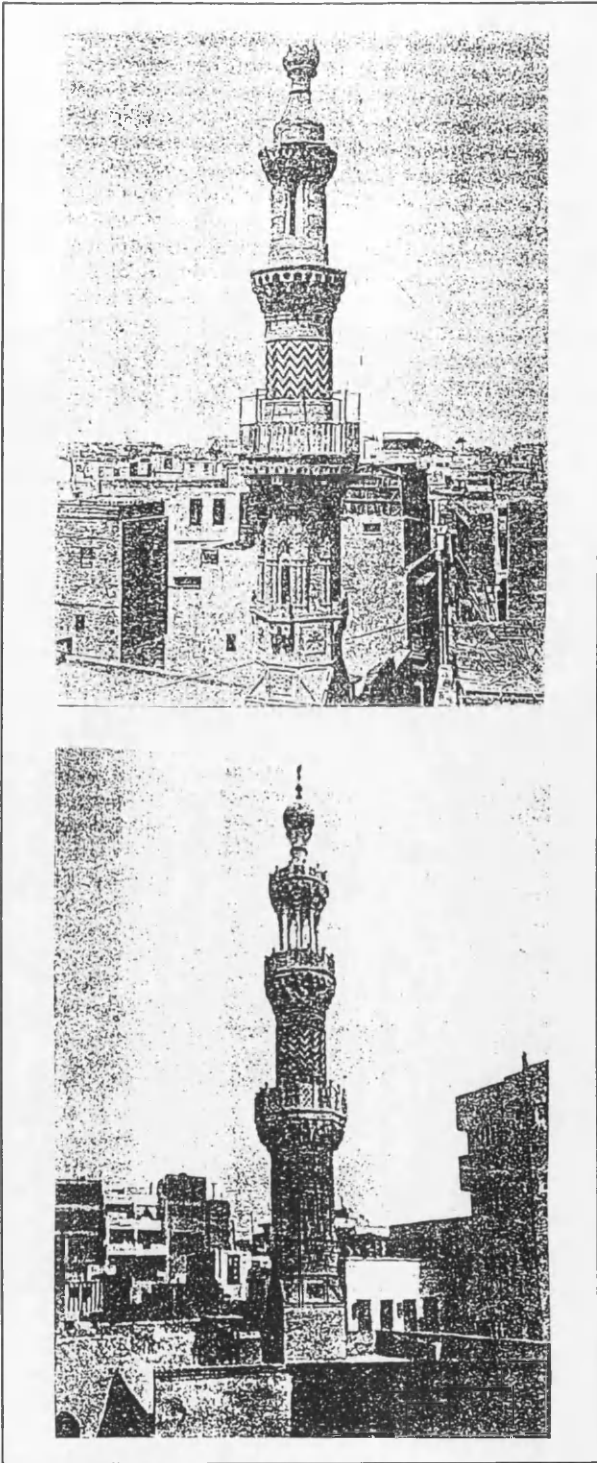
a. The dome of al-Imam al-Shafi'i before and after reparations



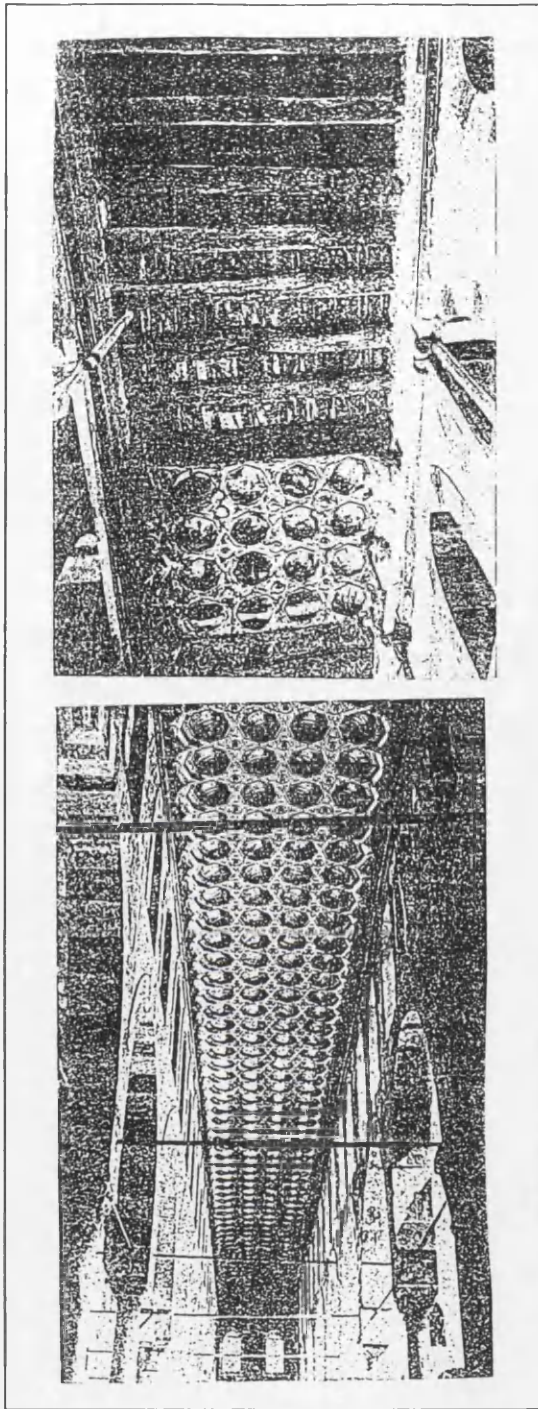
b. Al-Ghuri caravanserai before and after reparations



c. Sabil Omm Husein before and after its transfer



d.The minaret of Tamim al-Rasafi mosque before and after restoration



e.The ceiling of al-Nasir Mohammed mosque in the citadel
before and after the restoration

Most European critics celebrated and congratulated the Comite for its work. The Architect & contract reporter published in March 6, 1896 :

It is more than twelve years since the *Times* drew attention (July 30, 1883), writes a correspondent of the journal, to the excellent manner in which the then newly-founded "Commission for the Preservation of the Monuments of Arab Art" had set about its important duties. The annual reports published by the Comite and the testimony of numerous artists and travellers have informed the public from time to time that the work has not stood still, that the Commission has not relaxed its efforts to preserve the mosques and private buildings of Mediaeval Cairo, and that on the whole its energy has been tempered with discretion. A recent detailed inspection of its more important labours has strongly confirmed this favourable impression. There can be no doubt that the Commission fully realises its responsibility as guardian of the monuments, and has succeeded in doing a great deal of very valuable work in spite of much difficulty and opposition work which has never yet been adequately recognised or supported, but for which artists and archaeologists, to say nothing of mere lovers of the beautiful, should be grateful for many generations to come. But for the watchful care of the Commission many of the most interesting monuments of Cairo would by now have fallen, either by natural decay, aided by neglect, or by the rude hand of the modern street-improver, who within memory has cut a mosque in two or demolished a Mediaeval palace for no better reason than the correct alignment of a hideous new boulevard.³⁰

The only negative criticism the Comite got was, more or less, from within. It was an extension of the restoration anti-restoration argument which was taking place in Europe at the time between different schools of conservation. In Creswell's criticism of the Comite's restoration of al-Azhar mosque. He complains about the disappearing of drawings and photographs, and bad copies by the Comite of stucco decoration before demolition. Creswell thought, at least in this very particular case, that the Comite should be held responsible for its irresponsible attitude :

It is very difficult to hold an inquest on an archaeological tragedy fifty years after the event...³¹

His attack comes to a peak by his declaration of a loss of "**an archaeological document**", for which the *Comite* is fully responsible. Then he ends his long and bitter investigations, by his only direct commentary on any restoration work in the ten-century-long history of al-Azhar :

It is nothing short of a scandal that these arcades should have been demolished without any record being made of the early stucco ornament which decorated them, and that such a tragedy should have been possible nine years after the construction of the *Comite de Conservation* and over forty-five years after the invention of photography. ³²

4. Egyptian Antiquities Organisation (EAO)

The independence of Egypt in the fifties was accompanied by the refusal of any foreign participation in the administration of the country. Europeans left Egypt and the names of governmental departments were changed. The name of the *Comite* changed to the Permanent Commission for Preservation of Islamic and Coptic Monuments, and later to the Department of Islamic and Coptic Monuments within the Egyptian Antiquities Organisation (E.A.O.). It was also attached to the Ministries of Education and Culture rather than its former attachment to the departments of charitable endowments and public works. This does not mean that the national Egyptian administration adopted genuine local attitudes (i.e. Pre-Napoleon attitudes). Foreign members of the *Comite* were replaced by Egyptians without any major change in objectives nor attitudes. European attitudes were claimed "colonial" or "imperial", and Islamic local attitudes were claimed "backward" or "primitive". The enthusiastic and energetic Europeans left Cairo. And the European critics and public, who were morally supporting them, dropped the subject from their media. Conservation of the

historic monuments of Cairo were left to Egyptian civil servants who were ignorant of the European cultural attitudes to conservation. They were also ignorant of Islamic-Egyptian attitudes to conservation (as a result of the long period of European cultural colonisation of Egypt). Post-Comite attitudes were claimed nationalistic (anti-European) and revolutionary-progressive (anti-Islamic). But what did that actually mean? What is the alternative attitude to conservation? And what is the new justification for conservation according to the new cultural and political attitude of the country? **No answer was given.** The conservation practice by (E.A.O.) tried to continue the same sort of work the Comite was doing without questioning if this was justified and clearly understood by its members. The annual reports of conservation works which the Comite issued, continued in Arabic only (French was no longer used). By the sixties all formal publications on conservation work in Cairo came to a halt. If Creswell lived long enough to witness the terrible carelessness by which the (E.A.O.) handles the records of the monuments, he would have regretted his accusation to the Comite of being careless and irresponsible. Not to speak of the catastrophic mistakes in treating the actual monuments. An example of such mistakes is the dismantling of the minaret of Amir Hussein with the intention of reconstructing it. The dismantled stones of the minaret were left in the site flooded by sewage water until the stones were actually "eaten" by the acids in the sewage water. Most of the works of the (E.A.O.) showed either fatal technical mistakes or contradictory and confused philosophy of conservation. The mosque of 'Amr was demolished and then reconstructed in new materials such as bricks with cement mortar and reinforced concrete (Fig2.7). The use of these materials in medieval buildings of Cairo is technically unacceptable (a repeated technical warning at all national and international conferences on conservation of medieval Cairo).

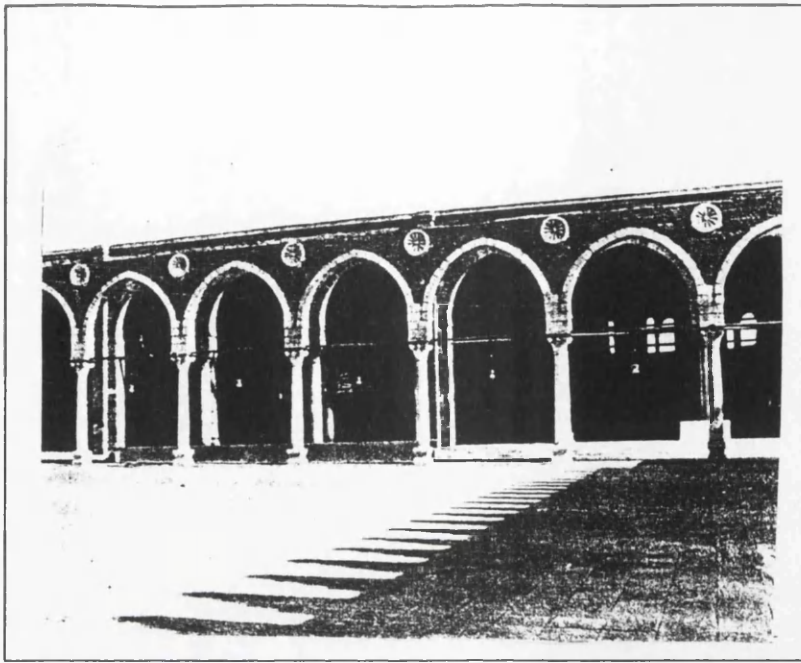


Fig.2.7 The new reconstructed arcade in 'Amr mosque

The replacement of the wooden dome above al-Mashad al-Hussaini by a metal framework was another unexplained attitude as well as unacceptable technical mistake. The idea was to have a firm structure to fix the interior of the old internal skin of the old dome on to, so as to preserve the quality of the interior (Fig.2.8). No thought was given to the radical differences in structural and thermal behaviour between the old fabric of al-Mashad and the new metal dome. Neither was there much thought given to the philosophy of conservation: Is the internal skin of the dome the most important element to be conserved? If so, why? And why is the same principle not applied to the conservation of other monuments?

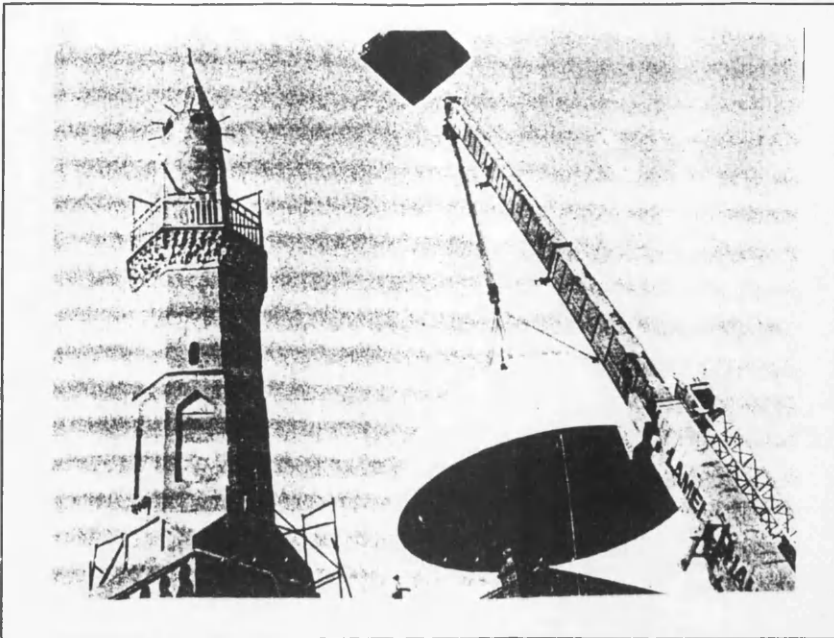


Fig.2.8 Installing a metal framework on al-mashad al-Hussaini

c. Concluding remarks

The establishment of the Comite was, and is still considered, one of the earliest conservation awareness movements in the world. But within the understanding of Post-Napoleon changes in Cairo, the establishment of the Comite can be seen differently. The centralisation of administration by The Europeans made it necessary to replace the role of small administrative bodies, which were responsible for the up-keep of monuments. The need for the Comite was not obvious until many monuments deteriorated or were demolished during the practice of the new centralised administration. Therefore the establishment of the Comite was mainly a reaction to these catastrophic problems. Formal and informal attitudes were essentially different; Formal attitudes (i.e. the Comite, the EAO, and the local intellectuals) were based on European philosophy; whereas informal attitudes (i.e. attitudes of the "layman") were on one hand an extension of attitudes in Pre-Napoleon Cairo, and on the other hand an imitation of formal

Post-Napoleon attitudes In other words, formal attitudes dealt "professionally" with Islamic historic buildings as "dead monuments", whereas informal attitudes dealt "unprofessionally" with these buildings sometimes as "living monuments", and at other times as "dead monument".

NOTES

- 1) Jack A. Grabbs, The writing of history, p.13. Unlike Grabbs' study which stops in 1922, this chapter covers the period from 1798 until the present.
- 2) Gran, Peter, Islamic roots of Capitalism, 1979, p.4.
- 3) Ibid., pp.8-9.
- 4) Ibid., p.10.
- 5) Anis, M. "British travellers". p.22.
- 6) Ibid. p.31. At the end of the 18th century and in the early 19th, travellers and travel literature became extremely popular. The period witnessed the growth of British colonial expansion and responsibilities overseas, the improvements of means of transport and the growth of the newly-enriched middle class which began touring abroad. Naturally the travellers were impelled to publish accounts of the people, places and adventures which they experienced with the result that the period saw the publication of an almost uninterrupted stream of travel books which assumed an important place as popular literature.
- 7) Ibid. cit. p.10.
- 8) Ibid. p. 12. It might be argued, then, that North Africa would offer a more natural entrance to these regions than Egypt. Geographically that appears to be true, but the political unrest of the Islamic countries of North Africa caused by the imminent danger the Arab tribes there, which threatened throughout the century the social and economic life of the towns, made the journey a perilous undertaking.
- 9) Ibid. p.9. As far as British travellers in Egypt in the first half of the 18th century were concerned, one might assert on the whole that their main interest was antiquity and antiquarian researches carried out in a spirit of dilettantism.
- 10) Jack A. Grabbs, The writing of history, p.206.
- 11) Egyptiaca, London, 1801.
- 12) Anis, M. "British Travellers". 23.
- 13) Ibid. 24
- 14) Ibid. 22-24.
- 15) Hunter, Robert F., Egypt under the Khedives 1805-1879, pp. 126-127.
- 16) Jack A. Grabbs, The writing of history, p.206.
- 17) Vatikiotis, P. J., The modern history of Egypt. London, 1969.
- 18) Hunter, Robert F., Egypt under the Khedives 1805-1879, p.131.
- 19) Lane Poole, Stanley, "Arab Art Monuments" in the Academy, 1874.
- 20) Edwards, A. B., "The destruction of Cairo" in The Academy, no. 546, 1882, pp. 301-302.
- 21) Ibid.
- 22) Middleton, J. Henery, "Ancient buildings at Cairo" in The Academy, no.558, 1883, p.28.
- 23) Anon, "The protection of the monuments of Cairo" in The Architect, Aug. 4, 1883, p.66.
- 24) Gregory, Sir W. H., "Arab Monuments in Egypt" in The Architect, Feb. 4, 1882, p.69.
- 25) Bentley, G., "Ancient buildings at Cairo" in The Academy, no.558, Jan 13,

1883, p.28.

26) "Ancient buildings at Cairo" in the Saturday Review, September 3, 1892, pp. 277-278.

27) Anon, "The protection of the monuments of Cairo" in The Architect, Aug. 4, 1883, p.66.

28) "The preservation of mediaeval Cairo" in The Architect & Contract Reporter, March 6, 1896, p.153.

29) "Ancient buildings at Cairo" in the Saturday Review, September 3, 1892, pp. 277-278.

30) "The preservation of mediaeval Cairo" in The architect & contract reporter, March 6, 1896, p.152.

31) Creswell, k. A. C., Muslim architecture of Egypt, vol.I, p.49.

32)Ibid.

Chapter 3: Ideological and cultural aspects of conservation

The conservation of medieval buildings in Cairo, as well as other Muslim settlements, cannot afford to ignore the distinctive ideology of Islam. Because these buildings were built by / for Muslims, and are to be conserved today by / for Muslims. The Oxford reference dictionary gives the following alternative meanings of "religion", by none of which Islam can be defined:

- 1) belief in a superhuman controlling power, especially in a personal God or gods entitled to obedience and worship; the expression of this in worship.
- 2) a particular system of faith.
- 3) a thing that one is devoted to.
- 4) life under monastic vows.

The Western political, economic, and military victory over Muslims should not prevent academic scholarship from accepting the fact that the existing Western schools of thought are not capable of defining Islam, let alone studying it. Therefore the rejection of the notion of art, architecture, archaeology, history and other aspects of conservation defined on the basis of "religion" is not *de facto* in the case of Islam, for the very reason that Islam is not a mere "religion" as understood in the West.

The re-emergence of Islam as a major ideological and political power in most, if not all, Muslim countries cannot be denied. Islamic movements, revolutions, and slogans are all over the place. Yet Muslim historic buildings are formally conserved as "dead monuments" (or monuments of a dead civilisation). As if Islam of today (which is conserving historic buildings) is different from Islam of the past (which produced those buildings). There is a general assumption among professional and academic conservationists working in Cairo that the "Westernisation" of Egypt is an irreversible process. And that ideological aspects of Pre-Napoleon Cairo (i.e. with Islam as the main influential factor) are

completely "dead". This, of course, justifies the continuous adoption of Post-Napoleon attitudes towards architectural conservation as if there is no other alternative. On the other hand the same professionals and scholars usually agree that the ideological power of Islam is as strong and influential as it had always been during the ten century long history of Cairo. The formation of this obscure duality in attitudes is explained in the previous chapter. The aim of this chapter, however, is to explain how Islamic ideological concepts do influence attitudes towards architectural conservation. This is done by explaining what is Islam, based on Islamicists' analysis (as opposed to Orientalists' analysis). Then defining what merits the adjective "Islamic", and how Islamic concepts of conservation-related subjects (such as history, archaeology, built environment, art, and architecture) are essentially different from non-Islamic concepts. The misconception that Orientalists created about Islamic ideology cannot be underestimated. Not only because they influenced most specialised studies on Islam and Islamic related topics, but more seriously because of their influence on non-specialised general knowledge material. Sir Banister Fletcher wrote in his famous book A History of Architecture, the book which is taught in most architectural schools including those in Egypt, explaining the religious influence on what he called "Sarcenic Architecture":

The Mahometan faith was the last of the three great religions which have arisen from among the Semitic nations, and its essence is contained in the words from the Koran, 'The Koran was compiled by Mahomet (A.D. 570-632), with his own additions, from the Bible, Talmud, and Apocryphal Gospels. Most of the states which embraced Mahometanism - Syria, Persia, Egypt, North Africa, and Spain - had independent Caliphs who only yielded nominal obedience to the Chief Caliph, and this made for certain differences in architectural style. Each Caliph was both a spiritual and a temporal ruler; and this union of religion and state was responsible for the numerous religious buildings erected by Caliphs to perpetuate their memory. The prohibition of the use in

decoration and sculpture of human and animal forms probably led to the intricate geometrical surface decoration known as 'arabesques', a form of ornament largely derived from Byzantine art... Mahometans were fatalists (Islam = God's will be done), to whom the present was everything, and thus it was natural that they should have cared more for the transient beauty of decoration than for the permanent nature of buildings, whether religious or secular. They were satisfied on occasion to use poor and flimsy materials, such as plaster, provided it was disguised by abundance of surface ornament. Local traditions and varieties of national temperament, however, produced certain differences of treatment; for Egypt and India tomb houses of a permanent nature were constructed, such as the Taj Mahal, Agra..., and these were used as pleasure houses during the life of the founder.¹

The amazing mistakes in such a highly respected work as Fletcher's highlight the need to devote a section to Orientalism before proceeding with the main argument. This chapter is by no means "neutral", although it is "objective" from an Islamic point of view. It looks at architectural conservation within the "Islamic concept" in order to understand why and how present formal attitudes are essentially different from, and in many cases alien to, the ideological and moral principles of Islam. In other words the problem is not that Muslims are careless about their architectural heritage, nor that Islam is against architectural conservation, but that conservation must fit in the Islamic concept and comply with the Islamic criterion.

a. Orientalism

Without examining Orientalism as a discourse one cannot possibly understand the enormously systematic discipline by which European culture was able to manage - and even produce - the Orient politically, sociologically, militarily, ideologically, scientifically, and imaginatively during the post-Enlightenment period. Moreover, so authoritative a position did Orientalism have that I believe no one writing, thinking, or acting on the Orient could do so without taking account of the limitations on thought and action imposed by

Orientalism. In brief, because of Orientalism the Orient was not (and is not) a free subject of thought or action.²

The nature of Orientalism, why did it exist? and to what extent did it influence the understanding of the Orient? is best described by Edward Said in his book

Orientalism:

Americans will not feel quite the same about the Orient, which for them is much more likely to be associated very differently with the Far East (China and Japan, mainly). Unlike the Americans the French and the British - less so the Germans, Russians, Spanish, Portuguese, Italians, and Swiss - have had a long tradition of what I shall be calling Orientalism, a way of coming to terms with the Orient that is based on the Orient's special place in European Western experience. The Orient is not only adjacent to Europe; it is also the place of Europe's greatest and oldest colonies, the source of its civilisations and languages, its cultural contestant, and one of its deepest and most recurring images of the Other. In addition, the Orient has helped to define Europe (or the West) as its contrasting image, idea, personality, experience. Yet none of this Orient is merely imaginative. The Orient is an integral part of European material civilisation and culture. Orientalism expresses and represents that part culturally and even ideologically as a mode of discourse with supporting institutions, vocabulary, scholarship, imagery, doctrines, even colonial bureaucracies and colonial styles.³

Said gives different explanations of what he means by Orientalism:

1) Academic research:

Anyone who teaches, writes about, or researches the Orient - and this applies whether the person is an anthropologist, sociologist, historian, or philologist - either in its specific or its general aspects, is an Orientalist, and what he or she does is Orientalism.⁴

2) A style of thought:

Orientalism is a style of thought based upon an ontological and epistemological distinction made between 'the Orient' and (most of the time) 'the Occident'. Thus a very large mass of writers, among

whom are poets, novelists, philosophers, political theorists, economists, and imperial administrators, have accepted the basic distinction between East and West as the starting point for elaborate theories, epics, novels, social descriptions, and political accounts concerning the Orient, its people, customs, 'mind', destiny, and so on. This Orientalism can accommodate Aeschylus, and Victor Hugo, Dante and Karl Marx.⁵

3) A corporate institution for dealing with the Orient:

"...Orientalism as a Western style for dominating, restructuring, and having authority over the Orient. "⁶ Said belongs to a generation of scholars who are addressing the academic invalidity of Orientalism in an academic form, acceptable in the West. Nevertheless, Said's and others efforts such as Timothy Mitchell's Colonising Egypt, are too little too late.

A huge library of Islamic-Arabic anti-Orientalism, existing and building up since the beginning of this century had been always denied any merit by Western academics. Probably because it is based on faith and reason rather than reason only. On the other hand ignorant' remarks, racist interpretations, and even pornographic illusions were perfectly acceptable by Western scholarship, as far as such nonsense came from "Orientalists" rather than "Orientals".

Under the title "Modern trends in Islam" H.A.Gibb gave a lecture, in which he said:

The student of Arabic civilisation is constantly brought up against the striking contrast between the imaginative power displayed, for example, in certain branches of Arabic literature and the literalism, the pedantry, displayed in reasoning and exposition, even when it is devoted to these same productions. It is true that there have been great philosophers among the Muslim peoples and that some of them were Arabs, but they were rare exceptions. The Arab mind, whether in relation to the outer world or in relation to the processes of thought, cannot throw off its intense feeling for the separateness and the individuality of the concrete events. This is, I believe, one of the main factors lying behind that 'lack of a sense of law' which Professor Macdonald regarded as the characteristic difference in

the Oriental.

It is this, too, which explains - what is so difficult for the Western student to grasp [until it is explained to him by the Orientalist]- the aversion of the Muslims from the thought processes of rationalism... The rejection of rationalist modes of thought and of the utilitarian ethic which is inseparable from them has its roots, therefore, not in the so-called 'obscurantism' of the Muslim theologians but in the atomism and discreteness of the Arab imagination.⁷

Such arrogance and lack of sensibility is not unusual to come across when one consults Orientalists' interpretations of Arab and Muslim affairs. Thus it is not hard to understand how the Orientalists dared to feel free in interpreting, altering, and ridiculing the values of Islamic-Arab ideology and culture. A "hypothesis" by one Orientalist is very often taken by another as a "sound theory", and established as a "fact" by a third, and then it will appear in every writing on the same subject as "stating the obvious". Therefore almost every recently written Islamic Arabic book assures in its introduction that the author had derived all his information from Islamic sources and not from Orientalists' sources.

1. Islamic history

The following points are some of the unacceptable Orientalists' attempts in the field of Islamic history, according to Arab Muslim writers⁸:

- Altering the methodology of Islamic studies in order to distort the Islamic spirit in such studies.
- Falsifying documents and putting emphasis on events of which there is no evidence.
- Renewing all the untrue stories which were said to have happened in the history of Islam. And inventing new stories of the same sort.
- Propagating a misconception of the Islamic duty of *Jihad*.
- Trying to "free" the history of Islam from its moral aspects.

- Inventing contradictions which do not (and did not) exist between Islam and other regional pre-Islamic cultures such as Pharaonic, Assyrian, and Arabism.
- Inventing legends and mixing them up with Islamic history and also mixing them with the life story of the Prophet.
- Dividing Islamic history into regional and local separate histories.
- Propagating nationalism, racism and other corrupted concepts in order to replace the Islamic ethic.
- Portraying the passive and destructive movements or events in Islamic history as great revolutions for justice and freedom.
- Considering the modern history of the different Muslim countries separate from their Islamic history.
- Denying the ideological and historical ties between Islam and Ibrahim's religion.
- Trying to revive ideologies which were discontinued long before Islam, such as Pharaonic old religions.
- Interpreting Islamic history according to alien concepts such as Christian and Marxist Interpretations.
- Portraying the second century AH as a corrupted period by considering few corrupted individuals and poets as representatives of the whole period.
- Portraying the immoral individuals such as Abu-Nawwas as heroes in Islamic history.
- Explaining the Islamic examples of heroism according to Western values and denying the Islamic values of heroism.
- Accusing the Ottoman state of colonising the Arabs, and accusing sultan 'Abdul Hamid of tyranny. Whereas it was sultan 'Abdul Hamid who prevented the fall of Palestine into the hands of Zionists. Also the Ottoman state is credited for preventing the fall of some Arab regions in the hands of European colonisers for

more than three centuries.

- Portraying the Napoleonic Expedition to Egypt as the starting point of the modern development of the Arabs.

2. Islamic archaeology and art history

In the field of Islamic archaeology and art history, Orientalists are accused of producing "material evidence" to support the theoretical and ideological assumptions and interpretations mentioned earlier. The following are a few examples of what Arab Muslim scholars call "typical examples of Orientalism" in archaeology and art history:

- Before the beginning of the 20th century Orientalists, such as Albert Gayet and others, used the terms: Arab art, Arab civilisation, Arab culture, Arab monuments,...etc., hence the name of the Comité. Then all of a sudden, after World War I, the term Arab was replaced by Islamic. The museum of Arab art in Cairo became the museum of Islamic art. And all works as well as institutions specialised in culture, art, and architecture followed the new fashion. Professor Hassan al-Basha says⁹ that this change in terms was not an innocent replacement of an inadequate term as it seemed. But it was a shift in political attitude of the colonial powers at the time. Before WWI, Orientalists were encouraging the "Arab" character as opposed to the "Islamic" one, simply to discredit their Turkish enemies from any cultural achievement. After WWI the defeat of the Ottomans was completed and on the other hand the Arabs were making noises against colonisation. Therefore it was the Arabs' turn to be discredited from their cultural achievements.

- The meticulous efforts of Orientalists to search for the origin of different forms of Islamic art and architecture, raises the doubt that their intention is to go back to non-Muslim artistic sources. In order to discredit Islamic art from creativity and

innovation.¹⁰

- Orientalists such as Creswell said that the Prophet used the courtyard of his house as a mosque. Which seems objective enough. but later we can see that the same argument was used to give the impression that the mosques of Kufa, Basra, and Fustat were buildings of no Islamic origin, since they are separate from the residence of the Kaliph. However we know from the Muslim scholars of *Hadith* that there was a street separating the Prophet's house from the mosque.¹¹

- Jean Sovaget said that the *maqsura* which Omar ibn Abdul Aziz made in the mosque of the Prophet when he reconstructed it in the reign of al-Walid ibn Abdul Malik was two partitions defining the transept in front of *al-mihrab*. When we follow Sovaget's opinions on the Prophet's mosque and other mosques, we can see that he is trying to prove that the mosque architecture was influenced by Roman palace architecture.¹²

3. Islamic architecture

Ernst J. Grube, in his "Introduction" to the glossy book Architecture of the Islamic World, says:

The first question we must ask ourselves is whether there is such a thing as 'Islamic Architecture'. Do we mean the architecture produced for and by Muslims to serve Islam as a religion, referring, consequently, only to that architecture which *did* serve a religious function - the mosque, the tomb, the madrasa? Or do we mean all the architecture produced in Muslim lands? And if this should be so, what does 'Islamic' mean in this context? If 'Islamic' is not an adjective defining a religious quality, should it be understood as a word that identifies a special kind of architecture, that of a civilisation reflecting, or determined by, special qualities inherent in Islam as a cultural phenomenon? Does such architecture exist? Is there an architecture that can be recognised as different from other architecture created outside Islam? If the answer to this question is

in the affirmative - and there seems little question that it must be - we are faced with the need to define those qualities that set Islamic architecture apart from non-Islamic architecture."¹³ Grube goes on defining the first characteristic of Islamic architecture as 'concentration on the interior'. And out of amazingly shallow general observations he comes to his grave conclusion regarding the Dome of the Rock: "...the Dome of the Rock is not a truly 'Islamic' building at all, in spite of the fact that it was built by Muslims (or at least at Muslim command) and served a function intimately connected with Islam's subjugation of its enemies: it is, in fact, a monument to this victory. Yet the formal architectural language of this monument is that of the vanquished, not that of the victors. What makes it an Islamic building is not its form but its intention,..."¹⁴

Kamil Khan Mumtaz is one of the very few Muslim architects who addressed the problem of Islamic architecture, and the influence of Orientalists on its understanding:

If 'Islamic' pertains to the religion of Islam, and 'Muslim' to the people who profess Islam, then the term 'Islamic architecture' would apply to buildings inspired by Islamic religious thought and practice, and intended to serve an Islamic religious purpose, whereas, 'Muslim architecture' would be the more appropriate term applicable to all buildings associated with Muslims as a people or peoples. Terms such as 'Saracenic' and 'Islamic' were introduced by the Orientalists as catch-all phrases which they applied to the architecture of the Muslim world from 'Mogul India' to 'Moorish Spain'. Western-educated Muslim architects were among those who protested most strongly to such labels. Fired by the 'scientific' theories of culture current in a post-Darwinian, post-Marxian world, they rejected the notion of architecture defined on the basis of religion. Architecture, as much as religion, they argued, was part of the superstructure of any culture. The base was economic and material. Architecture as much as everything else evolved in progressive stages. But terms like 'Islamic' suggested a fossilised view of their national cultures. Their own architecture had to be understood in terms of climate, materials, social relations and economic bases, not in terms of religion. Any attempt to do so was discredited as reactionary, obscurantist, and smacking of imperialism. In any case, they pointed out, it was difficult to find any common denominators within the diversity of Muslim cultures.¹⁵

4. Conservation of Islamic architecture

An Egyptian journalist wrote in his column in Al-Ahram daily:

Nobody of the old inhabitants of medieval Cairo can forget Mr. Creswell who wandered around their city, proudly, wearing an Italian made suit . He walked up and down the streets of the old city investigating its monuments, which he knew better than anybody else in the world.

The extra-ordinary works of Creswell on the historical monuments of Cairo influenced all his contemporaries and all those who came after him¹⁶. Therefore it is more objective to compare Creswell's attitudes with the attitudes of an earlier historian. Maqrizi should be an obvious historian of Cairo "from within" (i.e. Muslim, Arabic speaking Egyptian) to compare his attitudes with Creswell's.

Like most historians, Maqrizi has a well developed viewpoint about the history he is telling. He gives his comments on many events whether they are good or evil, and sometimes highlights a lesson to be learned. This viewpoint reflects, to a certain extent, attitudes and moral values of his time. It is interesting to find not one architectural criticism in his four-page description of al-Azhar mosque.¹⁷ He comments on architectural, structural or economic functions of the mosque, but never says if the style is proper or not, never considers a facade or a dome for architectural or stylistic values. These are in his comments on the restoration works of 761AH by Emir Bashir al-Gamdar,¹⁸ which he favours as good works, or his comments on the restoration works of 818AH by Emir Sudub el-Qadi,¹⁹ which he considers to be disgraceful work.

Creswell considers Maqrizi as one of the most reliable historians of Cairo. Concerning al-Azhar, Creswell refers to Maqrizi very often for the "history" before 845AH, the date of Maqrizi's Khitat. Nevertheless, Creswell filters Maqrizi's

history to omit any comment that seems of no interest, from his point of view. The two restoration works by Bashir and Sudub should show the difference in viewpoints between Maqrizi and Creswell. Probably Maqrizi's commentary did not sound objective enough to Creswell. Also, some events had no archaeological significance in his view such as reviving the college activities by Qur'an reading and *fiqh* lessons, or reviving the charitable activities of the mosque by feeding the poor.²⁰ Neither did he find interest in the following sentence : ", and forbade people to pass through it [the mosque]", so he cut it out of the middle of his quotation from Maqrizi on Bashir's restoration²¹ without any indication that the quotation is interpreted. But he did not neglect the following sentence from his quotation on Aydumur's restoration²²: "...so that it became a sanctuary (*haram*) in the middle of the town.....", although it is similar in meaning to those sentences which he cut out from the description of Bashir's restoration, probably because mentioning it strengthens his earlier argument concerning discontinuation of Friday prayer. Creswell was quite enthusiastic to prove this event, and furthermore to quote Maqrizi's explanation by saying : [the discontinuation of Friday prayers was] " a result of the Sunni reaction", a term which is not precise enough when looking at Maqrizi's actual words " *Madhhab al-Imam al-Shafi'i*".²³ What archaeological significance did Creswell see in such an event ? Especially if it did not leave any concrete architectural or artistic traces. These remarks are not intended as criticisms of Creswell, nor to raise doubt about the Friday prayer discontinuation in al-Azhar mosque. Rather they serve to identify a hidden or indirect commentary by Creswell, or perhaps a linguistic error, which can be quite misleading in terms of attitudes.

b. Islam

1. 'Aqidah (the belief)

The word Islam is derived from the Arabic root "SLM" which means, among other things, peace, purity, submission, and obedience. In the religious sense the word Islam means submission to the will of God and obedience to His law.²⁴ The most conclusive words for Islam as a religion, way of life, and ideology can be found in the opening chapter of Qur'an²⁵ (*al-Fatiha*):

1. Praise be to Allah, Most Gracious, Most Merciful.
2. Praise be to Allah, The Cherisher and the Sustainer of the Worlds.
3. Most Gracious, Most Merciful;
4. Master of the Day of Judgement.
5. Thee do we worship, And Thine aid we seek.
6. Show us the straight way,
7. The way of those on whom Thou has bestowed Thy Grace, Those whose (portion) is not wrath. And who go not astray.

Al-Fatiha describes God, His grace and mercy, His power and will. It also describes the relationship between man and God. This relationship is not only of worship but also of seeking God's aid in all aspects of life. In other words it is a way of life in all its aspects. Then it draws the picture of Islam as being the "straight way". Any other way falls according to *al-Fatiha* in one of two categories either of those whose portion is wrath or those who went astray (fig. 3.1). Those whose portion is wrath are the ones who chose not to go the straight way after knowing it. Whereas those who went astray are the ones who failed to see the straight path and looked for the truth in the wrong direction.²⁶

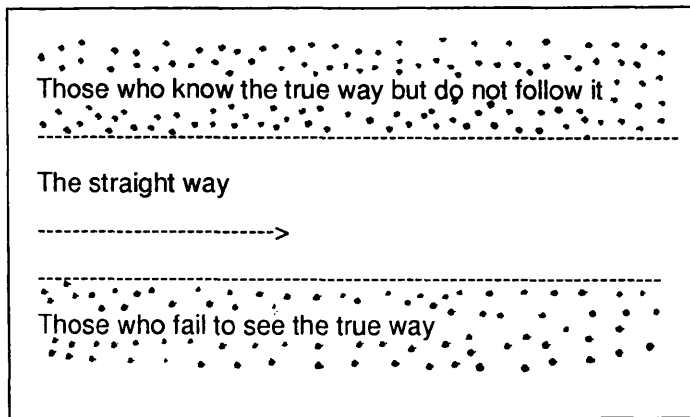


Fig.3.1 Islam as portrayed in *al-Fatiha*

The Arabic word *Iman*, to which the nearest English translation is faith, means to know, to believe, and to be convinced beyond any doubt. Thus, the Islamic faith is a firm belief arising out of knowledge and conviction. And the faithful *Mu'min* is the one who knows and believes in God, His angles, His books as completed by the Qur'an, His messengers with Mohammed being the last of them all, the day of final judgement, and the absolute knowledge and wisdom of God.²⁷ According to Qur'an, there is only one true religion coming from the one and the same and the only God. This religion is Islam, which has been taught by all the prophets before Mohammed. The true followers of Abraham, Moses, Jesus, and all the rest of prophets were Muslims.

The religion before Allah is Islam (submission to His Will): Nor did the People of the Book dissent therefrom except through envy of each other, After Knowledge had come to them. But if any deny the signs of Allah, Allah is swift in calling to account.²⁸

2. *Shari'a* (the code of conduct)

Shari'a is the detailed code of conduct or canons comprising ways and modes of worship, standards and morals of life, laws that allow and prescribe, that judge

between right and wrong.²⁹ Unlike the religion (*al-Din*) the laws which every prophet brought, before Mohammed, were different as they addressed different peoples in different ages. The process ended by the mission of the Prophet Mohammed, who brought the laws (*al-Shari'a*) which is valid for all peoples at all times.

Purposes of *shari'ah*

There are three major purposes for *shari'a*. The first is to educate and purify the Muslim individual.

Recite what is sent of the Book by inspiration To thee, and establish Regular Prayer: for prayer Restrains from shameful And evil deeds;...³⁰

The second is to establish justice, equality, brotherhood, mercy, and love in the Muslim community.

O ye who believe! Stand out firmly For Allah, as witnesses To fair dealing, and let not the hatred of others to you make you swerve to wrong and depart from Justice: Be just: that is next to Piety: and fear Allah. For Allah is well-acquainted with all that ye do.³¹

The third is to protect five factors without which human life would be endangered: the belief, the self (life), the mind, the honour and chastity, and the wealth of every individual.³²

Principles of *Shari'a*

The fundamental principle of the law is that man has the right, and in some cases it is his bounded duty, to fulfil all his conceivable effort to promote his interests and achieve success and happiness, but he should do all this in such a way that not only the interests of other people are not jeopardised and no harm

is caused to their strivings towards the fulfilment of their rights and duties, but there should be all possible social cohesion, mutual assistance and co-operation among human beings in the achievement of their objectives. In respect of those things in which good and evil, gain and loss are inextricably mixed up, the tenet of this law is to choose little harm for the sake of greater benefit and sacrifice a little benefit for avoiding a greater harm. This is the basic approach of the *Shari'a*³³.

Shari'a imposes four kinds of rights and obligations upon every Muslim³⁴:

- 1) Towards God
- 2) Towards oneself
- 3) Towards other human beings
- 4) Towards the universe and all creatures

All person's activities and transactions are divided into two main categories according to *shari'a*: *halal* and *haram*. *Halal* literally means that which is lawful or permissible (there are four categories of *halal*: compulsory (*fard*), recommended (*mustahabb*), tolerated (*mubah*), disliked (*makruh*). *Haram* literally means that which is prohibited.³⁵

Sources of *shari'a*

Ma'adh narrated that when the Prophet sent him to Yemen, he asked him: 'What would you do if you were asked to judge?' Ma'adh replied: 'I judge by what is in God's Book.' The Prophet said: 'What if it is not in God's Book?' He said: 'By referring to the Sunna of the Messenger of God.' The Prophet said: 'What if it is not in the Sunna of the Messenger of God?' He said: 'I will use my reasoning without hesitation'. Ma'adh said: 'The Prophet patted me on the chest and said: 'Thank God for providing a messenger of the Messenger of God who is agreeable to the Messenger of God'.³⁶

Shari'a is derived from two main sources. The first is the Qur'an which is the Divine revelation, each and every word of it is from God. The second is the traditions of the Prophet (*al-Sunna*) which is the Prophet's conduct and behaviour as observed by his companions and handed down by first hand witnesses³⁷ (*Muhaddethin*). The secondary sources of knowledge for *Shari'a* are *Ijma'* (meaning the agreement of qualified scholars on a certain matter) and *Qiyas* (meaning measuring a matter against a similar one mentioned in Qur'an and *Sunna*, or by *Ijma'*). Any matter of which there is no clear evidence from Qur'an and *Sunna* can be decided according to a certain methodology (*Ijtihad*) by qualified scholars³⁸ (*Mujtahidin*).

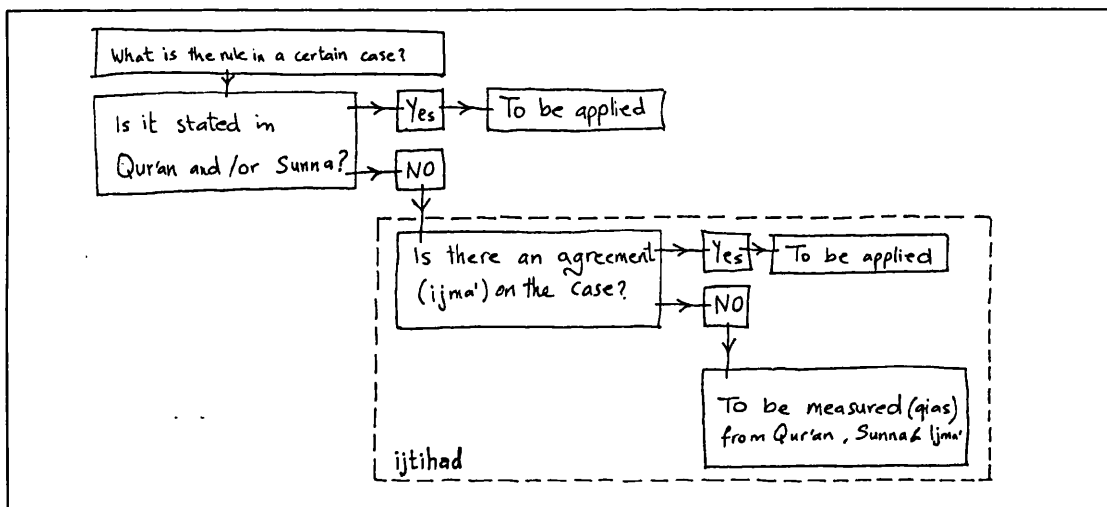


Fig.3.2 Sources of *shari'a*

Knowledge of *Shari'a*

Knowledge is connected in Islam with worship. The acquiring of Knowledge is a form of worship, conditional to implementing it. The knowledge which is not implemented is discredited from being worship. Islamic knowledge can be divided into two categories: Fundamental and professional. It is essential for every Muslim individual to acquire the essential knowledge. And it is essential for

the Muslim community (*ummah*) to include individuals who acquire different aspects of professional knowledge. Access to knowledge is the right of everyone. And no one is above question, no matter how knowledgeable he is, except the Prophet (because he was guided and corrected by Divine revelation). In other words, there is no priesthood in Islam. Four schools of Islamic thought exist today: The Hanafi, the Maliki, the Shafi'i, and the Hanbali. All the four schools agree on all the essential aspects of Islamic *Shari'a* which are stated clearly in the Qur'an and *Sunna*. However, they do differ on the matters which can be understood and / or practised in different ways and forms.

c. What is "Islamic"?

1. The Islamic criterion

Say: Who has forbidden the adornment of Allah which He has brought forth for His servants, and the good things of His providing? Say: They are, on the Day of Resurrections, exclusively for those who believed during the life of this world. Thus do We explain the signs for those who know. Say: What my Lord has indeed prohibited are shameful deeds, whether open or secret, and sin and rebellion without just cause, and that you associate with Allah that for which He has sent down no authority, and that you say concerning Allah that about which you do not know.³⁹

The Islamic criterion is based on three principles:

- 1) Everything concerning Muslim's life is permissible and lawful except what is prohibited by sound explicit evidence from Qur'an and *Sunna*.
- 2) Concerning pure acts of worship (such as prayers and fasting), everything is prohibited except what is permitted by a sound and explicit evidence from Qur'an and *Sunna*.
- 3) Accordingly, one may do what is lawful and must avoid what is prohibited in so far as he has the choice. However, there is a grey area between the clearly

halal and the clearly *haram*. This is the area of what is doubtful. It is considered an act of piety to avoid doing what is doubtful in order to stay clean of doing something prohibited(*haram*). The root of this principle is in the following saying of the Prophet:

The *halal* is clear and the *haram* is clear. Between the two there are doubtful matters concerning which people do not know whether they are *halal* or *haram*. One who avoids them in order to safeguard his religion and his honour is safe, while if someone engages in a part of them he may be doing something *haram*, like one who grazes his animals near the *hima* (the grounds reserved for animals belonging to the king which are out of the bounds for others' animals); it is thus quite likely that some of his animals will stray into it. Truly, every king has a *hima*, and the *hima* of Allah is what He has prohibited .40

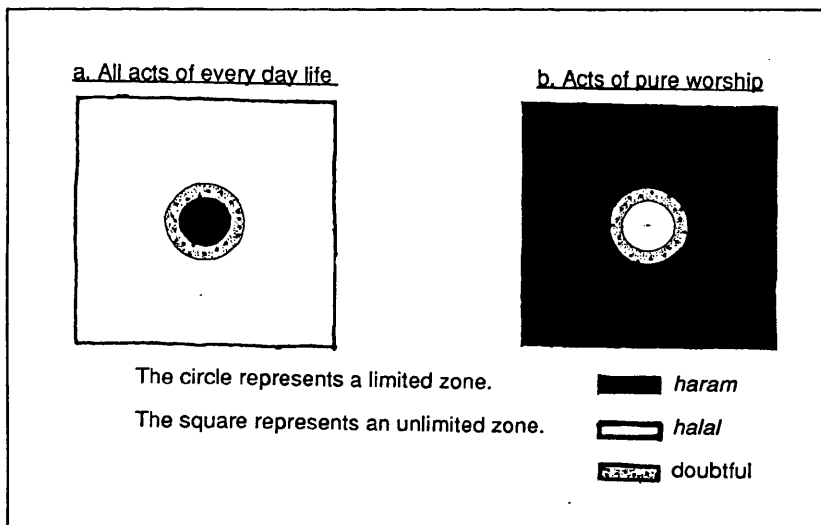


Fig.3.3 The Islamic criterion: Muslims' acts which fall in the white zone are "Islamic".

Application of the Islamic criterion must be within the understanding of the following basics:

- To make lawful and to prohibit is the right of Allah alone.
- The *haram* is prohibited to every one alike.

- Prohibiting the *halal* and permitting the *haram* is similar to committing *shirk* (violating the fifth article of faith by worshipping other(s) than Allah).
- What is *halal* is sufficient, while what is *haram* is superfluous.
- Whatever is conducive to *haram* is itself *haram*.
- Falsely representing the *haram* as *halal* is prohibited.
- Necessity dictates exceptions.

2. The "Muslim" and the "Islamic"

The five pillars of Islam are:

- 1) To bear witness to the Oneness of God and the Messengership of Mohammed in a meaningful committed way;
- 2) To observe the daily prayers regularly;
- 3) To pay the religious tax which is known as alms or the poor-due (*zakah*).
- 4) To keep the fast of the Holy month of Ramadan;
- 5) To make a pilgrimage to the Holy city of Mecca at least once in Muslim's life time, for those who can afford it.

By accepting the articles of faith (*Iman*) and by establishing the five pillars of Islam, one enters into a contract with God, and according to which he becomes Muslim.

Allah hath purchased of the believers their persons and their goods; for theirs (in return) is the garden (of Paradise): they fight in His cause, and slay and are slain.⁴¹

Those who enter into this contract undertake to recognise God as their sovereign, His guidance as supreme, and His injunctions as absolute law. They also accept, without question or doubt His classifications of good and evil, right and wrong, permissible and prohibited. In short it is God and not man whose will

is the primary source of law and moral system.⁴² A distinction must be made between the everyday sins or violations of the individuals and deliberate revolt against *shari'a*. The former may not imply breaking up the contract, while the latter would mean nothing short of that. An Islamic society that consciously resolves not to accept the *shari'a* breaks its contract with God and forfeits its right to be called "Islamic".⁴³ The culture which such a society produces is not "Islamic". Nevertheless, if the individuals of such a society remain being Muslims, the culture they produce should be called "Muslim culture".

Those who do have faith, who believe in God, His law, and the Day judgement, but whose faith is not deep and strong enough to make them totally submit to God. They are far below the rank of true Muslims, deserve punishment for their defaults and misdeeds, but still they are Muslims..⁴⁴

There are two levels for judging a Muslim's deeds. The first is Divine and the second is human. On the Divine level, Muslims' deeds are judged by God with His absolute justice for every deed no matter how little it is, with great emphasis on intentions.

Actions will be judged by intentions, and everyone will be recompensed according to what he intended.⁴⁵

Nevertheless, good intention is an unacceptable justification for using a prohibited manner. In other words the end does not justify the means.

If anyone amasses wealth through *haram* means and then gives charity from it, there is no regard for him and the burden of sin remains.⁴⁶

Anyone whose intentions and / or deeds are evil is liable to incur the punishment of Allah in the Hereafter, and in particular cases in the present life. On the

human level, nobody has the right to judge the intention of another, it is only acts which are to be examined against the Islamic criterion. Any Muslim whose acts fall in the prohibited zone (*haram*) is liable to a legal punishment according to *shari'a*. Any aspect of a Muslim's life which falls in the lawful (*halal*) zone may merit the adjective "Islamic".

d. The Islamic concept of conservation-related subjects

1. Characteristics of the Islamic concept

The Islamic belief and code of conduct define an ideological concept of man, life, and the universe which influence all aspects of Muslims' life. The understanding of all aspects of the Islamic concept should involve a thorough study of Qur'an and *Hadith*, which is beyond the scope of the present research. However, an understanding of conservation-related aspects of the Islamic concept is crucial to the study of the ideological influence of Islam on architectural conservation. S. Qutb⁴⁷ defines the following seven characteristics of the Islamic concept:

1. Divine: God is its source (through Qur'an and *Hadith*).
2. Determined: It is partly rigid and partly changeable. The rigid part is related to the Islamic faith, whereas the changeable part is related to the application of the Islamic criterion.
3. Wholistic: It includes all aspects of life (material and metaphysical). It is valuable for any time and any place, and it includes all creatures in the universe.
4. Balanced: It portrays a balance between fate (God's will) and man's responsibility (human will).
5. Positive: It builds a positive relationship between man and God, man and other creatures, and man and fellow men. Which defines a positive role for man in life.
6. Realistic: It draws a realistic methodology for man according to the reality of

his nature (physical, emotional, spiritual, and mental) and the reality of his circumstances.

7. Monotheist: The oneness of God occupies a central position in the Islamic concept. Which establishes a certain condition of discipline, simplicity, and clarity in Muslims' hearts and minds. It also guarantees freedom, equality, and justice.

2. History

The Islamic concept draws a clear distinction between "the writing" and "the interpretation" of history. This is best practised in the writing and interpretation of the Prophet's sayings (*al-Hadith*). The task of a *hadith* writer is two fold. Firstly, all transmitters of a saying must be known as reliable credible men, knowledgeable of *hadith*. They also should be first hand witnesses of the saying they are transmitting. Secondly, the content and the language of the saying must be checked against other sources, so that they do not contradict Qur'an and Sunnah. Thus, sayings of the Prophet are classified according to their credibility as historic evidence. A *hadith* writer is limited to the two above mentioned investigations. Any mixing of personal opinion, or professional interpretation with the actual saying would discredit the writer as "a qualified *hadith* writer". This strict methodology, next to Qur'an writing and interpreting, is the most objective history writing man has ever known.

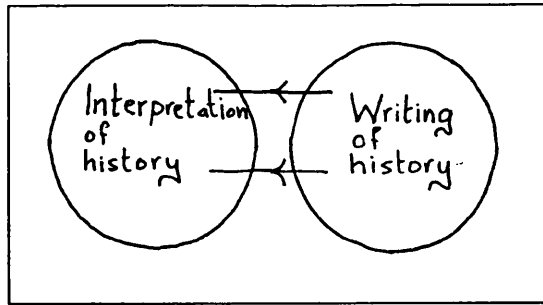


Fig.3.4 The separation in the Islamic concept between writing and interpreting history

Islamic principles of history interpretation

The Islamic purpose of history is mainly educational. Understanding history is an essential part of Islamic knowledge. The Qur'an defines a distinct concept of history and a methodology for its interpretation. The Islamic concept of history is based on three principles. Firstly, the position and role of man on earth. Man's life is like a journey starting from a certain point and ending at a certain destination. It is a transitory stage, and introduction to the eternal life in the Hereafter. Life on this earth is a chance provided for man to make the best of it while he is able to. Because when his time to leave comes he cannot delay it neither can he do anything more. The best use of life, therefore, is to live according to the teachings of God and to make it a safe passage to the future life of eternity.⁴⁸

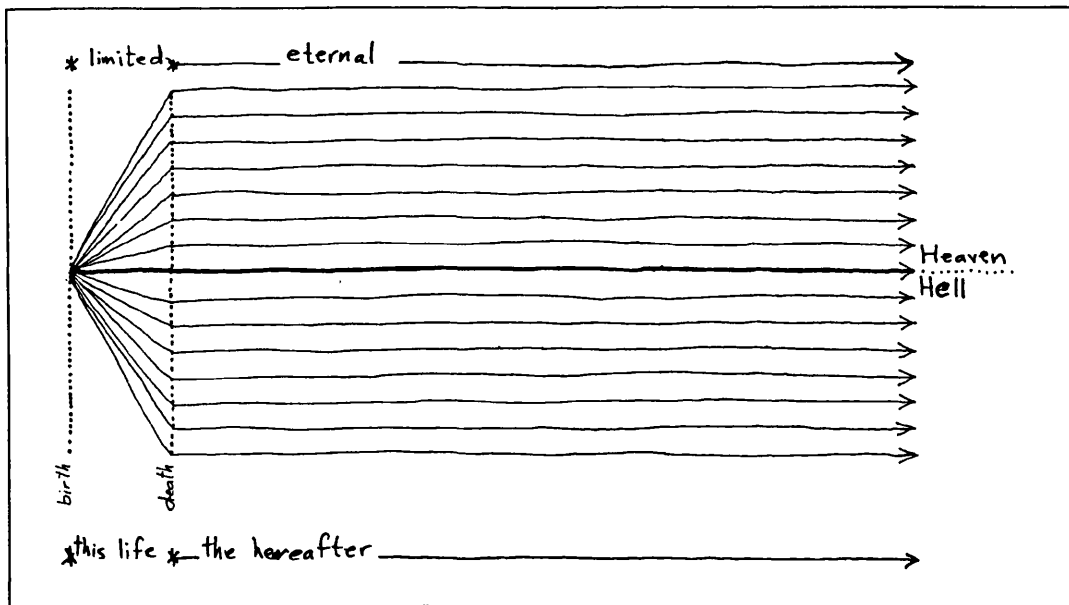


Fig.3.5 the Islamic concept of human life

The second principle is the continuous guidance God provides through the emergence of prophets and, after the last prophet, through the emergence of reformers who would remind man of his role in life. History of nations, accordingly, becomes the history of continuous regeneration's and continuous conflict between good and evil.

The third principle is the difference between material progress and moral standards. Morality is based on absolute immutable values. Social change therefore does not affect values. It only forces people to lay more emphasis on certain values and less emphasis on others because circumstances demand such treatment. In other words social changes lead to occasional shifting of emphasis and not to a rejection of values or a reinterpretation of them.⁴⁹

They cannot deny the fact that there has been no change in man's response to love, kindness, mercy, charity, self-sacrifice, forgiveness, justice, honesty, truthfulness. Man's reaction to injustice, ruthlessness, lies and bribery remains the same. Similarly a man has not become more aware and more truthful or a more

just person because he can travel by a jet plane today. The complexity is of situations and not of values.⁵⁰

The interpretation of history

The individual or collective achievements are measured against the Islamic principles of history interpretation. The moral values of a certain nation at a given historic period are the cause for its rise or downfall. The materialistic progress does not affect the overall achievements. Except by the extent it affects the moral values.

They said: O Moses! We shall never enter it as long as they are in it. Go thou, and thy Lord, and fight ye two, while we sit here.⁵¹

According to the Qur'an, suffering came to the Israelites and they had to wander in deserts and hills for forty years just because they did not believe that they could win victory against the Canaanites. They disobeyed Moses, and ignored his entreaties. Otherwise they would have won because this was the promised land for them. Thus it was their cowardice, and purely materialistic analysis of the situation in which they found themselves weak in number, physical strength and military strategy that prevented them from following the instructions of Moses. Not that military strategy should be ignored. But the ultimate victory does not depend on strategy alone. It depends on man's faith and sincerity. The world is presented in the Qur'an as a moral world, in which God wants the values to be upheld. He helps the nations which uphold those values.⁵²

3. Archaeology

Archaeological research is one of the tools for the Islamic interpretation of history. Muslims are invited / ordered to observe archaeological remains of

previous nations and civilisations. Furthermore, the Qur'an challenges any archaeologist to show any evidence of a relation between the materialistic prosperity and the fate of a nation. It is mainly the moral values which matter. The case of a civilisation which flourished materialistically to a great extent and then perished and left behind great archaeological remains, is a proof that it is not materialistic prosperity which counts in the overall achievement of nations. Otherwise the materialistic sophistication should have prevented the disintegration of such a civilisation.

Do they not travel through the earth and see what was the end of those before them? They were even superior to them in strength, and in the traces (they have left) in the land: But Allah did call them to account for their sins, and none had they to defend them against Allah.⁵³

Say: Travel through the earth and see what was the end of those who rejected Truth.⁵⁴

How many populations have We destroyed, which were given to wrong-doing? They tumbled down on their roofs. And how many wells are lying idle and neglected, and castles lofty and well-built? Do they not travel through the land, so that their hearts (and minds) may thus learn wisdom and their ears may thus learn to hear? Truly it is not the eyes that are blind, but the hearts which are in their breasts.⁵⁵

Do they not travel through the earth, and see what was the end of those before them? They were superior to them in strength: they tilled the soil and populated it in greater numbers than these have done: there came to them their messengers with clear (signs), (which they rejected, to their own destruction): it was not Allah who wronged them, but they wronged their own souls.⁵⁶

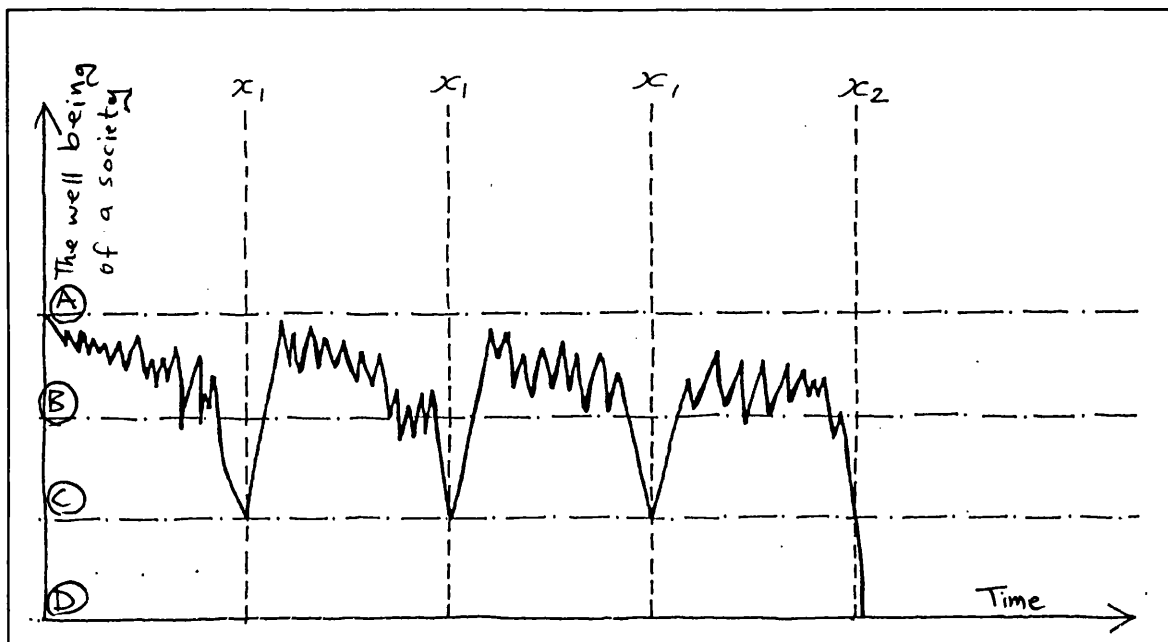


Fig.3.6 The well being of a society condition to moral standards according to the Islamic concept:

A: Prosperity, because of high moral standard (enjoining the right and forbidding the wrong)

B: Mediocrity, because of indifference towards moral values

C: Disintegrating, because of the agreement of the society on immorality

D: Perishing, no matter how sophisticated materialistic standards a society has reached

x1: Moral massage, (by a prophet or a reformer), a positive response from society causes its moral regeneration and thus its prosperity.

x2: Moral massage, a negative response from society causes its disintegration and thus its perishing.

4. Art

The Islamic concept of art is very similar in many ways to the religious belief. Both start from the very necessities and long for perfection. A soul which passes mechanically through the universe without noticing nor admiring the beauty and liveliness in it is sadly missing all the worlds of beauty and arts. Equally, a soul which passes mechanically through the universe without noticing nor joining the universal system of relations between the human being, life, the universe, other humans, and God is sadly missing all the worlds of spirituality and belief.

Religious belief and art do meet in the heart of the human soul, as they meet in the heart of the universe. In the Islamic concept art is the beautiful expression of the universe, life, and human being. Through art "beauty" and "truth" become one.

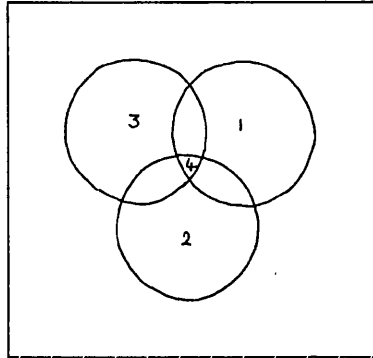


Fig.3.7 The Islamic concept of Art

1. beauty; 2. goodness; 3. truth; 4. art

"Beauty" is a "truth" in the universe, and on the other hand "the truth" is the highest peak beauty can reach. It is the peak in which all the truths of existence meet.

"...God is beautiful and He loves beauty"⁵⁷ Therefore Muslims are asked to beautify, without exaggeration or waste, all aspects of their lives and also their acts of worship.

O children of Adam, wear your beautiful apparel at every time and place of prayer, eat and drink, but waste not by excess, for God loveth not the wasters.⁵⁸

Furthermore, the highest degree of Islamic faith is called *Ihsan* according to a famous *hadith*.⁵⁹ The word *Ihsan* comes from the source *hasan* meaning good, beautiful, and merciful. This should indicate the nature of the Islamic concept of beauty and that it cannot be separated from morality. In other words

Islamic art is essentially moral, and it portrays the Islamic perception of the universe and existence.⁶⁰ Therefore what is false, ugly, unfair, immoral, or destructive cannot be considered art. For, art, and indeed every other aspect of human activity, must comply with the purposes of *shari'ah*. This is not to say that art should be a direct expression or propaganda of Islam. On the contrary, the areas of artistic expression and forms are unlimited as far as it does not fall in the prohibited zone in the Islamic criterion.

The following examples from Qur'an highlight the beauty in the nature, the creatures, the human souls, feelings, and ways of behaviour:

We have indeed decked the lower heaven with beauty (in) the stars,...⁶¹

And the earth we have spread it out, and set thereon mountains standing firm, and produced therein every kind of beautiful growth (in pairs)
For an insight and reminder to every servant. Turning (to Allah).⁶²

Say: who hath forbidden the beautiful (gifts) of Allah, which he hath produced for his servants, and the things, clean and pure, (which He hath provided) for sustenance? Say: they are, in the life of this world, for those who believe. (and) purely for them on the day of Judgement. Thus do We explain the signs in detail for those who know.⁶³

And cattle He has created for you (men): from them ye derive warmth, and numerous benefits, and of their (meat) ye eat.
And ye have a sense of pride and beauty in them as ye drive them home in the evening, and as ye lead them forth to pasture in the morning.⁶⁴

That which is on earth we have made but as glittering show for it, in order that we may test them as to which of them are best in conduct.⁶⁵

Therefore do thou hold patience, a patience of beautiful (contentment).⁶⁶

The best examples of the position and importance of art in the Islamic concept can be found in Qur'an. The artistic means and tools used in the Qur'anic text cannot be mistaken. A person, a feeling, or a situation is described by constructing vivid unforgettable image. Not to speak of the beauty in the choice the words and linguistic structures and expressions.

O ye who believe! cancel not your charity by reminders of your generosity or by injury - like those who spend their wealth to be seen of men, but believe neither in Allah nor in the Last Day. They are in parable like a hard, barren rock, on which is a little soil: on it falls heavy rain, which leaves it (just) a bare stone. They will be able to do nothing with ought they have earned. And Allah guideth not those who reject faith.⁶⁷

Hypocrisy (or false charity) is not just a word any more after reading this verse. There is a corresponding vivid image of a hard barren rock on which by chance has fallen a little soil. Good rain, which renders fertile soil more fruitful, washes away the little soil which this rock had, and exposes its nakedness. What good can hypocrites derive even from the little wealth they may have amassed? In the Day of Judgement their false charity will be washed away and they will be left naked of good deeds. Hundreds of other examples can be read in the Qur'an emphasis the importance of art as a crucial part of the Islamic expression.⁶⁸

5. Built environment

What makes a settlement "Islamic" is not its physical components but the life style of the society which is building and using it. The main purpose of establishing an Islamic society is to enjoin what is right and to forbid what is wrong and to believe in God.

Ye are the best of peoples, evolved for mankind. Enjoining what is right, forbidding what is wrong, and believing in Allah.⁶⁹

This is why the Prophet and his companions migrated from Mecca to Medina. Although they were practising their faith as a group of individuals in Mecca, but they were denied to establish an Islamic society. Therefore, migration was obligatory. They had to migrate to a place where they can establish an Islamic society, enjoining the right, forbidding the wrong, and believing in God. That place was Medina. The position of that migration (*hijra*) in the Islamic way of life should not be undermined. Hence it forms the beginning of the Islamic calendar (*hijri*). Furthermore, the Qur'anic revelation after being mainly on the matters of belief (*'aqida*) during the Muslims' life in Mecca, shifted to be mainly on the matters and rules of every day life (*shari'a*). Thus, by migration, the first Muslims set the example for adopting Islam as a way of life: Firstly establishing the knowledge and belief, secondly migrating (i.e. leaving an unislamic society), and thirdly establishing an Islamic society⁷⁰. The following verses from Qur'an highlight the importance of the migration as a necessary attitude for establishing an Islamic society:

Those who believed, and emigrated and fought for the Faith, with their property and their persons, in the Cause of Allah, as well as those who gave (them) asylum and aid, -these are (all) friends and protectors, one of another. As to those who believed but did not emigrate Ye owe no duty of protection to them until they emigrate; but if they seek your aid in religion, it is your duty to help them, except against a people with whom ye have a treaty of mutual alliance. And (remember) Allah seeth all that ye do.⁷¹

When angels take the souls of those who die in sin against their souls. They say: 'In what (plight) were ye?' They reply: 'Weak and oppressed were we in the earth'. They say: 'Was not the earth of Allah spacious enough for you to move yourselves away (from evil)?' Such men will find their abode in Hell. What an evil refuge! Except those who are (really) weak and oppressed - men, women, and children who have no means in their power, nor can they find a

way (to escape)

For these, there is hope that Allah will forgive: For Allah doth blot out (sins) and forgive again and again.

He who forsakes his home in the cause of Allah, finds in the earth many a refuge. And abundance and should he die as a refugee from home for Allah and His Messenger, His reward becomes due and sure with Allah: And Allah is Oft-forgiving Most Merciful.⁷²

The understanding of the migration principle is essential for understanding the Islamic concept of the built environment. The migration, mentioned in Qur'an, is not only physical but it is also an attitude of heart and mind. Muslims must leave behind their backs all ideas, feelings and attitudes which do not fall within the Islamic concept. They must also refrain from doing any act which does not fulfil the Islamic criterion. The fact that the Prophet and his companions did not choose an empty site to start their Islamic society on, indicates that there was no rigid form of physical environment needed. The "migration attitude" was really what mattered. In the first Muslim society, as well as in the following different Muslim societies all over the World, "the migration attitude" guaranteed that any pre-Islamic elements of the built environment were adopted with the condition that they fulfil the Islamic criterion. The application of the divine law (*shari'a*), when applied, transformed any built environment occupied and / or built by Muslims into what is known today as "a characteristic Muslim city"⁷³. Even later settlements which were founded by Muslims were not considered as end products (or Chinese iron shoes). A Muslim pre-planned settlement is considered a place for people. It changes according to necessity as life goes on. In other words the transformation (or Islamisation) of built environment happened to both settlements founded by Muslims and settlements founded before Muslims became their inhabitants and decision makers. "The Islamic concept" has obviously its fair share in the transformation operation. All cultural activities and products reflect the Islamic concept. Thus the beautifying of the

built environment is not merely by building aesthetically beautiful buildings, but also by offering shade, drinking water, and shelter, not only for human beings but also for animals and birds. Which reflects the relationship between fellow men and between man and other creatures as it is portrayed in the Islamic concept. For example the climatic treatments (such as making winding narrow streets to create the maximum amount of shadow, to speed up the cool wind, and to reduce the sand and dust carried by such wind) reflect the way Muslims see nature (no matter how severe nature is, it is created for human beings to enjoy and make the best use of). According to B. S. Hakim⁷⁴ the following principles and behavioural guidelines represent the core of urban decisions in a Muslim settlement. These principles are defined by the Maliki school of thought and might slightly differ from the other three schools:

- 1) One should exercise one's full rights in what is rightfully his, providing that his decision or action will not generate harm to others. Likewise others should exercise their full rights in what is rightfully theirs, providing that their decision or action will not harm others.
- 2) Interdependence of the different members of society and also the interdependence of all members and elements of the natural environment.
- 3) Privacy either of personal clothing or of private domain must be respected and its invasion, even visually, is prohibited.
- 4) Rights of earlier usage or original ownership are respected. This principle is implemented in resolving disputes related to party walls, and location of windows.
- 5) Rights of building higher within one's air space, even if it excludes air and sun from others which is, according to the Maliki school, the only exception to the principle of harm.
- 6) Respect for the property of others.

- 7) Pre-emption: The right of a neighbour or partner to purchase an adjacent property or structure when offered for sale by another neighbour or partner.
- 8) Seven cubits is the minimum width of a public thoroughfare.
- 9) Any public thoroughfare should not be obstructed by temporary or permanent obstructions.
- 10) Excess of water should not be barred from others.
- 11) The right to use the exterior yard (*fina'*) belongs to the owner of the house or building which abuts it.
- 12) Sources of unpleasant smell, and uses that generate noise should not be adjacent to or near mosques.
- 13) Encouragement to keep things clean including the interior and exterior yard (*fina'*).
- 14) Encouragement to feel responsible and sense of public awareness (such as removing obstacles in public right-of-ways).
- 15) Beauty without arrogance.
- 16) Trust, respect, and peace amongst neighbours.
- 17) Defects should be announced and not hidden when selling a property.

6. Architecture

In the Islamic concept it is very difficult, if at all possible, to draw the line between a building and its built environment. All rules and principles of an Islamic built environment, including the migration attitude, the Islamisation operation, and the organic flexibility according to human needs, are naturally applicable for Islamic architecture. Also principles derived from the Islamic concept, together with principles derived from the Islamic criterion, do define the characteristics of Islamic architecture. According to Qur'an and *Hadith* Muslims must not over emphasise architecture, on its own right, but they should rather put it in the

human, social, and natural context:

1) On the one hand architecture should help to strengthen the ties between individual Muslims (within the one family as well as between different members of the society regardless of their social or economic standing), on the other hand it should emphasise the privacy of each individual. Even the members of one family must comply with the Islamic privacy rules.

2) On the one hand architecture is simply a shelter from the natural environment, on the other hand it should help to strengthen the ties between the Muslim and nature. Therefore courtyard buildings had been always popular for Muslims, as they allow activities to happen in the open air without disturbing the privacy principle.

3) On the one hand the human scale is the essential factor which defines the ceiling height of an Islamic building. On the other hand this does not blindly apply to the height of external walls and roofs which is defined according to other factors such as the width of the street and the privacy of the neighbours.

4) On the one hand durability of building materials is a functional necessity, on the other hand permanence (or symbolic eternity) should not be the aim of architecture.

5) On the one hand beauty and dignity should be inherent qualities in any Islamic expression, on the other hand architecture should not be the means of pride through exaggerated embellishment.

6) On the one hand the mosque is the first and most important building in any Muslim settlement, on the other hand it is very difficult to draw the line between religious and secular architecture in terms of style.

John S. Taylor wrote in the introduction to his book Common-sense architecture:

The straight forward response to both human needs and environmental forces gives folk houses of the world a refreshing

quality. Their beauty lies in the strong link between form and purpose and in the absence of cosmetics or redundancy.⁷⁵

According to the Islamic criterion, architecture should pertain to the same refreshing quality, given that human needs include physical, psychological, mental, and spiritual needs. And that environmental forces include social as well as natural forces. Therefore, Islamic architecture, though of local or regional forms, possess universal and timeless quality. In other words the identity of Islamic architecture does not emerge from mere forms or functions, but from a wholistic concept of the human being, the universe, and life⁷⁶ (i.e. the Islamic concept).

e. The Islamic concept of architectural conservation

Like all other aspects of life, architectural conservation should be seen within the Islamic concept, and examined against the Islamic criterion. Post-Napoleon attitudes towards architectural conservation in Cairo are not only alien to the nature and essence of Muslim architecture, but also alien to the people who are using this architecture. The human and moral values are the most important characteristic of Islamic art, architecture, and built environment. Therefore the fabric and the form are not "what" should be conserved. Architectural conservation should not disturb nor contradict any human well-being. The Prophet in the occasion of his victorious entering to Makka said: "O Makka you are so dear to my heart. Nevertheless, A single drop from a Muslim's blood is dearer to me than you". It is also known that the Prophet told his wife 'A'isha that he wished to dismantle the Ka'ba and rebuild it as it was built at the time of Abraham. He also told 'A'isha that he did not proceed his wish because the Muslims at the time were newly Muslims (i.e. they did not yet get rid of their attraction to the fabric of Ka'ba rather than values it symbolises). Also

architectural conservation should not contradict with the moral cause of Islam. The Prophet demolished a mosque. As he knew from Qur'anic revelation that it was built by hypocrites to divide the Muslim society:

And there are those who put up a mosque by way of mischief and infidelity to disunite the believers and in preparation for one who warned against Allah and His Messenger aforetime. They will indeed swear that their intention is nothing but good; but Allah doth declare that they are certainly liars.

Never stand thou forth therein. There is a mosque whose foundation was laid from the first day on piety; it is more worthy of thy standing forth (for prayer) therein. In it are men who love to be purified; and Allah loveth those who make themselves pure.

Which then is best? He that layeth his foundation on piety to Allah and His pleasure? Or he that layeth his foundation on an undermined sand-cliff ready to crumble to pieces? And it doth crumble to pieces with him, into the fire of hell. And Allah guideth not people that do wrong.⁷⁷

The Islamic concept of archaeology, as well as the Islamic interpretation of history define "why" a building or a group of buildings should be conserved. It is crucial to consider that the Islamic concept of architectural conservation is not a rigid dogma. Otherwise the process of Islamisation because of which a building or a group of buildings merit the adjective 'Islamic', would have not been possible to occur. In other words architectural conservation is the tip of an Islamic ice berg. Ignoring or ignorance of all relevant Islamic concepts and values would "destroy" a building, or at least discredit it from being 'Islamic', rather than "conserve" it.

f. The Arabic language

1. The importance of Arabic

Whoever loves the Prophet loves the Arabs, and whoever loves the Arabs loves Arabic language in which the best of books was revealed... Whomsoever God has guided to Islam... believes that Mohammed is the best of prophets...that the Arabs are the best of peoples... and that Arabic is the best of language.⁷⁸

Though emotionally charged, al-Tha'alibi's above mentioned statement expresses a *de facto* in the Islamic concept.⁷⁹ Muslims believe that Arabic is rich, beautiful, concise, regular, and flexible, and its characteristics are fit to be the vehicle of sublime truths:

We have sent it down as an Arabic Qur'an, in order that ye may learn wisdom.⁸⁰

The relation between Arabic language and Islamic religion is unequalled in the human experience. The daily five prayers, the *khutba* (speech) of the Friday weekly prayer, the *khutba* of the bi-annual 'eid prayers, *hajj* (the pilgrimage to Makka), the call for prayers *adhan*, and most of the "pure acts of worship" in Islam must be performed in Arabic, even if the performer was not an Arabic speaking Muslim. Also it is necessary for any Muslim who wishes to build his or her own understanding and interpretation of Qur'an to master the Arabic language. Also any act of *ijtihad* (i.e. implementation of Islam concerning a matter about which there is no mention in Qur'an nor in the sayings of the Prophet) has to be a fluent Arabic speaker. Therefore Islamic scholars all over the world, even in the non- Arabic speaking countries, are Arabic speakers. This should explain why Arabic became the native language of so many countries out of the Arab peninsula after the spread of Islam (such as Egypt, Palestine,

Lebanon, Syria, Iraq, Sudan, Tunis, and Morocco).⁸¹ Another important aspect of the extraordinary relation between Islam and Arabic is the role of the Arabs in keeping Islam as a way of life. This does not mean that wrong practices did not happen and are not happening, but that the existence of whole communities of Arabs made it impossible to mix any wrong practice with the true religion, as every member of the Arab societies has a direct approach to God's words as they were revealed (the Qur'an) and an example of the interpretation and application of these words in a certain society (the sayings of the Prophet).⁸²

We have, without doubt, sent down the message; and we will assuredly guard it (from corruption).⁸³

On the one hand Islam is the major cause for the conservation of Arabic language, as it motivated, and still motivates Muslims to learn and to better their understanding of Arabic language to enable themselves to understand God's words through the Qur'an and the Prophet's sayings. On the other hand Arabs (i.e. Arabic speaking Muslims) contributed and are contributing towards the understanding, application, flourishing, and spread of Islam.

- An example of the Arabs' role in preserving Arabic, motivated by Islamic concerns, is the establishment of *al-nahw wa al-sarf* (rules of Arabic grammar). Arabic was mostly a spoken language in Pre-Islamic and early Muslim Arabia. One of the most dangerous consequences of the spread of Islam, was the mingling between the Arabs and the non-Arabs. Thus the Arabs began to lose their sensitive ear to correct Arabic language which they acquired and kept orally during their isolated life in the heart of the Arabian desert. Also the new Arabs who embraced Islam and learnt Arabic in the newly Muslim regions started to speak distorted Arabic. The solution for these problems was found in writing down the rules of Arabic grammar. Other measures were taken, such as

differentiating between letters which are similar in writing by adding dots in different positions for different letters and also putting certain signs to indicate vowels and the position of a word within a sentence.⁸⁴

- An example of Islam's role in preserving Arabic is the establishment of *quwa'id tilawat wa tajwid al-Qur'an* (rules of Qur'an reciting). This was done for the very same reason as writing down the rules of Arabic grammar (i.e. linguistic distortion by the new Arabs). By writing down the rules for Qur'an reciting, the pronunciation of the different letters was preserved and also the different conditions of pronunciation of the same letter in different situations (i.e. in different situations within a sentence, and in relation to different other letters).⁸⁵

2. Characteristics of Arabic

Explaining the characteristics of Arabic in "written English" is like explaining by sign to a deaf person the characteristics of the sound of a certain kind of birds. Nevertheless, quotations from different works on Arabic language should give a rough idea about its distinct characteristics.

As an artistic medium, the Arabic language is most notable for its regularity. Like other languages from the ancient Semitic family, of which it is both the youngest and the most widespread offspring, Arabic is built on a system of triconsonantal roots. For example, from the root *KTB*, which conveys the idea of 'writing', are formed such words as *kataba*, 'to write'; *kitab*, 'book'; *kutubi*, 'bookseller'; *kuttab*, 'Qur'an school'; *kitabah*, 'script'; *maktab*, 'office'; *maktabah*, 'bookstore'; and *mukatabah*, 'correspondence'. In each case here, other sounds, chiefly vowels, have been added to *KTB*, the triconsonantal root, according to a pre-established pattern, to create variations on the fundamental idea that the root conveys. What gives Arabic its regularity is the fact that the same, or nearly the same, pattern of variations is applied to large groups of triconsonantal roots, known as 'analogical derivation', have historically been the most important method for the development of the language. What this means is that there are uniform families of words in Arabic, following the same pattern and differing in sound

and structure only in the three consonants that are the heart of a word's meaning. Because of this high degree of regularity in the shape of Arabic words, the language naturally lends itself to the creation of harmonious patterns, and a rich elaboration of rhyme and rhythm is an essential part of Arabic style and Arabic literary tradition. Arabic permits rhetorical effects that could never be achieved in any European language.⁸⁶

It can be misleading to analyse the characteristics of Arabic using European linguistic concepts.⁸⁷ For example, it is wrong to assume that vowels are always missing and not marked in an Arabic script (as Orientalists usually claim), and should be added when translated into a European language. It should be considered that Arabic is a distinct language with its own particular linguistic concepts. Vowels are a peculiar European invention, and is not something missing from Arabic. An Arabic word is formed by the 'movement' of a sequence of letters. Each letter is pronounced with a particular movement of the mouth and the vocal cords (called opening, fracturing, or contracting). Different movements of the same letters produce difference in meaning. It is important to note that movements are not vowels. A movement cannot be produced independently of the letter and a letter cannot be produced without a movement. Whereas vowels and consonants seem to exist independently of each other which gives words in European languages an appearance of fixedness and rigidity as opposed to the movement of Arabic words.⁸⁸

In treating with words as moving combinations of letters, Arabic writing remains closer to the play of differences that produces meaning. Seen in this way, the vowel is not something missing in Arabic. It is a strange artifice, whose presence in European writing masks the relations of difference between words, giving the individual word the apparent independence of a sign.⁸⁹

In his comparison between different aspects of Arabic and English languages, Al-Madfai emphasises the rigidity of the structure of English words and the

consequence of such a characteristic:

For example, upon perceiving the word 'pen' the letter 'p' recalls from the memory anything connoted with the letter 'p' in our memory. The same happens with the other two letters 'e' and 'n'. Taking into consideration the size, shape and position of the composition, when the word is perceived, it recalls from the memory not only the formalistic memories of the composition of the word in its setting and surrounding, but also the associative meaning(s) the word connotes... There are far greater permutations of the syntax of the schemata evoked by 'pen', with various nuances of meaning, than the semantic word form 'pen' can carry. The stiff and rigid structure of the typography matches only a limited number of schemata of common meaning. The discrepancy here is between the great variety of relevant schemata of information and the limited carrying capacity of the rigid word form. We can extend the generalisation to the thought word not only to the written word or the spoken word. The more information a word can carry of the spatial schemata the greater understanding and the better the human intercommunication process becomes.⁹⁰

Al-Madfai compares the spatial structuring of one form of a verb in the English and the Arabic languages (i.e. he compares the English "I stood up" with the Arabic "*wakaftu*", meaning the same).⁹¹ He concludes with the following points⁹²:

- The Arabic shows a formalistic structure where an abstract movement takes particularisation and is personalised. While the English verb is a qualifier of the noun.
- There is clear diminution of the individual in the Arabic verb while the English verb builds and enhances the individual action.
- The Arabic verb shows allusion to causality, to the relation of kin, gender, banality and intrinsic movement. The English verb shows a strong relation to the overall concept or idea behind syntax.
- There is a greater degree of deterministic structure in the Arabic verb formulation while the English verb shows a higher degree of abstraction and

conceptually controlled movement.

- The Arabic verb alludes more to universalisation and movement while the English verb alludes more to the principle of identity.

One last characteristic of Arabic, and probably most important, the position of the language within the culture of the Arabs and its influence on their life style.

Functionalism and art met in Arabic. Not only after the Qur'anic revelation, but also before Islam Arabic was the central core of the Arabic culture:

The Arabian poet was the chief spokesman of his tribe. He did not compose poetry for poetry's sake; rather he was the propagandist, journalist, preacher, entertainer, and political representative of his people. As the image maker of his community, its moralist, and often the embodiment of its ideals, he enjoyed a status comparable in cultural importance with that of Homer among the ancient Greeks or with that of the *Beowulf* poet among the Anglo-Saxons. Just as the Arabian warrior defended his people with his sword, the Arabian bard defended the rights and honour of his tribe with verses immortalising their glorious deeds and defaming their enemies.... Although the function of the pre-Islamic Arabic poet may be compared with that of Homer or the *Beowulf* poet, the form and content of his poetry are unlike anything in Western literature.... Because literacy was extremely rare during this period and writing materials very scarce and expensive, pre-Islamic poetry was for the most part composed, transmitted, and preserved orally...⁹³

3. Cultural influence of Arabic

Arabic language is culturally influential in many direct and indirect ways. The widest sense of this influence is the way Arabic affected all aspects of life as a major cultural tool. The role of language in the formation and development of a culture is well established:

One is born with one's senses; these are 'natural'. One can develop motor skills, naturally, by oneself: *this* skill comes in a unique category. It is impossible to acquire language without some essential innate ability, but this ability is only activated by another person who already possesses linguistic power and competence. It

is only through transaction (or, as Vygotsky would say, 'negotiation') with another that the language is achieved.... The mother - or father, or teacher, or indeed anyone who talks with the child - leads the infant step by step to higher levels of language; she leads him into language, and into the world picture it embodies (*her* world-picture, because it is her language; and beyond this, the world-picture of the culture she belongs to).⁹⁴

Like other languages, Arabic is the vehicle for collective and individual thoughts.⁹⁵ The way Arabs do things, perceive things, and build thoughts, ideas, and concepts is directly influenced by Arabic.

The manner in which a great number of schemata are selected and the way personal meaning is embedded into the structure of the linguistic word finds echoes in the structure of the physical world. The way our mind constructs language is the same as our physical world is constructed. The fabric of our physical world is an echo of the fabric of our language in its structural and semantic aspects. Meanings are carried from the semantic word into the physical world. Different cultures with different language structures differ in the way the conceptual and the physical world is perceived, structured and axiomatized.⁹⁶

Furthermore, Arabic is more influential than other languages spoken by other cultures. Its power and characteristics as the major cultural achievement of the Arabs, its close association with Islamic religion, and its unique syntactic qualities, puts Arabic language in the forefront of cultural activities of the Arabs (and to a lesser extent other Muslims). Al-Madfai, in his comparative study of Arabic and English verbs concludes with the following remarks on the relation between the linguistic differences and the differences in concepts of life, existence, and the world:

The individuation in the English verb echoes a social principle, that the individual is the centre of the Universe. In contrast, the Arabic verb echoes a social upholding of the community formation around the relation of kin. In the Arabic, the universal quality and the

conceptual existence of the individual echoes a principle of communal integration not built around the individual: Man is not the centre of the Universe but a subsystem of the community.⁹⁷

Calligraphy is a straight forward way in which Arabic language influenced architectural conservation:

The elements of decoration are mostly limited to calligraphy, geometry and foliation,...Arabic lettering was brought to high level of artistic sophistication and scripts can vary from the flowing cursive styles (*naskhi* and *thuluth*) to the angular *kufi*.... In the Islamic world, calligraphy is considered the most important of the arts because of its role in recording the word of God in the Qur'an. Despite stylistic differences and local variations in script, the use of calligraphy in architecture is the element of decoration that has at all times done most to unify different types of buildings throughout the Islamic world. There are very little Islamic buildings, or indeed objects, which do not have somewhere on them an inscription - in Arabic if Qur'anic, or in the vernacular if meant to record the names of donors, foundation dates, repairs or additions, of lines of poetry....By lending itself to two simultaneous and partly contradictory functions - the iconographic and the ornamental - and by providing at the same time a legible message and a decorative motif, calligraphy solves to some extent, a tension always latent in Islamic art between representation and abstraction; it gives an identifiable content to abstract patterns and thereby provides a substitute for the figural decorative repertoire or pre-Islamic and non-Islamic cultures....Another dimension was later added to the already complex layering of designs...This was the introduction of verses of poetry, with their implied music, into the calligraphic and decorative repertoire. The type of calligraphy used, either *ta'liq* or *nasta'liq*, and its placing in the decorative scheme of each interior, would echo the rhythm of the verses themselves. Calligraphic architectural decoration in this case is perceived not only visually but also intellectually and musically.⁹⁸

In fact the intellectual and musical qualities of Arabic calligraphy, were not firstly introduced by poetic inscriptions as Jones suggests. They were introduced long before by Qur'anic inscriptions. Such an observation raises the question of the ability of Orientalists to perceive, let alone to analyse Islamic culture. It is understandable that a non-Muslim would not see in a Qur'anic verse any

intellectual quality, since he probably deals with it as an interesting myth. Nevertheless, Muslims should, and very often do, reflect and think in any Qur'anic verse they come across. The different layers of meanings and musical qualities make it an ever lasting pleasure and excitement to reflect on what he reads or listens from Qur'an, even if it was not a very long time since he had read the same verse before. Many Arabs, including the famous second Caliph 'Omar ibn al-Khattab, came to believe that Qur'an is the virtual word of God and hence embraced Islam because they knew that the intellectual quality, the musical quality, the incredible linguistic economy, and the linguistic structure of Qur'an could not have been composed but by a superhuman power: God. Such a judgement should not be underestimated because it was made by men whose only and most powerful cultural achievement was language in general and poetry in particular. With the materialistic flourishing of the Muslim culture, the word kept the central powerful position it always acquired within the Arab culture. Thus all cultural activities and productions, even non-linguistic ones, had to comply with the power of the word. Living in a Muslim built environment, even a non-Arabic-speaking environment, one does not only enjoy beautiful and stimulating Arabic words in their written form, but also in their spoken form. The call for prayer travels over the streets and houses in an aesthetic rhythmic composition. In different Islamic occasions, such as the month of Ramadan and the two *eids*, different Arabic artistic and intellectual compositions are heard in all Muslim built environments (*takbirat al-eid*). On a smaller scale the same happens in the interiors of different buildings by prayers, Qur'an reciting, and other forms of spoken Arabic.

4. Arabic language and architectural conservation

It was mentioned earlier in this chapter that the Islamic ideology produced distinct concepts of architectural conservation and conservation-related fields (such as history, archaeology, art, built environment, and architecture). Consequently, these concepts played a great role in establishing the meanings embedded in the relevant Arabic words and their relation with reality. As Islam was and still is the main, if not the sole, ideological and cultural dimension of Arabic language. Mitchell highlights the distinct quality of Arabic terms, which is charged with both Islamic ideology and Arabic syntax:

Ibn Khaldun's major work, the *Muqaddima*, is an extended study of '*umran*', a word usually translated in this context as 'civilisation' or 'culture'. The book examines the political and historical conditions under which '*umran*' appears, flourishes, and declines. Ibn Khaldun discusses such political conditions not in terms of some abstract framework such as 'the state', but in terms of the rise and decline of the built environment. Political life is examined as the building and decay of cities. The word to build, in this context, is '*amar*' (the ` here refers to the Arabic letter 'yan), a word which for ibn Khaldun can mean to live, prosper, flourish, be full, fill with life, inhabit, raise, be in good repair, build, and rebuild. It is from this word that is produced the term '*umran*', with the same kinds of meaning: activity, bustling life, fullness (of a market well-stocked with goods, for example, or a harbour frequented by ships and merchants), prosperity, building. ibn Khaldun's study of '*umran*' is a study of the conditions that can bring about this building, this fullness, which we awkwardly translate as culture. Building is an active, undetermined process, marked in cycles of abundance and decay, rather than simply the material realisation of a predetermined 'plan'.

Nowhere in the *Muqaddima* does building, or '*umran*', involve the notion of a plan. Consequently in ibn Khaldun the word '*umran*' never means culture in the modern senses of term, which are inseparable from the idea of a plan. The modern term establishes its meaning in contradistinction to an inert 'materiality' of the city, by designating an ideality of shared meanings or social patterns. The meaning of ibn Khaldun's term, whatever its technical senses, remains rooted in a process of growth and fullness. It does not derive its force from any distinction between materiality versus meaning, the city versus its plan.⁹⁹

Such a vision of culture forms a distinct concept of the conservation of cultural heritage, including art, architecture, and built environment. Material heritage, then, cannot be separated from its life, meaning, and function. Any practice of conservation should include both materialistic and non material aspects of what is to be conserved. Furthermore, the differentiation between producing and conserving art, architecture, or built environment hardly exists. A linguistic survey of inscriptions should be useful for this argument. Among 545 inscriptions published by Van Berchem¹⁰⁰ and covering inscriptions of listed Muslim historic buildings in Cairo, two used the word *tarmim*, and none used the word *hifaz* (in contemporary Arabic language, *tarmim* should be the nearest word for restoration, and *hifaz* for conservation). Out of the 545 surveyed inscriptions 338 words were used in relation to construction, reconstruction, restoration, and conservation (see tables 3.1 and 3.2). The word *insha'* was used to indicate construction as well as reconstruction, which emphasises the cyclic concept of *'umran* expressed by ibn Khaldun.

Table 3.1 Linguistic survey of conservation-related words used in inscriptions published by Van Berchem. Number and percentage for use of every word

Word	number	percentage
<i>'Amal</i>	31	9.2%
<i>Bina'</i>	6	1.78%
<i>l'adah</i>	1	0.3%
<i>lhya'</i>	1	0.3%
<i>'Imarah</i>	20	5.9%
<i>Insha'</i>	246	73%
<i>Tajdid</i>	23	6.8%
<i>Ta'mir</i>	2	0.59%
<i>Tarmim</i>	2	0.59%
<i>Ta'ssiss</i>	1	0.3%
<i>Bina' wa Insha'</i>	1	0.3%
<i>Bina' wa ta'mir</i>	1	0.3%
<i>Insha' wa tajdid</i>	1	0.3%
<i>Tajdid al-'imarah</i>	1	0.3%
<i>T'amir wa tajdid</i>	1	0.3%
Total	338	100%

Table 3.2 Linguistic survey of conservation-related words used in inscriptions published by Van Berchem. Nature of work every word encompassed.

Word	Architecture	civil works	tombs	furniture
<i>'Amal</i>	x			x
<i>Bina'</i>	x			
<i>l'adah</i>	x			
<i>lhya'</i>	x			
<i>'Imarah</i>	x	x	x	
<i>Insha'</i>	x	x	x	x
<i>Tajdid</i>	x	x		
<i>Ta'mir</i>	x			
<i>Tarmim</i>	x	x		
<i>Ta'ssiss</i>	x			
<i>Bina' wa Insha'</i>	x			
<i>Bina' wa ta'mir</i>	x			
<i>Insha' wa tajdid</i>	x			
<i>Tajdid al-'imarah</i>	x			
<i>T'amir wa tajdid</i>	x			

g. Case study: the mosque of Sultan Hassan

Neal Ascherson was invited to witness the presenting of the 'Aga Khan Awards for Architecture, 1989' in Cairo. On his return to London on the following week, he wrote in his column in The Observer:

But El-Wakil is certainly a revivalist. In Cairo, he was proud to explain how the Mosque was an eclectic borrowing of bits from buildings all over the Middle East. He was perfectly open about it, and unapologetic. 'We must preserve our heritage: the knowledge and skill of people who did not build for profit. The new will only come through absorbing the old: the palm's only living leaves are those supported by their ancestors below... The West has lost the principle of sacred architecture, because there is a growing spiritual lack and need in the West.' [said El-Wakil]... At about this point, a Moroccan who had been swelling with outrage finally blew up. He accused El-Wakil of trying to transplant Western and Judaeo-Christian ideas about 'sacred art' into Islam. The whole point was that Islamic architecture was not sacred: the mosque was just a place for praying and teaching.' Islam came to de-sacralise the material world and to make the immaterial sacred instead. Islam means that I can pray in a synagogue, cathedral or an aircraft, and for me a mosque is no different to any other building.... 'politics and reactionary movements' were behind the attempt to give the mosque 'a significance it shouldn't have'.... If he was right [the Moroccan whose name is Professor Elmandjara, an economist] - which certainly isn't for me to judge - then Muslim architects and artists and everybody concerned with art can fly upwards into the infinite like gaudy balloons, free to work in any manner or style, freer - even - than those working in the Romano-Christian tradition.¹⁰¹

According to the Islamic criterion (see fig.3.3), Professor Elmandjara is right. Since building a mosque is not a pure act of worship, forbidden things about it are limited. And definitely there is nothing sacred about the style or the fabric of the building. Yet most of the buildings which El-Wakil calls 'sacred architecture' fail, even, to comply with the very few limitations by the Islamic criterion, which makes it difficult to consider them "Islamic". The grave mistake, which is not peculiar to El-Wakil, is the assumption that highly aesthetic art or architecture

represent high Islamic values, which is an identically Orientalists' misconception. The mosque of Sultan Hassan, a favoured prototype of El-Wakil, is an example of what he called 'sacred buildings' and copied proudly in his new buildings, calling his practice "conservation of Islamic heritage". Al-Asad in his article on El-Wakil's mosques says:

..., the compositions of the portal and courtyard of the King Saud mosque [designed by El-Wakil] show the influence of those of the fourteenth century Cairene mosque of Sultan Hassan... 102

1. Misconceptions

In order to understand El-Wakil's mixing between the aesthetics of the building and Islam, one should review what art historians and archaeologists wrote on the mosque of Sultan Hassan¹⁰³. Keeping in mind that El-Wakil himself is neither an archaeologist nor an historian, which means that he derives his information on a building's history and its cultural and ideological dimensions from what is published by academics and professionals.

- In 1899, Max Herz produced the first artistic, architectural, and archaeological study of the mosque. In which he speculated that the presence of two square marble colonettes may suggest that the madrasa-mosque was the work of an anonymous Christian architect who may have wished to leave, by this means, some clue as to his authorship¹⁰⁴. As Herz was so impressed with the aesthetic quality of the building, he did not accept that it was built by a Muslim. Mistakenly he associated the grandness of the building with the religious power of Islam.

- In 1944, the archaeologist Hassan Abdel Wahhab discovered the name of the architect 'Mohammed ibn Belek al-Mohseni' inscribed on the stucco frieze of the Hanafi Madrassa¹⁰⁵. Although he was a good pupil of Orientalists like Herz, Abdel Wahhab could not swallow Herz's speculation about the mosque and

decided to investigate it. Which shows that Abdel Wahhab, like Herz, saw the grandness of the building in relation to the religious power of Islam. The only difference between them is that they stood at different sides of the wall. But both of them had the same concept of architecture and its relation of spirituality and religion.

- In 1966 Gaston Wiet wrote in his book *Les Mosques du Caire*:

*Le college du Sultan Hassan marque le point culminant de l'art mamlouk. Ce batiment inattaquable, solidement installe sur ses bases, s'elance vers le ciel avec un calme imperial : il est comme le symbole de l'Islam, envisage sous l'angle de la majeste.*¹⁰⁶

Wiet made a very clear statement that the mosque stands as a symbol of Islam. This statement affected most architects, art historians, and archaeologists in the way they saw the mosque and its relation to the religion.

- In 1974 Fahim and Zaghlool wrote in their study of the building:

"From the Mamluk epoch (1250-1517 A.D.) begins that embellishment of Cairo with those innumerable masterpieces built of stone, which still form its dominant architectural glory. The madrasa-mosque of Sultan Hassan,...is one of those splendid and outstanding masterpieces considered as the unique beauty of Islamic architecture in Cairo....is considered the most superb if not the most beautiful example of Cairo's Mamluk architecture, which has no rivals."¹⁰⁷

- In 1981 Erica Cruikshank Dodd & Shereen Khairallah wrote:

"The madrasa and tomb of Sultan Hassan, in Cairo, reveal the principles of Islamic religious art at its height."¹⁰⁸

It is amazing how Cruikshank and Khairallah use the term "principles of Islamic religious art at its height" without explaining why, then, most committed religious Muslims living around the building cannot care less about it. Furthermore, they prefer to pray somewhere else. The same authors wrote:

At the great entrance to the madrasa..., beneath the radiance of the mukarnas..., are inscribed two verses from the Koran, perhaps the most beautiful and significant verses in the Book:

' God is the Light of the heavens and the earth;
the likeness of His Light is as a niche
wherein is a lamp
(the lamp in a glass, the glass as it were a glittering star)
kindled from a Blessed tree,
an olive that is neither of the East nor of the West
whose oil well nigh would shine, even if no fire touched it;
Light upon Light;
(God guides to His Light whom He will.)
And God has knowledge of everything,)
in temples God has allowed to be raised up,
and His Name to be commemorated therein;
therein glorifying Him, in the mornings and the evenings...'
XXIV:36-37.109

No explanation is given to the basis on which the authors stated that these two verses from the Qur'an are "perhaps the most beautiful and significant verses in the Book". When following their argument to the end, one understands that it was essential for the credibility of the argument to assume this extraordinary importance of the mentioned two verses amongst the whole Book. After building a hypothesis on "the relationship between the *qibla* wall in the interior and the entrance in the exterior", they concluded with the following interpretation:

The inscription at the entrance to Sultan Hassan gives meaning to the mosque in this way by associating it with the 'light' of the *mihrab*, whereas the *mihrab* itself refers to the light of the heavens, the light of Truth. So the mosque is the focal point of worship for the world, as the *mihrab* is to the interior world of Believers. One is reminded of the same kind of imagery in a Christian parallel: 'I am the light of the world: he that followeth me shall not walk in darkness, but shall have light of life.' John 8:12. This verse is written in the open Gospel held by the Christ Pantocrator in the great apse of the church at Cefalu, Sicily. In both cases, in Sultan Hassan or in Cefalu, the images depict the symbolic nature of the Word; in the door of Sultan Hassan it is written in words; in the apse of Cefalu it is written also in words, in a book held in the hands of Christ.¹¹⁰

Cruikshank and Khairallah built their argument on two wrong assumptions. The first is that there is a symbolic religious meaning of the different architectural elements of a mosque. And the second is that it is possible at all to compare between the art-religion and word-religion relationships in Christianity and in Islam.

- In 1986, the Egyptian Antiquities Organisation published a paper on the restoration operation which was done to the mosque of Sultan Hassan. The opening sentence of the paper was as follows:

If Pharaonic Egypt has to be proud of the Pyramids, Islamic Egypt has to be proud as well of the mosque and madrasa of Sultan Hassan that is considered unique in the East.¹¹¹

The comparison between Pharaonic and Islamic Egypt is unacceptable for two reasons. Firstly, Pharaonic culture is dead whereas Islamic culture is alive. Secondly, the cultural and ideological position of art and architecture in Pharaonic Egypt is essentially different than their position in Islamic Egypt. It would have been acceptable if such an opening sentence was published by a tabloid newspaper, but not by the only formal authority of archaeology and conservation in Egypt.

2. Islamic interpretations

- When looking at the history of the mosque one should not mix its architectural and artistic quality with "the factual history of its period". The fact that the mosque of Sultan Hassan is of high aesthetic value does not change the fact that it was built by an aggressor (al-Sultan al-Nasser Hassan ibn Mohammed ibn Qalawun). And that political unrest and social misery for the majority of Egyptians at the time indicated a sharp decline in the Mamluk's era.¹¹²

- According to the Islamic criterion, the mosque of Sultan Hassan is not "Islamic"

for the following reasons:

. Its elaborate decorations, and exaggerated grandness and wealth of materials are against the principles of Islamic architecture, particularly mosques. As it was narrated from the Prophet that he said: "I was not ordered to construct mosque in order to be elaborately decorated as the Jews and the Christians did [in their temples and churches]. And that the second Caliph 'Omar ibn al-Khattab, when ordering the construction of a mosque, said: build a shelter for the people from rain, and keep away from elaborately decorating it with yellow and red [the use of colours], which might distract people.¹¹³

. The tomb of Sultan Hassan, is not only sheltered in the mosque, but it occupies the most important space in the interior (behind the *qibla* wall), and in the exterior (towards the citadel). In contrast, the Prophet said:

Those who lived before you used the tombs of their prophets and wise men as praying places. I forbid you from doing the same, do not use tombs as mosques.¹¹⁴

. The plan arrangement as four *iwans* is not functionally satisfactory, as it does not allow continuity of rows of prayers. The same functional problem is caused by *dikkat al-muballigh*.¹¹⁵

. The emphasis on the minarets, *minbar*, and *mihrab* as religious symbols, which are not favoured in mosque architecture.¹¹⁶

The fact that the mosque of Sultan Hassan is not "Islamic" does not discredit it from being "Muslim".

3. Arabic interpretations

It is not a coincidence that the Qur'anic verses inscribed on the mosque, which were ordered by the non-Arabic speaking patron, had to wait all these centuries to be so enthusiastically appreciated by non-Arab academics (Cruikshank and

Khairallah). Probably one should be out of the Arabic culture to fully appreciate the Arabic word materialised on stone and marble. A non-Arabic speaker would appreciate the decorative and calligraphic qualities (i.e. visual qualities) of the word carved on stone, in the same way as a deaf person appreciates the visual qualities of a place or an object more than a hearing person, who is distracted by sounds, would do. The best explanation of this point is Sacks' description of the way the deaf's perception differs from the hearing one:

Clearly, in a cultural sense, we may speak of the deaf mind, as we may speak of the Jewish or Japanese mind, a mentality distinguished by particular cultural sensibilities, images, perspectives, beliefs. But there is no neurological sense in which we can usefully speak of a Jewish or Japanese mind - whereas there may be, in relation to the deaf mind. There is an unusual number of deaf engineers, deaf architects, and deaf mathematicians, who have, among other things, great facility in picturing and thinking in three dimensional space, picturing spatial transforms, and conceiving complex topological and abstract spaces. Probably this is partly based on a neurological and abstract spaces. Probably this is partly based on a neurological disposition, on the neuropsychological or cognitive structure of the deaf mind.

Hearing children of deaf parents, who acquire sign as a first language, and show striking visual enhancements even though they are hearing, may be not only bilingual, but 'bimental', in the sense of having access to, or use of, two quite distinct modes of mental functioning. Certainly some of them will speak of 'switching' not only language, but mode of thought, depending on whether they find themselves, or wish to be, in a visual (sign) or speaking mode.¹¹⁷

By the same token one should evaluate the interest of non-Arabic speaking scholars in the visual aspects of Muslim art and architecture. Their limited understanding of the immense Arabic literature on the subject is not their only handicap. Their interpretation of the visual quality of any piece of art or architecture is not only isolated from its context but, more dangerously, exaggerated and charged with too many imagined symbols. When discussion is

on calligraphy, the dangers are at their height as the visual quality of inscriptions are much less important than their musical, intellectual, and spiritual qualities. An Arabic-speaking person, when seeing an inscription, goes through a similar experience as a postlingually deaf when seeing lips movements. Both of them actually hear voices of what they are reading:

...hearing (that is, imagining) of 'phantasmal voices', when lips are read, is quite characteristic of the postlingually deaf, for whom speech (and 'inner speech') has once been an auditory experience. This is not 'imagining' in the ordinary sense; but rather an instant and automatic 'translation' of the visual experience into an auditory correlate (based on experience and association) - a translation that probably has a neurological basis (of experientially established visual-auditory connections). This does not occur, of course, in the prelingually deaf, who have no auditory experience or imagery to call upon. For them lip-reading - as, indeed, ordinary reading - is an entirely visual experience; they see, but do not hear, the voice. It is as difficult for us, as speaker-hearers, even to conceive such a visual 'voice', as it is for those who have never heard to conceive an auditory voice.¹¹⁸

Keeping in mind the characteristics of Arabic language, its central cultural position, and most importantly that it is a spoken rather than a written language, a non-Arab is not in a position to interpret Arabic inscriptions and calligraphy. The patron of the mosque of Sultan Hassan, as many of the Mamluk elite, was not Arabic speaking. Nevertheless, by being a Muslim, he stood half way between an Arab and a non-Arab. As a Muslim he read the Qur'an daily and could here the sound of the words inscribed on his mosque. In other words he could enjoy their musical quality. But on the other hand, he was not able to enjoy their intellectual qualities. Which suggests the basis on which the choice of Qur'anic verses was made: musical quality and habit of reciting certain Qur'anic verses in particular situations (such as entering a mosque, praying, learning, and entering a tomb). Therefore, culturally speaking, the mosque is not "Arabic".

4. Conclusion

The mosque of Sultan Hassan is not ideologically Islamic, and is not culturally Arab. This does not discredit it from being Muslim and Egyptian. It is a remarkable piece of architecture, but it does not symbolise neither Islam nor Islamic Egypt, and definitely it is not sacred. If Islam is the justification for architectural conservation, then the Islamic criterion and the Islamic concept must be applied.

If nothing material in Islam is sacred, if one artistic form cannot carry a bigger charge of holiness and divine authority than any other, then the only sacred thing about art is its quality. As a charter for Modernism, we have nothing like it. Christian tradition, after all, is deeply material.... When Professor Elmandjara talks about the connection between heritage-worship and 'reactionary movements', he is dead right. Of course, the remains of the past should be conserved, understood, honoured. But they should never be worshipped, or they will at once be used as evidence for a golden age when order reigned and the servants were happy to do what they were told. The only sacred heritage, weightless as a prayer rising from the ninth-century mosque of ibn Tulun, is the future.¹¹⁹

Notes

- 1) B. Fletcher, A history of architecture, on the comparative method, 16th ed., London, 1956, p.935.
- 2) E. W. Said, Orientalism, London 1987, p.3.
- 3) Ibid. p.1.
- 4) Ibid. p.2.
- 5) Ibid. p.2-3.
- 6) Ibid. p.3.
- 7) Flaubert in Egypt: A Sensibility on Tour, trans. and ed. Francis Steegmuller, Bostorn, 1973, p. 200.
- 8) Anwar al-Jindi, Tarikh al-Islam fi muwajahat al-tahadyyat, Cairo 1989, pp.3-5.
- 9) Hassan al-Basha, Qa:at Bahth fi al-'Imara wal Funun al-Islamyyah, pp. 208-9.
- 10) Ibid. p.210.
- 11) Ibid.
- 12) Ibid
- 13) Ernst J. Grube, "What is Islamic Architecture?" in Architecture of the Islamic World, ed. George Michell, London, 1978, p.10.
- 14) Ibid., p.11.
- 15) Kamil Khan Mumuaz, "The Islamic Debate, Architecture in Pakistan" in Mimar, p.41.
- 16) Dr. Christle Kessler, in a colloquium in Edinburgh, called the period before Creswell (B.C.).
- 17) Maqrizi, Khitat. II, p. 273-277
- 18) My translation of Maqrizi's accounts of the restoration works of 761AH by Emir Bashir al-Gamdar (the underlined words are those mentioned in Creswell's quotation on the subject):
"...was restored (Gaddad) in the year 761 AH (1359/60 AD) when the Emir Bashir al-Gamidar al-Nasiri resided in the house of the Emir Fakhr ad-Din in the time of al-Zahidi al-Salihi al-Najmi in Khatt al-'abbarin nearby al-Azhar mosque, after he demolished it, he had it reconstructed it (ammara). His house is known there until today as the house of Bashir al-Gamidar. He liked, because of his closeness to al-Azhar mosque to leave a good trace in it. So he asked the permission of al-sultan al-Malik al-Nasir Hassan ibn Muhammad ibn Qalaun to restore the mosque (imarat). As he was favoured [by the sultan], the sultan gave him permission. He cleared out a number of Maqsuras which had been introduced, and blocked the mosque, and carried out the repair of its walls and roofs throughout until they became like new. He whitewashed the mosque and [re]paved it, and forbade people to pass through it. He also arranged for a Qur'an in it and appointed a Qur'an reader. At the south (qibli) gate of the mosque he built a room (hanut) for the charitable distribution of drinking water daily, and above it placed a free orphan school to teach the Qur'an. The arranged food for the poor (al-mugawirin) to be cooked daily, and he arranged also lessons for theologians (hanafiyah), their teacher seated for giving the lessons in the mihrab. he endowed for these great endowments which are still available today. And the muezzins of the mosque are still praying every Friday

after every prayer for al-sultan Hassan.

19) My translation of Maqrizi's account of the restoration works of 818AH by Emir Sudub el-Qadi (Creswell did not mention this work in his history of al-Azhar mosque):

"In the year 818, Emir Sudub al-Qadi Hajib al-Hijab was appointed supervisor for that mosque. Extraordinary events happened during the days of his supervision; nothing like that had happened before, since the construction of this mosque many of the poor had been used to live in it, in those days they numbered about seven hundred and fifty men from different places ('Ajam, Azyaliah, Egyptian peasants, Maghariba); there was a *riwaq* for every group (*taifah*) that kept the mosque always alive (*'amir*) with the reading and studies of Qur'an as well as different sciences: fiqh, hadith, tafsir, nahw, majalis al-wa'z, and halaq al-thikr, so that when people entered the mosque they would feel comfort and self relief, which was not found elsewhere. Many of the rich gave different sorts of donations such as gold, silver and money to help al-mujawirin in the mosque to worship Allah, and every so often food, bread, and sweets were carried to them. A black textile was made for the minbar and two decorated flags, which costed fifteen thousand dirham. I have been told that Allah punished Emir Sudub soon after, the sultan arrested him during the month of Ramadan and exiled him to Damascus.

20) See (14) above.

21) See (14) above.

22) Creswell, MAE vol.I, p.38.

23) Maqrizi, Khitat.II, p. 275-6.

24) Hammudah Abdulati, Islam in focus, p.8.

25) Hassan al-Banna, Maqasid al-Qur'an al-Karim, pp.29-60. *al-Fatiha* was given many names by the Prophet. Some of these names are the prayer, the mother of the book, and the glorious Qur'an. It is the only chapter of Qur'an which must be known by heart and read in every prayer.

26) Hassan al-Banna, *Ibid*, pp.55-6.

27) Sayyid Abul A'la Mawdudi, *Ibid*, p.26. The last article of faith (the absolute knowledge and wisdom of God) can be literally translated as the fate, the good portion of it, and the bad portion.

28) Qur'an, III, 19.

29) S. A. A. Mawdudi, *Ibid*, p. 102

30) Qur'an, S29, A45.

31) *Ibid.*, S5, A8.

32) M. Abu Zahra, *Ibid*, pp.8-16.

33) S. A. A. Mawdudi, *Ibid*, p.108.

34) S. A. A. Mawdudi, *Ibid.*, p.108.

35) Abdul Wahid Hamid, Islam the natural way, pp.37-8 & M. Abu Zahra, Usul al-Fiqh, Cairo, 1958, pp.28-50.

36) Muhammed Ali, A Manual of Hadith, Lahore, Pakistan, p.205.

37) The most authentic of which are Bukhari, Muslim, Malik, Tirmizi, Abu Dawud, Nasa'i, and Ibn Majah.

38) Mohammed Abu Zahra, Usul al-Fiqh.

- 39) Qur'an, S7, A32-3.
- 40) Reported by al-Bukhari, Muslim, and others; the narration is taken from al-Tirmidhi.
- 41) Qur'an, S9, A111.
- 42) S.A.A. Mawdudi, Islamic way of life, p.36.
- 43) Ibid., pp37-8.
- 44) Ibid., p.25.
- 45) Y. Al-Qaradawi, The lawful and the prohibited in Islam, 1985, p.30. A *hadith* reported by al-Bukhari.
- 46) Ibid., p.32, reported *hadith* by Khazimah, Ibn Hibban, and al-Hakim on the authority of Abu Hurairah.
- 47) S. Qutb, Khasa'is al-tasawur al-Islami wa muqawimatush, Cairo, 1978.
- 48) H. Abdulati, Islam in Focus, pp.31-2.
- 49) S.A.Ashraf, The Qur'anic concept of history, pp.10-11.
- 50) Ibid., p.8.
- 51) Qur'an, S5, A24.
- 52) Ibid. According to the Islamic interpretation of history, the interpretation of historical events, such as the story of the Israelites, can only be complete when moral values and attitudes are considered.
- 53) Qur'an, S40, A21.
- 54) Ibid., S6, A11.
- 55) Ibid., S22, A45-6.
- 56) Ibid., S30, A9.
- 57) Y. Al-Qaradawi, al-halal wa al-haram fi al-Islam, Cairo, p.95.
- 58) Qur'an, S7, A31.
- 59) Al-Nawawi, Al-Arba'in al-nawawiyya, Beirut, pp. 9-10.
- 60) M.Qutb, Manhaj al-Fann al-Islami, Cairo, 1980.
- 61) Qur'an, S37, A6.
- 62) Ibid., S50, A7-8.
- 63) Ibid., S7, A32.
- 64) Ibid., S16, A5-6.
- 65) Ibid., S18, A7.
- 66) Ibid., S70, A5.
- 67) Ibid, S2, A264.
- 68) Sayyid Qutb, Al-Taswir al-Fanni fi al-Qur'an, Cairo, 1989.
- 69) Qur'an, S3, A110.
- 70) M. Abdel Wahed, Al-Mujtama' al-Islami, Cairo, 1970, pp. 8-41
- 71) Qur'an, S8, A72.
- 72) Ibid., S4, A97-100.
- 73) Saleh al-Hathloul, "The role of the *shari'a* in the transformation of the physical environment of Arab-Muslim cities" in the proceedings of the conference on the preservation of architectural heritage of Islamic cities, 22-26 April, 1985. Istanbul, Turkey, pp.2133-27.
- 74) B. S. Hakim, Arabic-Islamic Cities. Building and Planning Principles, London, 1986, pp.19-22. Hakim differentiates between "principles and behavioural guidelines" and "values and societal guidelines of accepted behaviour" the

principles 13-17 . Such differentiation is only necessary when looking at cases and *fatawi*.

75) John S. Taylor, Commonsense architecture, London, 1983, p.9.

76) Organisation of Islamic capitals and cities, Usus al-Tasmim al-mi'mari wa al-Takhtit al-Hadari fi al-'usur al-Islamiya al-mukhtalifah, Cairo,1990, pp. 486-8.

77) Qur'an, S.9, V.107-9.

78) Al-Tha'alibi, Fiqh al-Lugha, Cairo, 1284AH., quoted by Bernard Lewis in The Middle East and the West, Bloomington, Indiana University Press, 1865, p. 86.

79) The "Arabs" mentioned in al-Tha'alibi's words are not limited to geographical or territorial areas. The Prophet defined the Arab as every Arabic speaking Muslim (not particularly Muslim by birth but any actually believing and practising Muslim). In the present thesis the same definition is used. Only in the pre-Islamic period the term "Arabs" will refer exclusively to the inhabitants of the Arab peninsula. Normally such a clarification should not be needed, but the confusion that the Pan-Arabism Movement created, makes it necessary to define who is the "Arab".

80) Qur'an, S.12, A. 2. Qur'an means: something (1) to be read, or (2) recited, or (3) proclaimed. It may apply to a verse, or a *Sura*, or to the whole Book of Revelation.

81) Orientalists and others do claim that the reason for the spread of Arabic language is "the imposing of the language by Arab conquerors". But such an argument does not explain why the Egyptians refused not only the language of the Romans, who colonised the country until the Arab conquest. But furthermore the Egyptians refused to change their loyalty from the Eastern Church to the Western Church. Moreover, when they were forced to convert by the Romans, the Egyptian Copts escaped to the desert and built monasteries and lived in them in order to keep their language and their religion.

82) For example, many cults, movements, and secret societies, existed in different Muslim communities, who altered the Islamic criterion and established a new Islamic concept. No matter how strong such tendencies were , and no matter how long did they survive, but the moment they perish their ideas die with them, and Islam prevails as pure as it always been since the time of the Prophet. This unbeatable mechanism of survival is implemented by the Arabs. Which explains why most of such unislamic tendencies happened and are happening either in non Arabic speaking Muslim regions, or in Arabic Muslim regions during the rule of non Arabic speaking Muslims.

83) Qur'an, S.15, A.9, Abdullah Yusuf Ali gives the following explanation for this verse: The purity of the text of the Qur'an through fourteen centuries is a foretaste of the eternal care with which Allah's Truth is guarded through all ages. All corruptions, inventions, and accretions pass away, but Allah's pure and holy Truth will never suffer eclipse even though the whole world mocked at it and were bent on destroying it.

84) Ibn Khaldun, al-Muqaddima, pp. 546- 57. A linguistic differentiation between the born and bred Arabs(*al-'Arab 'Ariba*), and those who embraced Islam and acquired Arabic language as their second language(*al-'Arab al-Musta'riba*). Ibn Khaldun mentions that the first to write on *al-nahw* is Abu al-Aswad al-Du'ali.

- 85) For example there is a different rule for pronouncing "n" if it is before "m" than pronouncing it if before "b". For details see Husni Shaikh 'Uthman, Haq al-tilawa, Amman, 1974. And for more details on Tajwid see 'Abdul 'Aziz Bin 'Abdul Fattah al-Qari', Qawa'id al-tajwid, Al-Madina al-Munawwara, 1976.
- 86) Mounah A. Khouri, "Literature" in The genius of Arab civilization, source of renaissance, Phaidon, London, 1976, pp.17-8.
- 87) Timothy Mitchell, Colonising Egypt, Cambridge University Press, 1988, pp. 148-9.
- 88) Moncef Chlli, La parole arabe: une theorie de la relativite des cultures, Paris, Sindbad, 1980, pp. 46-67.
- 89) Timothy Mitchell, *Ibid.* For further discussion of this argument see Jacques Derrida, Speech and Phenomena and other Essays on Husserl's Theory of signs, trans. David B. Allison, Northwestern University Press, 1973, p.50; and "Difference" in Margins of Philosophy, trans. Alan Bass. University of Chicago Press, 1982, pp. 1-27.
- 90) Kahtan Al-Madfai, "A borehole into words or architecture and language" in proceedings of the Conference on the Preservation of Architectural Heritage of Islamic Cities, 22-26 April 1985, Istanbul, p. 82. Most of Al-Madfai's analysis are built on David Laberge's paper on "Unitisation and Automaticity of Perception", 1980.
- 91) *Ibid.*, pp.83-9. "A straight forward exciting comparison: The Arabic formulation of word 'wakaftu'... shows much more formalistic approach to the syntactic process. The sentence is a one word sentence, one of the conjugation verbs (one of 72 forms of verb conjugation), learnt as a given formulated word meaning 'I stood up'. The verb-sentence has the first person singular, the past tense formulation built into its structure... In relation to the syntactic build up at the semantic level, the overriding thoughts guiding the sentence are not frequently consulted at every part of the verb, as it was in the English formulation. This is because of the complex and internally complete verb structure varying formalistically only. Verbs are structured by attaching prefixes and affixes to the basic forms with changing sounds, according to single, double, plural, male, female, past, present and future cases and the permutations from any of these..." Al-Madfai's comparative analysis goes on to compare all other differences between Arabic and the English language, which highlight the distinctive characteristics of Arabic language as opposes to European languages. Which brings us back to the handicap of Orientalists when judging and analysing Arab and Muslim topics despite there ignorance of Arabic language.
- 92) *Ibid.*, pp. 79-90.
- 93) Mounah A. Khouri, *Ibid.*, p. 19.
- 94) Oliver Sacks, Seeing voices, London, 1990, pp.62-3. Sacks refers to L. S. Vygotsky, Thought and language, 1934, trans. Eugenia Hanfmann and Gertrude Vakar. In his book, Sacks highlights the fact that deaf people have a culture on their own because of the distinct language they use. The case which Sacks is putting forward in his book amplifies the cultural differences according to linguistic differences, which should be considered when looking at differences

caused by Arabic in a culturally Western-minded world.

95) Ibid., Sacks makes the point that unless a born-deaf child Aquarius the proper communication means as well as the proper vehicle for developing thoughts (i.e. sign language), he or she might show signs of mental disability: "Thought is not language, or symbolism, or imagery, or music - but without these it may die, stillborn, in the head. It is this which threatens... any deaf child, or any child whatever, not given full access to language and other cultural tools and forms." p.42.

Such observation should emphasise the role of language on the development of thoughts and thus of intellectual and cultural identity.

96) Kahtan Al-Madfai, Ibid., p.82.

97) Ibid., p.90.

98) Dalu Jones, "The Elements of Decoration: Surface, Pattern and light" in Architecture of the Islamic World, George Michell ed., London, 1978, pp.144-75.

99) Timothy Mitchell, *ibid.*, p.53.

100) Van Berchem, Materiaux pour un Corpus Inscriptiionum Arabicarum, Egypte, I, Paris, 1894-1903.

101) Neal Ascherson, "Islamic visions, Ancient and Modern" in The Observer, 1989.

102) Mohammed Al-Asad, "The mosques of Abdel Wahed El-Wakil in Mimar, Architecture in Development, no.42, p.34.

103) One should not undermine the fact that all those pioneers who "discovered" the charm of Sultan Hassan mosque were either Orientalists or Western educated Egyptians.

104) Max Herz, "*La mosquee du Sultan Hassan au Caire*" *Ouvrage publie par le Comite de Conservation des Monuments de l'Art arabe. Folio, pp. [iii] and 34, with 20 plates*, 1899.

105) Mohammed Fahim & Ali Zaghloul, The great madrasa-mosque of Sultan Hassan, Cairo 1974.

106) Gaston Wiet, Les Mosques du Caire, p.107, 1966.

107) Mohammed Fahim & Ali Zaghloul, *ibid.*, pp.5-9.

108) Erica Cruikshank Dodd & Shereen Khairallah, The image of the word. a study of Qur'anic verses in Islamic architecture, vol.1, A.U.B., 1981, p. 5.

109) *Ibid.*, p.43.

110) *Ibid.*, p.51.

111) Egyptian Antiquities Organisation, Ministry of Culture, Islamic Cairo, Mosques of Salah al-Din square, Cairo, 1986, p.8.

112) Maqrizi, Khitat, 845AH., vol. 2, p.240.

113) Muhammad al-Dawudi, al-masjid fi al-kitab wa al-sunnah wa aqal al-'ulama', Mansurah, 1986, p.81.

114) *Ibid.*, p.69.

115) Organisation of Islamic capitals and cities, *ibid.*, p.127.

116) *Ibid.*

117) Oliver Sacks, *ibid.*, p.107.

118) *Ibid.*, p.6.

119) Neal Ascherson, *ibid.*

Chapter 4: Social, economic, and cultural aspects

One of the most remarkable things about the Islamic World is that there are still many urban societies functioning essentially as they were twelve hundred years ago. It would be hard to duplicate this phenomenon anywhere in Europe - nor in many other parts of the world. Of these functioning 'mediaeval' cities, none is more surprising a survival, and none more remarkable in the extent of its activities and the range and splendour of its historic monuments than the old city of Cairo.

Among the reasons for its extraordinary preservation is that, unlike many other great cities, its 'modernising' and 'westernising' developments which have taken place during the nineteenth and twentieth centuries have happened off-centre, away from the heart of the historic city. The new centre has been sited on land which had been made available by the steady movement of the bed of the Nile towards the west during the previous half-millennium. As the Sharia Muhammad Ali became the focus of fashionable life, the earlier focus, the Sharia Mu'izz li Din Allah, retained its function for the more traditionally-minded inhabitants, the artisans, craftsmen and tradesmen who had lived, since the eleventh century, around the *suq*, together with the great emirs and the ulama and scholars of Al-Azhar, the greatest university mosque of the Middle East.¹

Thus cultural, social, and economic problems of conserving historic Cairo are twofold. Firstly, the style of urban life is what is to be conserved, and not mere archaeological remains. Traditional values are, therefore, an essential aspect of any conservation operation. Secondly, the historic area is a part of what is known today as 'Greater Cairo', in which 'Westernisation' is a predominant factor of urban development. Also being part of Greater Cairo means that the historic area is getting more than its fair share of the problems facing a 'Third World metropolis of 10 million inhabitants, 40% of which live below the poverty line'. Unfortunately this is seen as a threat to the safeguard of historic buildings, rather than a threat to human basic needs and rights. Thus, the people below the local poverty line are systematically pushed out of the area. Which is creating more serious socio-economic problems for those people as well as for the urban

livelihood of the area. The present chapter looks at the problems of conservation with a clear distinction between formal and informal approaches; why does formal conservation lose touch with reality? What lessons should be learnt from informal activities? And finally is it possible to practice conservation as a common-sense recycling operation within the overall development plans for Cairo? The evaluation and classification of architectural monuments and historic buildings is beyond the scope of this research. Nevertheless, the building / settlement graph BSG will be used to illustrate the role of a building within its settlement (fig.4.1).

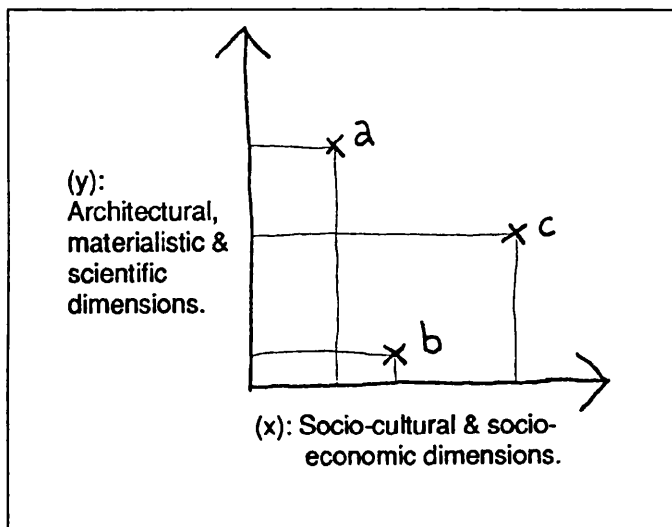


Fig.4.1 The position of minarets, street shading, and sabils on BSG

(a) minarets; (b) street shading and; (c) sabils

Minarets, *sabils*, and street shading structures in Cairo will be in different positions on BSG. On (y), one extreme is minarets in which architectural, artistic, and archaeological values are very high. The other extreme is street shading elements in which architectural and archaeological values do not exist. Public drinking water fountains (*sabils*) are somewhere in between. On (x), one extreme is *sabils* which stand for very crucial socio-cultural and socio-economic

values. The other extreme is minarets which can be replaced by modern means of communication and lighting. Street shading structures are somewhere in between.

a. Formal approach to conservation

1. Architectural conservation in developing countries

UNESCO, ICOMOS, and many other international, regional, and national organisations have claimed criteria for classification, inventory, and conservation of historic buildings and monuments. These criteria are defined carefully and precisely according to the characteristics and values of buildings and their urban context with little or no consideration to socio-economic issues. They also look to cultural aspects of a building or an area from the "international" point of view rather than local, national, or regional one. In the time of encouraging local participation and self-help projects in developing schemes, conservation of historic buildings is denied this possibility. This is mainly because of the historic, archaeological, and artistic values of historic buildings which if damaged or destroyed cannot be replaced. An argument which is not against local participation: why should a foreigner be more trustworthy than a local in dealing with historic and archaeological valuables? Another reason can be the carelessness with which local inhabitants handle their historic buildings. It should be argued that such carelessness is a result (and not a cause) of divorcing historic buildings from local culture. This carelessness is part of a great failure in the performance of formal institutions. Vigier highlights the problem:

Perhaps the most disturbing aspect of rapid urbanisation is the gap which develops between people and institutions, when traditional social ties of mutual responsibility toward a shared environment are replaced by a transfer of these responsibilities to municipal authorities.²

The practical obstacle in integrating conservation within cultural and socio-economic networks of settlements is the need for special expertise and skills on one hand and money on the other. In formal conservation practices technical problems are solved by international foreign expertise, and economic problems are solved by either foreign donations and aid or revenue from foreign mass tourism. This foreign influx may help the initial restoration or reconstruction operations, but it has a negative influence in the long run because it does not guarantee the continuation of preservation, consolidation, and conservation of historic buildings. On the contrary, such operations might isolate an historic building from the culture which produced it. Such an historic building becomes a part of the "international human heritage", which in its turn belongs to the culture of the developed countries who can afford to study, restore, and visit it. In other words, the formal approach to conservation puts the role of an historic building in a very difficult situation (fig.4.2), with a big (y) value and very little (x) value on BSG.

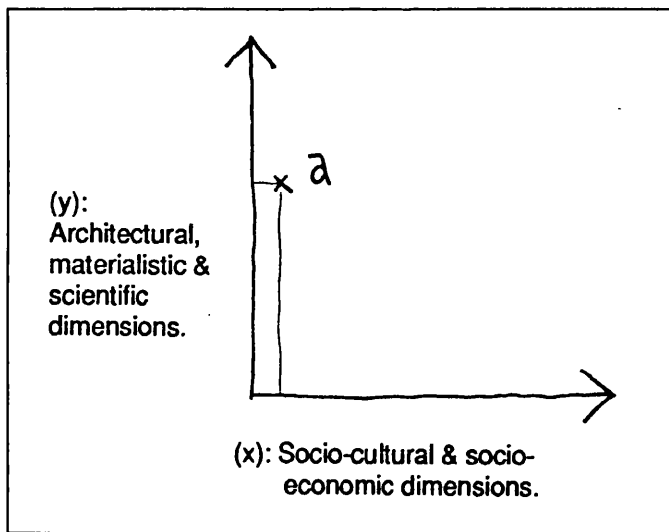


Fig.4.2 The position of a formally conserved building on the BSG

Conservation, therefore, is associated with conservatism and, of course, not

appreciated by developing or progressive policies. This leaves a gap to be bridged between the conservationist approach and the approach of socio-economic development on local or national levels.

2. Unrealistic urban conservation

To the many conflicting, and often apparently schizoid, attitudes that the West has presented to the developing world - for example, urging the use of advanced technologies and then advocating 'intermediate' technologies - we add another: adopt 'modern' building and housing, learn in your schools Western architecture and planning, and conserve your traditional buildings.

It may be that in some cases the Open Air Museum may be the only answer to the dilemma, especially where traditional building forms are rapidly disappearing.³

The adoption of "schizoid" attitudes, as Paul Oliver puts it, resulted in an unnecessary confrontation between conservation and development. On the one hand social and economic development policies put conservation as an isolated cultural icon in the background. On the other hand conservation strategies deal with Cairo as a potential open air museum, ignoring social and economic forces of the city's life. This may explain the popularity of "modern" architectural solutions for development problems in Cairo, and isolating historic buildings by their restoration as museum pieces. Even urban conservation projects did not escape this trap. Pioneers and advocates of "urban conservation" in Cairo, such as Saleh Lamei-Mostafa, Abdelbaki Ibrahim, and Hazem Mohammed Ibrahim, produced their pilot schemes for the urban conservation of historic quarters of Cairo addressing social, economic, and cultural issues. Unfortunately these schemes were not only too little too late, but moreover they assumed that tourism should be the magic solution for all socio-economic problems which obviously, if realised, would have adapted Cairo into a big open air museum. For

example, in his proposal for "the rehabilitation and restoration of the Batiliyya district of Cairo", Saleh Lamei-Mostafa says in his description of the present situation:

It is obvious that a large number of the inhabitants did not continue their education, probably due to the high earnings for labour in the last 15 years, as well as the profits gained from drugs and narcotics distribution, for which the Batiliyya district is widely known. This was probably the reason for the low number of Azhar University students living in the area.⁴

The above mentioned drugs and narcotics distribution in Batiliyya quarter involve so strong socio-economic and territorial network to the extent that most governmental armed invasions to control the area proved unsuccessful. Until today it is very dangerous for a Cairene citizen, let alone a foreign tourist or a student of Azhar University, to enter the Batiliyya quarter without either being attacked by one of the local gangs or, once got out of Batiliyya, being arrested by the police as a drug dealing suspect. Later in his paper Mostafa presented the following points as design criteria for his rehabilitation project:

1. Promotion of public awareness of the cultural heritage.
2. Rehabilitation of the infrastructure system and improvement of the quality of the external environment.
3. Restoration of the historic monuments as part of an integral programme of rehabilitation alongside the improvement of housing.
4. Improvement of standards of commercial activity and craftsmanship compatible with the character of the area.
5. Reversal of the flight of residents from the area.
6. Adaptation of the historic buildings for appropriate new uses.
7. Exploitation of the potential of tourism.
8. Implementation of tight controls for new buildings and the evolution of consistent surface treatment, such as materials, texture and colour.
9. Shops combined with residential buildings should be regarded as a basic feature of the social and economic history of the area.⁵

The design criteria does not address the very particular nature of the social and

economic life in Batiliyya. It rather assumes that tourism would flourish despite the hostile and insecure surroundings. Furthermore it assumes that once the historic buildings as well as the new structures in the quarter were used in functions related to tourism and the University, the local inhabitants would change their life style to play the role they are supposed to play in the rehabilitation project. Despite the fact that they are mostly illiterate, and definitely not trained to work in the tourism industry:

The other two houses were suggested as a museum of medieval daily life, similar to the Kretliyya House in Cairo, in order to attract and exploit the tourism potential, and to raise the social and economic standard of the area, in the hope of getting rid of the narcotics trade. 6

Unlike Mostafa, Abdelbaki Ibrahim and Hazem Mohammad Ibrahim's diagnoses the problem as one of development and upgrading, rather than restoration and rehabilitation. In their project for the upgrading of al-Jammalyya quarter, they set a detailed proposal of guidelines for upgrading historic areas.⁷ However, when these guidelines were applied on a chosen action area, they produced a restoration-rehabilitation project identical to Mostafa's proposal; the new function was touristic and no mention was made as to what happens to the present inhabitants:

Wekalet Qait-Bey is to be restored and eventually transformed to an Islamic touristic hotel. The existing buildings on its southern side are to be removed and replaced by an annex including the services of the hotel...

The demolished part of the northern wall is to be reconstructed.... an Islamic Arabic garden would take their place supplied by an oriental Arabic restaurant and cafes.

The existing Sabil and Kuttab of Auda Pacha is to be cleared from its residents and restored. The adjacent vacant land could be used to build an annex including an Islamic library, a fine art gallery and a cultural seminar room.⁸

The Ibrahims' proposals built a nightmarish image of Cairo as a dead open air museum. Although the project was meant to address social and economic upgrading as the ideal form for urban development in historic areas of Cairo, the existing socio-economic forces of al-Jammalyya were ignored.

In the procedures of the Aga Khan seminar on Cairo, Abu-Lughud warned:

Expensive patching and cordons sanitairs around clusters of monuments are not enough to preserve the living heritage of the old city with its fabric of homes and work places.... The protection of Cairo's heritage should not result in depriving people of their homes and livelihoods. We must ensure that the *means* used to achieve the preservation of the old city should not be at the expense of the people who live there. Otherwise, we will be creating a 'city of the dead' in the very heart of historic Cairo.⁹

3. Reality

In 1980 Mohammed Baghdadi, a journalist in *Sabah al-kher* weekly, wrote about his experience in the historic quarters of Cairo:

...in every street I came across a few historic buildings; al-Aqmar mosque, al-Nahhasin school, Barquq's mosque, Qalwun's mosque, and many others. Some mosques are closed, and I was refused entry to some other historic buildings. Around the closed mosques and the dangerously deteriorating schools, many Egyptian families were living in the streets. Without any privacy nor environmental shelter...¹⁰

Baghdadi goes on describing the terrible state these families are in. Among the ones he interviewed were the following cases:

- Mrs. Thurayya 'Abdel Qader Ibrahim, whose husband works in a kabab shop in al-Hussayn quarter. Number of family members is 14. Two years ago their house collapsed in the *harat* al-Darrasah They were moved to the mosque of Qalawun... Then to the mosque of Barquq...22 days later they were kicked out of the mosque, and since then they live in the street.
- Mr. Saleh Ahmed Saleh, worker, married and has 7 children. Used to live in

house no.1 in *haret* Abu Ful, off al-Hussaynyya street. In 15.02.1978, they were obliged to move out of their house according to a court order...They were allowed in Barquq's mosque for a while, and later they were thrown out to the street. Since their move to the street the children were not able to go to the school any more.

- Mrs. Magdah Mahmoud Shafe'i, whose husband is handicapped and does not work, and have three children. In November 1979 the building number 16 in *haret* al-Juwvaniyya collapsed. Magdah's family was one of 20 families which became homeless. In the beginning they were allowed in Barquq's mosque and later they were forced out to the street.

-Mr. Tamim Ibrahim Salem, who is married and is supporting 4 brothers and sisters. In January 1978 the building number 4 *sikkat* al-Khurunfush, where they used to live, collapsed. They were allowed in the mosque of 'Abdel Basit which is number 5 of the same street. Then they were moved to madrasat al-Sha'rani for 6 months. Then they were moved to madrasat al-Nahhasin, which was a very dangerous building to live in as it was about to collapse. Eventually they were moved out to the street.

-Mrs. Ni'mat Ibrahim, a tea seller, who is married with five children and her husband is dead. In October 1978 she and her children were ordered to leave their flat in the building no.10 *haret* al-Hallah by a court eviction announcement. They were moved to Madrasat Oda Bashi... Then moved for two months to the mosque of Barquq, then to the street.

- Mr. 'Atiyah Yusuf Mursi, a hawker, married with 5 children. In June 1978 they were ordered out of their flat in house no.18 *haret* al-Hallah, by a court eviction order. They were moved to madrasat Oda Bashi where 96 other families lived. Then they were moved to the mosque of Barquq, then to the street. His wife gave birth to their youngest child in the street. She fell badly ill since then and

was moved to the hospital.

The sociologist Nawal Hassan¹¹ wrote in her frightening factual paper "Historic quarters in Cairo":

- A house collapses in al-Jammalyya
- Approx. 2 houses collapse every month
- The families were placed by the authorities in a nearby mosque
- Mosque of Sa'id al- Su'ada is inhabited by families.
- Eviction... A landlord sells an old house to a speculator who obtains a permit to tear it down. (There are 150 pleadings in court daily against eviction and demolition orders).
- Many of the evicted have no place to go and were also put in mosques.
- The mosque of Qalawun, built in 1284-5 AD [is one of the hosting historic buildings].
- Al-Qadi 'Abd al-Basit mosque, built in 1420 AD (in July 1978 a wall collapses on the families killing a girl).
- Madrasat al-Nahhassin (the families are moved there in July 1978 after the collapse of al-Qadi 'Abd al-Basit mosque).
- December 1979, the families are turned out of madrasat al-Nahhassin.
- December 1979, 700 families are moved to Doueka in the Moqattam Hills (from al-Jammalyya, Darb al-Ahmar, Bab al-sha'ria).
- February 1980, other families still await their turn...

In the same year the journalist Siham Dhihni wrote about the method by which the government offered shelter for the homeless in the streets of medieval Cairo:

there is a special calendar for al-Jammalyya inhabitants. For them life starts at the day of inventory, or ends at the day of receiving. The first is the day in which 26 formal committees invaded the quarter for a couple of hours (without any previous notice), and made an inventory of the families living in mosques, madrasas, and

streets with the promise of giving them new homes. The second day is the day of receiving, when those who participated the inventory received contracts for their new homes in al-Doueka new settlement. Also the day of receiving is the day when those who were absent during the inventory realised that they lost their 'legal' right for shelter, simply because they were not available during the two hours of inventory on the first day. All their efforts to change this misfortune were unsuccessful.¹²

However, those who were lucky enough to get new homes moved to al-Doueka. Every family, no matter how big it was, received a one room flat with shared toilet (without water nor connection to public sewerage). The whole settlement was built in 60 days by the army far from everywhere without any public transport to take the inhabitants to their work, school, market, or any needed service. The public toilets within the settlement are far from the houses and there is no light in the streets, which prevents children and women from using them. So they are forced either to use the street or the waterless shared toilets. The only public services are the police station, the co-operative, and the health unit which has nothing but an American ambulance which is too big to get into the garage. The sociologist Nawal Hassan has followed up those who moved to the new homes and produced a paper: "Doueka, a new community in the Moqattam Hills..." In her paper Hassan delivers the complaints and needs of the inhabitants:

- We need bus line 63 and 62 to take us to our work and our children to school. (Bus line 61 which goes to 'Abbasia is good only for the army).
- We are happy to be here...says a family from Sa'id al-Su'ada mosque.
- We need schools for our children and social services for the family.
- Please fix our leaking roofs...
- Water fountain with automatic button... Please connect water to our houses.
- Public toilets The houses have no sewerage yet.
- The Health Unit has a modern ambulance. But needs water, sewerage, and

basic medicine.

- We need permits to set up kiosks (to give employment and protect our goods from spoiling).
- We need workshops...(1/3 of those who were interviewed in our al-Jammalyya survey were artisans).
- We need stables to protect our horses from the cold and illness.
- The only institutions to serve the community...a health unit, a colourful police station, a co-operative (with only tinned goods), a faithful guardian.

The same story happened and is still happening to other groups of families from all over the historic area of Cairo. No wonder then that local inhabitants of historic quarters do not have much architectural and historic pride, let alone a positive attitude towards architectural conservation. The socio-economic problems of Cairo are not because of the carelessness from the part of the local inhabitants towards the conservation of their city, but because of the little attention paid from the part of historic buildings enthusiasts, as well as development planners, towards the well being and dignity of the local inhabitants. In other words, the problems of conserving Cairo are of integration in attitudes towards conservation and urban development planning.

b. Informal approach to conservation

After a few years of restoration work in Cairo, the Swiss conservation architect Phillip Speiser expressed his disagreement with big scale formal urban conservation operations imposed by outsiders:

... it seems to me that the outside experts tend to under-estimate the fact that the old city of Cairo is the largest in the Muslim world. Cairo has not reduced its old city to a small museum-like quarter like the occidental capitals. Two thirds of the mediaeval city has survived since the nineteenth century; and, what is more important,

also its inhabitants and traditional life pattern, something not to be found in most so-called 'successful' restoration schemes in Europe. Doubtless, the old city has suffered in the last decade, but a district of this size always goes through a transitional phase and not everywhere is in mint condition. As long as life and commerce are possible in this part of the city its survival is assured.

Personally I feel only the pattern of spreading out restoration and up-grading nucleuses in a rather informal way can trigger the much-needed integral survival of the old city, supported by a limited legal framework and low cost operations.¹³

Speiser's statement reflects the feelings of the identical situation of European conservationists who, being fascinated by the charm of Cairo, devote a few years of their lives to conserve what they could of the old city. Then, on the big day of celebrating the completion of their meticulous work, they discover that they "threw the baby out with the dirty water". And that their ambitious conservation projects took away the very charming characteristic of Cairene mediaeval buildings; life. A comparison between formal and informal approaches¹⁴ to conservation should highlight the 'spirit' of the old urban tradition of Cairo, which formal conservation operations keep missing. This is done by a comparison of different attitudes towards different types of buildings. Street shading, public drinking water fountains (*sabils*), and minarets are conserved for functional and cultural needs by informal efforts. Formally, however, each of the three types of buildings are dealt with differently according to architectural, artistic, and archaeological considerations:

- Street shading was always a feature which added a touch of colour and feeling of mercy in the streets of old Cairo. As temporary structures they were fixed and removed according to convenience. None of the formal conservation operations in Cairo kept nor restored the wires, threads, and fabrics of the street shading structures. Neither did this feature appear in the new formally designed streets and buildings.

-*Sabils* were also a touch of mercy in the streets of Cairo. They were situated in focal points of streets to give the passer by pleasant targets or intervals in their journeys through Cairo. When formally restored, their function came to a halt. In new formally designed streets nothing equivalent to the old *sabil* exists.

- Minarets have come to be symbol for Islam, and also had the functions of lighting, spreading the call to prayers, and sometimes announcing any important message to the population. When formally conserved, minarets are restored only as monuments. In new formally designed mosques, minarets are also built as monuments.

The same three types of buildings should highlight the informal approach to conservation:

- Today, informal temporary structures for street shading are important features of street life in Cairo (fig.4.3).

- Historic *sabils* were, formally, excluded from the present street life in Cairo. Instead, much less elegant features are, informally, appearing and taking over the function and meaning which the historic *sabils* fulfilled (fig.4.4).

- Historic minarets do, informally, continue their functions. Local inhabitants provide them with loud speakers and lamps (fig.4.5). In modern informal mosques, minarets exist as cheap little structures, or as a stick with a couple of loud speakers on top, or at least as a loud speaker attached to one of the existing buildings(fig.4.6).



Fig.4.3 Informal street shading

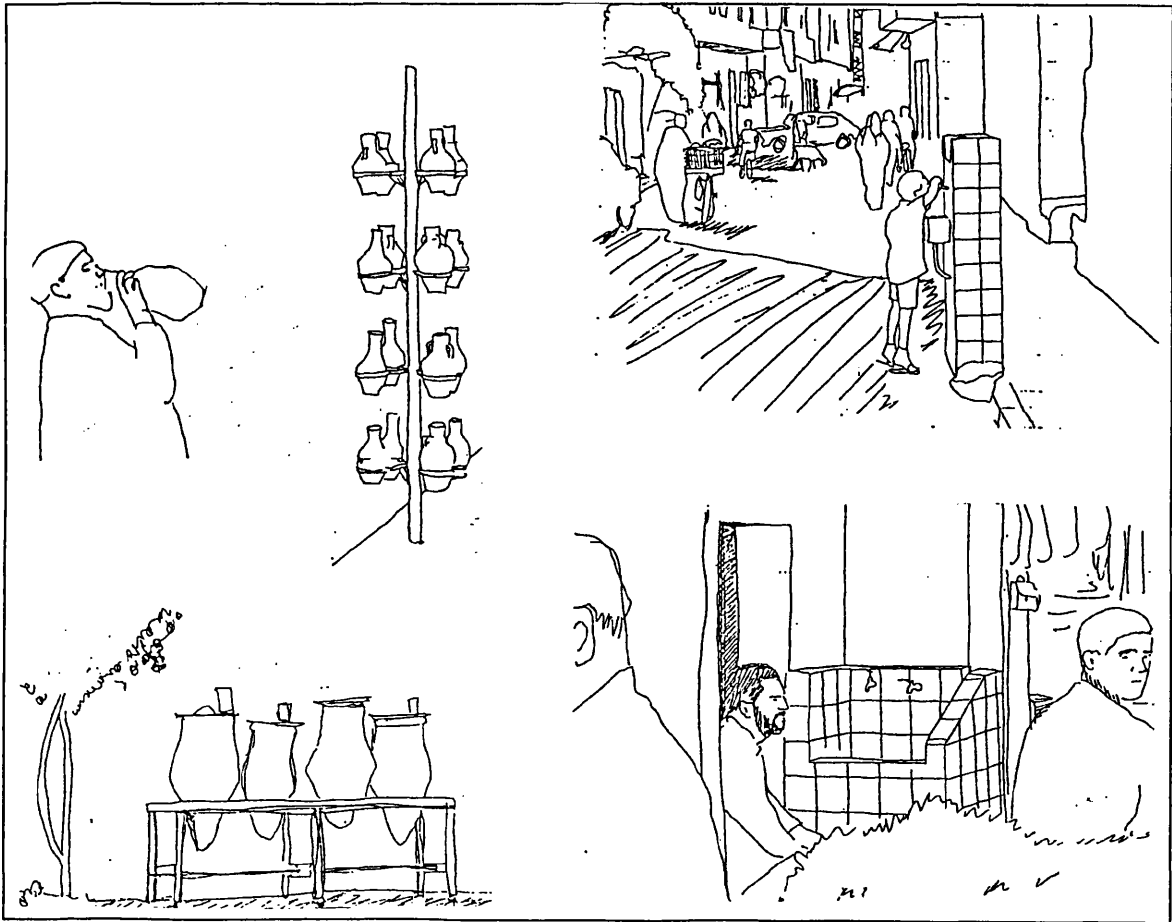


Fig. 4.4 Informal *sabils*

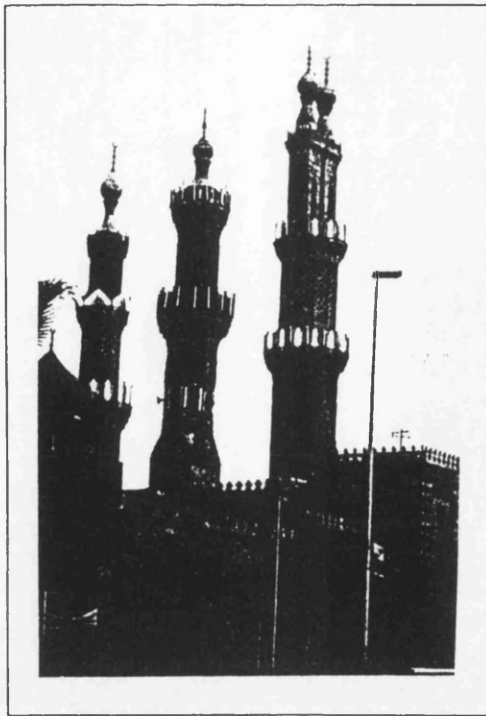


Fig.4.5 Informal conservation of historic minarets



Fig. 4.6 Informal new minarets

Table 4.1: Different approaches to different ages and types of buildings.

Building's type	Building's age	Informal approach	Formal approach
Street shading	Old	Disappeared	Disappeared
	New	Function & meaning conserved	Disappeared
(Sabils)	Old	Neglected	Form & fabric conserved
	New	Function & meaning conserved	Disappeared
Minarets	Old	Function & meaning conserved	Form & fabric conserved
	New	Function & meaning conserved	Historic styles copied

The informal attitude towards historic *sabils* is misleading¹⁵. It seems that the function and meaning of this type of buildings has died. But a more careful look at the streets of Cairo will show that new *sabils* are built every day . It is the formal "conservation" operations which "killed" the historic *sabils*. With the introduction of tap water the historic *sabils* were stripped of their function assuming that it is not needed any more. Thus historic *sabils* were conserved as archaeological objects and touristic attractions. For local inhabitants these buildings became meaningless with no cultural, social, or functional value. This may explain why on the one hand local inhabitants neglect historic *sabils* which were formally restored, and on the other hand, informally, they build new *sabils* and maintain them effectively. From these observations we can see that the informal approach is directed to the function and meaning, whereas the formal approach is directed to the form and fabric of a building. After informal conservation operations, street features lose most of their (y) value on BSG (fig.4.7)

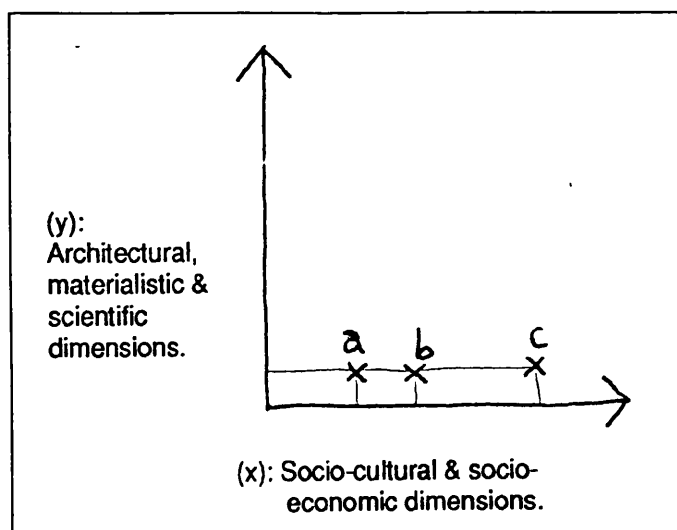


Fig.4.7 The position of informally conserved buildings on BSG

(a) minarets; (b) street shading and; (c) sabils.

c. The nature and importance of informal sector

1. The existence of unfulfilled essential needs

Informal activities indicate essential socio-economic needs which are ignored or suppressed by the formal sector. Fulfilling these needs is a struggle for survival. Therefore informal solutions are common sense reaction, despite the fact that they are considered, in most cases, illegal. The emergence of the informal sector indicates different aspects and areas of the formal sector's failure. Housing, services, and infrastructure offered by the formal sector are not only insufficient, but also qualitatively very poor and incompetent. As a source of employment and income, the formal sector also failed to answer the basic needs of Cairo. Table 3.2 shows a comparison between income opportunity offered by formal and informal sectors in a Third World city¹⁷ which is applicable for the case of Cairo.

Table 4.2 Income opportunities in a Third World city (from McGee)

Formal income opportunities

- a. Public sector wages**
- b. Private sector wages**
- c. Transfer payments:** pensions, social security benefits

Informal, income opportunities: legitimate

- a. Primary and secondary activities:** farming, market gardening, building contractors and associated activities, self-employed artisans, shoemakers, tailors, manufacturers of beers and spirits.
- b. Tertiary enterprises with relatively large capital inputs:** housing, transport, utilities, commodity speculation, rental activities.
- c. Small scale distribution:** market operatives, petty traders, street hawkers, caterers in food and drink, bar attendants, carriers, commission agents and dealers.
- d. Other services:** musicians, laundrers, shoe shiners, barbers, night soil removers, photographers, vehicle repair and other maintenance workers, brokerage and middlemanship, ritual services, magic and medicine.
- e. Private transfer payments:** gifts and similar flows of money and goods between persons, borrowing, begging.

Informal income opportunities: illegitimate

- a. Services:** hustlers and spivs in general, receivers of stolen goods, usury and pawnbroking (at illegal interest rates), drug pushing, prostitution, poncing (pilot boy), smuggling, bribery, political corruption, protection rackets.
 - b. Transfers:** petty theft (e.g. pickpockets), larceny (e.g. burglary and armed robbery), speculation and embezzlement, confidence tricksters (e.g. money doublers), gambling.
-

The average family income is about 940 Egyptian Pound per year. If 25 per cent of this income is allocated for rent, the average family can then afford only an area of about 17 sq. m. to live in. The share of an individual will then be 3.7 sq. m., a figure far below the accepted standard. A housing unit of 40 sq. m. exceeds the budgetary resources of more than 60 per cent of Egyptian families.... Similar to formal low-cost housing, informal households try to adjust the space to their own needs but with more success than those in formal houses, perhaps because they adapt more easily to their environment. Somehow the owners and tenants seem to establish a workable relationship. Owing to the increase of land and housing costs, the average tenant in informal housing

spends about 30 per cent of the family income on rent. Recent studies show that 84 per cent of the units built in Greater Cairo are estimated to be informal, which indicates that had not been for the contribution of informal housing, the housing problem would have been more acute than it is now.¹⁸

As is the case with all forms of informal housing, squatter settlements are considered illegal even though they are imposed on the urban fabric by the needs of the people. Their construction is a *fait accompli* with which the state has to cope in the presence of an existing shortage, which is resolved by this pragmatic approach.¹⁹

2. The existence of invisible forces and networks

The informal sector had emerged and is growing despite its limited access to credit, training, technology, markets, foreign exchange, publicity mechanisms, and other means and facilities (table 3.3). This indicates the existence of an invisible framework of influential socio-economic and cultural forces and networks, by which the informal sector is engineered, and without which a community would have lost an important part of its identity.

Table 4.3: The two-circuit economy characteristics (from T. C. McGee)

Characteristics	Formal sector (upper circuit)	Informal sector (lower circuit)
1. Technology	Capital-intensive	Labour-intensive
2. Organisation	Bureaucratic	Generally family oriented
3. Capital	Abundant	Scarce
4. Hours of work	Regular	Irregular
5. Regular wages	Normal	Not required
6. Inventories	Large quantities and/or high quality	Small quantities and/or poor quality
7. Prices	Generally fixed	Generally negotiable
8. Credit	Banks and other institutions	Personal, non-institutional
9. Benefits	Reduced to unity, but important due to the volume of business (except luxury items)	Raised to unity, but small in relation to the volume of business
10. Relation with clientele	Impersonal and/or through documents	direct, personal
11. Fixed costs	Important	Negligible
12. Publicity	Necessary (formal)	None or innovative
13. Reuse of goods	None, wasted	Frequent
14. Overhead capital	Indispensable	Not indispensable
15. Government aid	Important	None or almost none
16. Direct dependence on foreign countries	Great, outward oriented activity	Small or none

Oldham and A.U.C. team express their curious interest in the way an informal settlement functions:

The most interesting unanswered question about informal settlements is why many of them are such nice places to live. If

they lack in services and look extremely disordered on the surface, they are nevertheless characterised by an underlying order which produces a high level of safety and security for their residents. Despite acute stresses of urban life, many of them seem to generate almost no serious conflict, and local disputes are settled by informal institutions, quickly and effectively. This is particularly curious, as most such settlements are made up of people from all over the country, and most of them are young communities. It would be both extremely interesting and potentially extremely useful to analyse how in so many cases they have been able to generate a viable, supportive social fabric out of such disparate elements and under such severe environmental conditions.²⁰

Stauth's analysis of informal aluminium workshops in al-Jammalyya²¹ reveals a hidden socio-economic structure which influences the way such workshops work as well as the life style of the quarter. The owners of big workshops who lived outside the quarter were of great influence on the social and economic life of the quarter. Also the younger owners of smaller workshops who usually lived in the quarter and worked in their workshops did influence the street life of the quarter in a more apparent way. The ordinary workers in different workshops longed for being self-employed. Those who could not make it (to establish their own workshops and become self-employed) did influence the social life of the quarter through the *shilla* (a social group which over bridges 'class' and social differentiation). Those socio-economic networks and relationships and interactions ceased to exist once the informal small and medium sized workshops were overtaken by big ones of formal character. Stauth complains:

As against the throbbing life that we once found in our place in *shari'* al-Gamaliyya when we started research in 1981, Gamaliyya, when I last saw it in autumn 1985, it was a calm and unexciting place. The small workshops of the type A and C (with old technology) had disappeared. Of the workshops of type B only the one of the three brothers still existedThe *shilla* disappeared from the public life of the street...Social life had vanished from the public, the street had lost its function for the social life of the quarter. The *warsha* [workshop], where it still existed, had lost its

integrating functions, it had declined to a mere economic institution.²²

3. The possibility of good management

In many occasions, the informal sector produces the best management possible for the given resources within a community. The 200 informal aluminium workshops of al-Jammaliyya made the best use of the available human resources by investing the different social forces and networks in the quarter.

According to Stauth they also made the best use of other resources:

... the aluminium workshops altogether form a type of invisible assembly line. Raw material goods are exchanged among the different workshops, products are processed from one workshop to another, remains are recycled and redistributed. However, the whole of the 'laboratory' is based on the small commodity production of the individual units. The products of these units, be they finished or semi-finished products, are to be sold when leaving the workshop. The raw material inputs, when entering the workshops, have to be paid for, and thus all other external services likewise are fully monetarized... The individual workshops are specialised and oriented towards different levels of marketization: there are workshops which specialise for both semi-finished and finished products and even more than that, they are also providing for the processing of recycled raw material. There are various other workshops which specialise in one specific product and thus appear as rather autonomous units.²³

4. The absence of a major partner in development plans

The informal sector is not integrated in the overall development strategies and plans on local or national levels, despite its great influence and involvement in every day life. This absence handicaps any actual development of the city. The way in which informal settlements are treated highlights this problem:

Much of Cairo's expansion over the past 25 years has taken place via the establishment of new communities on farmland or government-owned mountain and desert land at the edge of the

city. Largely populated by migrants from the countryside and people moving out from the most densely settled areas of the central city, these communities are in violation of multiple laws concerning agricultural land use and expropriation of government land. Because of their illegality, home builders cannot get building permits. The settlements as a whole are in principle ineligible in perpetuity for infrastructural facilities, including paved roads, piped water, sewers, and solid waste collection service.²⁴

Also attitudes towards squatter vendors throughout Cairo make a similar case:

While squatter vendors continue to fulfil urban needs, it is often thought they interfere with the goals of those responsible for the order and safety of the urban environment. Many officials, and indeed other city residents, perceive hawkers, as nuisances who clog up streets, side walks and other public places, pose health hazards - not by any means frivolous concerns in a city so congested as Cairo. They are, furthermore, often seen as an embarrassment to those concerned with presenting a modern image of the city. In the absence of adequate legislation and because of the ambivalent role street vendors play in the society, it is not surprising that conflict between the vendors and law enforcers sometimes arise....No Cairene would deny the important role the squatter markets play in the life of the city. The markets exist in virtually every district, and given Cairo's demographic picture and its well-defined traditional characteristics, they unquestionably will persist as a phenomenon in the city's market structure. In fact, once we isolate and examine two primary factors affecting the status of squatter markets - the premium of space and density of population - we may even assume that the number of markets in the city will, if anything, likely grow.²⁵

The informal economic sector which plays an underestimated, but important, role in the national economy and still is an essential element of Cairo's urban economy has not yet found official support. Unfortunately enough this sector is still considered as a parasitic element of underdevelopment.. The positive factors of the informal sector for the development process (e.g. job creation, community development, training) are not officially recognised. Thus they are not introduced as an element in the ambitious national development programmes, which rely solely and not very successfully on modern economic development.²⁶

d. Lessons from the domestic refuse collectors (al-Zabbaleen)

Many lessons should be learnt from the domestic refuse collectors (al-Zabbaleen) whose socio-economic and territorial system is one of the most effective and successful management examples in Cairo. Also the importance of recycling should be learnt from al-Zabbaleen.

1. The story of an ordinary day

Before sunrise, the men and the big boys of 'Izbet al-Nakhl settlement woke up²⁷. Mixed noises of animals and human beings broke the peaceful silence of the night. A fleet of donkey-pulled box-like carts surrounded by the barking of excited dogs went out of the settlement. After a journey of about one hour the fleet reached Cairo and spread in different directions divided in smaller fleets. Two carts went in the same direction heading for Mansheyyet al-Bakri quarter, east of Cairo. At al-Khalifa al-Ma'mun street they separated; the first cart with the father and his 12 year old son sleeping in its bottom and snoring noisily went towards the northern part of the quarter. Whereas the second cart went to the southern part of the quarter with the other two sons half asleep. It resembled a small, but professionally designed, battalion. The old donkey, leading and teaching the younger donkey on his right hand side, pushed the cart through the sleeping neighbourhood. Three dogs came all the way from the settlement accompanying the cart, as if the journey was a show of power. A few months old donkey, with a long rope between his neck and the cart, was running cheerfully all over the place as the battalion moved. Their sudden stop alarmed the sleeping boys that they reached the first group of buildings from which they should collect the solid waste. The older boy rose lazily from the bottom of the cart, picked up his big straw basket and jumped to the ground. The younger boy followed and each one of the two brothers went to a different building, climbed

up the stairs to the top of the building, and descended while collecting the domestic refuse left out of every flat's front door. During the boys absence the dogs made it clear that nobody is allowed to get near the cart. The boys, then, threw the load of their baskets in the cart and sat on its edge with their feet on the donkeys' backs. The older brother gave the old donkey a kick, according to which the battalion moved. The old donkey knew, out of habit, where to stop next. Every time the cart stopped the boys, absent-minded, jumped to the ground and went through the same routine. As they moved along, the cart was getting full and smelly. Around one of the street corners they came across the big man from the Oasis (al-Wahi). Who patrolled the area to make sure that the collecting is done satisfactorily by the right people. The boys greeted al-Wahi with exaggerated respect and went on with their job. Once the daily tour was over the boys threw themselves on the pile of refuse in their cart and fell asleep, while the old donkey lead the battalion back to the settlement. By late morning the cart reached the boys' home. They jumped to the ground released the donkeys and unloaded the cart. It was not long before their father and brother arrived with a similar load, as the carts were all of standard size. The mother, sisters, and younger bothers were by then awake and ready for the comers. They started sorting out the refuse. The organic stuff went to feed the pigs, bones, tin, rags, glass, plastic, paper, spent dry-cell batteries were sorted in different piles. The sorting job took all the day until sunset. Meanwhile the big boys and their father sold the remains of organic refuse, collected the previous day, and the droppings of the pigs to fertiliser dealers. They also sold the different sorted non-organic material to merchants and brokers who sell recycled material to different small workshops and factories. By sunset the settlement changed mood and got calmer. Socialising, friends' chatting, and family gatherings became the main activities. And it was not long before the boys and

their father were catching up with some sleep before the next battlions' *sorti*.

2. Social characteristics

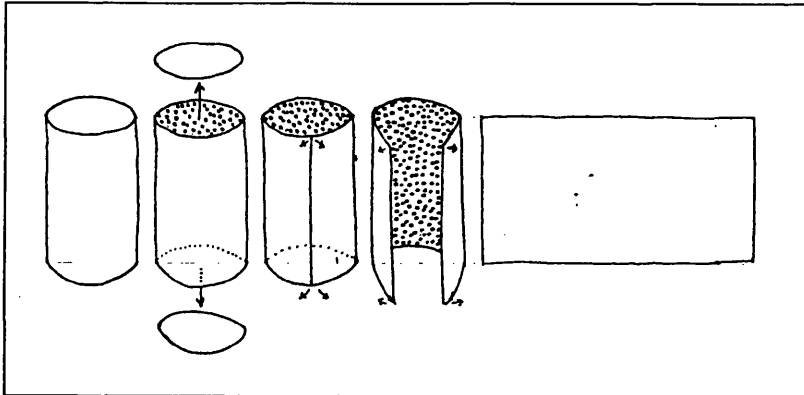
About 40,000 families of Zabbaleen live in eleven separate shantytown satellites around Cairo. They are mostly Coptic Christians who migrated initially from certain villages around Assyut city in upper Egypt²⁸. The nuclear family which manages a pig yard (*zeriba*), is the central organisational and productive unit of a Zabbaleen community. A fresh rural migrant from Assyut can join a Zabbaleen community if he could find a job as an ordinary worker with a well established Zabbal. It will take such a worker a few years of hard labour to become a partner in the pig yard he is working in. Then he will need a few more years to become a full owner of a pig yard and employ fresh rural migrants, preferably from his original village in Assyut, to work for him. In his late forties and early fifties he will be seeking partner(s), preferably from his own kin. Then he will either become a silent partner and move back with his family to his village of origin, or he might seek partners to own more pig yards and become a bulker. An important factor in making a wealthier Zabbal and a potential bulker is the wealth and style of life of the neighbourhood he is collecting refuse from. A wealthy neighbourhood with a western life style would produce much more valuable garbage than a poor one with a traditional life style (as recycling already happens within the household before producing any garbage). Every community of Zabbaleen has a few bulkers on its top societal organisation. Bulkers do monopolise the market and enjoy substantial profits as well as a respected social status within the Zabbaleen community. The community tends to generate strong leadership for settling local problems as there is a strong reluctance to resort to the official channels for the constant fear of drawing attention to the settlement's illegality. Another motivation behind developing strong leadership is the extension of the

rural tradition of upper Egypt to solve local problems through informal negotiation among the elders²⁹.

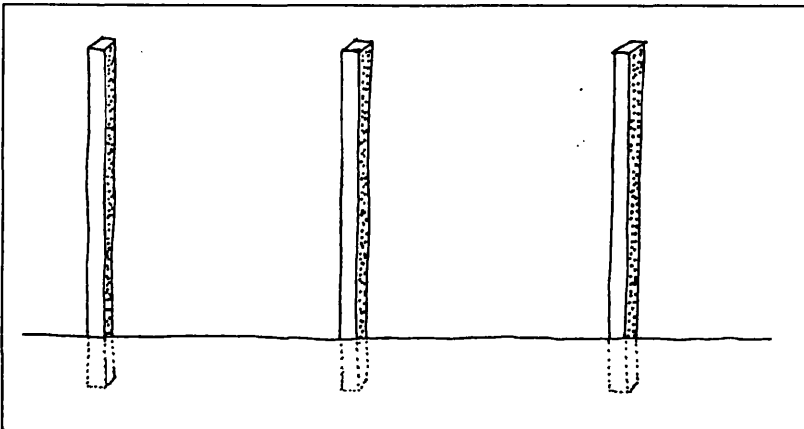
3. The settlement

All Zabbaleen settlements were built on public land without official permission of the municipal government. With very few exceptions, they are not supplied with drinking water, electricity, sewage system, or any other municipal services. Because of the 10,000 cubic metres of garbage they collect and sort everyday, and because of the pigs they breed, the Zabbaleen are forced to live in the more desolate fringes of the city. Whenever the urban expansion reaches the vicinity of their settlement, it is inevitable that the Zabbaleen would be evicted by the municipal authorities according to pressure from their new neighbours . As they are forced to change their location every three to four years, the Zabbaleen have developed a system of building an entire settlement of mobile nature.³⁰ A Zabbaleen settlement consists in average of 80-150 pig yards, gathered in a jigsaw-like layout. About 60 oil drums, 25 timber posts, 3 kilograms of 2" nails, 4 door hinges, and a group of friends and relatives can make an average pig yard and sleeping quarters for a newly established Zabbal (fig.4.8).³¹ A pig yard consists of a big yard and two rooms as sleeping quarters, a water pump if the settlement is on agricultural land, and temporary shelter for pigs and half an oil drum laid horizontally for drinking water.

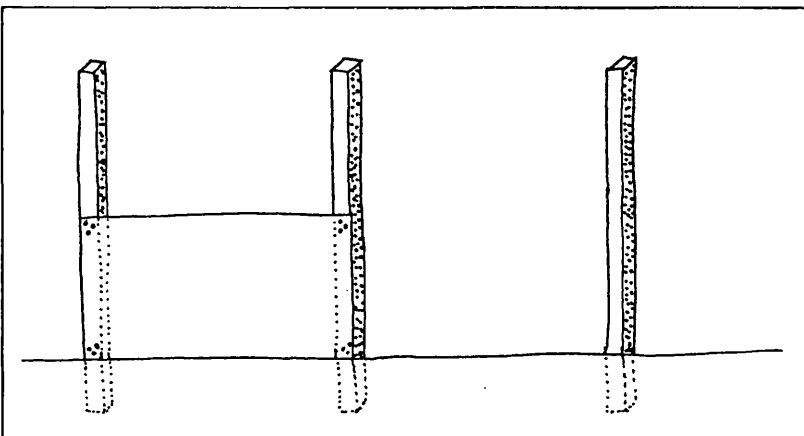
Fig.4.8 The method of constructing a *zeriba*



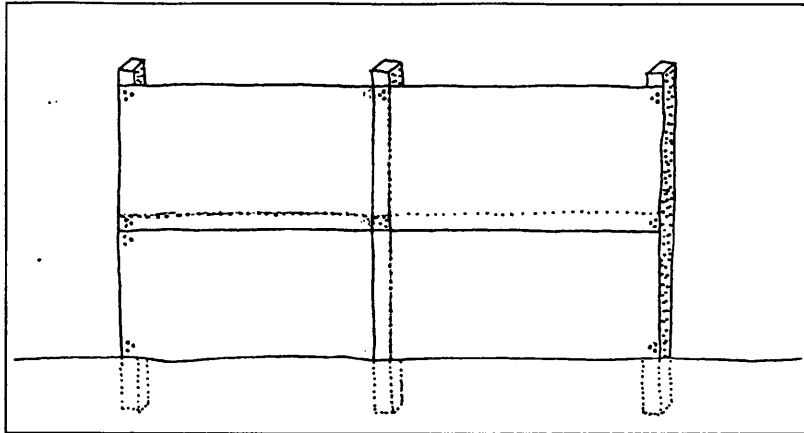
a. The bottom and top are cut off the oil drum. Then The cylinder is cut longitudinally and opened up to form a flat sheet. This sheet is the module for the whole *zeriba*



b. After a plot of land is assigned to a Zabbal, he would erect wooden posts on regular intervals.



c. A module sheet is nailed horizontally to two wooden posts.



d. Other sheets overlap each other and nailed to the posts. Doors and windows are cut off the module sheets and framed with wooden members.

4. Collecting and recycling refuse

The house/pig yard (*zeriba*) in a Zabbaleen's settlement, the amazing productive unit, receiving the domestic refuse of a certain neighbourhood of Cairo, is the mere beginning of a long recycling operation. On entering the house / pig yard the refuse is to be sorted out as follows:

Organic matters: fed to the pigs. The pigs then are sold to the meat and sausage market.

Organic matters which the pigs do not eat + the droppings of the pigs: are turned into compost sold for agricultural purpose.

Cotton and wool rags: are reprocessed for upholstery blankets.

Tins: are pressed and soldered into vessels, rivets, children's toys, and spare parts for machinery.

Metals: are melted down and poured into clay moulds to make door handles and other items.

Paper: about 2,000 tons of paper are extracted every month to be reprocessed

into some 1,500 tons of recycled paper and cardboard.

Glass: is taken to small workshops where it is blown into bowls, jugs and glasses. Some bottles are cleaned and sold to be reused.

Plastic: is sorted by appearance and ground into pellets in a machine. Or introduced to an injection-moulding machine which produce photograph frames, bicycle decorations and imitation flowers. Most palletised plastic is sold - at about half the price of newly manufactured polymers - to factories which produce cheap plastic goods. About 500 factories in Cairo use recycled plastics.

Bones: are used to make glue, paints, and high-grade carbon for sugar refining.

Spent dry-cell batteries: are cracked open for the carbon rods and the casing melted into zinc ingots.

Some families are specialised in recycling certain materials. Out of 30 houses that Bouverie visited in Manshiet Nasser, ¹⁰ specialised in plastics, 6 in rags, 3 in metals, 2 in glass, 2 in bones, and 1 in tin. Nearly all families kept pigs³². All the products of recycling operations are sold by a network of middlemen to workshops, small factories and specialised markets, through which they are returned to the city's mainstream markets.

5. Territoriality: the role of the Wahiyya

The Zabbaleen rent refuse collection routes from the Wahiyya (s. Wahi) who live in certain quarters in the city and undertake their business in particular coffee houses. The Wahiyya are originally Muslim migrants from the Western desert oasis of Dakhla. They work and live within a fraternal and business association, through which they act as domestic refuse brokers. The Wahiyya allocate different territories within the city among themselves. And then each one approaches the owners of the different buildings in his territory and buys from them the right of garbage collection. In return for their investment, the Wahiyya

have the right to collect a monthly fee from the apartments from which the garbage is removed. And also they collect the rent for garbage collection rights hired by the Zabbaleen. When a Wahi buys the right for garbage collection the only thing that discontinues such right is the demolition of the building. The change in the building's ownership does not affect the Wahi's right. Even the death of the Wahi does not interrupt such right, which simply passes to his heirs. The Wahiyya are not only middlemen and investors, but more importantly they are territoriality observers and controllers:

Because property rights to the garbage from buildings are not likely to be defensible in Cairo's courts of law, disputes among brokers over jurisdictional rights are handled informally within the group's social organisation. Conflicts are resolved through such mechanisms as informal councils of arbitration and, in extreme cases, stick fights and patrilineage solidarity. In the event of death, a broker's rights usually passes to his oldest son. Only when a building is demolished do the rights lapse. A new building on the same site is open for acquisition in the tradition of the highest bidder. This closed system is maintained by a limited information network, threats of violence, and the low status accorded occupations associated with waste removal... Unlike brokers, however, who may sell their rights without the consent of the concerned Zabbaleen, a Zabbal may not sell his collection route without the permission to the broker, who receives a commission on all such transactions. Because buildings are demolished and new ones are erected in the vicinity of given routes, a Zabbal operating only one cart frequently deals with more than broker.³³

6. The economics of garbage collecting/recycling business

A Zabbal gives the Wahi a lump-sum of a few hundreds of Egyptian pounds in order to obtain a collection route. Then he pays the Wahi a monthly royalty payment ranging from two to six Egyptian pounds for each cart. It might seem to an outsider that the Zabbaleen are doing most of the job and yet getting the worst deal in the garbage collecting business. Far from true, not only they are doing much better financially than the Wahiyya, but moreover they are doing

much better than any other group of rural migrants in Cairo. In fact "garbage collecting" is a wrong description of their job. They are entrepreneurs who are investing in two fields. The first is pig breeding and the second is recycling material. This fact can be highlighted by a comparison between all payments and costs a Zabbal undertakes, and the income from both types of investments. Firstly, a conservative estimate of the annual income from pig breeding in a small pig yard of only ten sows, taking into account 25% loss, is two thousand Egyptian pounds. During two years pigs would give birth four or five times, each time the number of the young ones would range from eight to twelve. In eight months, when the pigs would weigh about 40 kilograms, they are sold. Secondly, it is difficult to put an estimate of income from recycled material because the variables in such an industry are too many. But a few examples would help in establishing an idea about the profit Zabbaleen make out the garbage:

Table 4.4 The price of some items recycled by Zabbaleen (from Bouverie)

Recycled material (one tonne)	price (in E£)
Paper	150-200
Glass	40
Dry bones	150
Plastic	750-1200

The above mentioned figures suggest that the collection of domestic refuse should not be isolated from the other activities a Zabbal does. Furthermore, it should be considered "collection of raw material" for his twofold activity (i.e. pig breeding and material recycling). With very little capital a Zabbal can build a pig yard, a cart, buy two donkeys, a few pigs, and a collection route and start an

amazingly successful and efficient business.

7. Why does the system function?

In order to understand how successful the Zabbaleen are, two facts should be stated. Firstly, it is not only an informal approach to the problem of domestic refuse collecting, but more interestingly it is a traditional approach. And like many other urban traditions in Cairo, the Zabbaleen system was discredited and forced to the underground life of informal activities. Therefore, it is an important model of social, economic, and cultural traditions in Cairo, to learn from and may be to conserve. Secondly, as an informal activity, the Zabbaleen's experience must be seen within the constraints of the informal sector as opposed to the formal sector (see table 3.3).

Cairo's population of 14 million, which is rapidly rising, produces about 10,000 tonnes of rubbish every day. Household waste varies from district to district. In the richer suburbs, where people shop at modern supermarkets, dustbins contain large amounts of the packaging that pervades the West. In the poorer areas, people throw away little more than mouldy vegetables.

About 60 per cent of Cairo's rubbish is collected. Of this, the Zabbaleen take two-thirds, mainly from the poorer districts, and 'official' refuse collectors pick up one-third. The rest lies around in the city's streets where it is trodden into the dirt, providing a breeding ground for diseases such as typhoid, dysentery, hepatitis and tetanus.

The governorate has tried to improve the situation by encouraging new, Western-style rubbish collecting companies to compete with the Zabbaleen, who have been Cairo's main refuse collectors since the early 19th century... While Cairo has expanded fourfold in the past 20 years, facilities for disposing of the city's waste have fallen hopelessly behind. Cairo's single composting heap has a capacity of only 600 tonnes per day. Landfills are situated at least 10 kilometres outside the city limits, making their operation barely cost-effective. Confronted by these problems, many [official] refuse collectors are secretly selling their loads to the Zabbaleen for between E£5 (84p) and E£10 per tonne, instead of driving to the landfills.³⁴

Observations and analysis

- Obviously there is a need for urban upgrading of the Zabbaleen's settlements, but the question is what to keep and what to change in the process? May be the question in the case of the Zabbaleen is much easier than the case of historic quarters of Cairo. Because in the case of the Zabbaleen most of their positive characteristics can be observed and may be stated in figures.

- The social and cultural differences between the two groups Zabbaleen and Wahiyya are very well invested: Zabbaleen are Christian rural migrants who are experienced in breeding pigs. Like most Egyptian peasants they have good abilities for recycling material. The family is a crucial and strong socio-economic unit. On the other hand Wahiyya are well built Bedouin migrants who have good abilities for trading, and territorial negotiation and defence. As in their initial oasis, they do segregate their wives from their socio-economic activities in Cairo.

- The differences between animals are equally well invested: donkeys can pull heavy loads, and they know their every day route. Pigs can eat organic garbage, and they give many litters of big numbers in a short time. And dogs are good in guarding their territory.

- The life cycle of both human and animal life is well integrated in the system which guarantees a smooth continuation despite any life loss or sudden illness, which in its turn guarantees the daily collection of domestic refuse under any circumstances: Before a father dies or retires, his wife, children and / or younger brothers would be already in charge of a big part of the business. Before a donkey dies or retires, a younger donkey would be ready for taking over the job burden. More obviously the life cycle of a pig is very well invested.

- When a Zabbal goes on his daily collection route, his motivation is firstly to feed his pigs, and secondly to get as much material for recycling as possible. This guarantees that the collection will happen every day under any circumstances.

Whereas if his motivation was the fee he gets from the households from which he collects the garbage, he definitely would not have done his job as efficiently.

- It seems at first while that the role of the Wahiyya is unnecessary. And that they are doing nothing and getting away with good money, whereas the Zabbaleen are doing the dirty job and yet they are paying for the Wahiyya, instead of being paid. But the fact of the matter is that tasks and payments are fairly distributed between the two groups. Moreover, the role of the Wahiyya (middlemanship and territoriality guarding) is essential for the whole system to function properly.

- For every neighbourhood it is publicly known who is collecting the garbage from which building. What is not known who owns the right for garbage collecting from the different buildings of the neighbourhood. Only the Wahiyya, sitting in one of their coffee houses, have a detailed plan of every neighbourhood (though not drawn on paper), different from the plan that everybody knows. Maybe a few Zabbaleen know the plan of ownerships for one or more areas. But it is only the Wahiyya who know the overall plan, and thus the overall balance of power. Frightening as it sounds, all informal activities in Cairo seem to need such an informal balance of power on agreed terms of territoriality.

- Perhaps the most successful characteristic of the Zabbaleen business is that it creates a complete circle for the flow of goods in one direction (hence the domestic refuse is categorised as goods for the Zabbaleen) and liquid money in the other direction (see fig.4.9). Which contributes towards the economic, social, cultural, and environmental refreshment of the city.

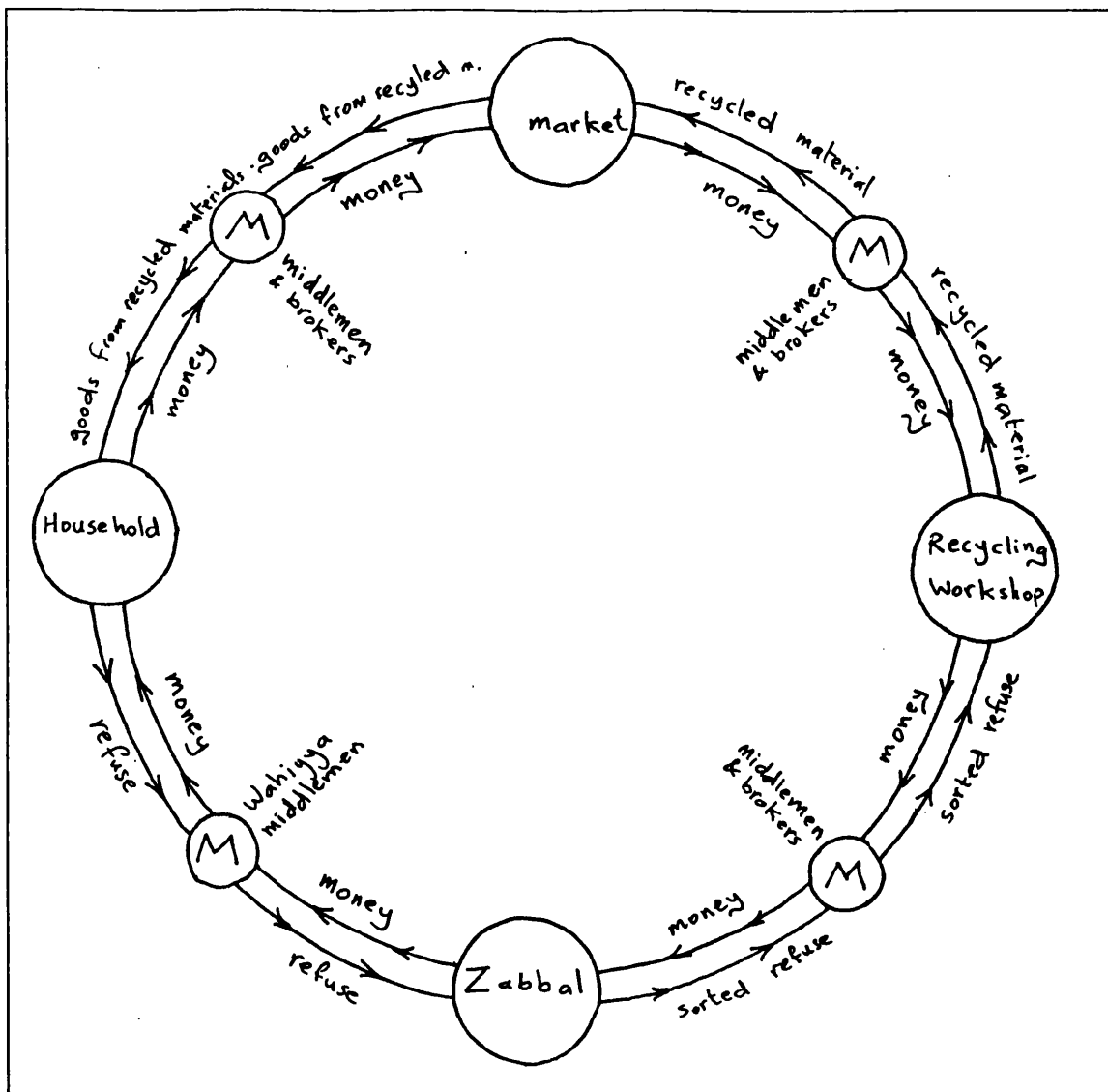


Fig.4.9 The flow of goods and money created by the Zabbaleen system

e. Conservation as a recycling operation

1. Initial motivation for constructing historic buildings

The construction of architectural monuments had been always a convenient tool to suppress people, to impose certain ideologies on them, and to guarantee the immortality of individuals or regimes. Therefore, it must be clear that the initial motivations for constructing architectural monuments, with very few exceptions,

cannot be the same motivations for conserving them. Maqrizi explains why the mosque of Ibn Tulun was designed the way it is (with no marble columns, which is unusual for the mosques of Cairo):

It is said that Ahmad Ibn Tulun said: I wish to build a structure that shall persist if Misr [old Cairo] is burnt or inundated. Then they said to him: Construct it up to the ceiling of gypsum, ashes and well-backed red bricks. Do not employ columns of marble for it cannot withstand fire. He therefore constructed it thus.³⁵

Most historic buildings, when initially constructed, were meant to last for many generations. This aim was, very often, achieved with intolerable brutality. Which may be the reason of the unpopularity of architectural monuments in the time of their construction. A careful historic research will unveil unpleasant stories of exploited labour, corruption, and misuse of political power, associated with the construction of great architectural monuments. Even money and building materials were, very often, stolen to build architectural monuments to become historic buildings. The stories of Ulmas and Jarkas are two of the very few stories in which the tyrant was punished, and his building suffered his downfall:

(i) Amir Ulmas built his mosque and his palace about 1330AD. These two buildings were full of wondrous marble works. Maqrizi says that Ulmas used "illegal and dishonest" manners in collecting marble pieces for his buildings. Later on, Ulmas was imprisoned and strangled, probably for political reasons and all his wealth, including the marble from his buildings, were transferred to the citadel.³⁶

(ii) Street callers went about the 18th century streets of Cairo announcing that Amir Mohammed Jarkas decided to build a palace near Birkat al-Fil. All workers were to present themselves to the site without delay. Whoever failed to be present in time would be beaten. Amir Jarkas forced workers and masons to

build his palace with no wages at all. But unlike many other buildings built in the same fashion, after the downfall of Amir Jarkas from power, his palace was to be razed to the ground by orders from the Pacha of Egypt. As the 300 workers were tearing it down, they sang: "we built you without wages, but thanks to God, we are now getting paid for tearing you down."³⁷

The mosque of Ulmas, which survived until today, when examined on BSG, in the time of its construction, will show big (y) value and very little (x) value (fig.4.10).

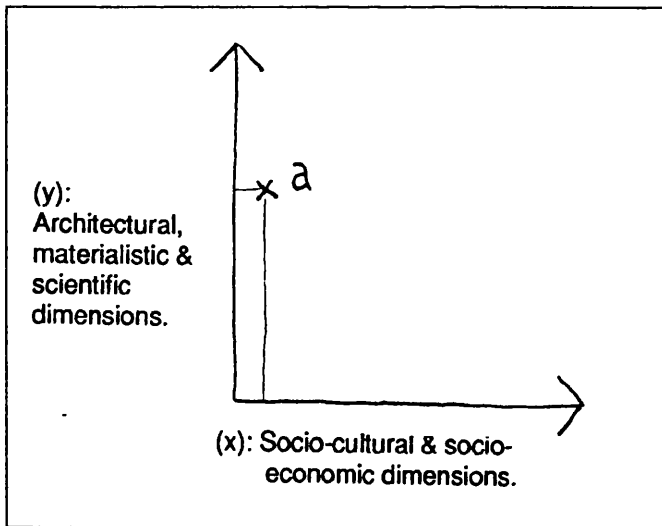


Fig. 4.10 The position of Ulmas mosque at the time of its construction on BSG

2. The recycling of historic buildings

Most architectural monuments, unlike the palaces of Ulmas and Jarkas, do survive the downfall of their founders and become 'historic buildings'. Some times a building recovers, in an amazingly short time, from the painful stories of its construction and the unpopularity of its founder's reputation. The most recent and striking example of such a phenomenon is the Romanian attitude, less than

a year after the execution of Ceausescu and before the recovery from the destructive effects of his tyranny and dictatorship:

Rupert Murdoch recently made the Romanian government an offer to buy Ceausescu's former Bucharest palace for use as a communications centre. It was an offer they could refuse; we do not sell our country, was the immediate and admirable response.³⁸

Once an architectural monument survives the first hiccup, it becomes a potential historic building. It stands, then, ready to be charged by values, symbols, and emotions for generations to come. By then it will be regained to the society. The bloody and sad stories of its foundation will be, merely, the first page in the thick book of its long history. Furthermore, this first page is, very often, torn up by "patriot" historians. The social and cultural dimensions of an historic building are formed by the role a building plays in its settlement. The mosque of Ulmas stands until today, without its wondrous marble works, but also with no association, whatsoever, with its founders reputation. And when examined on the BSG (fig.4.11), few centuries after its construction, the mosque of Ulmas will show high value of both (x &y).

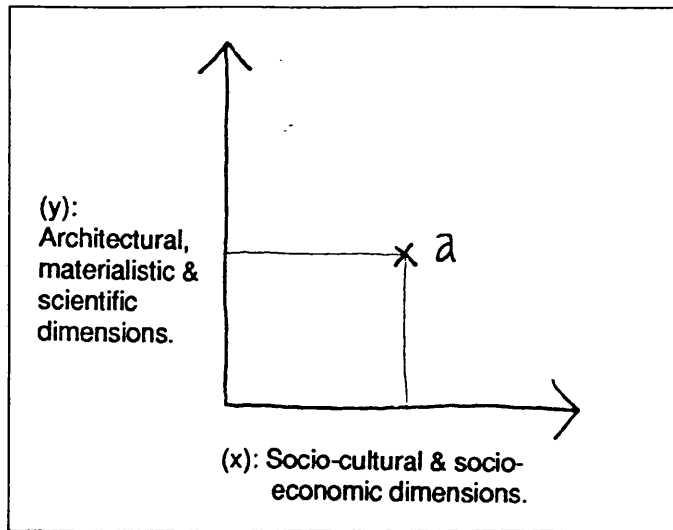


Fig.4.11 The position of Ulmas mosque on BSG,
few centuries after its construction

The longer a building lives, the more important its cultural and social dimensions become, and less important the initial story of its construction becomes. Very few Egyptians see the great pyramid at Giza as "a tomb of one man built by the blood and resources of millions". On the contrary they see it as a proud symbol of their country and its long history. The story of al-Azhar is a straight forward proof that the socio-cultural dimensions of an historic building is what counts, and not the initial motivations and attitudes to its construction. J. Jomier wrote:

Al-Azhar ...is one of the principal mosques of present-day Cairo. This seat of learning, obviously Isma'ili from the time of its Fatimid foundation (4th/ 9th century), whose light was dimmed by the reaction under the Sunni Ayyubids, regained all its activity-Sunni from now on- during the reign of Sultan Baybars. Its influence is due on the one hand to the geographical and political position which Cairo occupies in the Muslim world (especially since the downfall of the Baghdad 'Abbasids), attracting scholars and students and accommodating many Maghribi pilgrims on their way; on the other hand it is due to the situation of this capacious mosque itself in that quarter which was up to the 19th century the epicentre of the town of Cairo. 39

Al-Azhar did not only survive the downfall of the Fatimids and became an influential Islamic university, but also became a national symbol. People gathered in al-Azhar, as a house of the people, in times of catastrophe such as epidemic, famine, or war. And from al-Azhar started the uprising against the French in 1798, and later against the British in 1898. And in al-Azhar the *Mujahidin* gathered and went to fight for Palestine in 1948.

f. Alternative approach to conservation, concluding remarks

Formal conservation is out of touch with reality for two major reasons. Firstly, because it is not integrated within development plans. Secondly, and more importantly, development plans are in their turn unrealistic, and unsuccessful. So that in the very rare cases the conservation is integrated within an overall development process, the whole matter becomes a great failure. In contrast, informal conservation is a much more successful practice. For the very reason that it is a product of actual social, economic, and cultural forces and / or needs. The informal sector in Cairo today reflects the way in which the society actually functions. A detailed study of this sector should reveal many characteristics which can be positively invested in architectural and urban conservation. The most obvious of these characteristics is the recycling tradition. Everything can be recycled in Cairo, even traditions. Also the study of the informal sector highlights the long list of essential needs which if fulfilled would guarantee a successful development and conservation. The successful operation that the Zabbaleen do emphasise the amazing ability for good management of traditional informal organisations. Another way of looking at recycling practised in Cairo is to see it as a conservation operation. Not only environmental conservation can be achieved by recycling but also urban and architectural conservation. A process which already happened naturally in the history of Cairo. Furthermore, the

position of recycling as a central value of Cairene urban tradition might have been the major reason for the survival of such a great number of monuments from different eras of the city's history. An alternative approach is needed to bridge the gap between the informal and the formal approaches to conservation. The informal approach lacks scientific and technical know how. The formal approach lacks integration with the economic, social, and cultural life of Cairo. And both approaches contradict with national and regional development plans. Owen puts a definition of urban conservation as a part of an equation of 'conservation and change'. This is essentially different from the formal approach to conservation which puts conservation of historic buildings as the objective and not as a part of a process. It is also different from the informal approach which does not guarantee the physical and archaeological safeguard of historic buildings.

Urban conservation is the planned reduction of the rate of physical change in those parts of settlements that have long-term social, environmental and historic values, whilst continuing to accommodate people's changing and unchanging needs as expressed through their activities.⁴⁰

Rapoport also addresses the issue of change:

A valid question here is how much concern there should be with perpetuating existing lifestyles. There will clearly be changes, but they will start from the existing situation, which offers a far more useful starting point than does an arbitrary one. It is also useful to trace those elements (in the culture core) least likely to change quickly and, finally, to design in an *open-ended manner* but, again, in terms of those specific elements most likely to be important.⁴¹

Within this understanding of conservation and change, historic buildings are not to be conserved in the focal points of new boulevards, nor to be standing like grand rocky islands in an ocean of slums. The alternative approach to

conservation looks at an historic building within its context. It goes beyond bricks and stones to include socio-cultural and economic characteristics of the neighbourhood, and to Cairo in general. In order to be realistic, solutions must be offered to economic and technical problems of architectural and urban conservation. And most importantly, as local participation is crucial, local attitudes towards historic buildings must be studied and considered. With the drastic problems of Cairo, local participants can be effective only if conservation was integrated within an overall development process. Kent⁴² puts the following four conditions for any successful community-based development planning:

Firstly, power must be redistributed.

participation without redistribution of power is an empty and frustrating process for the powerless."⁴³

What, after all, do we mean by poverty? The income and the possessions of an American, unemployed, inner-city resident on general relief would be like a king's ransom to a member of a thriving hunter-gatherer tribe in the Kalahari Desert. And yet the former is seen as impoverished and the latter (to anyone who has observed the quality of such person's life) enormously rich. Poverty is not so much a matter of possession in itself, but of a more subtle and significant affair: power. The poor have no control over the events of their lives⁴⁴

Secondly, the use of appropriate technology of planning, rather than the introduction of foreign experience as examples.

To insist on the use of, say, the critical path technique to manage farms would be to render the ordinary farmer incompetent. In much the same sense, to insist on sophisticated, technical planning methods renders many local governments and local people incompetent to plan, and forces them to rely on outside 'experts'. Many modern planning techniques need to be augmented or replaced by an *appropriate technology of planning*. Just as high-technology hardware is generally imported, requiring outside experts for its operation, and often is alienating, the same is true of much of the software of planning techniques. Too often, the

'sophisticated' methodologies become instruments of mystification, expanding the influence of the outside planner or expert while shrinking the influence of the purported beneficiaries. Technique can thus serve as an instrument of dominance.⁴⁵

In general, models are too aggregative and systematic to be translatable into practical national planning strategies. Even when models include participation or local values in their designs, the notion of problem solving they express is too highly intellectualised. And at least implicitly, they suggest that only systems specialists or global experts properly know how to diagnose the people's developmental ailments. This is misleading, however, inasmuch as true alternative strategies, on the contrary, seek not only development *for* the people but *by* the people as well.⁴⁶

Thirdly, Setting the genuine concerns of genuine people as goals for planning.

Poor people may be enormously successful in their own terms - in maintaining strong communities, for example - but these achievements may be simply overlooked by those who insist on defining worth in terms of wealth. It is no accident that those who get to define it in terms by which they are already successful. One of the most important privileges of the powerful is that they get to define success.

We do *choose* how we will define development. The character of development is not something that simply 'is' - out there to be discovered. It may be helpful to think of people's development as being measured in terms of that which serves as a source of pride to them. Then the importance of accommodating diversity becomes very clear. It also becomes clear that imposing your standard on me - e.g., how fast you can run a mile - makes me deficient and violates me. I can respect your running speed as a source of pride *for you*, but I want you to respect the importance of, say, achievement in wood carving *for me*. Insistence on any common standard creates deficiencies, denies diversity, and manifests disrespect for people. In contrast, respect for indigenous values honours local achievements and thus shows respect for local people.⁴⁷

Fourthly, Development planning should take place through dialogue.

... distinction should be made among three types of dialogue, that among professionals, that between professionals and ordinary people, and that among ordinary people themselves. If development is understood in terms of liberation of people, the highest priority must be given to facilitating the planning dialogue

among the people themselves. Planning can be liberating, but only for the planners. So long as people remain marginalised, without communication (and communion, and community) among themselves, dialogue among professionals, or the dialogue of consultation between professionals and isolated individuals, cannot be very fruitful.

People cannot become fully developed until they undertake their own development planning. They need to do that through dialogue among peers. Neither planning nor development can be completed by individuals acting alone.⁴⁸

In his approach to architectural conservation in low income countries, Van Huyck⁴⁹ builds his proposal on the following principles:

1. Build a strong knowledge base.
2. Build awareness among all development institutions.
3. Build architectural pride in the community.

These three principles are based on realities in developing countries, rather than the West as a model. To go a step further, the objectives of a conservation project should not be too grand nor too difficult. The scale of a project should be small and the resources generated should be the best possible management of what is available. Local socio-economic networks should be mobilised and socio-cultural traditions involved. According to the alternative approach, a new breed of minarets, street shading structures, and *sabils* should emerge in Cairo. Either by restoring historic buildings, or by building new ones. The architectural, technical, and artistic qualities of these features should belong to the formally restored historic buildings. And their socio-economic and cultural qualities should belong to the informally restored and built minarets, *sabils*, and street shading structures. In other words conservation should be practised as a recycling operation rather than an imported frozen dogma (fig.4.12).

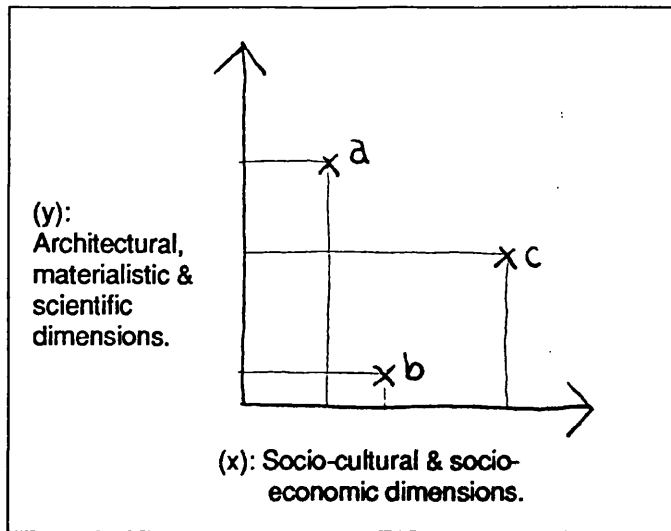


Fig. 4.12 The position of alternatively conserved buildings on BSG
(a) minarets; (b) street shading and; (c) sabils

Notes

- 1) R. Lewcock, "Conservation in Islamic Cairo" in The expanding metropolis, coping with the urban growth of Cairo, Proceedings of Seminar 9, Architectural transformations in the Islamic world, The Aga Khan Award for Architecture, Cairo, November 11-15, 1984, p.49.
- 2) F. Vigier, "The challenge and the response", *ibid.*, pp.201-214.
- 3) Paul Oliver, "Cultural issues in conservation implementation" in Conservation of buildings in developing countries, ed. Roger Zetter, Working paper no.6, Oxford Polytechnic, Department of Town Planning, Jan. 1982, p.12.
- 4) Saleh Lamei-Mostafa, "the rehabilitation and restoration of an historic area - the Batiliyya district of Cairo" in Planning and conservation, London, 1987, pp.133-147.
- 5) *Ibid.*
- 6) *Ibid.*
- 7) Hazem Mohammad Ibrahim, "up-grading historical areas" in Up-grading of the urban environment of cities, Centre of Planning and architectural studies, Cairo, 1986, pp.13-49.
- 8) *Ibid.*
- 9) Abu-Lughud, in the comments of The expanding metropolis, coping with the urban growth of Cairo, Proceedings of Seminar 9, Architectural transformations in the Islamic world, The Aga Khan Award for Architecture, Cairo, November 11-15, 1984, pp.34-5.
- 10) Baghdadadi is one of many journalists who are concerned with the homelessness problem in the old city, and whose alarming articles appear every now and then in the weekly and daily press of Egypt.
- 11) Nawal Hassan is a nationally renown sociologist who runs "The Egyptian Civilisation Study Centre", located in al-Ghoriyya district. She is an energetic activist who is advocating for the human rights of the poor in the historic quarters of Cairo.
- 12) S. Dhihni, "Yawm al-hasr" in Sabah al-Kher weekly, May 1982, pp.14-17, p.58.
- 13) Ph. Speiser, in the comments of The expanding metropolis, coping with the urban growth of Cairo, Proceedings of Seminar 9, Architectural transformations in the Islamic world, The Aga Khan Award for Architecture, Cairo, November 11-15, 1984, p. 61.
- 14) Of course reality is much more complex than dividing approaches to socio-economic and cultural activities into two categories; formal and informal. Most activities do actually fall somewhere in between the two extremes.
- 15) Informal as opposed to formal approach to the conservation of historic buildings highlight the heterogeneous character of informal activities, which is a complex of sub-cultures.
- 16) T. C. McGee, "The Persistence of the Proto-Proletariat: Occupational Structures and Planning of the future of Third World Cities", in The Third World Urbanisation, Janet Abu-Lughud and Richard Hay Jr. ed., Maaroufa Press, Chicago, 1977, p. 266.

- 17) Ibid.
- 18) Abou-Zeid Rageh, "The changing pattern of housing in Cairo", in The expanding metropolis, coping with the urban growth of Cairo, Proceedings of Seminar 9, Architectural transformations in the Islamic world, The Aga Khan Award for Architecture, Cairo, November 11-15, 1984, pp. 133-140.
- 19) Madiha El-Safty, "Social aspects of urban planning", in *ibid.*, pp.141-148.
- 20) Linda Oldham, Haguer El-Hadidi & Huddein tamaa, Informal communities in Cairo: The basis of a typology, Cairo papers in social science, vol.10, Monograph4, Winter 1987, pp.xx-xxi.
- 21) George Stauth, Gamaliyya: Informal Economy and Social life in a Popular Quarter of Cairo, Working paper no. 87, University of Bielefeld, 1986, pp. 30-32.
- 22) *Ibid.*, pp.32-33.
- 23) *Ibid.*, pp.9-10.
- 24) Linda Oldham, Haguer El-Hadidi & Huddein tamaa, Informal communities in Cairo: The basis of a typology, Cairo papers in social science, vol.10, Monograph 4, Winter 1987, p.xv.
- 25) Helmi R. Tadros, Mohammed Feteeha & Allen Hibbard, Squatter markets in Cairo, Cairo papers in social science, vol.13, Monograph 1, Spring 1990, pp.2-3.
- 26) Bernd Jenssen, Klaus R. Kunzmann and Sherif Saad-El Din, "Taming the growth of Cairo, Towards a de concentration of the metropolitan region of Cairo" in Third World Planning Review, vol.3, no.2, May 1981, p.211.
- 27) This story is based on information from field visits, observations, investigations, and interviews & Kingsley E. Haynes and Sherif M. El-Hakim, "Appropriate technology and public policy: the urban waste management system in Cairo", in The Geographical Review, pp.101-108. & Jasper Bouverie, "Recycling in Cairo: a tale of rags to riches", in New Scientists, 29 June 199, pp.52-55.
- 28) Kingsley E.Haynes and Sherif M. El-Hakim, *Ibid.*
- 29) Linda Oldham & et., *Ibid.*
- 30) Kingdley E. Haynes, and Sherif M. El-Hakim, *Ibid.*,
- 31) Information are derived from interviews with Zabbaleen from 'Izbet al-Nakhl settlement north east of Cairo.
- 32) Jasper Bouverie, *Ibid.*
- 33) Kingdley E. haynes, and Sherif M. El-hakim, *ibid.*, p.103.
- 34) Jasper Bouverie, *Ibid.*, pp.52-53.
- 35) T. D. A. Maqrizi, Al-Mawa'iz wa'l-l'tibar fi Dhikr al-Khittat wa'l-Athar, Bulaq, 1270H.
- 36) *Ibid.*
- 37) N. Hanna, Construction work in Ottoman Cairo (1517-1798), *Chaier no.4, Supplement aux annales Islamologiques*, Cairo, 1984.
- 38) AJ, 23 May 1990.
- 39) J. Jomier, "Al-Azhar" in Encyclopaedia of Islam, vol.1, Leiden E.J. Brill, 1960, pp.813-821.
- 40) Stephen Owen, "Change and Conservation in Settlements" in Planning outlook, vol.18, pp.35-41.
- 41) A. Rapoport, "An approach to designing the Third World Environment" in

Third World Planning Review, vol.1, Spring 1979.

42) George Kent, "Community-Based Development Planning", in Third World Planning Review, vol. 3, No. 3, 1981, pp. 313-326.

43) Sherry R. Arnstein, "A Ladder of Citizen Participation", in Journal of the American Institute of Planners, vol. 35, No.4, July 1960, pp. 216-224.

44) Hugh Drummond, "Power, Madness, and Poverty" in Mother Jones, vol.V, No.1, Jan. 1980, p.22.

45) George Kent, *Ibid.*, p.318.

46) Denis Goulet, Looking at Guinea-Bissau: A New Nation's Development Strategy, Washington, DC, Overseas Development Council, 1978.

47) G. Kent, *Ibid.*, p.324.

48) *Ibid.*, p.325.

49) A. P. Van Huyck, "The economics of architectural conservation: thoughts from the Bangladesh Workshop, March, 29-April 7, 1989, in Mimar, no. 32.

Chapter 5: Technical aspects

Different technical aspects of conservation merit an extended research in their own right. The present chapter, therefore, cannot do justice if it was aiming at a full coverage of the subject. Technical aspects of conservation, like those of medicine, cannot afford to be local. It is true that building materials, building techniques, and conservation problems differ from one city to another, even within the same country. But on the other hand so many old buildings can only be saved by the mere exchange of knowledge and experience amongst conservationists all over the world. In the field of medicine, nobody accepts that a human being should be left to die from a certain disease at the time when the cure from such a disease exists somewhere else in the world. The same applies to architectural conservation.

The aim of this chapter is fourfold: Firstly, it acknowledges the importance of technical aspects among other aspects of conservation. Secondly, it highlights certain technical problems which are particular to the case of Cairo. Thirdly, it looks at the conservation lime stone, from which most medieval Cairo was built. Fourthly, it suggests an approach for tackling these problems. Modern and conventional techniques of recording, dating, measuring, monitoring, laboratory analysis, and all conservation-related sub-specialities of different sciences, though central to the cause of architectural conservation in Cairo, are beyond the scope of the present research. Also it must be mentioned that encouragement of publication, communication, and translation to Arabic in the field of technical aspects of conservation is crucial:

..., it was Dr. Feilden who described the aim of the Conference [on conservation of medieval Cairo] as an effort to 'reverse the trend towards decay in parts of the Islamic city of Cairo and make clear its message of glory and greatness as a seat of culture.' It is

expected that his book, to be published by Butterworth in the autumn of 1981, will have immediate impact upon the whole cause of restoration; and it is hoped that it can be speedily translated into Arabic.

(from newsletter four, June 1981, The society for the preservation of the architectural resources of Egypt).

a. Problems on the scale of Cairo

The charm and importance of Cairo as an historic city is due, to a great extent, to the large number of Islamic buildings from the medieval period. The survival of these buildings is the result of many factors such as the political and commercial importance of the city, its moderate climate, and its reasonably sound subsoil structure. Since the middle of last century many of the characteristics of Cairo have changed. New technical problems have arisen to challenge the historic buildings and to question the techniques of conservation in the city.

1. Economic and political decline

Wiet describes Cairo in its golden age by quoting travellers :

Travellers had a great deal to say about the wealth of the inhabitants of Cairo . One of them stated with a certain amount of lyricism: 'If I were to describe the wealth of the city, this book would not suffice. If it were possible to gather together the cities of Rome, Milan, Padua, Florence and still four others, I swear that they could not all contain half of the wealth of Cairo'. It was a city of immense commercial traffic, since merchandise flowed to it from the East Indies, Ethiopia, the Barbary Coast, Asia Minor, and Europe.

After being a Mamluk Capital, then reduced to a big Ottoman provincial city, Cairo was reduced to a colony in the British empire for more than 70 years. The independence of Egypt in 1950s did not automatically allow Cairo to gain its former position. On the contrary, the new political order of the world during the second half of the 20th century gave Egypt no more than the role of a third world country. Like most other big cities in the third world, Cairo is subjected to

increasing urban pressures. Poverty, dramatic growth of population and political failures may be the main problems which led to the present deteriorating situation in Cairo. Mass tourism, a relatively new phenomenon for Egypt, adds extra pressures on the infrastructure and environment of the city.

2. Environmental challenges

The air temperature in Egypt varies between 0°C in the coldest winter night and 40°C in the hottest summer day. The average rainfall over Egypt is about one centimetre a year.¹ The strongest dust storm is *al-khamasin* (the fifty) which attacks Cairo in the early spring and might last for fifty days.² The modernisation schemes in the 1950s have introduced, heavily and suddenly, the machine to Cairo through factories and cars. Then underground metro, air conditioners, and other types of machines were added in the 1970s and the 1980s. As a by-product of the spread of old fashioned and environmentally unfriendly machinery in Cairo two factors were produced and influenced enormously the environment of the city : vibrations and air pollution.

3. Changes in subsoil condition

A quick look at any of Cairo's medieval buildings will pinpoint the most serious of technical problems: rising damp and salts. The Nile had been always an influencing element in defining level and components of Cairo's ground water

Most of contemporary Cairo is built on land which lay either permanently or periodically submerged under the river in the seventh century.³

As the channel of the Nile shifted to the west, Cairo expanded over the new land resulting. The Nile was also introduced to the city through canals, ponds, and lakes which were later drained, filled, and built over. The city and the river had

been always interlocked. The subsoil of Cairo was a natural expansion of the river bed. The Nile's annual flood inundated the Valley with water, soluble minerals, and silt. The minimum level of the Nile was reached in late May, whereas the beginnings of the flood were seen in late June, with the maximum level reached in mid September.⁴ That gave the subsoil of Cairo a yearly refreshment and redistribution of the ground water. This interaction between the river Nile and Cairo was remarkably reduced in the beginning of this century by the construction of Aswan dam. And came to a halt by the completion of the High dam in 1970, as water level of the river was completely controlled. According to Feilden, irrigation schemes of the Nile are affecting Cairo and have raised the ground water level considerably.⁵

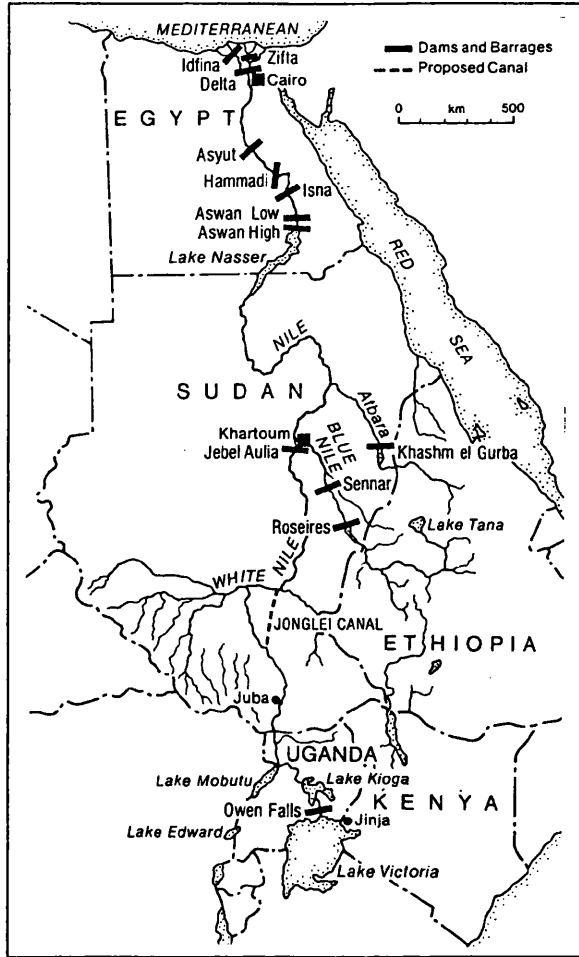


Fig.5.1. Main dams and barrages on the Nile (from Anderson)

Leakage of water-supply lines and sewage system caused not only the rise of ground water level, but also the creation of a new lake of water nearer to the ground surface.⁶ Lewcock diagnoses the case as follows :

The rise of ground water is aggravated, it is believed, by the aftereffects of the Aswan dam, which has reduced the scouring action of the river to a minimum, allowing fine silts to be deposited against the banks; these are so fine that they have effectively sealed the substrata, and prevented the water table from draining out into the river. The result has been the creation of an 'underground lake' under Cairo, which is kept filled with the water brought by the authorities that only 50 percent of the water brought in actually reaches the taps- the remainder being lost to the ground

through leaks in the pipes. Similar, or even worse, losses in the drainage system explain the slow but steady rise in the water table, to which must be added the wastage of water in places where no drainage removal system was ever built. The water table has risen in the last thirty years from an average of three meters below ground level to an average of less than one meter below ground level.

It should be noted that above account of the ground conditions in Cairo is necessarily generalised and simplified. There are actually two subterranean water tables, one 'perched' above the other, and the two separated by harder strata. One of the modern problems is that the two are beginning to operate as one, the lower exacerbating the condition of the upper."⁷

Probably, Lewcock builds his diagnoses on the findings of the UNESCO experts report, in which he himself took part. The report says that the subsoil of Cairo consists of two different layers (see fig.5.2.): clay surface layer 1m-4m thick, over sand up to 100m thick. Each of the two layers has its own water table and each behaves independently, affected by different factors. In some places the water table in the sand comes close to the underside of the clay layer. Due to pressure, in some pressure zones within the strata, water sometimes rises into (and perhaps even above) the clay layer, thus contributing further to its saturation⁸.

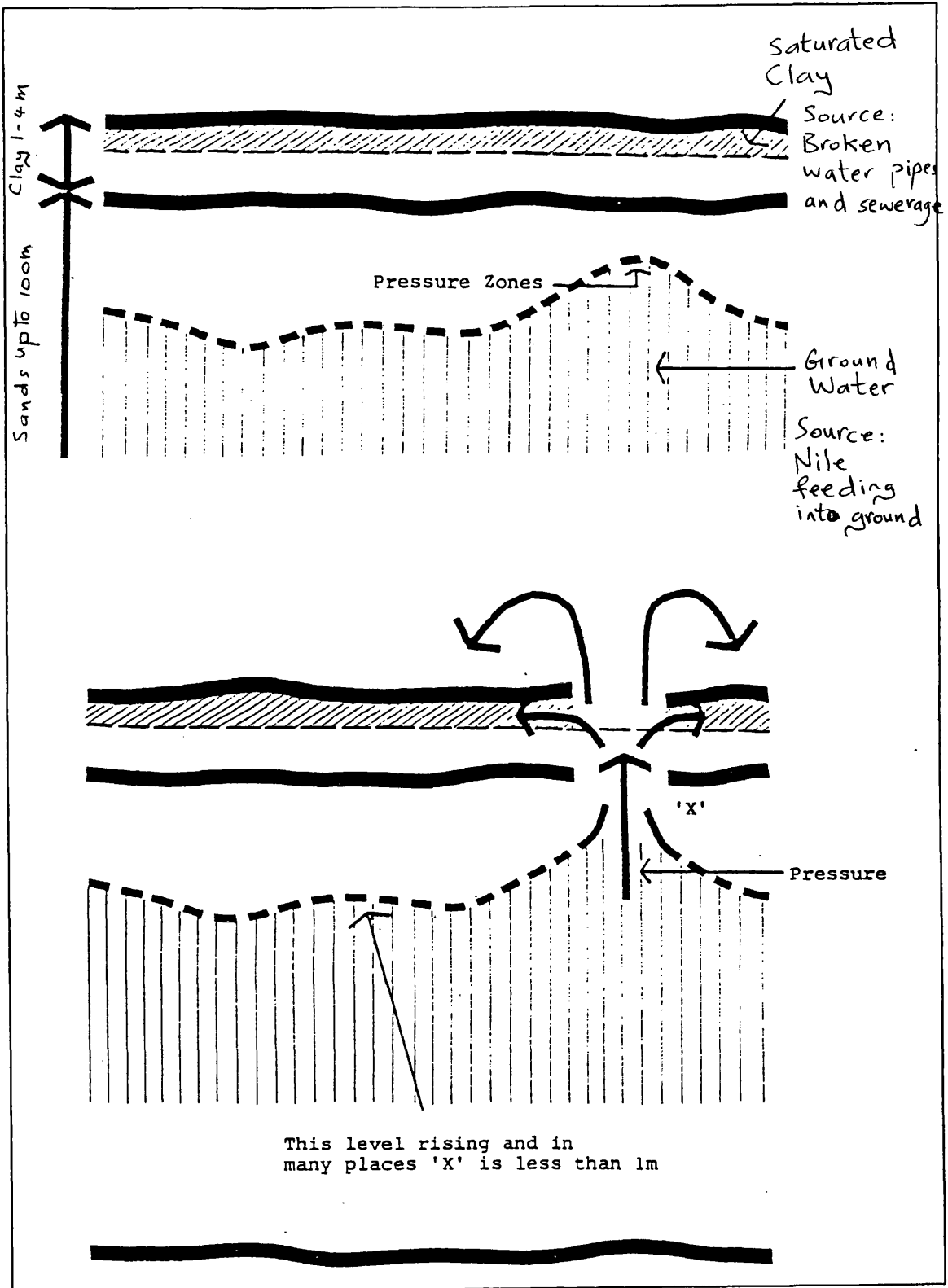


Fig.5.2. Ground water (from UNESCO report)

The UNESCO report also argues that the upper clay layer is saturated not only by the leakage in the historic area, but also by the leakage of the higher land to the east which is increasingly populated without adequate infrastructure.⁹ The change of ground water level alters the bearing capacity of the soil. This varies according to the nature of the soil, its grain structure, and the geology. Overloaded cohesive soil consisting of clay and silt will compress and squeeze outwards. Whereas overloaded non-cohesive soil consisting of sand and gravel will run.¹⁰ Dangers by the two lakes on which Medieval Cairo is floating are not only the dampness or the change of bearing capacity, but also the change in chemical compounds of the soil. Chemical analysis are done to the ground water under an old church located in Islamic Cairo. The analysis, done by (EGY-TECK Group, Consulting Engineers, Cairo), resulted with following compounds in the ground water¹¹ :

- 1) Total filterable residue dried at 105°C 1730-2250 ppm.
- 2) Alkalinity as Na CO₃ 403-424 ppm.
- 3) Salinity as Na Cl 351-410 ppm
- 4) Sulphate as SO₃ 679-915 ppm
- 5) PH value 7.2

The same Engineers drilled in the same site four borings and three open pits (fig.5.3). The soil consisted of superficial layer 3.5. to 4.5 m **fill** underlain by 7.0 m to 9.0 m of silty **clay** then deep **sand** layers of Cairo¹².

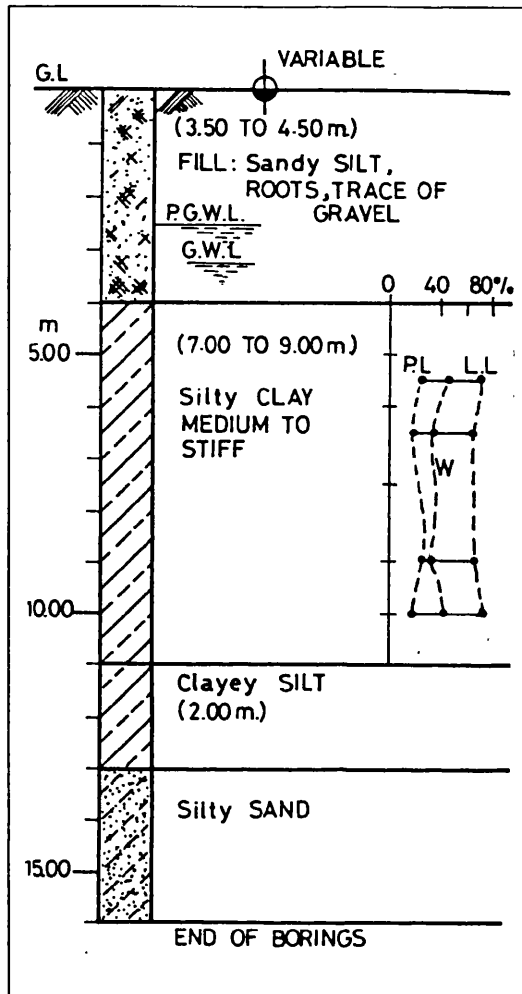


Fig.5.3. Summary of a borehole log. (from Atalla)

b. Problems on the scale of a single building

1. Rising damp

The rising damp had been always a problem for Cairo's architecture. But the change in ground water level and leakage of sewage system made the problem much more serious than ever before in the ten centuries of the city's life. The continuous rise of street level accelerated the problem as the historic buildings of Cairo sunk year after year under actual street level, and also under the level of all newer buildings. The changes in the city fabric put another pressure on

historic buildings. Some walls which had not been exposed to the air are now exposed because of the demolition of a neighbouring building. As it is the case in the *madrasa* al-Gawhariya which was restored by an Egyptian-Danish team:

When the *madrasa* was erected, only two small narrow sections of the outer facades were visible. Today, because of demolition of the surrounding buildings, these facades are completely exposed.¹³

The same problem happened when the Comite dug the streets around most of the monuments of Cairo to the original street level at the time of their construction. The *madrasa* al-Gawhariya shows another problem which faces many other historic buildings of Cairo. The heaps of debris piled against the *qibla* wall reached a level of 4m above the present street, and 6m above the 1440's level of Cairo (the time of building the *madrasa*).¹⁴ All the external walls of medieval buildings in Cairo have an area of dampness and salts from the street level until the height of 3 meters. As Ross complains about this problem in his accounts of the restoration of the *madrasa* al-Gawhariya :

...The other main problem was the rising water level, linked with the salts that were destroying the building. This is a problem all over Cairo, and its cause has not yet been determined.¹⁵

Feilden warns that it is a sign of danger :

If water table land has been raised by some extrinsic cause this will show by dampness in cellars and increased capillary and moisture content in walls. These are serious problems.¹⁶

Bob H. Vos explains in scientific terms the absorption and the suction of water by building materials of historic monuments :

Absorption of water :

If a material is in contact with water, this water will generally be absorbed. The amount of water that is absorbed (m) and the depth

of penetration of the absorbed water (x) depend upon two coefficients :

A = water absorption coefficient ($\text{kg/ m}^2 \cdot \text{s}^{0.5}$)

B = water penetration coefficient ($\text{m/ s}^{0.5}$)

The following relations hold :

$M = A \quad (\text{kg/m}^2)$

$X = B \quad (\text{m})$

NOTE: the time (t) must be expressed in seconds.

For brick (1700kg/m^3) $A=0,4$ and $B=1,5 \cdot 10^{-3}$

For marly limestone (1900kg/m^3) $A=0,05$ and $B=0,3 \cdot 10^{-3}$

These values relate to initially dry materials. If the materials are already wet, the A and B values are lower.¹⁷

Suction of water :

Suction of water from ground finds its origin in the capillary of the materials. It is an absorption process determined by the absorption and penetration co-efficient, and can be activated by the presence of salts which are dissolved in the water. Water rises into the walls of a building can evaporate either to one side or to both sides. The maximum height of rise (H) has been reached when the amount of water that evaporates equals (i.e. compensates) the amount of water that is sucked up by the capillary forces. Formulae can be derived for the calculation of the maximum height rise. Provided evaporation can only take place to one side of the wall, a very rough approximation of the maximum height of rise in brick walls is given by :

$$H = 1 - 0.01 I$$

In this relation d is the thickness of the wall (m) and I is the relative humidity of the air (in %).¹⁸

Salts and chemical components in the rising damp add more threats to the safety of the building. The chemical actions of salts in the walls by evaporation are described by Feilden as follows :

(1) The salts that are potentially the most dangerous to the rendering and to the painted surface of a wall are the *sulphates of sodium, potassium, magnesium and calcium*, because according to where they crystallise they cause serious disintegration owing to the failure of cohesion of the materials. Calcium sulphate can form a white veil over the surface or it can be crystallised within the rendering by the sulphation of calcium carbonate to which a polluted atmosphere contributes.

(2) The *nitrates of sodium, potassium and calcium* are soluble salts which normally give rise to thick efflorescence easy to eliminate

and of which the disintegrating action is inferior to that of the sulphates.

(3) *Calcium carbonate* is a main component in construction in the form of limestone. Calcium carbonate has not by itself a disintegrating effect once it has crystallised, but it forms incrustations that are very hard and intractable.

(4) *Sodium chloride* is normally a surface deposit, having been transported by sea air, and in itself does not cause disintegration. However, it is able by a process of hydration to promote the disintegration of surfaces by its action on other salts that may be present under the effect of varying temperatures.

(5) *Silica* contained in certain rocks, in clays and in cements is in a form that can be transported very slowly towards the surface by infiltrating water. A long-term effect is the formation of white incrustations of silicon dioxide (opal) or of silicate mixed with other substances, notably calcium carbonate.¹⁹

The UNESCO report diagnosis the rising damp problem in Cairo (see fig.5,4) as follows:

- Before 1950 the water table was over one and a half meters below ground level in the old city. Capillary attraction rarely drew the dampness up to the height of the foundation walls to above ground level. Since dampness in the wall did not come within reach of the oxygen in the atmosphere, any acids it might have contained had little chance to form salts which, because of their expanding volume, could break up the materials of the wall.

- However with the water table now almost at ground level, the capillary attraction up into the hitherto dry porous materials of the masonry above ground is considerable, reaching on many occasions heights of 4 or 5 meters and in extreme cases heights of up to 10 metres above ground. The acids in the ground water, more concentrated now because of sewerage leakage, interact with chemicals in the masonry and with the oxygen in the air at the wall face. This interaction forms salts which reduce the strength of the material and continuously spell off the surface, until the whole of the fabric is destroyed to the height which the ground water can reach.

It is ironic that in such a relatively dry climate as that of Cairo, it is water which does so much damage. In fact the dryness accelerates the problem, draining any water that is within the building to the

building to the outer surface together with the salts which it contains.²⁰

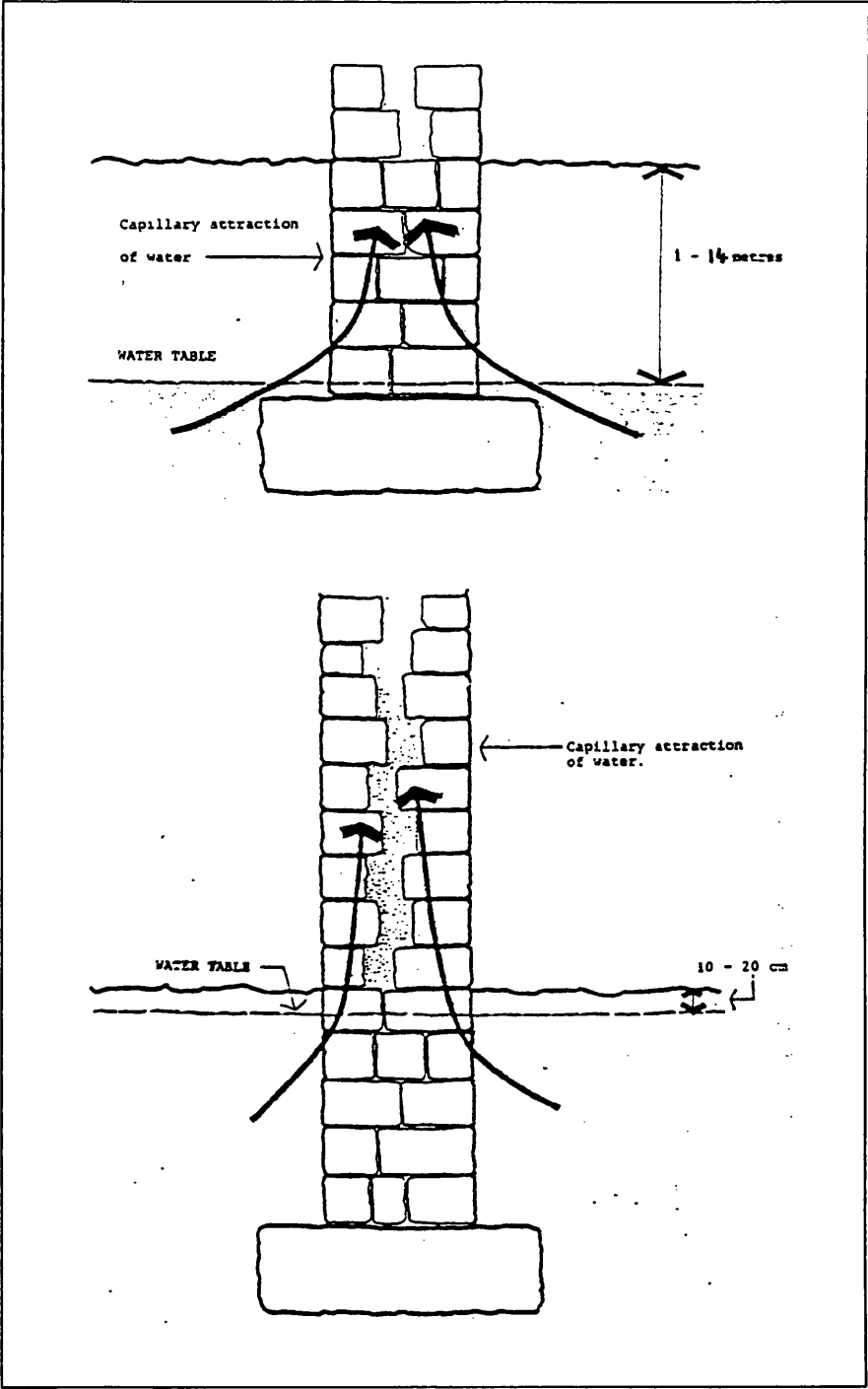


Fig. 5.4. Dampness in the walls of Cairo before 1950 and after 1975 (from UNESCO report)

2.Weathering

It is difficult, if not impossible, to study weathering factors separately as they occur simultaneously. Weathering process of a building may be caused by some or all of the following phenomenon: solar radiation, daily and seasonal temperature changes, moisture, wind, particulates, smoke, dust, and particles. Structural problems due to weathering, such as thermal movements of buildings, are to be discussed in the next section of this chapter. In the case of Cairo, crystallisation damage, wind erosion, and chemical attack are the main weathering problems which cause the deterioration of materials in medieval buildings. All of these problems are either caused or encouraged by moisture. In Cairo the main source of moisture is rising damp which is discussed in the previous section of this chapter. Crystallisation happens when the moisture from rising damp dries quickly. Chemicals which rise with the rising damp crystallise bellow surface. As the cycle (rising damp, evaporation, crystallisation and more rising damp) is repeated, the crystals become bigger and more dangerous.²¹ Crystallisation causes powdering and blistering in limestone, in which most of medieval Cairo is built. Wind erosion can cause damage to buildings in many different ways according to what the wind is carrying. Wind alone can be damaging by accelerating evaporation which may cause crystallisation to happen in a wall rather than on its surface. This can break the material of the wall and cause more evaporation and more crystallisation. A phenomenon called cavernous decay in stone.²² When wind carries grit, sand, or dust it can be damaging in a different way. About this Caroe says:

Wind erosion can be serious factor [of decay] in countries like Egypt.²³

And Feilden points to a famous example of this type of damage:

If a small piece of hard grit gets into a surface pocket, gusts can

rotate it at high speeds and thus drill quite a large hole in soft stone. After the reconstruction of the Temple of Abu Simbel in Egypt, a violent windstorm driving little stones lifted from the ground in front of the temple severely damaged the face of one of the figures on the facade.²⁴

The damage by dust is one of the most difficult weathering hazards to combat as it gets into all unsealed spaces. The extent of this problem in Cairo is enormous as Feilden shows, in Conservation of Historic Buildings, the dust deposit on a roof light in Cairo museum. The fact that this museum is supposed to be one of the very well controlled buildings, gives an idea about the amount of dust attacking the exteriors and interiors of less looked after buildings. The surface texture of a part of a building affects the extent of damage by dust to this part. A smooth finish of a building's surface would reduce the effect of dust on it.²⁵ UNESCO report drives the attention to the chemical reaction of dust accumulated on surfaces, which is often highly acid, with oxygen. And that when it rains these acids, dissolved in water, cause considerable damage to surfaces beneath.²⁶ Chemical attack is a serious cause for decay in Cairo. As it is encouraged by air pollution, rising damp, crystallisation damage, and wind erosion. Caroe summarises the problem as it happens in England:

Modern conditions have increased the quantities of carbon dioxide and sulphur dioxide in the air, and when these combine with water they form an acid which dissolves calcite in the stone. In consequence the washed surfaces of durable limestone such as Portland will dissolve away slowly but steadily (whereas sheltered areas grow a hard black skin which develops blisters).²⁷

The same happens in Cairo with a difference in the wet dry areas in a building. In Cairo the major source of moisture is rising damp rather than rain. The damp parts of the building are the ones which will dissolve away, whereas the dry parts (above the upper line of rising damp) will grow hard and black skin which

develops blisters. Fassina defines natural and artificial pollutants relevant to stone decay as: sulphur compounds (sulphur dioxide, hydrogen sulphide and sulphate aerosols and mists) nitrogen oxides, ozone, hydrogen chloride, hydrogen fluoride, carbon dioxide.²⁸ The following table gives an idea of differences between clean and polluted atmospheres. The estimations of trace gas concentrations in polluted air shown in the table are indicative. They can vary strongly from one place to another.

Table 5.1. Comparison of trace gas concentrations (ppm). (from Fassina)

	clean air	Polluted air	Ratio of polluted to clean
CO ₂	320	400	1.3
CO	0.1	40-70	400-700
CH ₄	1.5	2.5	1.3
N ₂ O	0.25	?	--
NO ₂ (NO _x)	0.001	0.2	200
O ₃	0.02	0.5	25
SO ₂	0.0002	0.2	1000
NH ₃	0.01	0.02	2

Not only the physical state of pollutants affect their deposition rate on building materials' surface but also the porosity of such building materials (mostly lime stone in the case of Cairo), as well as the following weathering factors:

- Moisture (from precipitation, fog, humidity).
- Temperature of the air.
- Solar insulation & wind (cooling or heating of stone).
- Wind.

Dry deposition of gases and particles on stone surface is a slower but more continuous process than wet deposition. In daytime, fixation of pollutants on

moisture at the stone surface is very dangerous, because:

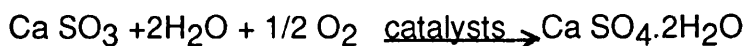
- i) The pollutant concentration is very high as the amount of water involved is small.
- ii) These highly concentrated pollutant solutions and their reaction products can remain for a long time on the surface because they are not washed away.

According to the stone's porosity and amount of solution available per unit surface, acid solutions penetrate inside a wet stone (condensation process).

Wetting is followed by drying in warm hours. Water evaporates and the crystals of the soluble salts (gypsum) are deposited on the stone surface. Repeated wet and dry cycles cause water to be absorbed into the stone to open up channels in the crust as it penetrates through the calcite grains. The gypsum crust incorporates the airborne soot, tar and fly ash particles and thickens but remain porous. Consequently, the crust can thicken indefinitely; but at a decreasing rate of growth.²⁹ Dry deposition of sulphur dioxide on stone surface needs a low amount of water (low relative humidity) and calcium sulphite will be formed. If water is totally absent, the sulphite will not be transformed into sulphate.



Then calcium sulphite can be oxidised to sulphate by oxygen catalysed by carbon particles and metal oxides:



At first, fine gypsum crystals are formed and these subsequently change into large gypsum crystals (fig. 5.5)

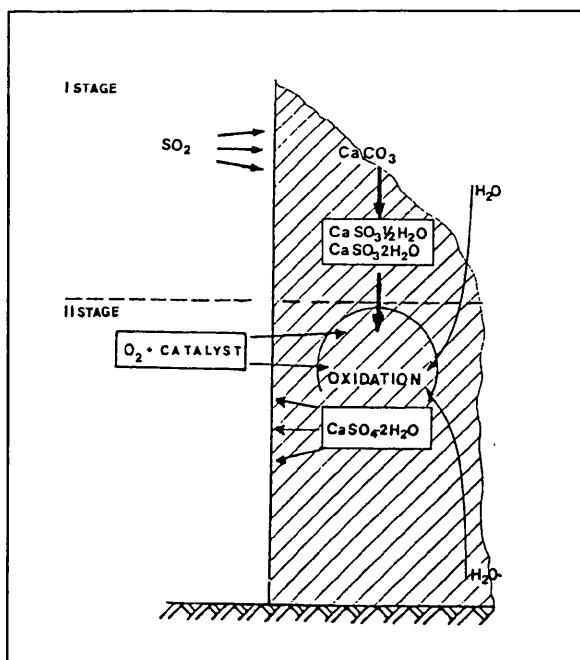


Fig.5.5. Absorption of sulphur dioxide on a stone surface by dry deposition. (from Fassina)

Calcium sulphate and carbonaceous particles are major components of black scabs. All samples analysed by a scanning electron microscope (SEM) show the same morphology, that is, the presence of a close network of gypsum crystals (fig.5.6.). The observation of the gypsum crystals at a greater enlargement shows the presence of carbonaceous particles (fig.5.7 & 5.8) which are known to be very efficient catalysts for the sulphur dioxide oxidation.

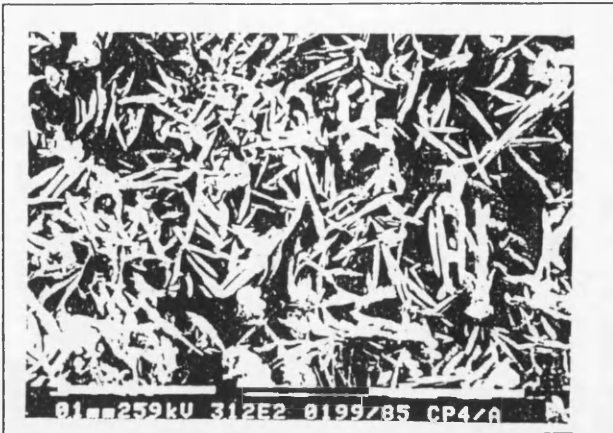


Fig.5.6 Microphotography of gypsum crystals at 312 x enlargement and 25.9kv of energy.



Fig.5.7 The same sample of the previous figure but at a different enlargement. In the close net of gypsum crystals some particles of carbon are visible. Enlargement 625 x, energy 25.8kv.

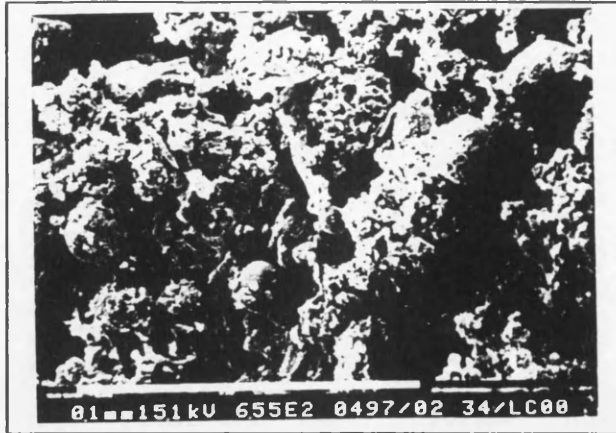


Fig.5.8 Observations with the SEM show the presence of numerous carbonaceous particles. Enlargement 655x, Energy 15.1kv.

3. Structural problems

...each building must be considered as an individual, just as the doctor must consider each human patient as an individual if he is to care for him properly.

(Mainstone, in the "symposium on structures in historic buildings", ICCROM, 1977).

There are two factors to be considered when analysing the structural behaviour of old buildings in Cairo³⁰: the building's characteristics and the changes in circumstances. The first is the building's characteristics, i.e., materials, construction techniques, and geometry of the structure. In medieval Cairo, until the second half of 19th century, building materials were timber, lime-stone, bricks, and earth. Gypsum, lime, brick powder, and ashes were used in mortars. Most old buildings in Cairo, with few exceptions, were "cavernous" in Feilden's terms, or hollowed out masses. They were meant to scatter forces as much as possible. Walls, vaults and domes were designed to disperse rather than concentrate forces. As building materials used were weak, structure forms were quite massive. The structural behaviour of such buildings is "statistically

indeterminate". Which means that the structure permits more than one pattern of equilibrium. It can do readjustments within its form to absorb different loadings, settlements, and distortions. The second factor to be considered in structural analysis is the changes in external conditions and circumstances during the lifetime of an old building. Environmental changes can cause structural deformations and change the way loads are applied to a structure. Changes in subsoil conditions are another cause of new challenges to an old building. Deterioration of materials, because of rising damp or weathering, changes the structural behaviour of a building. An old building, according to the above-mentioned two factors, behaves structurally different from a new building, which is usually statistically determinate and witnesses much less changes in external circumstances. A satirically indeterminate old building readjusts its structural performance according to its new circumstances. Deformations according to extra loads on an indeterminate structure lead to the establishment of one of many possible patterns of equilibrium. More deformations reduce the number of possible patterns of equilibrium a building can establish. The more deformations of a building the more it gets near, in its structural behaviour, to structurally determinate buildings. The geometric form of every individual structure is another factor in determining the possibilities and patterns of its structural behaviour.

Deformations

Monitoring cracks in an old building gives an indication of causes and rates of the building's movements. Cyclic movements of cracks indicate cyclic movements in a building according to seasonal changes. Whereas crack's movement in one direction a significant deformation in the building. Cracks may also show a structural analysis by the building itself. The shape and location of a

crack may indicate the nature of internal action in a building. Structures built by materials and forms which are weak in tension and much stronger in compression crack in a path parallel to the direction of principal compression. Structural deformations may be caused by deterioration of materials, design faults, or building's movement. Changes of sub-soil conditions, seasonal changes in humidity and temperature, and new loads imposed on a building are well-known causes for buildings' deformations, movements, and settlements. Whatever the cause is, according to Feilden, a building settles in one of the following three ways :

- i) Equal settlement over the whole extent of the building, resulting in it sinking as a rigid body without rotation.
- ii) Settlement that increases uniformly from one extremity to another, resulting in sinking and rotation of the whole fabric, as in the case of the Leaning Tower of Pisa.
- iii) Non-uniform settlements which cause local deformations and eccentric loads on foundations by the sinking of those parts that are most heavily loaded or that which stand on the weakest ground. Besides causing damage the deformations may cause dangerous eccentric loadings on the soil below the foundations.

4. Lack of maintenance

The tradition of annual maintenance of buildings in Cairo came to a halt because of many reasons (such as the centralisation of the *waqf* system which was the main financial and administrative power behind the maintenance tradition, also the disappearance of the guilds which organised and controlled the quality of maintenance craftsmanship, and the attraction of the new building materials and techniques which need less maintenance at much bigger intervals for less costs). Thus the consequences of problems facing old buildings in Cairo are

today more dangerous than ever before. As the lack of maintenance accelerates any physical damage happening to an old building:

Lack of maintenance of the roofs leaves an exposed layer of clay, the latter being part of the traditional construction technique until recent times... With rain this becomes saturated and remains damp in its lower layers long after the rains have ceased and the upper layers have dried out. The lower layers in turn are in contact with the wooden beam and plank construction of the ceiling which supports the roof. These wooden members then become damp and rot is produced in the upper, hidden surfaces of the wood. Often the first that inhabitants of the building know of the rottenness of the roof structure is when it collapses. Damage to irreplaceable decorations of historic monuments through the same causes is widespread.³¹

- 1) Original roof of plaster over a clay layer was repaired every year before the rainy season. Lack of maintenance allowed clay layer to become waterlogged and dissolve, leading to decay of wooden beams and eventual collapse.
- 2) Once water penetrated onto internal floor decay and disintegration is accelerated, owing to lack of any provision for waterproofing.
- 3) Building becomes uninhabitable, as upper floors collapse filling lower levels with debris and dust. Low price fixed rents discourage owners from making any repairs.
- 4) Finally building is temporarily waterproofed at first floor level to safeguard high rents from ground floor shops.³²

c. Conservation of building materials. The case of lime stone

1. Diagnosis and laboratory tests

The repair and maintenance of stone buildings, whether complete or in a ruined condition, are amongst the most important building conservation activities. If the repairs are thoughtfully and competently carried out, the life of a stone structure may be extended indefinitely with dignity; if repaired in ignorant and unskilled ways unnecessary destruction and disfigurement will take place.

Architects and others responsible for the repair of old masonry buildings should be able to recognise and diagnose problems, to know where the right replacement materials may be obtained and to know where the appropriate skills may be found to carry out the

Analyses should be carried out both in situ and laboratory in order to³⁴:

- Characterise the materials themselves.
- Understand the mechanism of their alteration.
- Study the efficiency and the harmlessness of the preservative treatments.
- Select new products and methods for restoration.

A large number of laboratory tests are available however, and although they are destructive they may be carried out on small samples from the monument or on quarry materials.

Laboratory tests can be classified as:

- Ageing tests.
- Mineralogical and petrographical analyses.
- Chemical analyses.
- Porous structural measurements.
- Mechanical measurements.
- Water absorption measurements.
- Colour measurements.

Comparison between samples taken from the monument and quarry samples is generally made in order to study a mechanism of alteration.

When the efficiency and the harmlessness of conservation treatments are under investigation, parallel tests on treated and non-treated samples are made while striving to insure that the laboratory treatment is carried out with methods as similar as possible to those employed in situ (table5.2).

Table 5.2 Parallel tests on samples from the building and from the quarry

SAMPLE FROM THE BUILDING	QUARRY SAMPLES OR SIMILAR MATERIALS
some characteristics are measured	ageing tests
ageing tests	treatments are applied
same characteristics are measured	some characteristics are measured
	ageing tests
	same characteristics

Torraca³⁵ proposes the following analyses and tests:

- i) Cross section and petrographical study of the rock type.
- ii) Definition of the type of stone and identification of the quarry.
- iii) Examination of stone deterioration in the object under study, in the quarry (if identified) and in other buildings made of the same stone; description of the decay phenomena using a standardised terminology, e.g. the one proposed by the Italian NORMAL P committee; preparation of a graphic survey of all surfaces in which the type and the extent of deterioration are visualised using standard symbols; photographic documentation.
- iv) Measurement of the water absorption coefficient (capillary); this is particularly useful if a water repellent treatment is planned because it allows one to compare the behaviour of the stone towards water before treatment, after treatment and after ageing.
- v) Identification of stone components which are easily deteriorated, e.g. clay, and

of deterioration products, in particular soluble salts; in this case x-ray diffraction analysis should be preferred.

vi) Search in the technical literature, looking for analogous cases.

2. Conservation treatments

A conservation treatment of lime stone can be one or more of the following operations³⁶: Cleaning, consolidation, joining parts and gaps filling, protection.

The conservation state of the stone determines what operation is to be done first, the products used, and the mode of application.

Cleaning

Building cleaning is most frequently undertaken for aesthetic reasons, although there are sometimes sound practical grounds for removing dirt when, for instance, decay is taking place around encrustations and cracks or open joints are being obscured. Buildings may also be cleaned solely or principally because repairs have become essential and access in the form of expensive scaffolding is available.³⁷

The intent of cleaning stone is to remove any dangerous disfiguring product, such as:

- Water soluble salts.
- Insoluble incrustations.
- Dust and soot.
- Residues of previous treatments.
- micro flora.
- weeds, etc.

To be "conservative" treatment, a cleaning method must meet the following criteria:

- The cleaning method must be effective in removing the dangerous substances

from the stone surface.

- The cleaning action must be slow enough to allow good control by the operator.
- The cleaning method must not produce any substance (such as a water soluble salt), which is dangerous for the future conservation of the stone.
- The cleaning method must not cause strong abrasions, micro fractures or any other discontinuities of the stone surface, as these may initiate or encourage new deterioration processes.
- The cleaning method must restore the stones appearance, colour, and texture, taking into consideration future weathering possibilities.

Cleaning methods can be divided into four main groups, according to the different solvent materials and techniques which are used. Other methods in use, however, can be classified as hybrids of these techniques:

- Water based methods.
- Chemical methods.
- Mechanical methods.
- Heat based methods.

Consolidation

The aims of a consolidating treatment are:

- An improvement in the cohesion of mineral constituents.
- An achievement of good adhesion between deteriorated areas and those areas which are still well conserved.
- An increase in the mechanical resistance of the consolidated stone.

Waterproofing is not an essential requisite for a consolidant, as this characteristic can be achieved by the application of a protective treatment.

A deep even penetration inside the stone, without discontinuities between the external layers and the core, is extremely important for the success of consolidating treatments. Feilden says:

There are two main reasons why shallow surface treatments may accelerate decay. First, moisture invariably gets trapped behind the treated layers and is prevented from evaporating at the surface. Instead it evaporates slowly, forming larger crystals from the dissolved salts, and it may cause spalling or powdering of the surface. Secondly, the treated layer has different thermal movement properties from the underlying stone and this may eventually cause a shear failure.³⁸

Penetration depends on many factors:

- The porous structure of the stone: total open porosity and pore size distribution.
- The chemical and physico-chemical properties of the consolidating solution: chemical composition, molecular weight, mechanism of action and concentration of the consolidating substance; chemical composition of the solvent; density, viscosity and surface tension of the solution.
- The mode of application of the solution; the time of contact between the stone and the solution, and the environmental conditions at time of treatment.

Gap filling and joining parts

The purpose of gap filling after cleaning (and consolidation, if any) and before final protection, is to obtain a surface as smooth as possible without open cracks and holes. All surface discontinuities encourage the development of new alteration processes. Consolidation treatments, even those using organic adhesive products, cannot fill cracks larger than 0.1- 0.2 mm. To fill larger gaps it is necessary to use a suitable stucco.

The main requisites for a good stucco are:

- Good adhesion to the stone.
- Potential for easy removal without damage to the stone.
- Porosity similar to or higher than the porosity of the stone to allow the evaporation of water and salt solutions.
- Suitable aesthetic characteristics to match the stone as closely as possible.

Protection

All materials, including stones, attempt to reach a state of equilibrium with regard to environmental parameters (temperature, relative humidity, air quality, etc.). If one more of these parameters change a new state of equilibrium must be reached through some modification of the stone's condition (chemical composition, content of water, etc.). These modifications as a whole produce the deterioration of the stone: the more frequent the environmental variations, the faster the alteration of the stone. The aim of any protective treatment is to reduce the probability of alteration processes or, at least, slow them down. This can be achieved either by modifying environmental conditions or by applying a suitable product to the stone, or both.

d. An approach for tackling technical problems

1. Integration of planning on different levels

Preventive measures as well as curative measures should be taken for the conservation of architectural heritage on all levels of planning (the level of a single building, the immediate environment of the building, the neighbourhood, the city, the region, and the country). Counteractive measures for architectural conservation must be considered on all these levels.³⁹ For example a problem such as the one caused by the construction of the High Dam on the river Nile can only be tackled on the level of the country. Whereas the problem of pollution should be tackled on regional level. Vibration caused by heavy traffic and underground metro, and other infrastructure problems are on the level of the city. Problems related to the misuse of a building to be conserved should be tackled on the level of the neighbourhood. And finally the immediate environment of a building should be considered in any structural and aesthetic operations to be planned for that building. Integration of planning on all levels cannot be reached

in a short period of time, specially in the case of Cairo:

When taking an example from Egypt we have of course to remember that the Egyptians possess the oldest bureaucracy in the world, and anyone who has ever worked in Cairo Knows all-too-well what the problems of that bureaucracy involve.⁴⁰

Therefore, until the desired integration of planning is guaranteed, large-scale projects should be avoided whenever possible.⁴¹ Because the side effects of such projects are uncontrolled and can be disastrous on the conservation state of architectural heritage.

2. Appropriate techniques and skills

Traditional techniques and skills, by which old buildings were initially constructed, are usually the most appropriate for their conservation. Nevertheless, conservation technology transferred from the West is becoming more attractive for the following reasons: The appearance of new challenges (such as pollution and vibration), the disappearance of the traditional know-how, the scarcity of raw material for traditional construction techniques. In the cases where it is not possible to apply traditional technology, then transferred technology should satisfy the following criterion⁴²:

- 1) Systems should be compatible with local cultural and economic conditions - that is, the human and material resources of the community.
- 2) The local population should maintain control of all tools and processes.
- 3) Local resources and energy should be used.
- 4) Processes should be ecologically and environmentally sound.

These criteria were designed by engineers for any kind of technology transfer as a remarkable contribution to the body of literature on "appropriate technology", which grew immensely in the 1970's:

Whether it is called 'bicycle technology', 'low-cost technology', 'intermediate technology', 'traditional technology', or 'Chinese technology', the appropriate technology syndrome has become increasingly important to development experts around the world.⁴³

The principle of appropriate technology is most needed in the field of conservation technology transfer. Because it is related directly to cultural traditional activities. The application of transferred technology may bring certain traditional jobs to a halt, which in turn might cause the death of a long lived life style. As in the case of Cairo, and most other Muslim cities, conservation should include a life style and not only buildings' fabric.

The other crucial reason for adopting the appropriate technology approach is the importance of the maintenance process after finishing the main restoration or consolidation operation. Obviously the only guarantee that conservation will be an on-going operation, is that the post-restoration maintenance needed satisfies the criterion for appropriate technology.

NOTES

- 1) R. Said, The Geology of Egypt, New York, 1963, p.8.
- 2) V. Seton, & P. Stocks, & W. Stocks , Blue Guide Egypt, London, 1988, p.178.
- 3) J. Abu-Lughod, "Cairo...", p.9.
- 4) V. Seton, et. al., ibid., p.13.
- 5) B. M. Feilden, Conservation of Historic Buildings, London, 1982, p.81.
- 6) M. Atalla, et. al., "Saving of Notre Dame de Zewela ,Cairo, Egypt in The Engineering Geology of Ancient Works Vol.I, Rotterdam, 1988, p.445.
- 7) R. Lewocock, "The problems of subterranean water in the old urban areas of Arab cities" in The Arab city. symposium, Medina, 1981, p.206.
- 8) J. Antoniou, et. al., The conservation of the old city of Cairo, pp.54-56.
- 9) Ibid., pp.54-56.
- 10) Feilden, ibid., pp.78-80.
- 11) Atalla, et. al., ibid., p.447.
- 12) Ibid.
- 13) Ole Ross, "Collaboration in Cairo: the conservation of the Madrasa el Gawhariya" in Monumentum, 27,1984, p.221.
- 14) Ibid., p.222.
- 15) Ibid., p.224
- 16) Feilden, ibid., p.81.
- 17) Bob H. Vos, "Fundamentals of heat and moisture transfer" in The deterioration and conservation of stone, UNESCO, pp.76-77.
- 18) Ibid., pp.78-79.
- 19) Feilden, ibid., p.105.
- 20) Antoniou, et. al., ibid., pp.60-62.
- 21) Caroe, Stonework: Maintenance and Surface Repair, 1984, pp.12-13.
- 22) Feilden, ibid., p.109.
- 23) Caroe, ibid., p.13.
- 24) Feilden, ibid., p. 109.
- 25) Feilden, ibid., p.110.
- 26) Antoniou et al., ibid., p.62.
- 27) Caroe, ibid., p. 12.
- 28) Fassina, "Air pollution in relation to tone decay", p. 111.
- 29) Fassina, ibid., pp. 157-159.
- 30) This section is based mainly on two sources: Feilden, ibid., pp.23-77. and AJ July 1985.
- 31) Jim Antoniou et. al., The conservation of the old city of Cairo, p.62.
- 32) Ibid., p.64.
pp.282-86.
- 33) J. & N. Ashurt, Stone masonry, 1988, p. 1.
- 34) R. Rossi-Doria, "Laboratory tests on artistic stone work" in The deterioration and conservation of stone, UNESCO, 1988, pp. 235-237.
- 35) G. Torraca, "General philosophy of stone conservation" in The deterioration and conservation of stone, UNESCO, 1988, p. 246.
- 36) L. Tabasso, "Conservation treatment of stone", in The deterioration and

conservation of stone, UNESCO, 1988, p.271.

37) J. & N. Ashurst, *ibid.*

38) Herman Kendel, "Key elements for the design of contemporary buildings that respect the Arab Muslim cultural heritage", in Symposium on the Arab City,

39) Feilden, *ibid.*, p.340.

40) Heinrich Schoof, "The necessary combination of physical planning and political action in modern Arab town planning", in Symposium on the Arab City, p.383.

41) Francois Vigier & Mona Serageldin, "Urban needs of modernising societies: new directions in planning", in Symposium on the Arab City, p.15.

42) T. A. Lawland, F. Hvelplund, R. Alward, and J.Voss: Brace Research Institute's Handbook of Appropriate Technology, in Appropriate Technology, Problems and Prospects, ed. Nicolas Jequier; OECD, Development Centre, Paris, 1973, pp.124-143. Rule of thumb criteria for assessment of appropriate technological transfer, provided by The Barce Institute.

43) Kingsley E. Haynes and Sherif M. El-Hakim, "Appropriate technology and public policy: the urban waste management system in Cairo" p.105.

PART THREE: ATTITUDES TO ARCHITECTURAL CONSERVATION

Chapter 6: Attitudes towards architectural conservation

Conservationists, outside the Western World should have learnt the hard way that unless they consider actual local attitudes towards conservation, they would need an enormous amount of legislation and a 24 hour alert army to impose this legislation in order to put their conservation plans in effect. It is a common mistake to deal with architectural conservation as a "take it or leave it" dogma. What to conserve from architectural heritage? And how? Probably every conservationist has a clear answer to these questions. But when it comes to the question "why?", very few indeed can give a satisfying answer. Western conservationists may come up with a quotation from John Ruskin, Viollet Le Duc, or Venice Charter. But much fewer non-western scholars are able to tell why historic buildings should be conserved. It seems that architectural conservation is practised out of the Western World, as faith. A certain attitude might be adopted with neither clear justification, nor tolerance for other possible attitudes. It is considered a question of right or wrong excluding the fact that an attitude to conservation is formed according to attitudes to all aspects of life, especially the conservation-related aspects. Two similar attitudes to architecture would not lead to a similar attitude to conservation if there is a difference amongst the two about the role of history. Even an agreement on history and architecture would not purposely lead to a similar attitude to conservation if there is a difference in attitudes to politics, economy, social activities, or any other aspect of life. The present chapter reviews different attitudes to architectural conservation. Every intervention to an historic building or to its surroundings is considered an attitude to conservation, which can be positive or negative, direct or indirect. This is not to say that all existing attitudes are professionally and academically sound, nor to offer a catalogue of ready-made attitudes for architects to pick and apply. But

rather to be aware of the existence and the extent of different attitudes, and to consider such attitudes in conservation plans. Therefore, no matter how justifiable an attitude is, all existing attitudes merit a review in their own right. It may be possible, as an academic exercise, to categorise well-known attitudes but it is impossible to be sure and accurate about the range of all attitudes and their definition. One would differentiate rather than define each attitude. Every attitude is examined against observations in four Muslim cities: Cairo, Damascus, Lahore, and San'a' (the four cities were chosen to represent differences and similarities within the Muslim world). And finally a hypothetical conservation problem in Cairo is created, and different attitudes are illustrated according to the solutions they offer to the same problem.

a. Notes on the method

An analytic method is followed to differentiate possible attitudes. Every attitude is described in three steps:

1. A demonstration of the attitude by answering a hypothetical conservation question. All attitudes are to answer the same question which is a conservation problem designed to show differences and consequences of different attitudes.
2. A quotation advocating the attitude.
3. A definition of what is to be conserved by this attitude.
4. Observations and reflections on the attitude in the four cities: Cairo, Damascus, Lahore and San'a'.

Cautions

- Each of the attitudes listed below is an umbrella for a wide range of sub-attitudes ranging from the extreme of adopting the attitude no matter what the circumstances are, to the other extreme of limiting the possibility of adopting the

attitude to the rare case when all circumstances are convenient (i.e. ideological, financial, social, cultural, and technical). Between the two extremes there is a whole range of different sub-attitudes.

- Mixing, and or contradicting attitudes do exist in most situations: One attitude may be adopted on one scale, and another attitude on another scale (for example an attitude may be adopted on urban planning scale, and other attitude(s) may be adopted on the scale of the building or part of the building). Different parties involved in a conservation operation might have different attitudes. Furthermore, one's conscious attitude might differ from his or her own unconscious attitude (an identical situation for non-western conservationists trained in the West).
- The flow of history may bring an attitude to being. Such an attitude could have been there as a latent attitude until something happens to bring it to surface. Or an attitude might have never existed before and was born as a logical resultant or reaction of the attitudes of its time and place.
- The observations from the four cities are merely to state the relevance of different attitudes to Cairo and other Muslim cities.

b. The four cities

In Cairo the *qibla* direction is to the south-east, in Damascus it is to the south, in Lahore it is to the west, and in San'a' it is to the north. The great mosque in each city is facing a different direction, but all of them are facing Mecca. On the one hand every city is unique, and on the other hand cities which share historic, cultural, and ideological backgrounds, and face similar circumstances and challenges do share similar attitudes. Observations on actual attitudes give a sense of reality to the study of attitudes. Extending the observations beyond Cairo to three other Muslim cities highlights areas of differences and similarities

in attitudes within the Muslim World.

c. The hypothetical conservation question

Bab Zuwayla is the most famous gate of Cairo, both for its architectural and artistic qualities as well as for its place in the city's history. The gate with the two minarets of the Mu'ayyd mosque became a religious, national, and urban symbol of Cairo. The question assumes that Bab Zuwayla was found in the following state:

- The actual gate, built in Fatimid times, is in intact.
- One of the two Mamluk minarets is partially destroyed.
- The other Mamluk minaret has got an Ottoman top on it.
- The Mamluk mosque of Mu'ayyad which was integrated within the city walls is found in ruinous state.
- A multi-story modern residential building is built during the 1970s very near to the gate.
- There is a great pressure to build more residential buildings as well as public buildings and services such as a mosque, a school, a post office, and others, to answer the needs for the dramatic growth of population in the area.

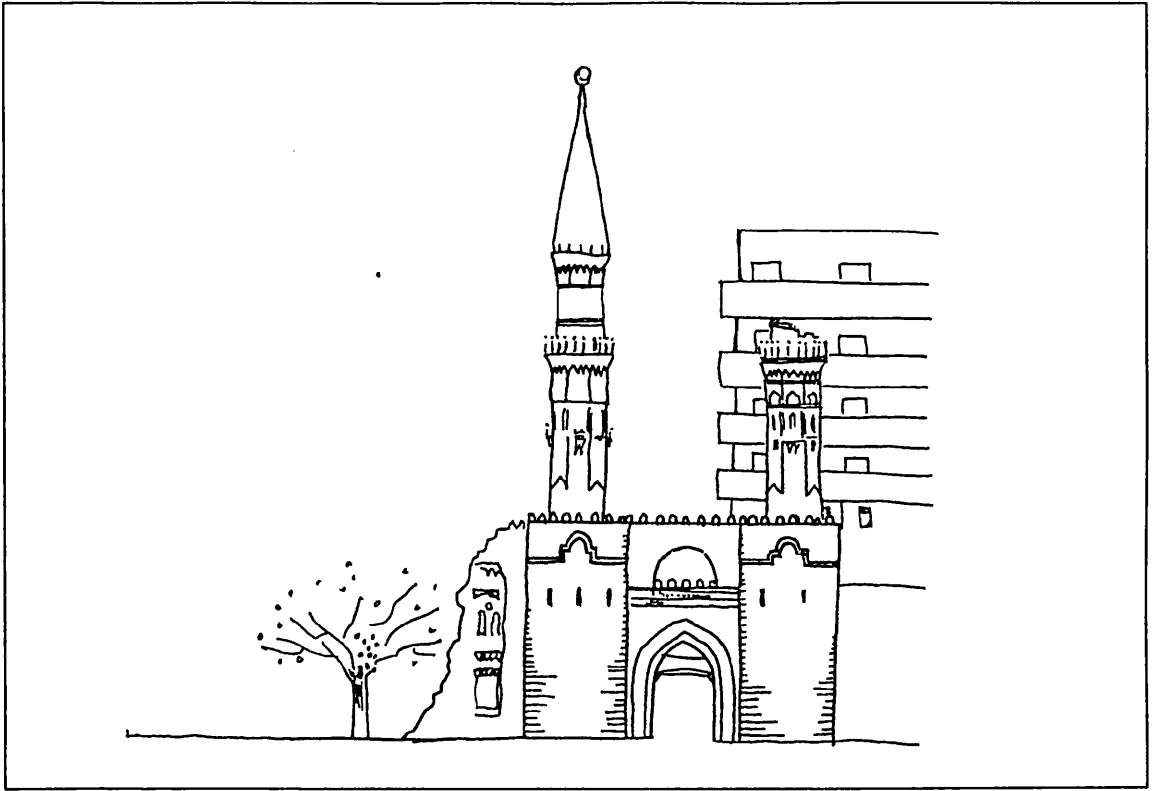


Fig.6.1. The state in which Bab Zuwayla is assumed to be found.

d. Different possible attitudes

Attitude 1: Anti-restoration

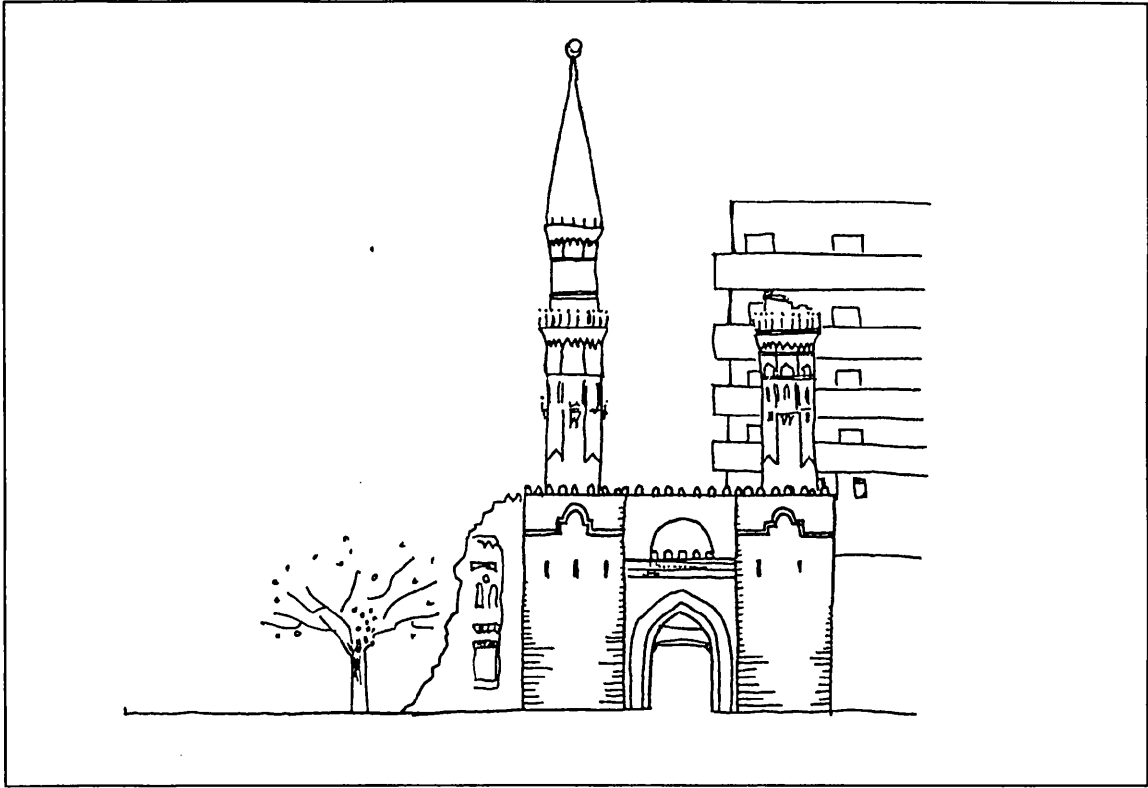


Fig.6.2 The historic site and its immediate environment are frozen as they are, with the least consolidation needed for the old building's fabric.

I must not leave the truth unstated, that it is again no question of expediency or feeling whether we shall preserve the buildings of past times or not. We have no right whatever to touch them. They are not ours. They belong partly to those who built them, and partly to all generations of mankind who are to follow us.

(John Ruskin, "The lamp of memory" in The complete works).

The fabric, setting, and picturesque values of a building as we inherit them from previous generations are to be conserved. Respect is not only paid to historical research, but also to the ageing process and all the ups and downs in

the building's history.

In Cairo, attitude 1 is applied for many non-Muslim archaeological remains and to Muslim historic buildings of no present function, such as mausoleums, city walls and gates. It is also applied sometimes for buildings of symbolic rather than functional values, such as minarets. However, these applications are not applied in the dogmatic way suggested by Ruskin. In Damascus, attitude 1 is applied to non-Muslim archaeological remains. In the case of Muslim historic buildings, it is applied only if there is not enough documentary evidence to restore or reconstruct a ruin and bring it back to its authentic state.¹ In Lahore, attitude 1 is applied to Muslim historic buildings of no present function. Non-Muslim archaeological remains are not protected, neither by law nor by individuals.² Although anti-restoration, according to the Islamic concept, is the ideal attitude towards non-Islamic historic buildings, whether built by Muslims or non-Muslims. This should highlight the importance of the "Islamic label", Muslim historic buildings give Pakistan since it is the country's *raison d'être*. Historic buildings prove that the country has a Muslim history, therefore they justify its partition from India. In San'a', attitude 1 is applied to non-Muslim archaeological remains such as the pre-Islamic round cathedral. It is not applied to Muslim historic buildings.

Attitude 2: Revival of traditional craftsmanship:

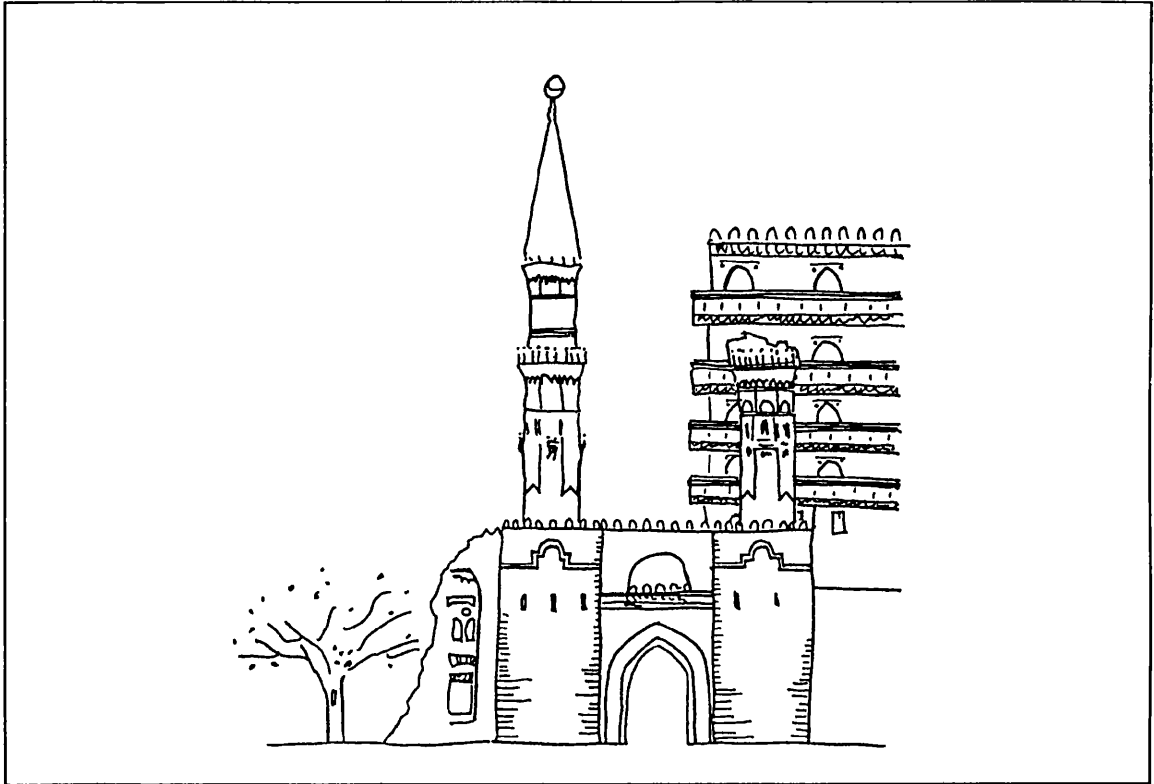


Fig.6.3. Revived traditional craftsmanship is applied to the near-by modern building and to any other new structure to follow, if possible.

The history of every country for a thousand years has no fact so important as the change from domestic to factory industry. The disappearance of the small workshop, with the guild system that regulated human labour and set its standard of quality in life and in the work of man's hand, is more far-reaching than any religious or dynastic change. But the Arts and Crafts movement made the discovery that it was only in the small hand workshop that those things could be back again for which that movement stood.

(Ashbee, Where the great city stands, pp.12-13).

Craftsmanship and human labour are to be conserved or revived and applied to new architecture.

Attitude 2 emerged in Cairo during the 1980s as a result of the touristic boom; the traditional craftsmanship was encouraged and well paid by tourists visiting Cairo. In Damascus, attitude 2 hardly existed in any conscious way. In Lahore, attitude 2 exists as a natural continuation of the traditional life style, since the change from domestic to factory industry did not happen in the first place. Nevertheless, an interesting observation should be studied: The taste of the folk or vernacular arts and crafts was essentially different from the monumental. Similar difference exists today: The art of painting a rickshaw is essentially different from the art of painting the ceiling of a room in Lahore forte. In San'a', attitude 2 exists as it always existed. What is really unique is the quality of the traditional craftsmanship. This is due to the incredible isolation of San'a' from the outer world until the 1970s. In contrast with Lahore, in San'a' it is nearly impossible to draw the border between the vernacular and monumental arts, crafts, and architecture.

Attitude 3: Refusal of new architectural vocabulary

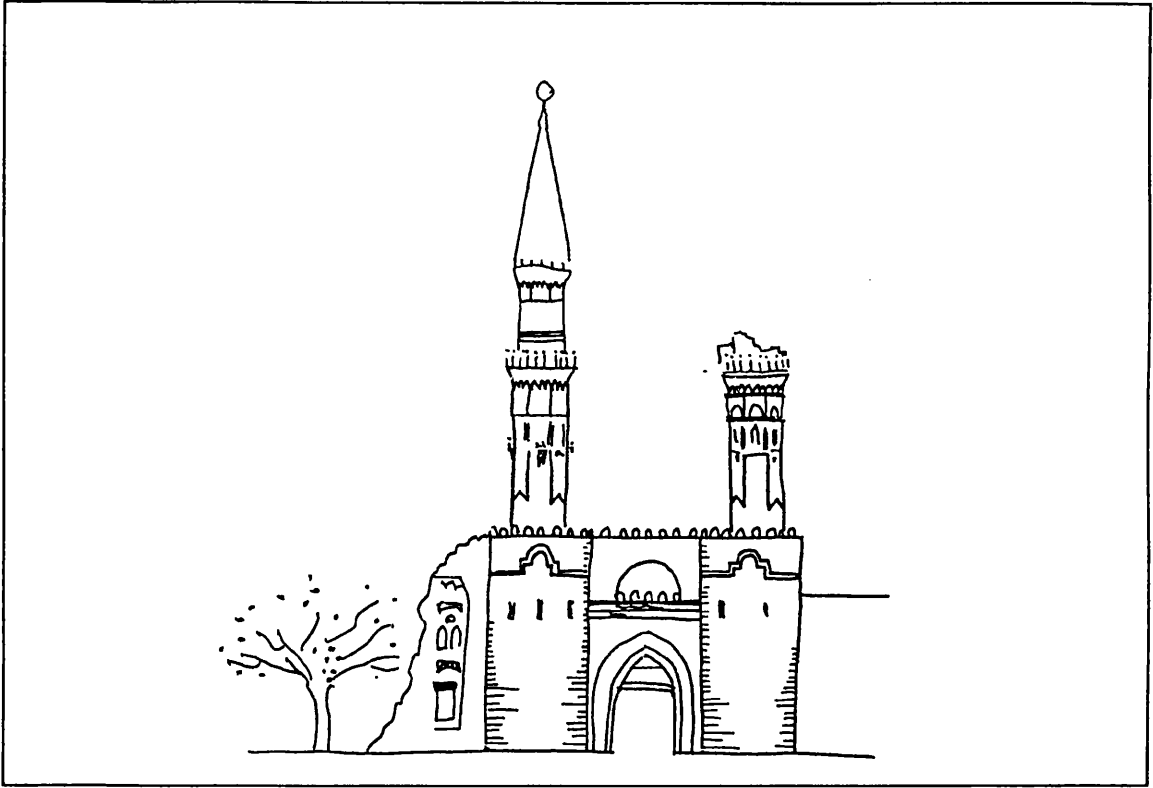


Fig.6.4. The near-by modern building is demolished, and no buildings with modern architectural vocabulary are allowed in the proximity of the historic site.

We the undersigned writers, sculptors, architects, and painters, passionate admirers of the hitherto untarnished beauty of Paris, wish to raise our voices in the name of French taste which is being disregarded, in the name of the threatened art and history of France, to express our angry indignation at the erection of the useless and monstrous Eiffel Tower in the midst of our Capital. Will the city of Paris continue to have common cause with the eccentric and mercantile concepts of a machine designer, so as irrevocably to dishonour and disfigure itself? For there can be no doubt that Eiffel Tower, which is unwanted even by the businesslike Americans, means the ravishment of Paris. Everybody is deeply concerned, and we are not more than feeble echo of the justifiably disquieted public opinion. Foreign visitors to our Exhibition will exclaim in disbelief: 'What! Do the French mean by this monstrosity

to convey to us an image of their famous good taste?' They will be right in ridiculing us, since the Paris of the exalted Gothic edifices, the Paris of Puget, of Germain Pilon, of Jean Goujon, of Barye etc. will have become the Paris of M. Eiffel.

(Protest by the artists, Le Temps, 14.2.1887).

The picturesque values of historic monuments and their surroundings are to be conserved. Any strange element added to the 'picture' will damage it. In this attitude harmony is a very important aspect of conservation.

In the four cities, attitude 3 exists only in formal conservation operations. One of the reasons can be that modern architectural vocabulary is associated in Third World cities with socio-economic development which is badly needed in all the four cities. Also the continuity of the traditional urban life style made it natural for city dwellers to accept new architectural vocabulary without having the European sensitivity about putting buildings from different periods beside each other. However, foreign and international pressures to implement attitude 3 can be seen in the four cities, the last of which is San'a'. In the old city of San'a', new legislations banning aluminium-framed mirror windows, reinforced concrete structures, and other 'modern' architectural vocabulary was implemented as a result of the UNESCO International Campaign for safeguarding and Conserving San'a' in 1984.³

Attitude 4: Revival of historic styles

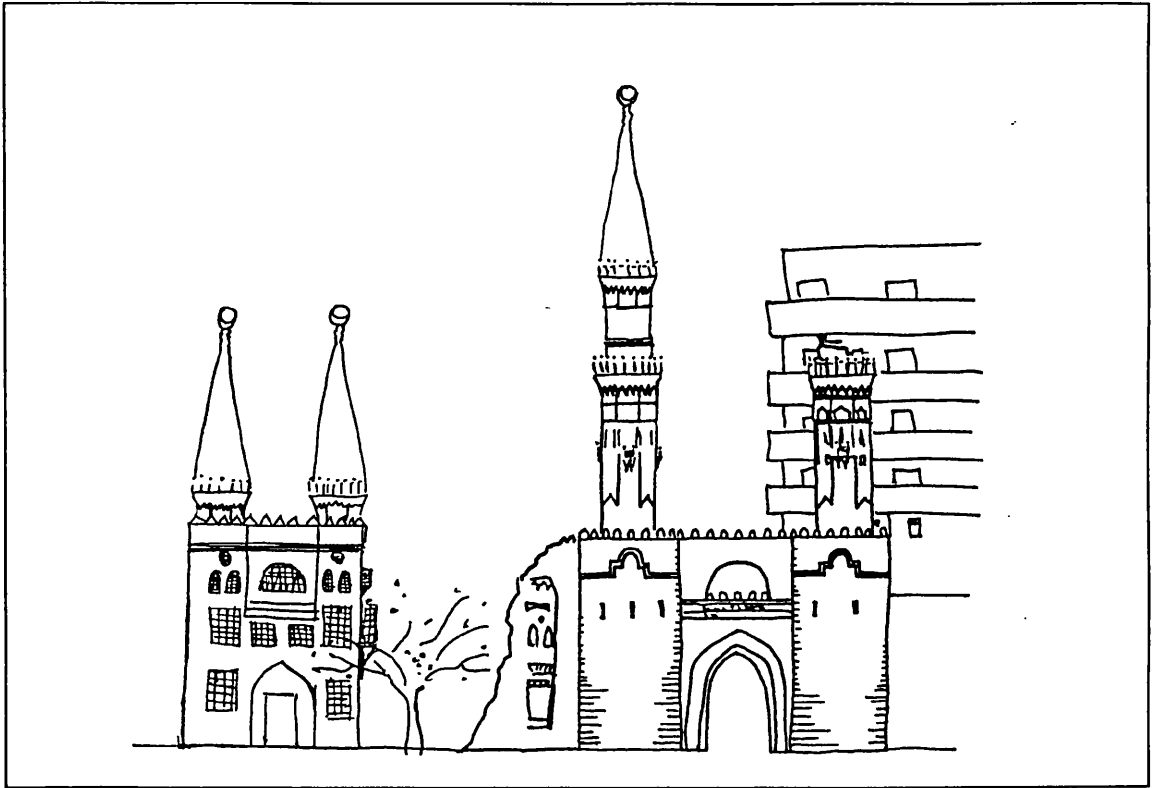


Fig.6.5. A new building is built with architectural vocabulary from a certain style (Ottoman in this case).

From the end of the 18th century, past periods and styles began to be rediscovered, studied and copied. After neo-Gothic come neo-Renaissance then neo-Baroque and neo-Rococo. The distance between the present and the period on which interest was focused became shorter and shorter until the chronological gap today after neo-Victorianism began in the 1950s and neo-Art Nouveau in the 1960s and neo-Art Deco in the 1970s has dwindled to barely a generation. In this increasingly scientific and critical attitude to preservation and restoration, the non-pragmatic attitude which English thinking - with John Ruskin as its head - represented, has been a fundamental factor.

(Tschudi-Madsen, Restoration and anti-restoration, pp.102-3).

An image of a style is to be conserved, usually with no reference to a particular monument. A neo-version of a style emerges by such conservation.

In Cairo, attitude 4 was fashionable in the years 1870-1930 as the "neo-Arabic Renaissance" facades spread all over Cairo.⁴ Nevertheless, this attitude was always European in the heart. It flourished only by / for Europeans living in Cairo. In Damascus a similar attitude as in Cairo appeared in the same period. It was, however less serious and less fashionable. In Lahore, since the European influence was very strong (because the nature of the British colonisation of India was more ambitious than their colonisation of Egypt), the style revival attitude was at its strength during the British colonisation:

The official architecture of the British Raj was essentially a product of these European developments. Even the frequent attempts at building in the 'moghal' (Mughal) or Hindu manner must, therefore, be seen not as an extension of local traditions but as a part of that particularly European phenomenon which produced Chinese pagodas in Kew Gardens, Indian pavilions at Brighton and Gothic steeples in Karachi, with equal felicity.⁵

In San'a', a city never colonised by non-Muslims, the phenomenon of "architectural styles" is very difficult to establish, let alone reviving a long dead style.⁶

Attitude 5: Revival of historic concepts and principles

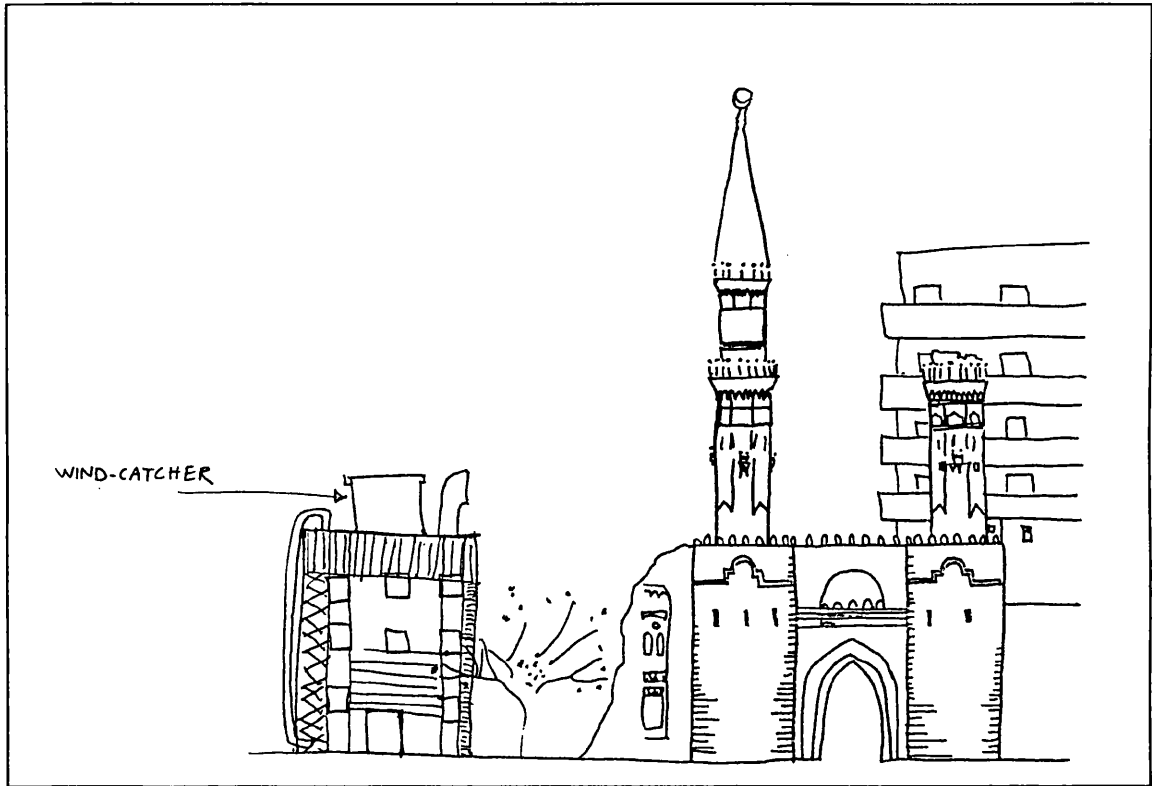


Fig.6.6. A new building is built with no visual direct resemblance with the historic one, but the design concept is based on traditional wisdom used in historic buildings (in this case it is the wind catcher).

Principles extracted from history are utilised in design thought so as to appear to have naturally evolved from expected requirements of the building. The end product is devoid of direct visual resemblance to past architecture and may reveal the full thrust of modern technology.

(Khaled Asfour, *Mimar*, 36, 1990).

The traditional wisdom which produced historical monuments is to be conserved or revived.

In the four cities attitude 5 is only applied by informal conservation efforts. This attitude also appears in the vernacular architecture of each city. This is due to the adoption by authorities of foreign urban policies which do not allow traditional concepts to survive. For example, the street alignment act implemented in Cairo does not allow any courtyard system design.

Attitude 6: Conservation as an archaeological exercise

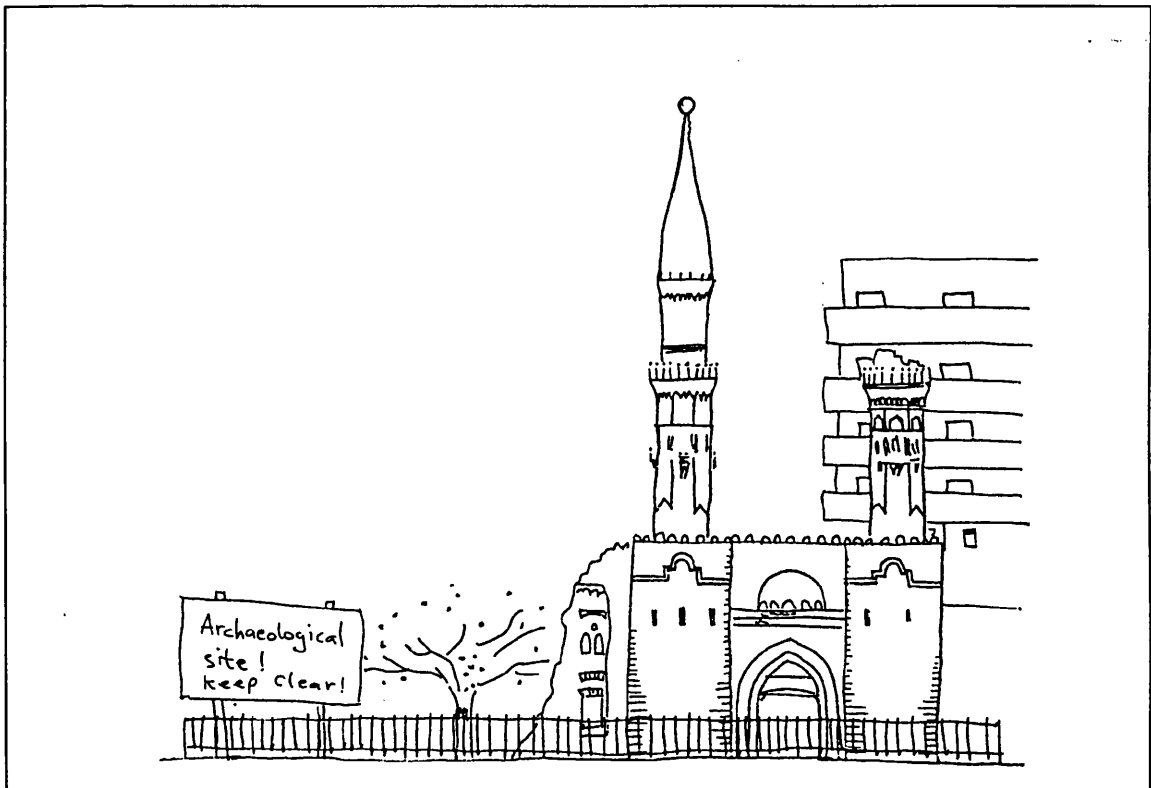


Fig.6.7. The historic site is cut from urban life and dealt with as an archaeological island, or a museum piece.

In the case where a restoration seems unavoidable because of degradation or destruction, the conference recommend that the historic and artistic work of the past should be respected, without rejecting the style of any period.

*(Conclusions de la conference de la conservation
des monuments d'art est d'histoire, Paris 1933).*

The fabric of an historic building is to be conserved as a document of historic importance.

In the four cities responsibility for conservation of Muslim historic buildings is carried out by two different agencies; Ministry of Culture, and Ministry of Awqaf. The first is responsible for the archaeological aspect of an historic building, whereas the second is responsible for the religious aspect of the same building. Attitude 6 is adopted faithfully in all Muslim cities by the Ministry of Culture. However, the attitude of the Ministry of Awqaf is anything but attitude 6. As a result of over twenty years of totalitarian regime, informal local attitudes in Damascus are nearest to the attitude of the Ministry of Culture (i.e. attitude 6). Whereas in San'a', as the grip of the government's authority is very loose because of the power of different tribes, attitude 6 does not exist in informal conservation activity. Informal attitudes in Cairo are not as clearly related to the political situation as they are in Damascus and San'a'.

Attitude 7: Conservation according to the livelihood of a monument

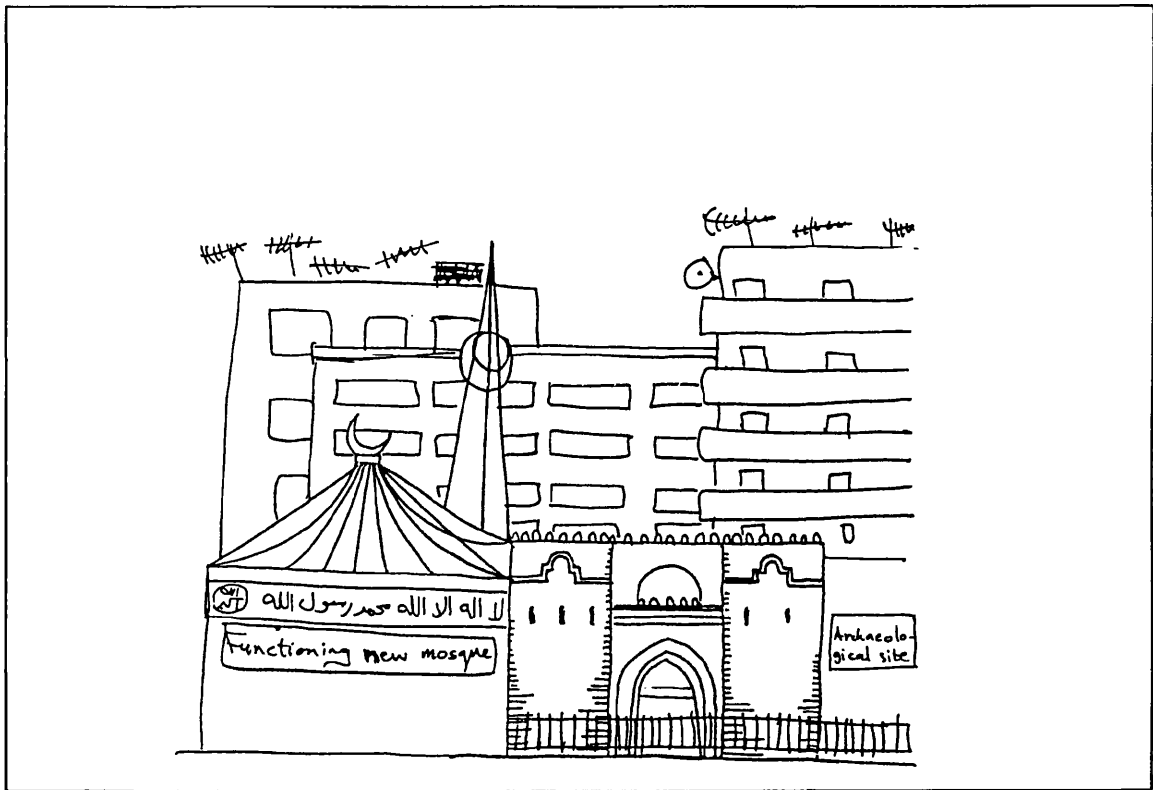


Fig.6.8. The gate is isolated from urban life and dealt with as a dead monument.

Whereas the mosque is rebuilt according to modern local convenience.

Dead monuments are those that exist by virtue of their value as documents of history and the history of art - pyramids, temples, ruins,...etc. With regard to living monuments, architects were given freer rein: why should it be forbidden for us to do what has been done at all periods?

(Louis Cloquet, *La restauration des monuments anciens*, 1901).

In the case of dead monuments, the fabric should be conserved as a document of history. Whereas in the case of living monuments, the livelihood of a monument should be conserved.

Most successful conservation projects in the four cities adopt attitude 7. Because on the one hand it allows the living traditions to go on, and on the other hand it conserves what is not anymore part of the life of a city for archaeological research. In some situations this attitude is the only possible one. Particularly religious buildings in use, such as mosques, cannot be treated as archaeological sites even if they are archaeological very valuable. For example the great mosque of San'a', which dates from the life time of the Prophet, is conserved as a fully functioning mosque. Whereas the domed little building for waqf documents in its courtyard is conserved as an archaeological object.

Attitude 8: New architectural vocabulary in contrast with the old

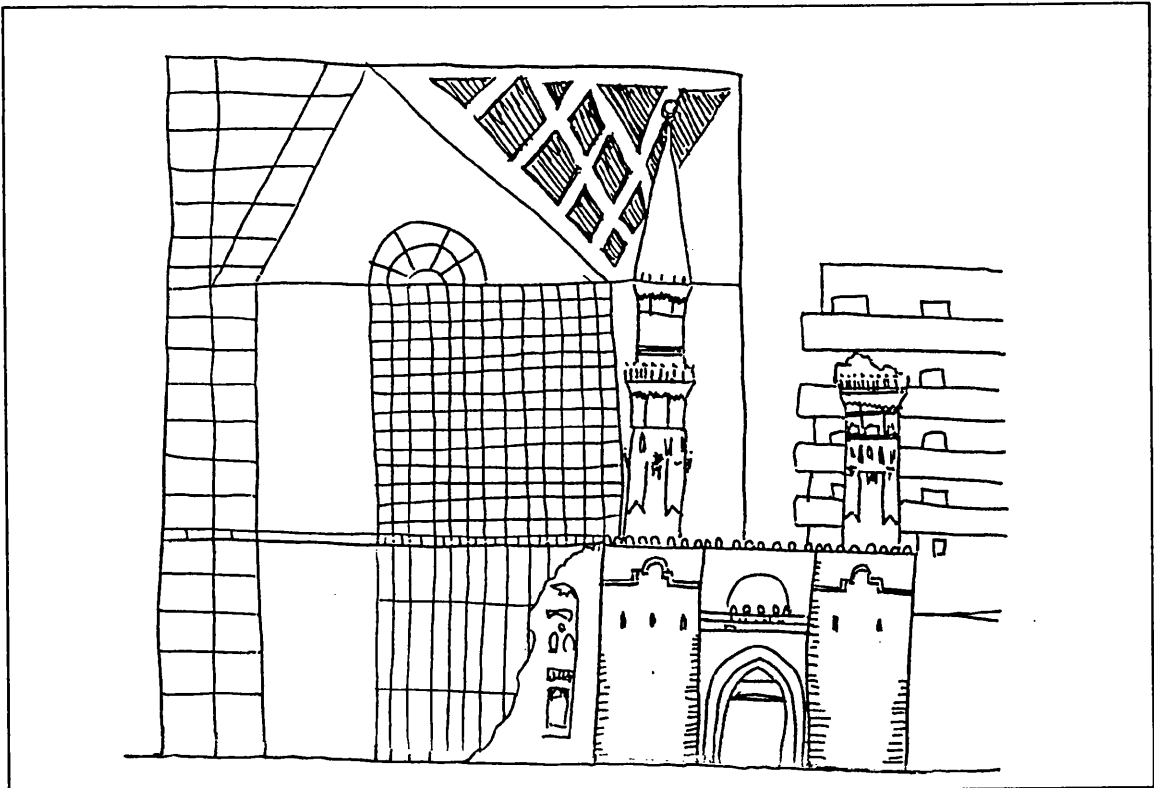


Fig.6.9. A new building, with shockingly innovative architectural vocabulary, is allowed to stand so near the historic site to emphasise the

contrast between the two.

Quality is not an independent phenomenon; it always relates to something. In the case of the erection of a modern, contrasting structure within the setting of ancient development, the created quality must relate to what already exists. The more sensitive the comprehension of optical experience, the more definite and strong the historical background, the greater will be the chance of success for the building of contrast.... it is not the formal proximity that is decisive, but the inner content, proportion, design and plasticity, repose and motion, the inherent principle of creation.

(Christoph Hackelsberger, New building in old setting, 1977).

The livelihood of an historical building is to be conserved by contrast to the new architectural contribution which is differentiated from historic architectural vocabulary.

In the four cities alike, attitude 8 exists only in informal practices. In most cases these practices are illegal. May be an explanation to this phenomenon is that informal attitudes are mainly formed according to necessity. Also one should not forget that formal attitudes are heavily influenced by Western attitudes, which care for the picturesque and documentary values, rather than ideological and socio-economic values in historic Muslim cities. Another reason is that builders in Muslim cities never really mastered new architectural techniques and ideas. Which does not put them in a good position to build in contrast with the old. All valuable modern architectural contributions in Cairo, Damascus, Lahore, and San'a' are built out of the old urban fabric, mostly by foreigners.

Attitude 9: Neutral new architectural vocabulary to emphasise the old

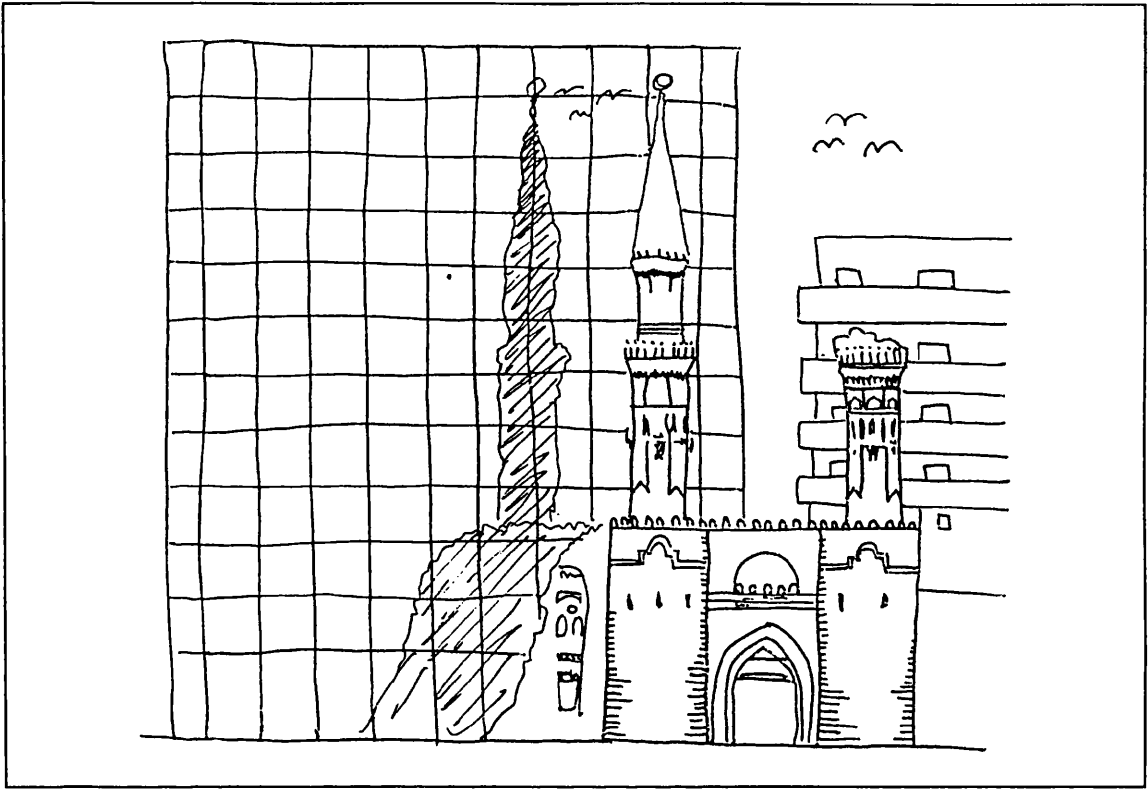


Fig.6.10. A new building with mirror glass facade is erected near the historic site.

All glazing is mirror glass so that the neighbourhood is reflected in the new building. This effect also provides an optical extension of the space between church and building.

(Hans Kammerer, New building in old setting, 1971).

The historic message and the picturesque values of an old building are to be conserved and extended by a neutral neighbouring building.

Attitude 9 does not exist in any of the four cities. Probably because neutral architecture is a cold country phenomenon. According to the traditional wisdom in the Muslim cities, environmental behaviour of the building is crucial. Also the

design, execution, maintenance, and cleaning of tall glass facades are beyond the local capabilities in the four cities. Also the compactness of Muslim urban tissue, the internally oriented architecture, and the importance of privacy for Muslims makes attitude 9 an unattractive alternative.

Attitude 10: Replicas and reconstruction of historic monuments

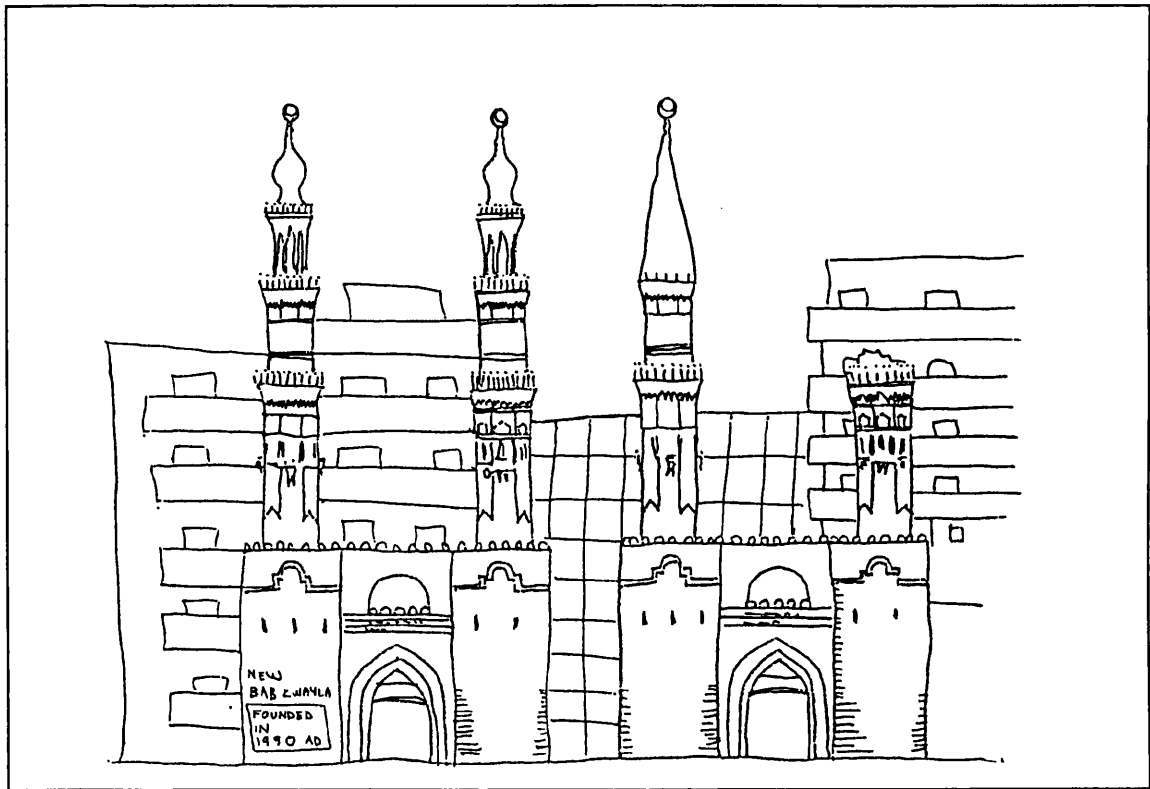


Fig.6.11. Producing a replica of the historic building as it was in Mamluk times. The building materials and location of this replica is defined according to convenience. Its use can be either as an open air museum piece or as a political statement in a new urban fabric.

Plimoth Plantation, the museum village in Massachusetts, is wholly a replica, a conjectural reconstruction of a long-vanished community which is not even located on its original site, which, of

course, is occupied by the modern city of Plymouth. Replicas are also exclusively employed inside the Plymouth buildings. Like the houses themselves, these are all as close an approximation of the originals as modern research and scholarship can make them. They are anew: what is more important, they look new, as they would have five years or so after the establishment of the settlement. This is an important aspect of the central interpretative philosophy at Plymouth. Since the entire complex is a replica, every effort is made to shift the visitor's attention from the artefact to the life-style and processes it made possible. In this Plymouth's anti-antiquarian, anti-connoisseurship emphasis is the reverse of that found at Deerfield or Williamsburg, where everything in the field of view is authentic in its provenience even if it is displaced in space. Traditionally, these have been equipped with authenticated antiques. The wide range of artefacts so displayed has been collected at great effort and expense. They are interesting historically; they are often handsome; in today's inflationary market they are also extremely valuable and hence vulnerable to theft. In short, authentically museum quality artefacts have developed an independent status, irrespective of the context in which they are shown.

(James Marston Fitch, Historic preservation, 1982).

An historic building to be reconstructed. Some reconstructions are not resembling a particular building. Others are replicas of buildings which existed / are existing. Replicas are the conservation of the shape and sometimes the symbol which the historic original building represented.

In Cairo and Damascus, attitude 10 is adopted in some formal conservation operations. May be this is due to the intensity of archaeological research in Cairo and Damascus, and the position of these two cities in the European scholarship for medieval history and archaeology. Also the touristic popularity of these two cities, which goes back to pilgrimage trips to the Levant, can be another reason to make replicas popular. In Lahore attitude 10 was apparently introduced by the British administration and it hardly exists after the independent of Pakistan. In San'a' this attitude does not exist. Obviously the cities which were

under European administration witnessed attitude 10. Whereas a city like San'a', in which the first European seen walking through its suq was not before 1970, this attitude is not there.

Attitude 11: Conservation on wheels

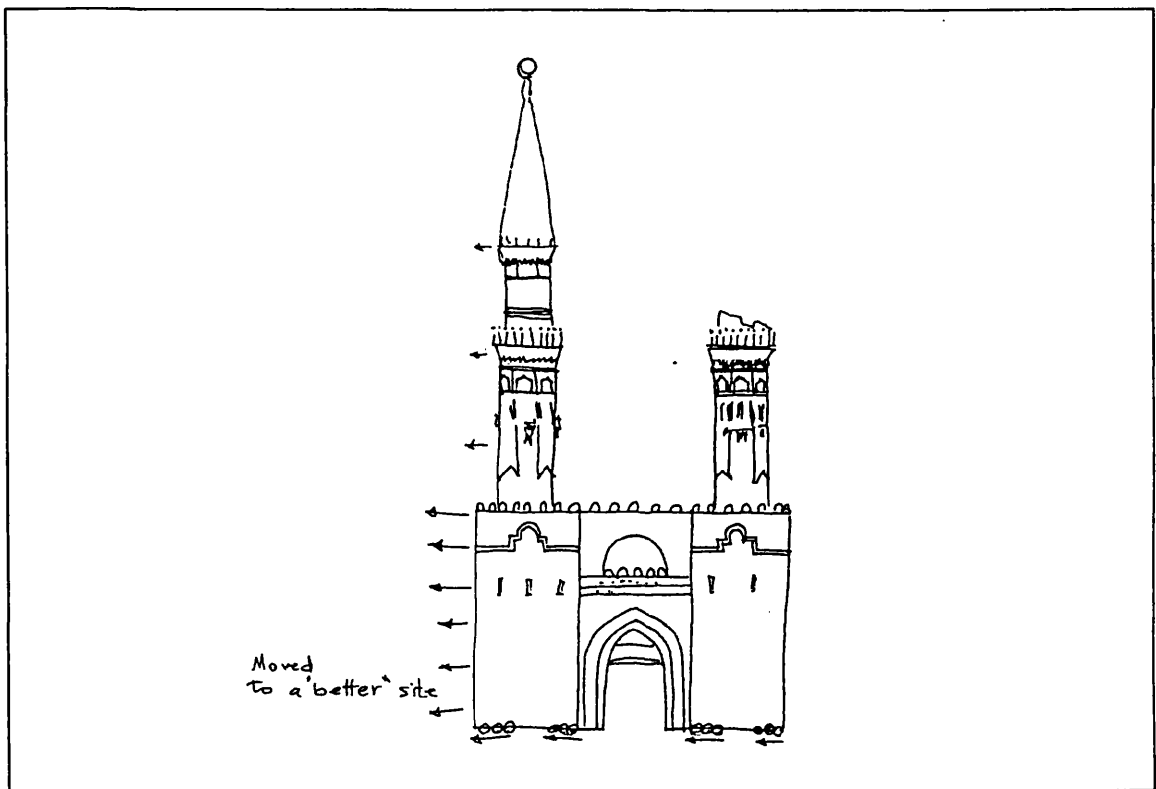


Fig.6.12. The old building is moved to the centre of cross-roads, to allow street widening and to sit in a roundabout in the focal point of the new wide roads.

To make way for a street widening, a baroque church in Warsaw is moved back. If the topography is level and the distance short, the moving of even a large, heavy structure like this is commonplace. (a) Foundations are prepared at the new site; (b) A steel cradle is slipped under the building; (c) Church is rolled to site, lowered into place on its new base. Properly braced to prevent twisting and bending while in movement, this church reached its new destination with glass and plaster undamaged.

(James Marston Fitch, Historic preservation, 1982)

The fabric of the building is to be conserved on the expense of the original urban setting.

Like attitude 10, attitude 11 is practised in Cairo and Damascus in some formal conservation operations. Whereas it does not exist in Lahore or San'a'. Probably the same reasons which made attitude 10 appear in Damascus and Cairo, are the cause for the existence of attitude 11 in the two cities. Probably this attitude was not applied in Lahore because it was not acceptable by the Britons. Whereas, in Cairo the French taste and school of thought was very strong although the political colonisation of Egypt was by the British. In San'a', the absence of European influence lead to the absence of this attitude.

Attitude 12: Eclectic restoration

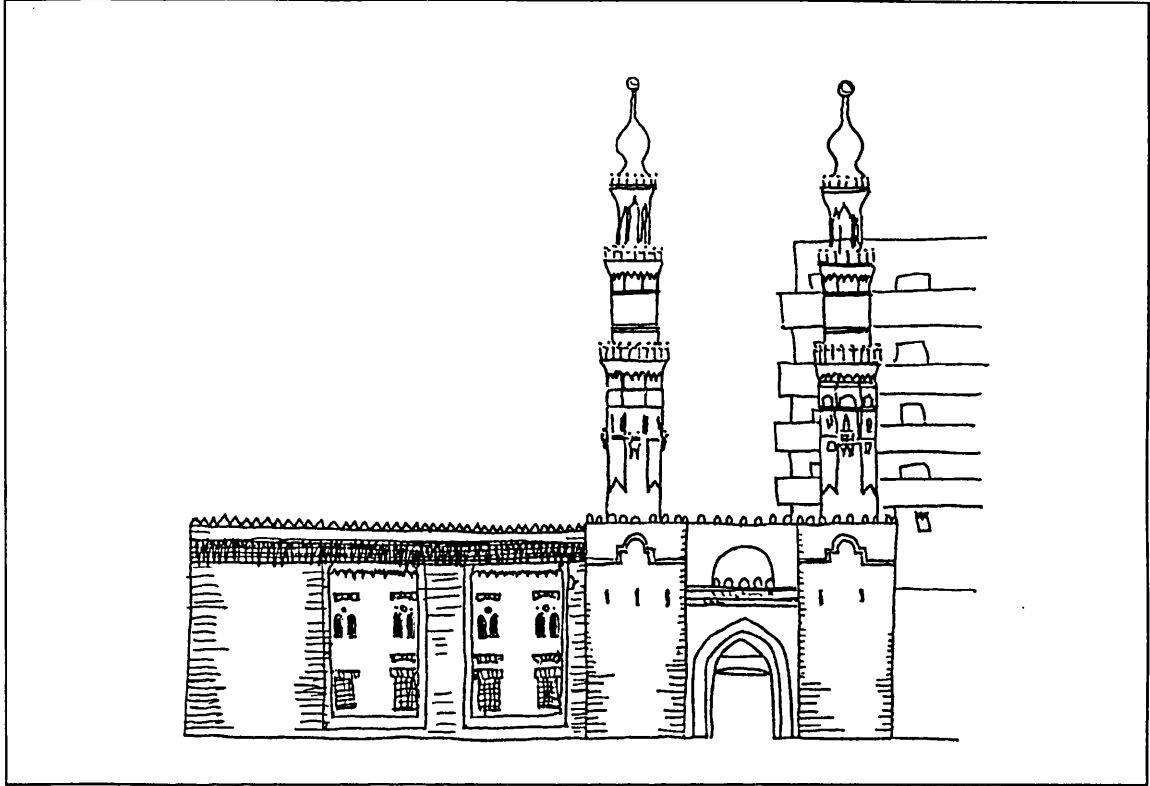


Fig. 6.13. Getting rid of the Ottoman repairs and additions, rebuilding the minarets and the mosque in Mamluk style, and keeping the gate in Ayyubid style.

In certain cases reparations should be made, in others remodelling should be carried out.

(Edward Augustus Freeman,
The Preservation and Restoration, 1852).

The conservation of one or more of consciously selected styles in which an historic building was built or repaired.

In Cairo attitude 12 was firstly introduced by the Comite (see Chapter 2, attitudes of the Comite). The most famous example of its application is replacing any

Ottoman top of a Mamluk minaret by a reconstruction of a Mamluk top. The same attitude exists until today in many formal conservation operations. In Damascus attitude 12 does not exist. May be because the city has been so famous of being the oldest living city in the world, which makes it acceptable to see the remains of many different historic periods co-existing, as it is the case in the Umayyad mosque. In Lahore this attitude exists only because of political motivations. For example all works and alterations of the Seikh period, prior to the British colonisation, are included, minimised, and some cases replaced by reconstructions from one of the Islamic periods. This can be explained by the Pakistani refusal to protect any non-Muslim cultural heritage as a reaction for the bitterness of the partition experience, and also as a question of national identity. In San'a' attitude 12 does not exist, as the harmony between the architectural heritage of different periods makes it difficult to differentiate between them, let alone to be selective about what to conserve.

Attitude 13: Restoration

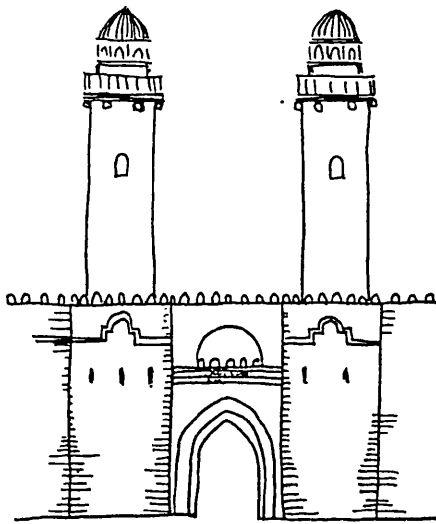


Fig. 6.14. Rebuilding the whole site in Ayyubid style.

To restore a building is to re-establish it to a completed state which may never have existed at any particular time.

(Violet Le Duc, *Dictionnaire raisonné*, 1852).

The style of a building that is "correct" is what has to be conserved. The conservationist does not learn his historical understanding from the building. On the contrary, the conservationist uses the building as a demonstration of his or her knowledge of history as it "should be".

In Cairo, as attitude 12, attitude 13 was introduced by the Comité. Today this attitude is practised by The Egyptian Antiquities Organisation as well as foreign

conservation missions in Cairo.⁷ In Damascus this attitude is the formal attitude towards architectural conservation. May be an explanation can be offered by the political situation. In a totalitarian state like Syria architectural conservation, like all other forms of cultural activities, is supposed to serve the political-ideological cause in the first place. Therefore, it is important to have great and (complete) monuments from the past to serve as the historic background for the image of the country imposed by the police state.⁸ In Lahore attitude 12 is a dominant one, although not introduced by the British nor by pre-colonisation conservation practice. May be this can be explained by the efforts to create a complete image of a selected past in order to support the present and future national identity which suffers immensely from the partition from India. In San'a' this attitude is being introduced recently, contemporary to the international campaign for conserving San'a', by foreign conservation experts without any relation to local attitudes. Probably this attitude is not relevant to local attitudes because restoration means putting the architectural heritage of a certain period on a pedestal. This can only be done for a dead building tradition which is not the case in San'a'.

Attitude 14: Conservation of the meaning or the symbol

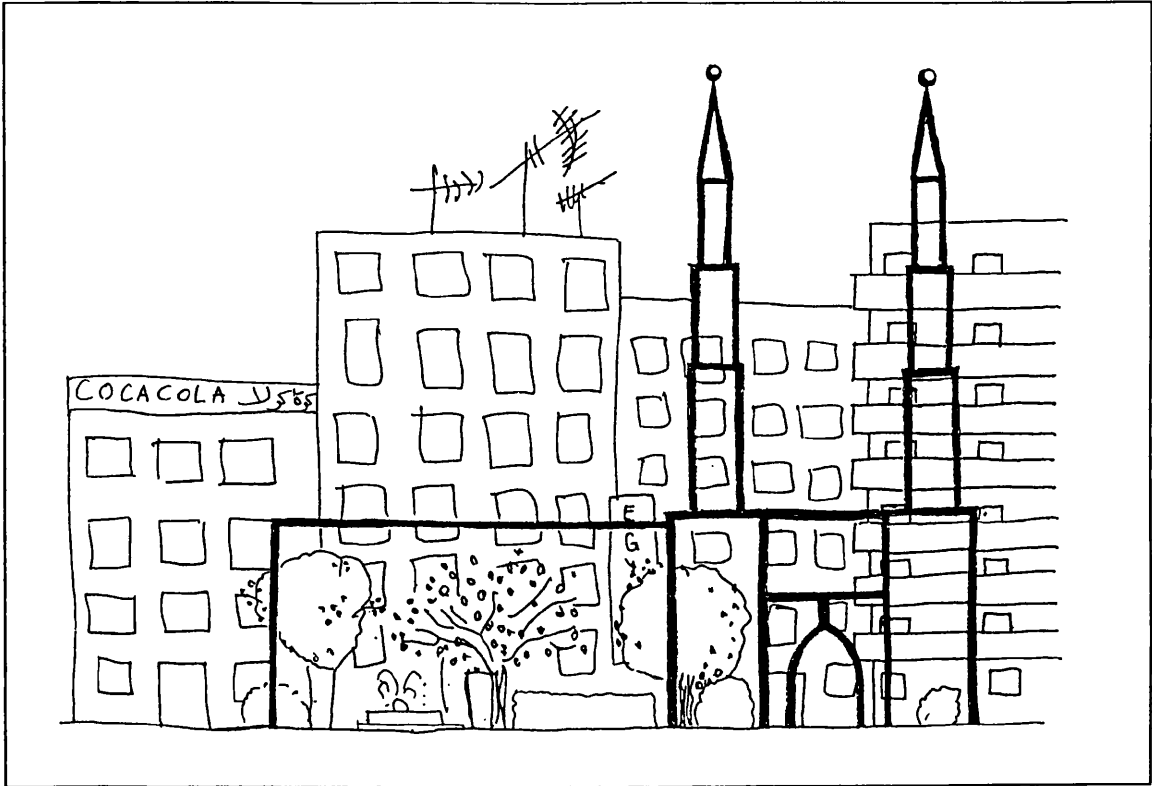


Fig.6.15. A symbolic metal skeleton stands with the same proportions of the historic building.

Benjamin Franklin's home in Philadelphia, marks a new level of maturity in American preservation activities. In preparation for the 1976 celebrations, the National Park Service had completed an exhaustive program of archaeological and archival research on the development of the site.... So it was decided not to reconstruct the house itself.... The roof, or lid, of this subterranean complex was then developed to a landscaped diagram of its plan during Franklin's day... The only vertical dimension to this diagram is afforded by the metal frames of the homestead and coach house, with astonishing effectiveness.

(James Marston Fitch, in Historic preservation: Curatorial management of the built World).

Constructing a reminder of an historic building, its meaning, and / or its symbolic values.

In the four cities, attitude 14 appears in informal conservation only. Religious motivations are always behind this attitude. An identical example which happens in all four cities is the construction of a vernacular mosque with the name of a religious building, site, event, or a leader.

Attitude 15: Urban conservation

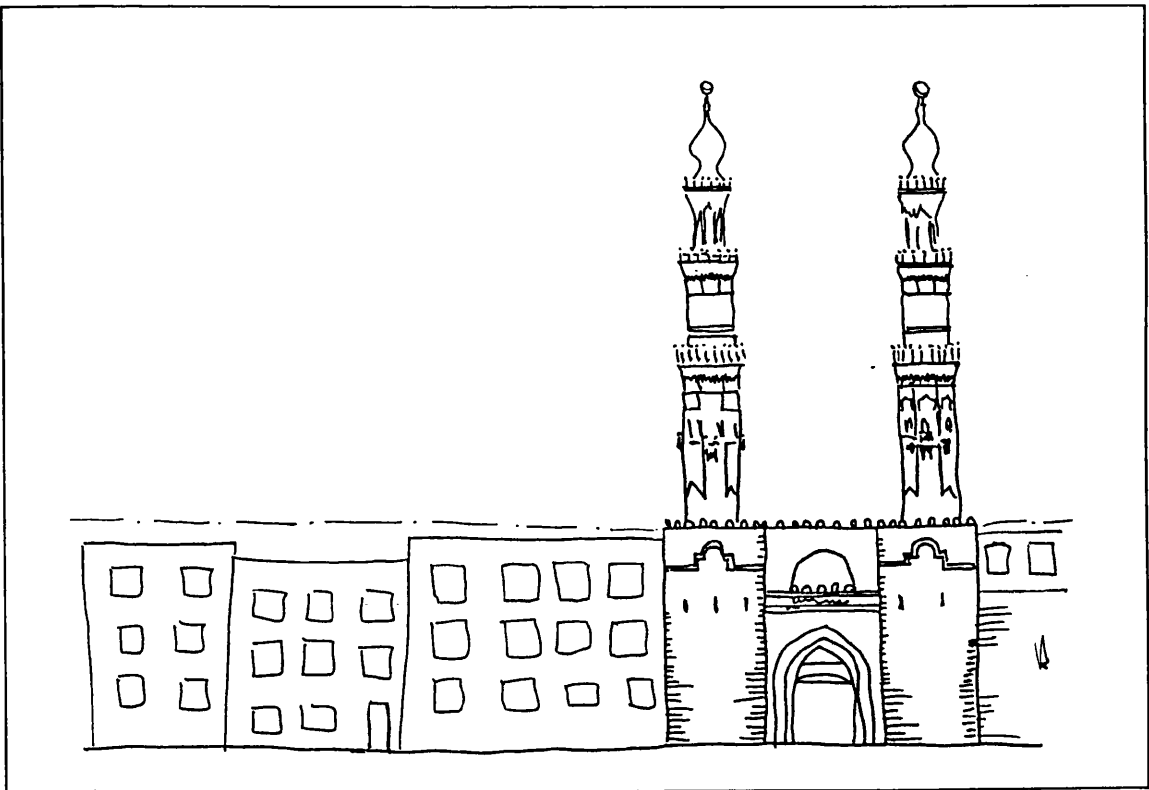


Fig.6.16. No modern buildings are allowed to be taller than the gate, so that the protective symbolic value of the gate, and the dignifying symbolic value of the minarets are emphasised.

Revisions have recently been drafted to expand Town and Country Planning legislation to include the designation of Conservation

areas. If approved by Parliament, the new legislation will provide the opportunity for certain areas of special character to be designated and will impose certain further responsibilities on landowners and occupiers with regard to maintenance and to proposals for alteration or demolition.

(Richard Gill in his address to the Third International Congress on architectural conservation & town planning, London, 1987).

Conservation plans are extended beyond individual historic buildings to include whole areas, in order to guarantee the integration of the urban character.

In the four cities attitude 15 is practised unsuccessfully by formal conservation and successfully by informal conservation. The failure of formal urban conservation projects is mainly due to corruption, lack of integration between governmental departments, insensitivity towards the problems of socio-economic development, and other reasons (for a more detailed discussion of the case of Cairo, see Chapter 4). In many cases the success of the informal urban conservation is due to the isolation of informal experiences from external influences. This can be the reason for the success of informal conservation in San'a' more than any of the other three cities.

Attitude 16: Conservation of the function

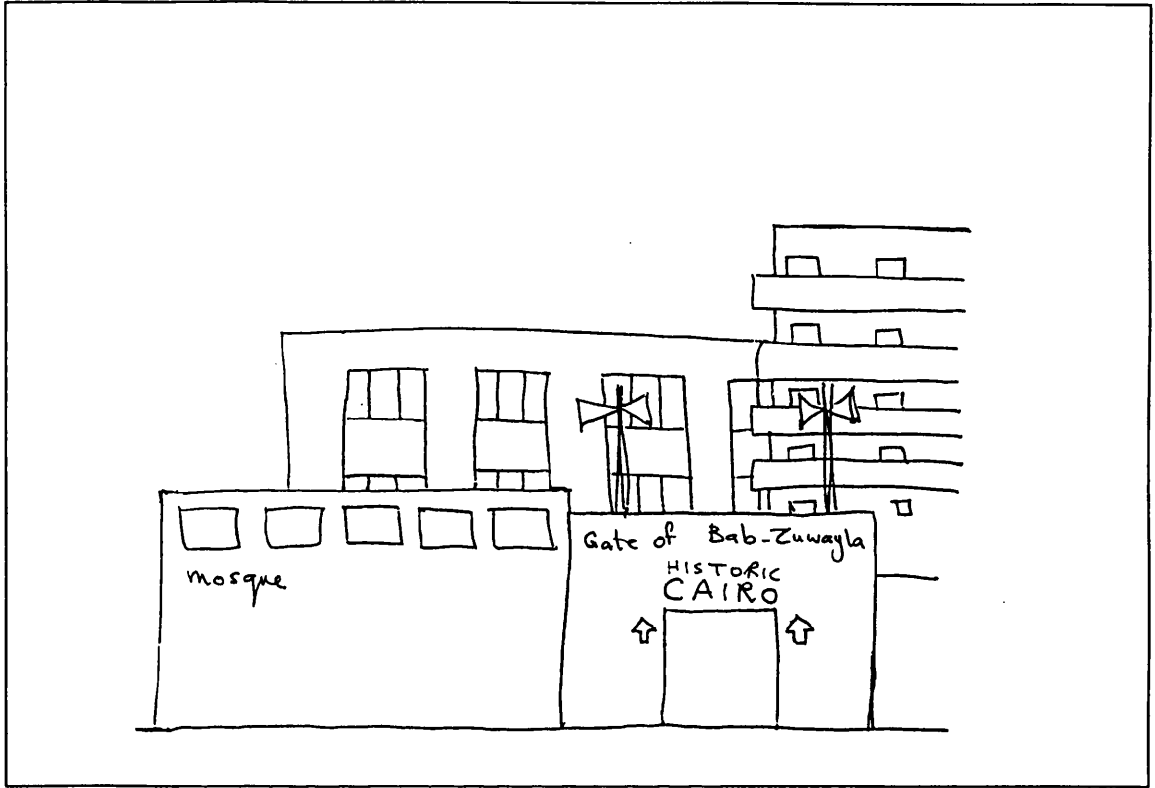


Fig.6.17. Keeping the function of the gate and the mosque with no attention whatsoever to the historic fabric or style.

Tradition does not mean preserving ashes, but keeping a flame alight.

(Jean Jaures, about 1910).

The function of an historic building is to be conserved or revived.

Informal attitudes of conserving the function of an historic building are successful because informal activities are the legitimate heir of the traditional way of life. In San'a', for example, there is an area which was assigned to old or sick animals to be kept and fed on the expense of the merchants in the suq. The conservation

of such area is only possible if the merchants of the suq are still convinced of the importance of its function and are willing to pay the cost of its upkeep. Legislations without the support of local attitudes are not enough. There is no one case of successful formal conservation for sites of similar humanitarian significance in any of the four cities. In Cairo, for example, the conservation of public drinking water fountains for animals ended up by changing their function and their isolation from the urban life of the city.⁹ An extreme example of attitude 16, which can be found in all the four cities, is the destruction of the fabric of an historic building in order to house its function "properly" with all the modern conveniences of such function. This attitude is applied in Damascus, for example, in the conservation of the Mamluk mosque of Yalbugha by the Ministry of Awqaf. The historic building was demolished, with some parts sent to the national museum, and a plan of multi story mosque, with a car park and all modern facilities is to be executed.

Attitude 17: Architectural and urban rehabilitation

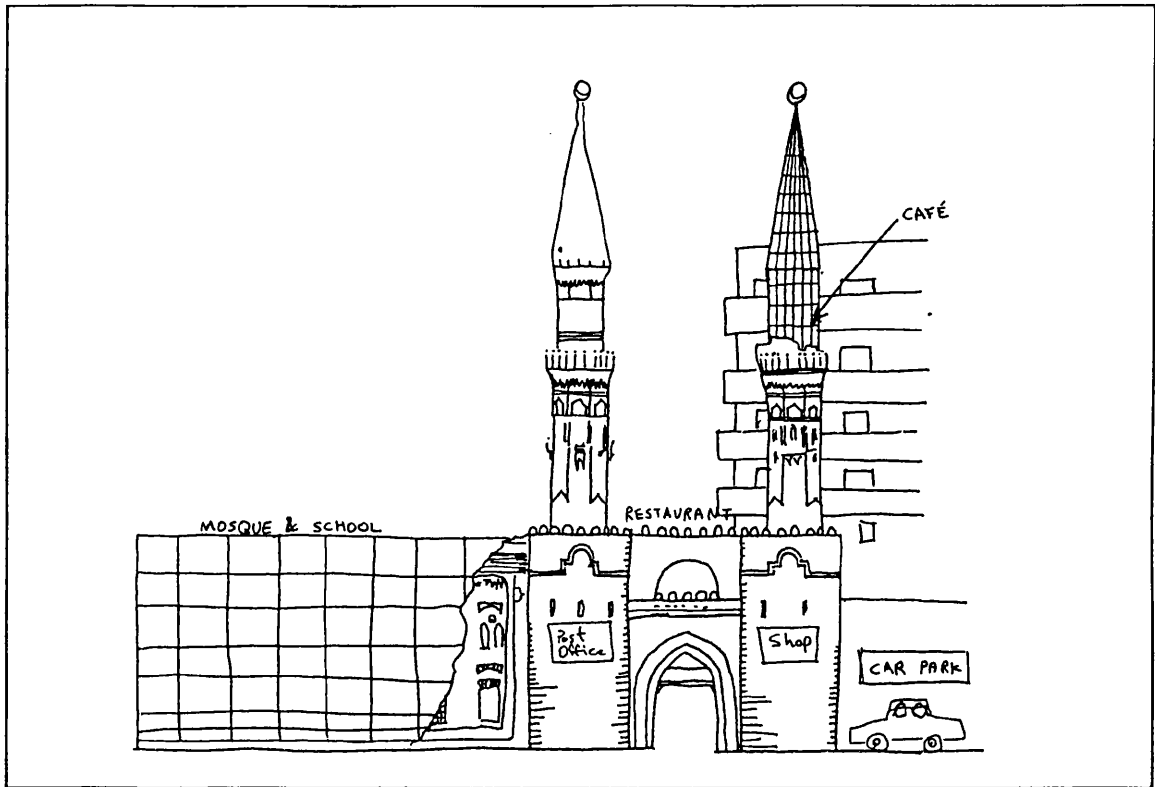


Fig.6.18 Inserting a new use in the fabric of the historic buildings after doing the necessary alterations.

The successful adoption and re-use of these 'redundant' structures and facilities will enable us to create a distinctive urban form in the heart of the city.

(Mayor of the city of Toronto, 1987).

The fabric of an historic building is conserved insofar as it allows a new needed function to be inserted in it. Any necessary alterations of the fabric of an historic building, needed for the new function, should be done.

Attitude 17 is practised in the four cities, in a restricted manner by the formal sector and more liberally by the informal sector. Formal conservation, though, shows less sensitivity than informal conservation does towards both the original function of the building, and the actual needs of its immediate surroundings. On the other hand formal conservation is more sensitive, archaeological, stylistically, and technically than informal conservation when rehabilitating an historic building.

Attitude 18: Conservation for tourism

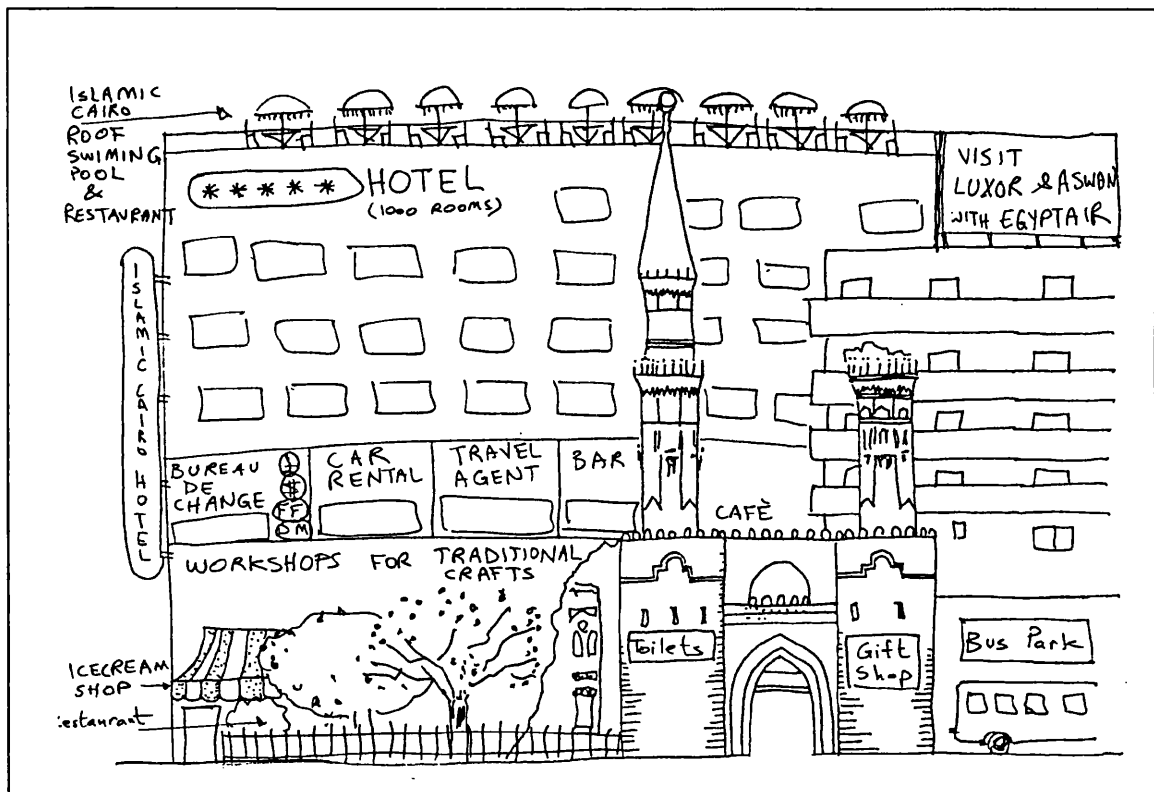


Fig.6.19. The whole site is developed for tourism

In Mexico we are just not rich enough to develop sites for one purpose alone. Tourism gives us the opportunity to develop the site within the context of an economic project, and to get the investment of public money because of its justified basis of tourism.

(Pablo Meyer, a Mexican archaeologist).

The fabric of the historic building is conserved in the most attractive way for tourists.

In Cairo the international mass tourism industry, though mainly directed to ancient Egypt, makes attitude 18 the most formally popular attitude towards the conservation of historic buildings. The political unfriendliness of the state in Syria makes it less attractive for international tourism. The limited infrastructures of Lahore and San'a' as well as their geographic distance from the West makes international mass tourism not yet possible. In Lahore there is a remarkable internal mass tourism potential, particularly for grand monuments. In the four cities, informal attitudes are usually against attitude 18 for religious considerations.

Attitude 19: Ignoring or ignorance of conservation

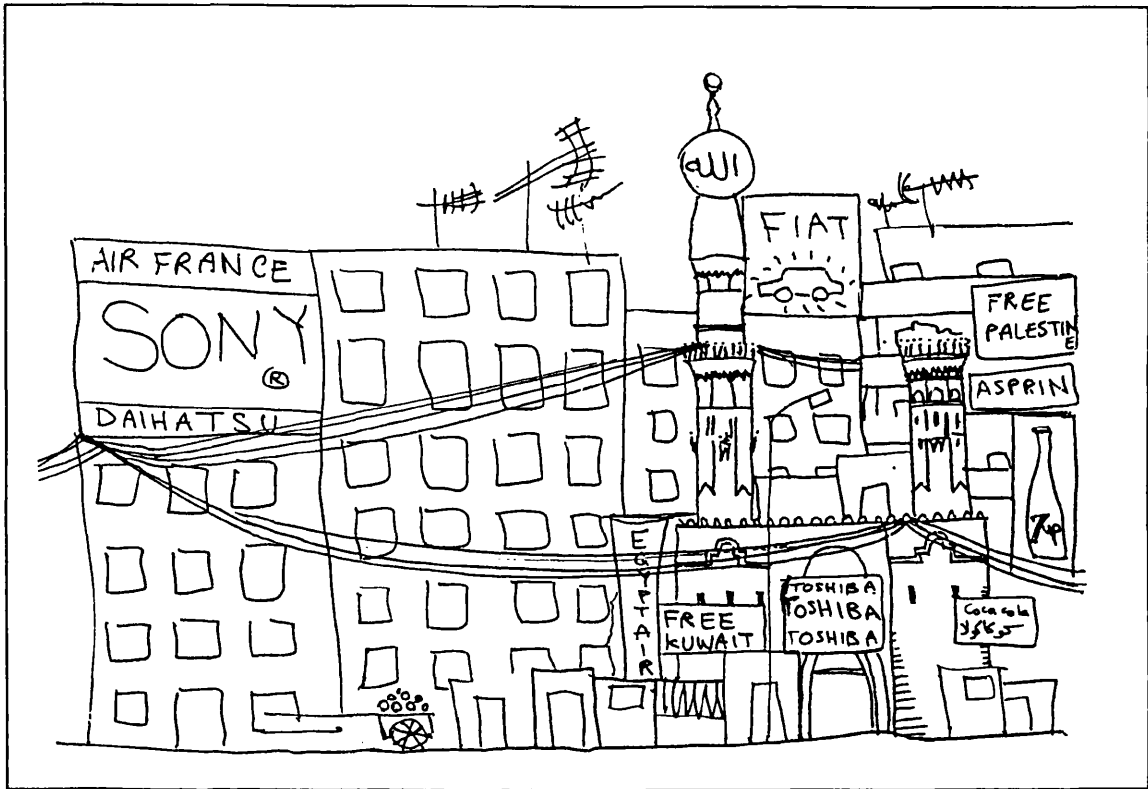


Fig.6.20. The historic building is treated in the same way as any other building in the city.

I have to disappoint the aesthetes: Old Vienna once was new.

(Karl Kraus, 1912).

Ignoring or ignorance of conservation can cause a slow process of deterioration and destruction of the historic building, or an earthquake-like demolition.

The unnecessary separation between conservation and development plans and policies makes attitude 19 apparent in the four cities. The more ambitious development plans are the strongest attitude 19 becomes. Therefore this attitude

is strongest in Cairo which claims the political and cultural leadership of the Arab and Islamic worlds, and sometimes claims also the leadership of Africa. To a lesser extent, Lahore claims the leadership of Pakistan, though not the capital nor the biggest city. In Damascus leadership claims also exist, though less convincing. And at the bottom of the ladder there is San'a', a famous underdeveloped city, with hopes for Arab and Islamic leadership, particularly after the re-unification of the two parts of Yemen. All these great cultural and political hopes for the future put the past at the bottom of the list of priorities, which results in attitude 19.

Attitude 20: Refusal of conservation

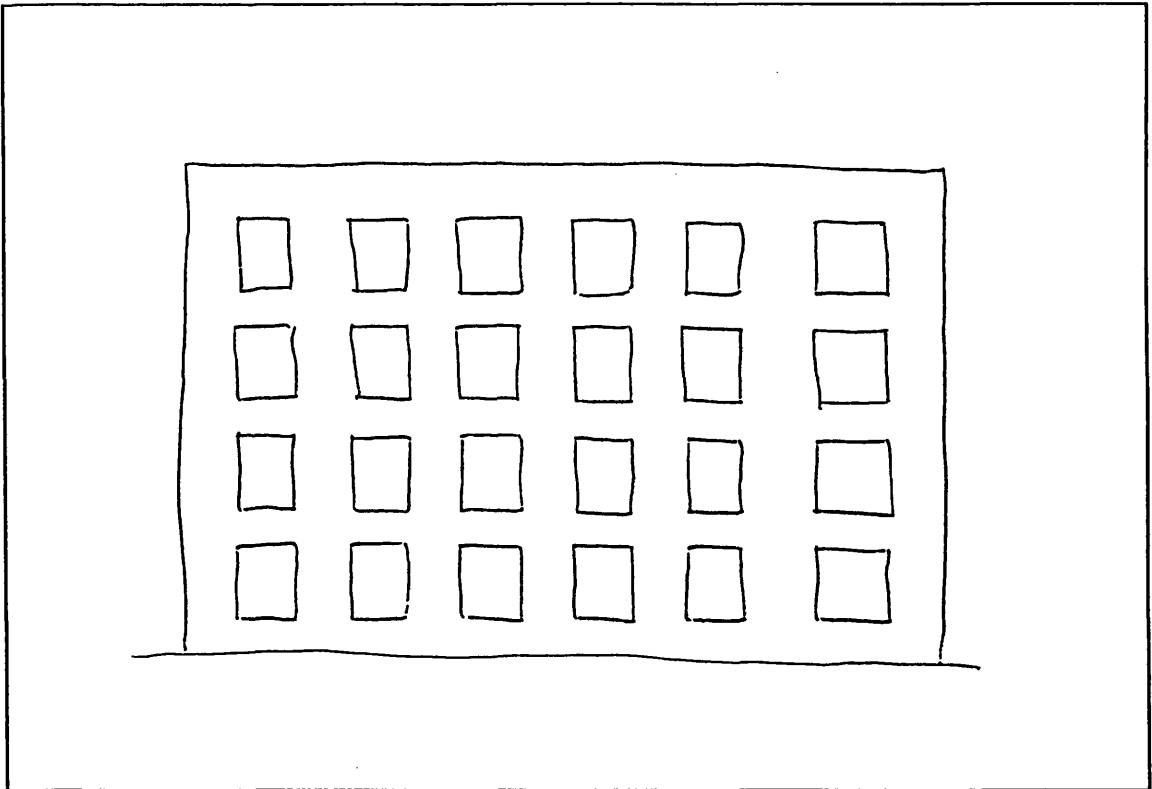


Fig.6.21. Erasing the historic site in order to allow innovative building activity.

Only when creating something new, can man be said to be truly aware. Where he feels quite safe, the situation is already somewhat suspect; since here something is known with certainty, hence something already existing is merely handled, is repeatedly re-used. This state is no more than half-awareness.

(Karl Friedrich Schinkel, about 1835).

Such a refusal of conservation can be complete or partial. A complete refusal means a conscious demolition of historic buildings. Partial refusal can be destructive to one or more of the aspects of an historic building, such as the meaning, the function, the style, the fabric, or the setting.

Formally this attitude does not exist in any of the four cities when dealing with historic buildings. Although it exists in all new buildings, suburbs, and towns. All Hassan Fathy's buildings of traditional architectural vocabulary, and El-Wakil's buildings of historic architectural vocabulary had to be built in the middle of nowhere, without any relation to an existing urban context. This is because all planning and building regulations in Egypt do not allow this type of buildings to exist. Informally, this attitude exists when dealing with both new and old buildings. Religious buildings are an exception though, they are built formally and informally with extensive use of traditional and historic architectural vocabulary.

Notes

- 1) According to Dr. Kassem Toueir, Director of Department of Research and Training at the Directorate General of Antiquities and Museums of Syria, in an interview with him in Damascus, Dec. 1991.
- 2) Dr Saifur Rehman Dar, Director of Lahore Museum and Director General of Punjab Department of Archaeology, told me during an interview with him in Lahore in Nov. 1991 that he is striving hard to put forward a project for legislative protection of pre-Islamic antiquities in Pakistan.
- 3) UNESCO working documents, Symposium on the integrated urban policy for the conservation of the old city of San'a', Yemen, 15-19 December 1991.
- 4) Robert Ilbert, and Mercedes Volait, "Neo-Arabic Renaissance in Egypt, 1870-1930", in Mimar, 1987.
- 5) Kamil Khan Mumtaz, Architecture in Pakistan, 1985, p.124.
- 6) R. Lewcock, The old walled city of San'a', UNESCO, Paris, 1986, pp.64-84. The main two stylistic groups of houses in Lewcock's analysis are the Jewish and the Islamic houses, which is based on ideological, socio-economic, and cultural basis rather than stylistic or aesthetic.
- 7) J. Kania, and L. Slonski, Restoration of minaret in Ameer Qurqumas burial complex in Cairo, vol.2, Warsaw, 1985. The Polish team restored the minaret according to a stylistic research on the architecture during the period of the construction of Ameer Qurqumas burial complex.
- 8) May be this explanation can be best supported by the fact that all historic buildings in Damascus with no exception have pictures of the president Hafez al-Asad and some patriotic slogans. Even academic books on historic buildings in Damascus such as the Arabic translation by Kaseem Toueer of the German book Damaskus, die Islamische stadt, by K. Wulzinger and C. Watzinger start with a big photograph of al-Asad visiting an historic site and a slogan of brain washing effect written in the same page: "His excellency the president of the Arab Republic of Syria, the fighter Hafez al-Asad, the maker of the present, the protector of the past, and the planner of the path for the shining future."
- 9) No one of the many public drinking water fountains in Cairo was conserved without changing its function, despite the fact that animals are still in use for transport in the narrow alleys of medieval Cairo. In his proposal for the rehabilitation of Batiliyya, Lamei-Mostafa complains:
"A drinking trough for animals built by Sultan Qaitbay (Index no. 74) before 1496 AD; one storey building. At the time of the survey it was used as a storage room, rented to the private sector, an incompatible activity which did not harmonise with the original function and caused serious damage."
Yet in his rehabilitation Lamei-Mostafa says:
"...the drinking trough for animals was reused as an office for the Ministry of Tourism."
Lamei-Mostafa, "The rehabilitation and restoration of an historic area - the Batiliyya district of Cairo" in Third International Congress on Architectural Conservation & Town Planning, London, 1987, pp. 133-147.

PART FOUR: CASE STUDY

Chapter 7: Case study, Ulmas mosque

Attitudes towards the conservation of the mosque of Ulmas can be controversial. The aim of the present chapter is to propose a realistic and academically accepted attitude towards the mosque's conservation. The proposed attitude emerges from looking at the mosque from four points of view. (1) Understanding the architectural characteristics of the mosque; (2) Understanding the historical significance of the mosque (its founder, its urban history, and its architectural history). (3) Assessing values to be conserved, and; (4) Defining conservation problems. The proposed attitude is described as a draft for a conservation project, addressing all the values, forces and problems related to the mosque. According to the proposed attitude, very little 'visible' intervention is really needed for the mosque's conservation.

a. Description and analysis of the building

1. Location:

The mosque of Ulmas sits on the corner of two streets: Sharai' al-Helmiyya and Haret Ulmas al-Hajib in al-Helmiyya quarter. The western and main facade of the mosque is on Sharai' al-Helmiyya. The north and secondary facade of the mosque is on Haret Ulmas al-Hajib. To the east of the mosque there is a private unbuilt plot of land, and to the south of the building there are two neighbouring buildings, one is newly built and the other is relatively old (fig.7.1).

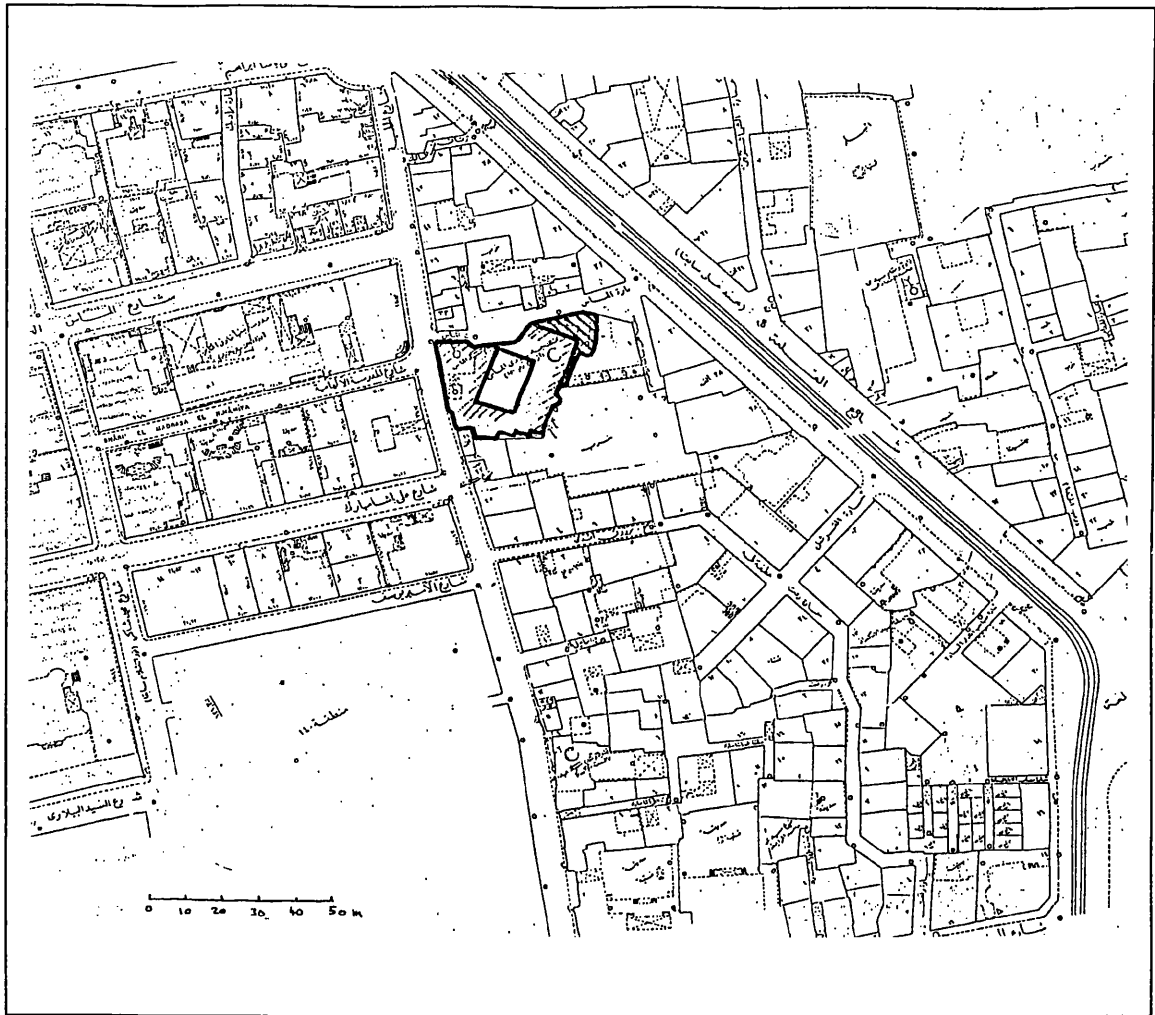


Fig. 7.1 Location of Ulmas mosque

2. Architectural description

External appearance

The mosque has two lime stone facades to the west (main facade) and to the north (secondary facade). A dome sits on the corner of the two facades and a minaret on the right hand side of the main entrance. The main facade is about 24.4m in length and very richly designed (fig.7.2). The entrance bay is nearly in the centre of the facade, dividing it to two slightly unequal parts, each part has a shallow recess of windows with a stalactite head. The entrance bay is situated

between the mausoleum in the northern part of the facade with its brick-plastered dome on top, and the mosque in the southern part of the facade, with the substructure of the minaret next to the entrance. The minaret above does not belong to the same skilled craftsmanship quality of the facade. A sunken band, bears a carved inscription, runs across the whole facade just below the stalactite heads. A simple moulded cornice and a row of *shurafat* sit on a cornice and crown the whole facade.

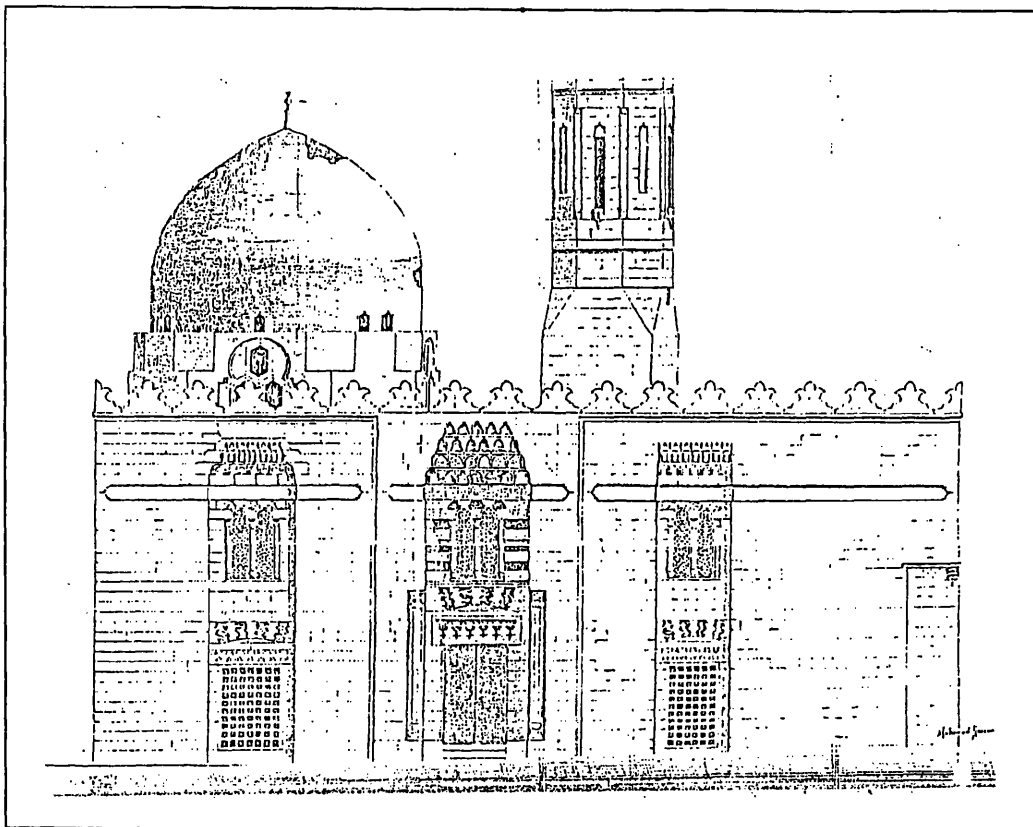


Fig. 7.2 the main facade of the mosque (from Karim)

Each of the two window-recesses consists of, from top to bottom, three rows of stalactites, the sunken inscription band, a pair of windows screened by very finely carved wooden screens, three colonettes are on each side of the two windows and in between them. Then two arches, the upper one is a segmental

arch built by joggled stones and the lower one is flat arch built by joggled stones framed in a narrow arabesque border. These two arches span the bottom rectangular window which begins under the present street level. The main door of the mosque is set back in a tall deep recess, which runs the whole height of the facade (fig.7.3). It terminates in an amazing flat composition of stalactites, corresponding in level with those over the windows. The entrance-bay is flanked by two columns less than half the height of the whole recess. Each one of the two sides of the recess consists of a group of windows arranged with the arches, colonettes and the inscription band as the facade window-recesses. On the right side there is a foundation inscription plate. The sunken facade of the entrance resembles the window-recesses with the main door in place of the bottom rectangular window. On each side of the door there is a *maksalah*.

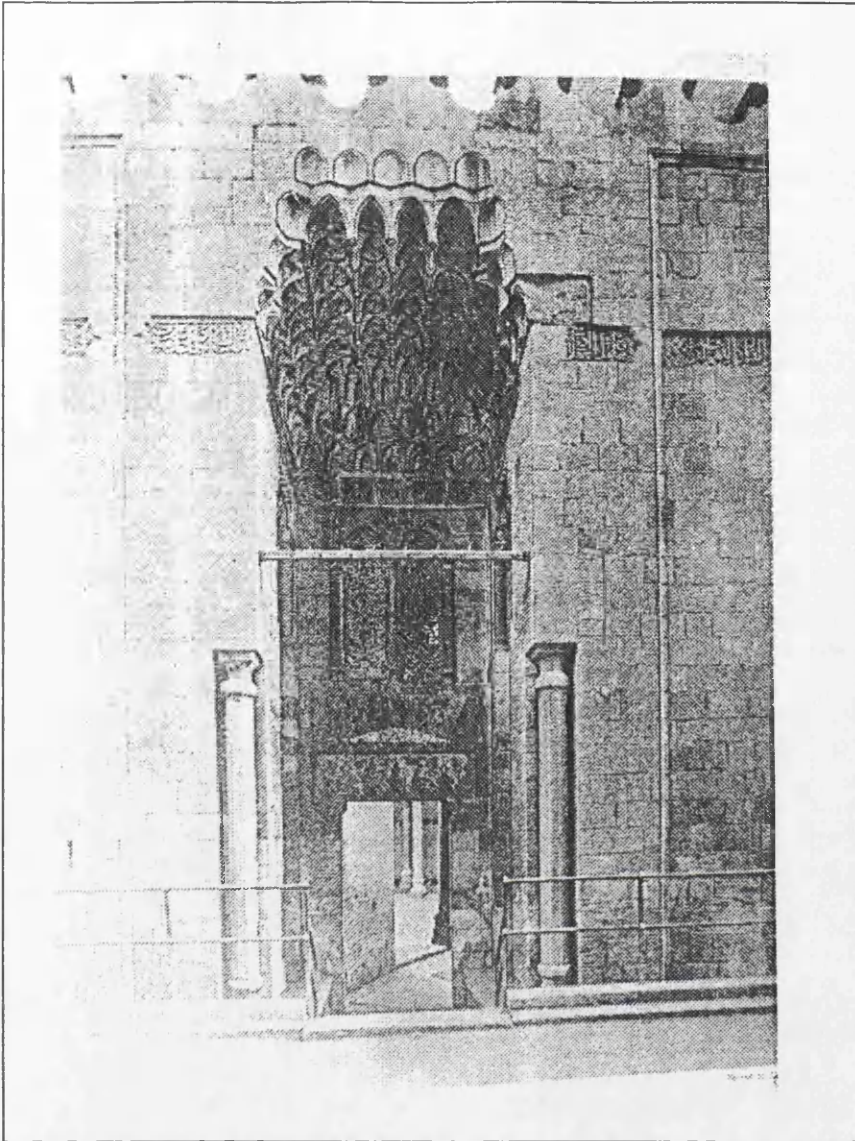


Fig. 7.3 The main entrance of the mosque

The secondary facade is about 50.20m in length and relatively plain in comparison with the main facade. The *shurafat* and cornice run above the whole facade on the same level as in the main facade (fig.7.4). The side entrance of the mosque is simply a plain wooden door with two arches above. The first is a flat arch of joggled stones and the second is a segmental arch above it. A window sits on the higher arch with an iron grid, a wooden lentil, and

a segmental stone arch above. This facade has nothing else more than two other windows without any designed arrangement with the other elements of the facade. The first is a big rectangular window near the western end of the facade opening into the mausoleum. The window has an iron grid and above it there is a flat arch, and a segmental arch on top. The second window is a high small window near the eastern end of the facade which opens into the northern *riwaq* of the mosque. The window has an iron grid and a wooden lintel. The facade ends suddenly further to the east.

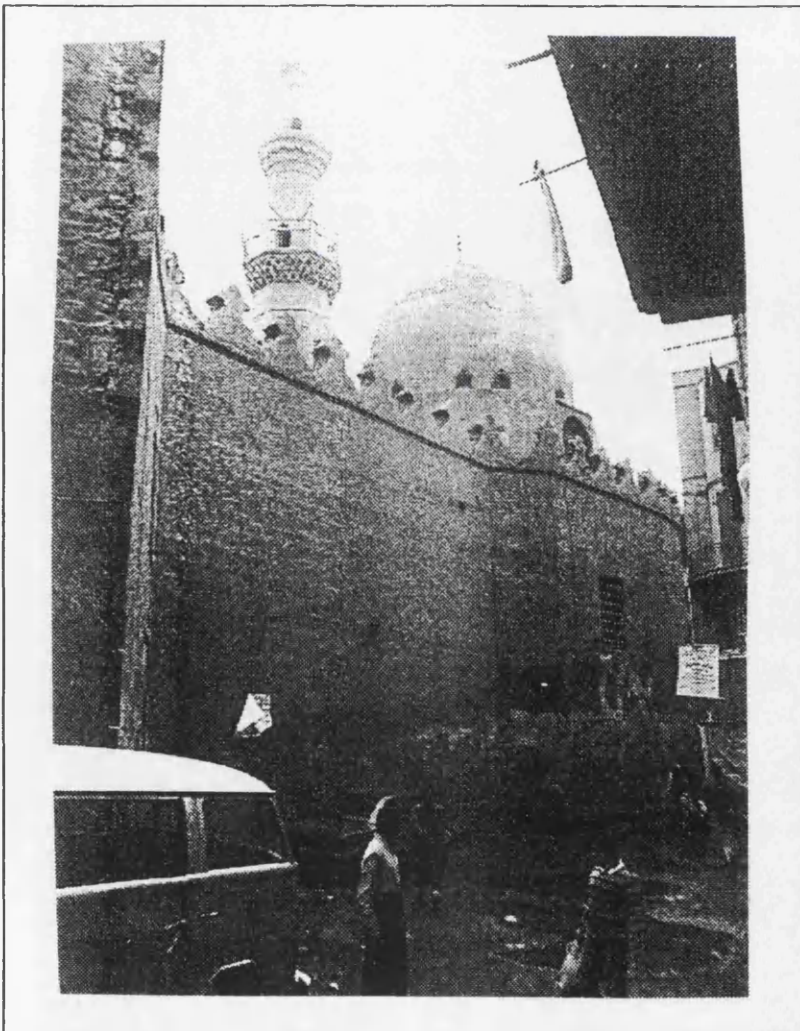


Fig. 7.4 The side facade of the mosque

Interior and plan arrangement

The main entrance leads to the western *riwaq* in the bay next to the *qibla* bay on the left hand side. The mosque is arranged in four *riwaq*-s around a central courtyard. All the four *riwaq*-s are two aisles deep except the western one which is of the width of one aisle. All the *riwaq*-s have a wooden flat ceiling, carried by plastered brick arches, which are carried by marble columns (fig. 7.5).

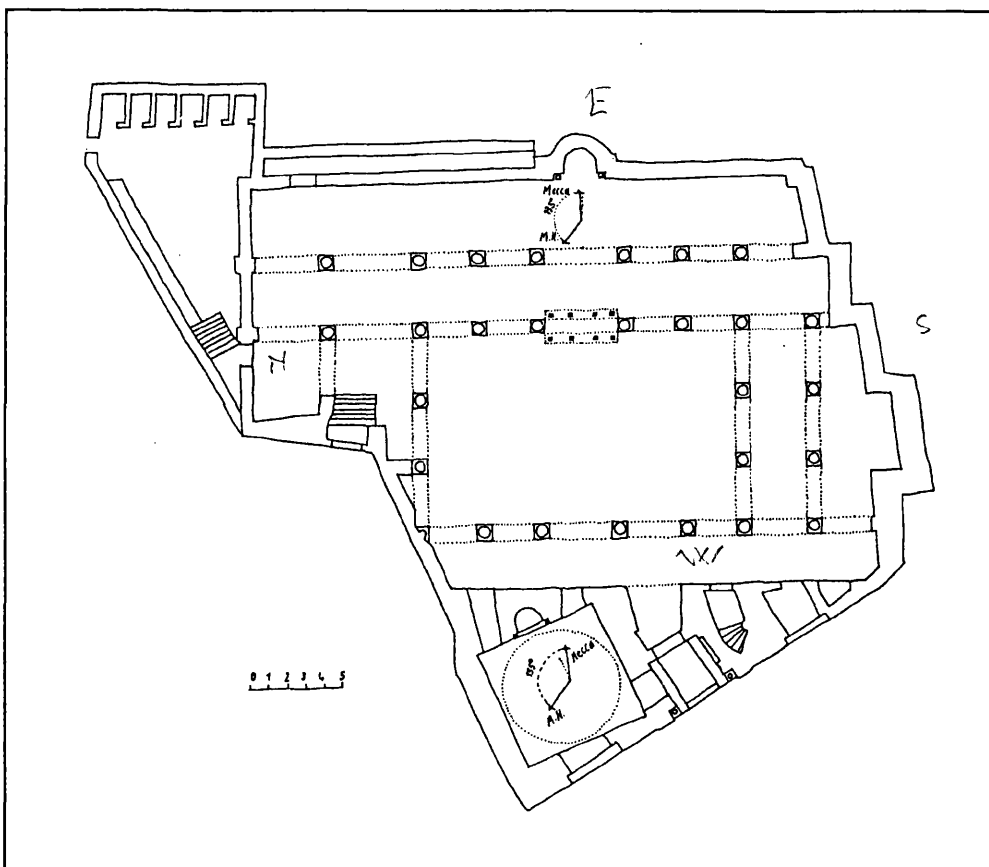


Fig. 7.5 Plan of the mosque by Karim

The courtyard is rectangular, and decorated with beautiful gypsum ornaments around, in between and above the pointed arches. There are also gypsum decorations around little upper openings. The courtyard is flooded with sub-

surface water.

The western *riwaq* (entrance *riwaq*) is the smallest in the mosque. In the western wall there is the door and window of the mausoleum to the north, and the door which leads to the stairs for the roof and the minaret to the south of the main entrance of the mosque. The space of the southern *riwaq* is irregular because of the zig-zag southern wall. Which suggests that this wall might have been a street frontage and thus aligning with the street. In the western wall there are two doors of small storage spaces. The eastern *riwaq* (*riwaq al-qibla*) is the biggest and most decorative in the mosque. It travels along the whole length of the mosque with two arcades of regular arches except the *qibla* bay, its arches are wider than the others. The arch in front of *al-mihrab* is decorated with stucco ornaments. The *qibla* wall has high stucco windows with coloured glass, and near the northern end of the wall there is a little wooden plain door.

The northern *riwaq* is irregular as it starts with two aisles depth in its eastern end and comes to an end before its last arch on the courtyard, leaving a little triangular space for drinking water space (*mazyara*) screened by a wooden carved lattice. The secondary entrance of the mosque, from Haret Ulmas, opens to the southern aisle of this *riwaq*. A door in the northern wall leads to a modern ablution space.

The mausoleum is richly decorated at the interior with gypsum bands, and marble work at its *qibla* wall (fig.7.6). The burial chamber is underneath, entered by lifting a slab near the mausoleum's door. Under the slab there are stairs leading to vaulted spaces under the main room of the mausoleum.

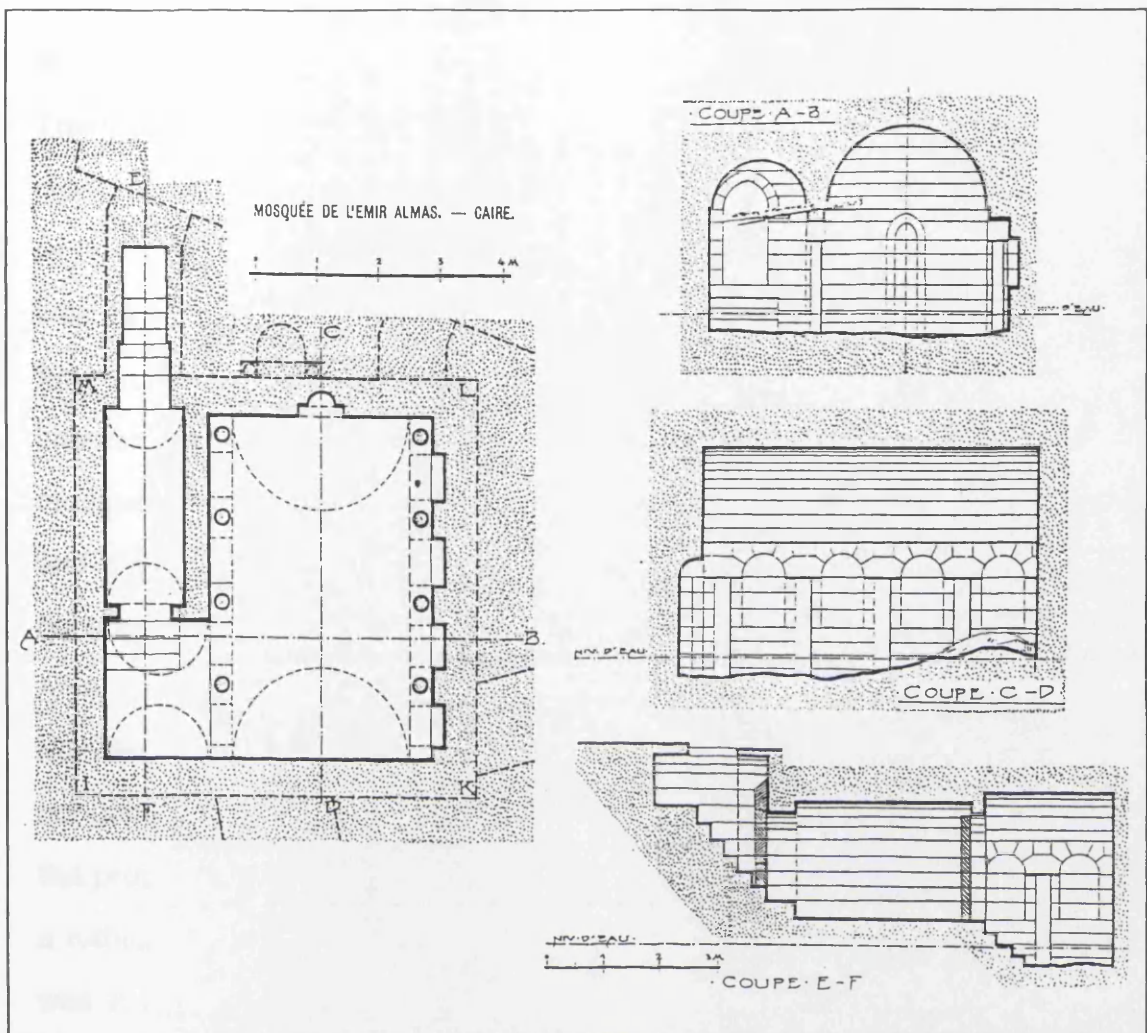


Fig.7.6 Plans and sections of the mausoleum by the Comite

b. History

1. The founder: Amir Ulmas (died in 12th *Safar* 734 AH- 1333AD)

Amir Saif al-Din Ulmas Ibn 'Abdullah al Nasiri. Ulmas is a Turkish word meaning eternal.¹ Ibn 'Abdullah indicates that his father is not known. Al-Nasiri indicates that he was a Mamluk of al-Sultan al-Nasir Mohammed Ibn Qalawun.² It is not known, exactly, when or where Ulmas was born. It is also unknown when was he sold to al-Sultan al-Nasir Mohammed, but Ulmas's ignorance of Arabic language

suggests that he was brought from Turkey to Egypt in a relatively old age.³ He was promoted in different posts and ranks until he was awarded a *Jashinkir*. Then promoted to be *hajib al-hijab*. By that time Ulmas became the first and most important of al-Nasir Mohammed's Mamluks. He became actually *al-na'ib* when Amir Arghun, the official *na'ib*, was appointed *al-na'ib* of Aleppo. But Ulmas was never awarded the official title *al-na'ib*.⁴

Amir Ulmas enjoyed great power and wealth until al-Nasir Muhammed imprisoned him and took all his wealth, including the precious marble from his mosque, mausoleum, and palace. A year later he was strangled in his prison and buried in the mausoleum attached to his mosque. His tragic end raises a question mark.⁵

A very unpleasant portrait was drawn of Ulmas by trustworthy historians of Cairo like Maqrizi and Dawadari.⁶ Ulmas was a dark-skinned tall naive man, who did not understand a word of Arabic. He collected wealth by dishonourable means. But pretended to be a miser just for the fear of al-Nasir Mohammed. Ulmas was a ruthless tyrant who treated people unfairly. It was also known of him that he was a homosexual. And worst of all his pretence to be a believer in Islam, whereas he actually was not a Muslim in his heart.

2. Urban history of the site

The time of building the mosque

The mosque was built on one of the best sites in Cairo during one of the most flourishing times of the city's history, when travellers and historians called her "the mother of the world".

Cairo in the time of al-Sultan al-Nasir Mohammed Ibn Qalawun was perhaps in her best state.⁷ There were no wars, the commercial activities were of great scale, and most importantly the Sultan's passion for architecture was

overwhelming. Al-Nasir Mohammed promoted the construction of great urban expansions, civil works, and architectural monuments on a scale the city had never witnessed before.⁸

The site of Ulmas mosque is in the heart of the area west of the citadel, the centre of power, where the Mamluk elite resided and built their edifices with the encouragement of the Sultan. Further to the west were the wondrous gardens and ponds constructed by al-Nasir Mohammed, and of which Cairo was so famous for many centuries.

The mosque was built on the main spine of Cairo, nearly half the way between al-Fustat in the south and al-Husaynayah in the north.

The time of Napoleonic Expedition

Cairo as observed and surveyed by Napoleon's engineers in the end of 18th century did not have any major difference from the Mamluk times. Not anymore a capital of a great empire, but one of many provincial cities within the Ottoman empire. The Ottoman contributions to the city were much poorer than the Mamluk. Nevertheless, by the end of the Ottoman times Cairo was more homogeneous as a single city outside and inside the walls.⁹

The mosque of Ulmas became more integrated within the urban fabric of the city. It became an important monument and landmark of al-Suyyufiyyah street (later called al-Helmeyyah street). The building was in full function and even the mausoleum was seen as the tomb of a pious man (i.e. *sidi* Ulmas), as 'Ali Mubarak said that there was an annual celebration of Ulmas's birthday (*mawlid sidi Ulmas*).¹⁰

The time of modernising Cairo

Once again Cairo saw great architectural and urban changes, maybe the biggest since the great projects of al-Nasir Mohammed. And once again the site of Ulmas was in the heart of the area which was mostly affected by the changes. The construction of Mohammed 'Ali street was one of the most remarkable of modernisation schemes by Khedive Isma'il. The street was a short-cut link between the citadel and the new neighbourhood of al-Isma'iliyya, wide enough for cars and a tramway in its centre and edged by Italian style arcades and buildings.

khatt al-tanzim was a new legislation imposed on the existing streets of Cairo, it meant the alignment of the street, and forced any new construction to be built with its facade on a certain straight line with the rest of the other facades in the street. This meant that the old winding streets of Cairo became wider and more straight.

The construction of al-Helmiya neighbourhood was another modernisation scheme which changed the immediate urban fabric of the mosque. An iron grid network of streets was imposed on the medieval urban fabric, and vast Italian and Art-Nouveau villas for the elite were constructed with big gardens around them. Al-Halmiya became so prestigious as a residential area that Khedive 'Abbas Helmy resided there and the neighbourhood, since then was called after him.¹¹

The present time

Since the fifties the social and urban structure of al-Helmiya changed gradually, like most of Cairo, it became over-populated. The rich inhabitants moved out to the newer, calmer and more prestigious neighbourhoods. The grand villas were gradually replaced by high rise residential blocks, much poorer in architectural

and aesthetic qualities. Like the rest of Cairo the infrastructure and services of al-Helmiya are now inefficient.

3. Architectural history of the mosque

The first changes happened to the mosque were immediately after the execution of Ulmas. All the valuable marble were taken from the building to the citadel.¹² The disagreeable reputation of Ulmas was, probably, the reason for the fact that no alterations to his mosque had been mentioned by any historian for a long time. The first known alteration to the mosque since the removal of its marble was the rebuilding of its minaret (fig.7.7) which collapsed in 1125AH/ 1713AD and was rebuilt soon after.¹³

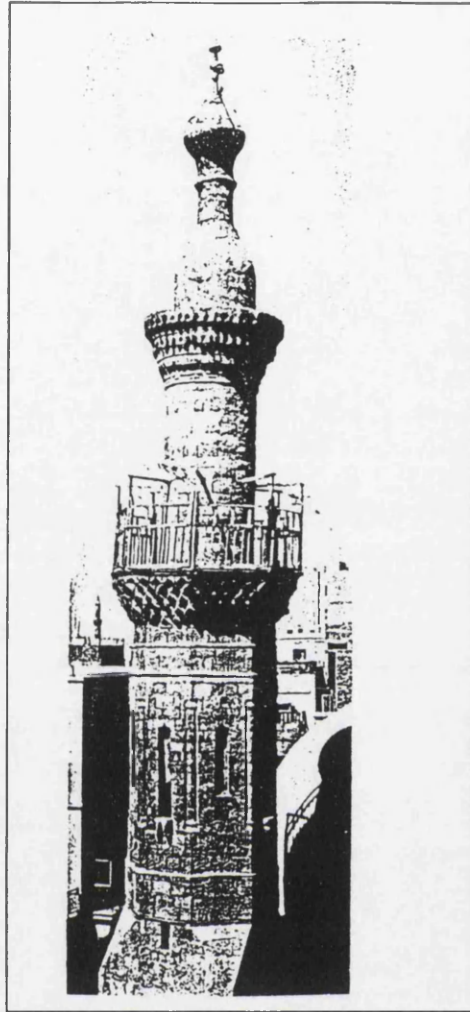


Fig. 7.7 The minaret of Ulmas mosque which was built in 1713AD
(from Behrens-Abouseif)

The mosque went through another period of no alterations until it caught the attention of the Comite in 1890.¹⁴ As one of the wooden grills in the main facade was missing. Then in 1901 the mosque appears again in the Comite's accounts as structural problems were noticed. Other technical problems of the mosque were mentioned by the Comite. But it was not before 1910 that the Comite started big restoration operations which lasted until 1912. The Comite left a foundation and restoration inscription on the right side of the main entrance.

It is not known exactly what was done and where by the Comite. But one can gather from the Comite's reports that the restorations included: stalictites and door of the entrance, the wooden windows in the main facade, the mausoleum, the stucco decorations, the marble, the ceiling, most of *riwaq al-qibla*, and the foundations. Also the main facade was cleared from the street built up against it, and a handrail and stairs from the street level to the level of the floor of the mosque.¹⁵ The only known changes in the mosque since then is the wooden structure which elevates the floor of the mosque above the surface water which is constantly flooding its court.

c. Assessment of values to be conserved

1. The assignment of priority values

Conservation must preserve and if possible enhance the messages and values of cultural property. These values help systematically to set overall priorities in deciding proposed interventions, as well as to establish the extent and nature of the individual treatment. The assignment of priority values will inevitably reflect the cultural context of each historic building.... The 'values' assigned to cultural property come under three major headings:

(1) Emotional values: (a) wonder; (b) identity; (c) continuity; (d) spiritual and symbolic.

(2) Cultural values: (a) documentary; (b) historic; (c) archaeological, age and scarcity; (d) aesthetic and symbolic; (e) architectural; (f) townscape, landscape and ecological; (g) scientific.

(3) Use values: (a) functional; (b) economic; (c) social; (d) political.

..., conflicts can arise between cultural and economic values and even within each group, for example between archaeological and architectural values. Sound judgement, based upon wide cultural preparation and mature sensitivity, gives the ability to make correct value assessments.¹⁶

Assessment of the values to be preserved and enhanced by the conservation proposal for the mosque of Ulmas must respect the following forces, which exist

today in Cairo and influence local attitudes towards architectural conservation:

Values from pre-Napoleonic history of conservation

Certain values within a building initiate positive or negative attitudes towards its conservation:

- Urban characteristics
- Architectural characteristics
- Financial and functional aspects
- Symbols and memories an historic building conveys

Values from post-Napoleon history of conservation

Formal and informal values are essentially different:

- Informal values are a straight forward continuity from pre-Napoleon times.
- Formal values are imitations of European values (mostly bad imitations).

Ideological and cultural forces

- One should be careful before using the term "Islamic". The Islamic religion should not be used to justify the conservation of a building which does not reflect Islamic values just because it happened to be built by a Muslim.
- Conservation must allow historic buildings the amount of change necessary for coping with different changes in the life of Muslims, which can be called the process of Islamisation.
- If materialistic and immaterialistic values should be separated, then the immaterialistic values are prior.

Socio-economic and socio-cultural forces

- Formal conservation failed so far to integrate with any socio-economic, socio-

cultural development. Whereas informal conservation, though much more sensible, is professionally and technically mediocre.

- The essential human needs are not available to the majority of Cairo's citizens, which makes any architectural conservation project seem so immoral and false.
- Traditional existing socio-economic and socio-cultural networks and systems are the spirit of Cairene urban traditions.
- Recycling is a value central to Cairene urban traditions. In these traditions historic buildings are recyclable.

Technical problems

- The most serious causes of technical problems are on the scale of the city, such as the lack of integration in planning on different levels and between different fields, the lack of feedback between planning and reality, the lack of research and practice co-ordination, and the lack of maintenance tradition..

Different possible attitudes

Every architectural intervention in the old urban fabric is an attitude towards conservation. Local possible attitudes must be studied before any conservation decision is made. Because attitudes might be important forces, needs, and values in a society.

2. Values to be conserved

Integrity of values

- The role of the mosque as an urban centre for its immediate surroundings is of emotional, cultural, and use values. The integrity of these values is the spirit of the building, and should be of the utmost priority for preservation.

Use values

The religious nature of the building makes its 'use values' of functional, economic, social, and political importance. Functions carried out in the mosque can be summarised as follows:

- Prayers for males and females;
- Social welfare activities;
- Funeral services;
- Teaching for children and adults;
- Temporary shelter for homeless;
- Drinking water and resting place for passer bys;
- Ablution facilities and public toilets;
- Meeting place for local politics events;
- Local media and communication system;
- Counselling in social, economic, political and religious matters.

Emotional values

Immaterialistic cultural values (emotional values) of Ulmas mosque are closely related to its 'urban role' and 'use values'. As any other emotional or immaterial subject, it is hardly possible to analyse. However, observations made on other mosques such as Sultan Hassan's show that when stripped off their 'urban role' and 'use values' not much was left from their emotional values.¹⁷ Such association between emotional and use values has its roots in the Islamic value system (the Islamic concept), and also in the hardships citizens of Cairo are going through.

Material cultural values

Ulmas mosque possesses high material cultural values. Which include

documentary, historic, archaeological, aesthetic, architectural, and scientific values. The following characteristics and parts of the building are of great cultural importance:

- The mosque is a good example of the architecture of the Amirs of al-Sultan al-Nasir Mohammed. It is one of two surviving examples of this type.¹⁸
- The mosque is one of the mosque-tomb complexes built by the Mamluks which reflect much of the Mamluks' mentality, attitudes, and architectural language.¹⁹
- The plan arrangement of the mosque is of certain Cairene type (small riwaq mosque), which appeared occasionally in different periods. Such mosques are usually arranged around a rectangle court, with high wall around the court. The qibla riwaq is deeper than other riwaqs. al-Aqmar, Miska, and Aydumur are of this type of mosques.²⁰
- The plan arrangement of the mosque is a good example for religious buildings in Cairo, which respect two directions: the street alignment; and the qibla direction.²¹
- The amazing design of the main entrance of a great aesthetic, structural, architectural, and archaeological qualities. It is also one of four entrances in Cairo of similar craftsmanship quality, one of which is signed by Mohammed ibn Ahmad al-Shami.²²
- The subject of the inscription on the facade (a prayer) is unique, as the norm is that an inscription in such a position would be a quote from the Qur'an.²³
- The different decorations on stucco, marble and wood are rare examples in the way they are placed as well as the quality of their craftsmanship.²⁴
- The wood carving of the upper twin windows in the main facade are unique. Usually similar patterns wood^{ul} be realised in stucco and not wood. It is the second of its kind in Cairo's architectural history. As the first example appeared

in the *sabil* of al-Nasir Mohammed at al-Nahhasin.²⁵

- *Dikkat al-Muballigh* (lifted platform on which a Qur'an reader sits on Fridays), is the earliest surviving one in Cairo.²⁶

- An oil lamp with the name of Ulmas on it, was taken from the mosque, and is today in the Museum of Islamic Art in Cairo.²⁷

d. Conservation problems

1. Religious problems

The design philosophy of the mosque poses a religious problem for the following reasons: The bad reputation of Ulmas, the attachment of the tomb to the mosque, and the obvious interest in the facade more than the interior (in terms of design and craftsmanship quality).

2. Socio-economic problems

The Egyptian Antiquities Organisation (E.A.O.) is the only body which has the right to do any repairs in the mosque. Whereas the Ministry of Waqfs is the owner of the building, and is the only body which has the right to run the religious functions of the mosque. Before any decision related to the mosque can be taken, the two bodies must reach an agreement (which naturally involves a lot of bureaucratic problems, delays, and insensitivity). This situation reduces the urban role of the mosque to an informal status. Which handicaps on one hand the extent of the mosque's role in the society, and on the other hand the society's involvement in the upkeep and management of the mosque. To understand the consequences of this problem, one should compare the mosque-society relationship in the case of an unlisted mosque, and the case of Ulmas mosque (an unlisted mosque is usually well integrated in the urban life of its surroundings. It functions more efficiently, and its maintenance is better carried

out than a listed mosque).

3. Technical problems

The first urgent and serious technical problem is the terrifying surface water inundating the mosque's floor and causing rising damp problems. All other problems are due to the lack of a continuous maintenance programme.

e. Conservation proposal

The aim of the present proposal is to make the conservation of Ulmas mosque (with professional and academic standards) a rewarding and desired objective for locals (religiously, socially, economically, and culturally). Which guarantees that conservation and development will go hand in hand. This is done by addressing different conservation problems of the building with the objective of conserving and enhancing the different values it possesses.

1. Integrity of values

Integrity of different values possessed by Ulmas mosque can only be conserved by the partial disintegration of these values and then their reintegration on new basis. A procedure which is quite understandable in any recycling operation.

2. Use values

The religious problems of Ulmas mosque, unless effectively included and separated from the building's function, will always disturb the use values of the mosque. Such separation can be done by including all religious problems in the physical part of the building with which they are associated (i.e. Ulmas Memorial: the tomb, the main facade, and the main entrance). Thus, the building without Ulmas memorial, is a mosque without religious problems (hereafter referred to

as Ulmas Mosque).

Technical problems are twofold. Firstly, the surface water problem cannot be tackled on the level of a single building without very high costs. Any funds available for tackling this problem should be put aside in a separate fund (hereafter referred to as Medieval Cairo Surface water Fund: MCSF) and allocated towards solving the problem on the scale of the historic city. Institutions, bodies, and professionals concerned and involved in the same problem should be encouraged to contribute towards MCSF either with funds or expertise on a membership-partnership basis. Studies, analysis, and research made by MCSF should be offered to its members and sold to non-members on demand. Secondly, the maintenance problem should be addressed by forming a guild (hereafter referred to as Ulmas Guild). It should train craftsmen and workers to do everyday maintenance jobs, and it should also control the quality of jobs done by its members. Ulmas Guild should offer its services to do training and control of maintenance work to other historic buildings, which guarantees the economic feasibility of its continuation. Hopefully, other guilds will be formed in other big historic buildings, following the example of Ulmas Guild.

The socio-economic problems of the mosque should be tackled by breaking all existing barriers between the building and the socio-economic life of the community. This can be done by handing the ownership and the management of the building to a trust formed by the local community (hereafter referred to as Ulmas Trust). The trust can only be effective if it has its own funds (the traditional waqf system can be a possibility). The duties of Ulmas Trust are as follows:

- Securing the religious, social, economic, cultural, and political functions of Ulmas Mosque within the neighbourhood by appointing a management body (Ulmas management), under the trust's administrative control.
- Securing the technical conservation of the building through Ulmas Guild, and

MCSF, which should be run administratively by the trust.

- Securing information needed for all aspects of conservation for the building (such as historic, technical, archaeological, scientific documents on the mosque of Ulmas. This should be done by creating the Ulmas Information centre (UIC), a library and archive for Ulmas Trust. The role of UIC is not only to build a strong knowledge base, but more importantly to offer this knowledge to the public and to all concerned bodies and individuals.

The formation procedure of Ulmas Trust should start from the already existing informal activities in the mosque and the neighbourhood. It should be done by promoting, upgrading, and housing local informal socio-economic and religious structures and networks. Members of the Trust and its sub-bodies should be from the key persons in the community. Funds for establishing and running the Trust should be raised, mainly, from local resources, either as shares or as donations.

3. Emotional values

Emotional values related to pride, continuity, wonder, and aesthetics are possessed by Ulmas Memorial. Whereas emotional values related to religion, symbolism, and socio-economic solidarity are possessed by Ulmas Mosque. The separation between attitudes towards each part of the building, should guarantee the best possible conservation of the two different emotional values.

The success in conserving use values of Ulmas Mosque will consequently lead to the conservation of the emotional values of the building. Whereas Ulmas Memorial needs a different effort to conserve its emotional values. It should be integrated within cultural events and products such as novels, theatre plays, and songs either as the main theme or as background. It should also be integrated in children's cultural events and products such as stories, games, and factual

books produced for children. So that the existence of Ulmas mosque and the values it possesses becomes part of the memory and emotional values of the community and the nation. Such efforts can be the responsibility of UIC.

On the one hand, the separation between attitudes towards the two groups of values will guarantee the preservation and enhancement of each group. On the other hand, the integration of the two attitudes will guarantee the integration of different values possessed by the building.

4. Material cultural values

Material cultural values of Ulmas mosque can be conserved only if there is a positive local attitude towards their conservation. The role of Ulmas Trust is essential because it should be the link needed between local and central authorities, and between the users of the mosque and the experts responsible for the conservation of the mosque. And also because the Trust should guarantee the needed curative and preventive maintenance for the building. Guidelines should be laid down to state the limitations of Ulmas Trust, beyond these limitations the Trust should ask for professional advice from qualified conservation architects. According to material cultural values, the mosque should be divided into three parts (fig.7.8):

- i) Ulmas memorial: The highest category. Any interventions to it should be done under complete professional supervision. Only the minimum necessary intervention is allowed.
- ii) Ulmas mosque: Intermediate category. Major interventions to it should be done under complete professional supervision. Unless essential for use reasons, only the minimum necessary intervention is allowed.
- iii) The ablution space and the toilets: Low category. Ulmas Trust is free to alter this part of the building according to use convenience.

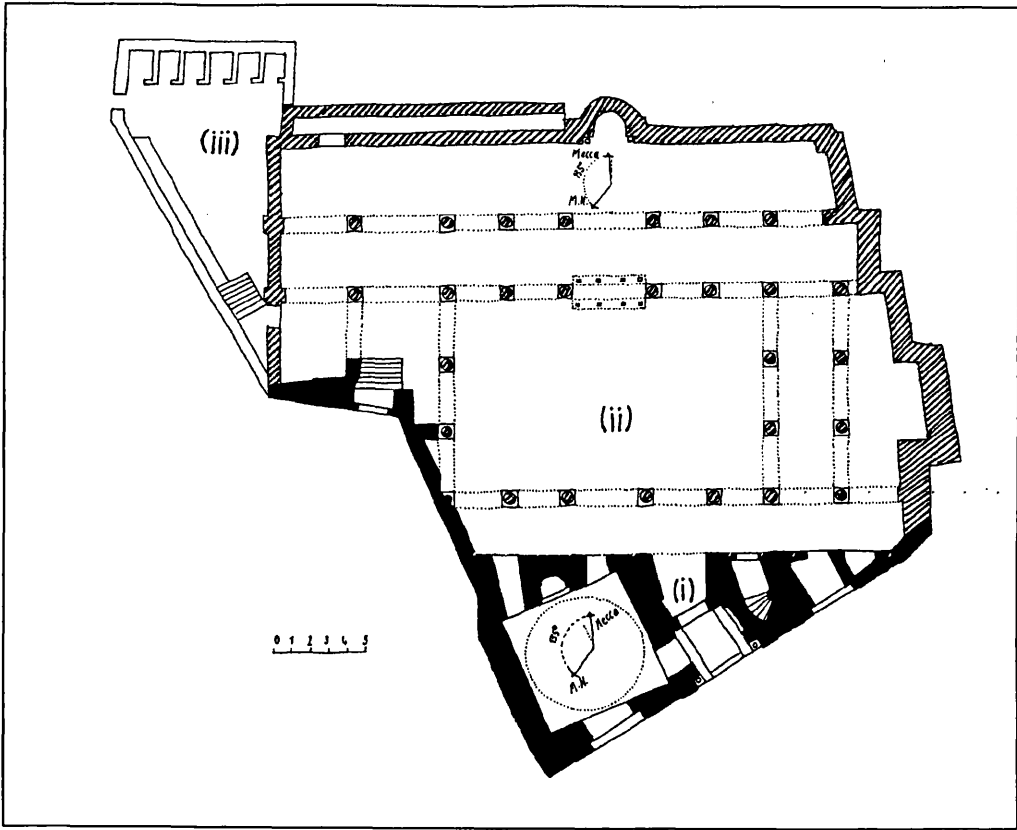


Fig. 7.8 The three different categories of conservation within Ulmas mosque
(i) The highest category; (ii) Intermediate category; () Low category

Notes

- 1) Abdul-Wahab, Tarikh al-Masajid al-Athariyya, p. 136.
- 2) al-Basha, al-Alqab al-Islamiyya 'ala al-Tarikh wa al-Wtha'iq wa al-Athar, Cairo, p.396.
- 3) Maqrizi, Khitatt, vol.2, p. 307.
- 4) Ibn Taghri Bardi, Al-Nujum al-Zahira, vol.9, p. 107.
- 5) The death of Ulmas was mentioned in Maqrizi's Khittat, vol.2, p.307. Dr. Ch. Kessler told me in one of our conversations that she thinks that Ulmas was killed by one of his rival Amirs out of jealousy and also to take the beautiful marble from his palace and mosque.
- 6) Al-Dawadari, Kanz al-Durar wa Jami' al-Ghurar, vol.9, Cairo, 1969, p.292.
- 7) Abu-Lughud, Cairo, p. 33.
- 8) Behrens-Abouseif, Islamic architecture in Cairo, p.8.
- 9) Abu-Lughud, ibid., p.57.
- 10) Mubarak, al-Khittat al-Tawfiqiyya, vol.2, p.146.
- 11) Ibid.
- 12) Maqrizi, ibid.
- 13) al-Jalabi, Awdah al-Isharat fi man wulli Misr al-Qahira min al-Wurara' wa al-Bashawat, published by al-Mawi, Cairo, 1977, p.705. And quoted by Shahinda F. Karim in her Ph.D. research, Jawami' wa Masajid Umara' al-Sultan al-Nasir Muhammed Ibn Qalawun, Cairo University, 1987.
- 14) Max Herz Pacha, Comite de Conservation des Monuments de l'Art Arabe, Minstere des Wakfs, Index general des bulletins du Comite des annees 1882 a 1910, Cairo, 1914.
- 15) The mosque of Ulmas was mentioned in the Comite's following reports Proces-Verbaux des seances du Comite : 1886, p.xv; 1887, p.xii, 15; 1888, p.XLV; 1890, p.95; 1901, p.107; 1902, p.95; 1903, p.73; 1907, p.97; 1908, p.10, 28, 81; 1909, p.17, 60, 119; 1910, p.33, 74, 103, 117; 1911, p.27, 49, 60, 102; 1912, p.23, 27, 49, 74, 89, 120; 1915-19, p.404, 764, 820; 1920-24, 259; 1946-53, p.142.
- 16) Feilden, Conservation of Historic buildings, p.6.
- 17) May be emotional values for such mosques, when adapted to museum-like buildings, are emphasised for Western scholars, students of art and architecture, tourists but not for local inhabitants.
- 18) Shahinda, ibid., p.489.
- 19) Ch. Kessler, "Funerary architecture within the city", in Colloque International sur l'histoire du Caire, Grafenhainichen, 1972, pp. 257-267.
- 20) M. Meinecke, Die monumentaische architecture in Aqtpen und Syrien (640/1250 bis 923/1517), in press the author kindly provided me with the section related to Ulmas mosque.
- 21) Ch. Kessler, "Mecca-Oriented Urban Architecture in Mamluk Cairo, the madrasa-mausoleum of Sultan Sha'ban II", in Quest of an Islamic humanism. Arabic and Islamic studies, ed. A. H. Green, AUC, Cairo, pp. 97-108.
- 22) Shahinda, ibid., & L. A. Mayer, Islamic architects and their works, Geneve, 1956, p.93, Muhammad b. Ahmad b. ash-Shami, known perhaps as Muhammad

Zaghlish, during the first half of the 8th (14th) century erected (*'amal*) the palace of Sanjar Jumaqdar in Cairo, called today Hosh bardaq.

23) 'Abd al-Wahab, *ibid.*, p. 136.

24) Shahinda, *ibid.*

25) 'Abd al-Wahab, *ibid.*

26) M.I. Hussein, "*Diket el-Muballigh*" in Islamic Archaeological Studies, vol.3, Cairo, 1988, p.87.

27) Ministry of Waqfs, *Msajid Misr*, vol.1, p.57.

Conclusions

Effective conservation of architectural heritage in Cairo can only be achieved by the full understanding of local attitudes. Three different approaches were used in this research to pinpoint and analyse different existing attitudes towards architectural conservation: 1) History of conservation in Cairo; 2) different aspects of conservation and; 3) observations of possible attitudes. These different approaches have their strong points and weak points. The strong points of the present research can be summarised as following:

- i. It establishes a methodology of tracing and understanding attitudes not only for Cairo but also for other Muslim cities.
- ii. It offers an alternative approach to architectural conservation in Muslim cities, which does not rely on external assistance (financial or technical).
- iii. It brings together development and conservation efforts, which takes the conservation issue out of the false dilemma: either conservation or progress.
- iv. It bridges the existing gaps between architectural conservation in Muslim cities and other relevant fields such as Islamic ideology, socio-economic systems, and cultural value systems.

The weak points of this research can be summarised as follows:

- i. The accuracy of its results cannot be guaranteed as the available information on many of its subjects are very limited.
- ii. Although the spirit of this research is built on understanding actual local attitudes, the research was mostly carried out in Scotland, thousands of miles away from Cairo, which definitely affected the development of the research.

Attitudes towards architectural conservation in Cairo

In pre-Napoleon Cairo, a review of the conservation of the four main mosques

'Amr, ibn Tulun, al-Azhar, and al-Hakim proved that attitudes towards architectural conservation were fairly steady. Certain values within an historic building stimulated positive attitudes towards its conservation: urban characteristics, architectural characteristics, financial and functional aspects, and symbols and memories. These values were mainly of functional and emotional nature. In post-Napoleon Cairo, a dramatic turning point in attitudes occurred: a split of formal and informal attitudes. Formal attitudes were essentially European, which addressed mainly archaeological and aesthetic values within an historic building. The split in attitudes grew bigger and more dangerous as the formal attitudes became more sophisticated and were disguised under national label while remained ^{my} essentially European. Whereas informal attitudes were pushed underground to become illegal and consequently unprofessional.

Orientalists' misconceptions about Islam and Arabic added to the difficulties of understanding local attitudes in post-Napoleon Cairo. Islam as a way of life, as opposed to the Western concept of religion, influenced architectural conservation in many direct and indirect ways. Art, architecture, history, archaeology, and built environment have distinct definitions, meanings, aims, and roles according to the Islamic concept. Which affects architectural conservation of Muslim historic buildings in an indirect way. On the other hand architectural conservation must allow the process of Islamisation to happen. Otherwise, a building which was considered Islamic would lose its Islamicism by an insensitive conservation operation. The cultural influences of Arabic on architectural conservation is another Islamic phenomenon which should not be ignored when looking at attitudes.

Socio-economic and cultural observations and studies in Cairo lead to the conclusion that architectural conservation should be practised as a recycling operation. Small scale "recycling" projects with local participation would be ideal

to make the best use of local systems and networks, and most importantly to bring conservation and development together. Such projects would allow the process of Islamisation to happen, which guarantees an ideological, emotional, and religious support to the issue of architectural conservation. On a longer term basis, knowledge, awareness, and pride of architectural heritage should be built in order to guarantee the future of the buildings saved today.

Technical aspects of architectural conservation should also address the issue of local attitudes. Two principles must be adopted: Firstly, the integration of planning on different levels, which will prevent most of the technical problems on the scale of Cairo from happening in the first place. Secondly, the adoption of "appropriate" techniques and skills of conservation, which will solve the most serious problems on the scale of a single building ^{not covered by} ~~the~~ preventive and ~~the~~ curative maintenance. Of course this must fit with the above mentioned socio-economic, cultural and ideological principles.

Two levels of attitudes must be looked at: Actual existing attitudes, and theoretically possible and justifiable attitudes. An attitudes-conscious approach to conservation does not mean that all actual attitudes are to be respected. It also does not mean that every theoretically justifiable attitude is a *de facto*. Observations on actual attitudes in Cairo, Damascus, Lahore, and San'a', examined against a listing of possible attitudes, highlights weaknesses and strengths in theoretical and actual attitudes.

The conservation proposal for Ulmas mosque brings all the findings of the research together. The proposal is intentionally left open-ended so that it allows actual attitudes and problems to define its final plan, which also allows the process of Islamisation to take place.

Bibliography

Unpublished works

- Abdel-Rehim, Gamal *al-Zakharif al-Gissiyya fi 'Ama'ir al-Qahira al-Diniyya*, M.A. thesis, Cairo University, 1986.
- American British Consultants (AMBRIC) Greater Cairo Wastewater Project, Review Statement, 1990.
- Anjuman Mimaran Seminar & Exhibition on Historic Towns of Pakistan, Oct. 29 Pakistan to Nov. 1, Alhamra Art Centre, Lahore (unpublished papers) by Anjuman Mimaran Pakistan.
- el-Batanoni, Hoda Catalogue of Mamluk Doors with metal revetments, M.A. thesis, The American University in Cairo, 1975.
- Barakat, Sultan & Cockburn, Charles The Third International York Workshop on Post-War Settlement Reconstruction, 22nd - 24th July, 1991, Workshop Report, Institute of Advanced Architectural Studies, University of York, 1991.
- Binous, Jamila Development regulations, promotion of the crafts and tourism, elements of the plan of protection, A Consultant Report, The Yemen Arab Republic, ICOMOS, UNESCO, Paris, 1981.
- Ebeid, Sophie Early Sabils and their standardization, M.A. thesis, American University in Cairo, 1979.
- Hanna, Nelly Boulos The Wikalas of Bulag, Master's thesis, The American University in Cairo, 1981.
- Hassan, Hussayn M. *al-Maharib al-Rukhamiyya fi Qahirat al-Mamalik al-Bahariyya*, M.A. thesis, Cairo University, 1981.
- Hassan, Nawal Historic Quarters of Cairo, unpublished report, The Center for the Studies of Egyptian Civilization.
- Doueka, a new community in the Moqattam Hills, unpublished report, The Center for the Studies of Egyptian Civilization.

- al-Hathloul, Saleh Ali Tradition, Continuity and Change in the Physical Environment: The Arab Muslim City, Ph.D. dissertation, M.I.T., Cambridge, Mass. 1981.
- Isma'il, A. A. Origin, Ideology, and Physical patterns of Arab Urbanization, Ph.D. dissertation, University of Kalsruhe, 1969.
- Karim, Shahinda Fahmi Jawami' wa Masajid Umara' al-Sultan al-Nasir Muhammad ibn Qalawun, Ph.D. thesis, Cairo University, 1987.
- Lane, Michael Barry San'a', Pilot restoration projects, GOPHCY, International Campaign to Safeguard Old City of San'a', UNDP - UNESCO,
- Lazzarini, Lorenzo & Pieper, Richard (ed.) The Deterioration and Conservation of Stone, Notes from the International Venetian Courses on Stone Restoration, UNESCO.
- Lewcock, Ronald San'a', Report no. 4, Report prepared for the Government of The Yemen Arab Republic by United Nations Educational, Scientific, and Cultural Organization, 1987.
- Mahdy, Hossam M. "The Conservation Problems of Ulmas Mosque in Cairo", a paper delivered to Medieval Cities Colloquium, Cairo in the Middle Ages, May, 1991, University of Edinburgh, Department of History in conjunction with The Centre for Continuing Education, 1991.
- _____ "New Approach to Architectural Conservation in Post-War Reconstructions" a paper delivered to The Third International York Workshop on Post-War Settlement Reconstruction, 22nd - 24th July, 1991, Institute of Advanced Architectural Studies, University of York, 1991.
- Meinecke, Michael Die Mamlukische Architecture in Agypten und Syrien (649 / 1250 bis 923 / 1517), in press for publication.
- Posmowski, Pierrette Islamic Cairo: Treasures to be preserved, UNESCO REATURES, an unpublished UNESCO report.
- Roe, Hilary L. The Bahri Mamluk Monumental entrances of Cairo: A

survey and analysis of 'intra muros' Portals 648 - 784 / 1250 - 1382, M.A. thesis, The American University in Cairo, 1979.

Shams al-Hoda, al-Sayyad Cultural and religious trends in contemporary Egypt, M.A. thesis, The American University in Cairo, 1953.

Shediac, Injy Roy Qibla Orientation versus street alignment in the mosque and madrasas from Qaytbay to the end of Mamluk Period, M.A. thesis, the American University in Cairo, 1986.

Toueir, Kassem Report on the Educational Situation in the Field of Monument Conservation in the Syrian Arab Republic, Submitted to the International Training Committee of the ICOMOS.

_____ Mashakil siyanat al-athar al-thabita wa himayatiha fi al-Jumhuriya al-Arabya al-Suriya, A Syrian governmental unpublished report.

UNESCO Venice restored, a UNESCO report on works done and to be done to save Venice.

_____ Symposium on the Integrated Urban Policy for the conservation of the old city of San'a', The International Campaign for the preservation of the old city of San'a', The General Organization for the Protection of Historic Cities of Yemen, UNESCO, December 1991.

_____ International Symposium on Conservation and Restoration of the Islamic Architectural Heritage, Lahore, Pakistan, Report and Recommendations, July 1980.

Van Pelt, Michiel J. F. The old city of San'a'. Problems, Prospects and Proposals for Netherlands Aid, a report of a reconnaissance mission commissioned by the Institute for Housing Studies (Rotterdam) for the Directorate- General for International Co-operation, of the Netherlands Ministry of Foreign Affairs, The Hague, Rotterdam, May 1987.

Books and articles

- Abbate, W. *"Observations d'urgence sur les reparations de la Mosquee du Sultan Hassan, Bulletin de L'institut Egyptien, IVme serie, no. 5, pp. 95-8.*
- Abdel Hai, Soliman *"The Third World View, Planning Consultancy in the Developing World", Third World Planning Review, vol. 3, no. 2, 1981, pp. 133 - 140.*
- Abdel Wahed, M. *Al-Mujtama' al-Islami, Cairo, 1970.*
- Abdulati, Hammudah *Islam in focus, International Islamic Federation of Student Organizations, Kuwait, 1983.*
- Abu Lughod, Janet L. *"Varieties of Urban Experiences: Contrast, Coexistence and Coalescence in Cairo", Middle Eastern Cities, University of California Press, Berkely, 1969.*
- _____ *Cairo, 1001 years of the city victorious, Princeton University Press, 1971.*
- Abu Zahra, Mohammad *Usul al-Fiqh, Dar al-Fikr al-Arabi, Cairo, 1958.*
- the Aga Khan Award for Architecture *Highlights, 1980 Award Presentation Ceremony, Lahore and Karachi Seminars, Selected proceedings of the First Aga Khan Award Ceremony and related activities: Held in Lahore, Pakistan, October 25, 1980.*
- _____ *Development and Urban Metamorphosis, Proceedings of Seminar Eight in the series "Architectural Transformations in the Islamic World, Held in San'a', Yemen Arab Republic, May 25 - 30, 1983, 2 vols., Concept Media Pte Ltd Singapore, 1983.*
- _____ *Adaptive Reuse. Integrating Traditional Areas into the Modern Urban Fabric, Designing in Islamic Cultures 3, The Aga Khan Program for Islamic Architecture, Cambridge, Massachusetts, 1983.*
- _____ *The Expanding Metropolis Coping with the Urban Growth of Cairo, Proceedings of Seminar Nine in the*

Series, Architectural Transformations in the Islamic World, Held in Cairo, November, 11 - 15, 1984. The Aga Khan Awards, Eurasia Press, Singapore, 1985.

- Ahmed, Nazimuddin "Problems of conservation of ancient monuments in East Pakistan", Pakistan Archaeology, no. 7, 1971, pp. 99 - 105.
- Akbar, Jamel Crisis in the built environment, the case of the Muslim city, Concept Media Pte. Ltd., 1988.
- Akhtar, Shabbir "Orientalism fails to understand Islam", The Independent, 11 August 1990.
- _____ "An Islamic reply to the orientalists", The Independent, 6 October 1990.
- Ali, Muhammed A Manual of Hadith, Lahore, Ahmadiyyah Anjuman Ishaat Islam, 1950.
- Amin, Muhammad M. The Waqfs, and social life in Egypt, 648 - 923 AH / 1250 - 1517 A.D. (Historical - Documental study), Dar al-Nahda al-Arabiyya, Cairo, 1980.
- Ammoun, Denise Crafts of Egypt, The American University in Cairo Press, 1991.
- Amoroso, Giovanni G. & Fassina, Vasco Stone Decay and Conservation, Amsterdam, Oxford, Elsevier, 1983.
- Anderson, E. "Making waves on the Nile" in Geographical Magazine, April, 1991, pp. 10-13.
- Anis, M. "British Travellers' Impressions of Egypt in the late 18th century", Bulletin of the Faculty of Arts, Cairo University, vol. 13, pp. 9-37, 1951.
- Anon. "Ancient buildings at Cairo", Saturday Review, LXXIV, pp. 277-8, 1892.
- Anon. "The preservation of mediaeval Cairo", The Architect, LV., pp. 152-3, 1896.
- Anon. "The protection of the monuments of Cairo", The Architect, XXX, pp. 66-7, 1883.

- Antoniou, Jim "Saving Islamic Cairo", Middle East Construction, 5, 7, 1980, pp. 18 - 19.
- _____, et al. Conservation of the Old City of Cairo, 2 vols., Paris, UNESCO, 1980.
- _____ "Conserving Arab Cities", Middle East Construction, 6, 10, 1981, pp. 83 - 86.
- _____ Islamic Cities and Conservation, Paris, UNESCO, 1982.
- Arnstein, Sherry R. "A Ladder of Citizen Participation", Journal of the American Institute of Planners, vol. 35, no. 4, July 1960, pp. 216 - 224.
- al-Asad, Mohammad "The mosques of Abdel Wahed El-Wakil", Mimar, no. 42, 1992.
- Ashraf, S. A. The Qur'anic Concept of History, The Islamic Foundation, Leicester, England, 1980.
- Ashurt, John & Nicola Practical Building Conservation, English Heritage Technical Handbook, Grwer Technical Press, London, 1988.
- Atalla, M. et al. "Saving of Notre Dame de Zewela, Cairo, Egypt", The Engineering Geology of Ancient Works, vol. I, Rotterdam, 1988, p. 445.
- al-Athasi, Nur al-Din Qanun al-Athar, al-Mudiryya al-Amma li al-Athar wa al-Matahif, Damascus, 1978.
- Ayalon, David Gun powder and Fire arms in the Mamluk Kingdom. A Challenge to a Medieval Society, Vallentine, Mitchell, London, 1956.
- Bacharach, J. L. A Near East Studies Handbook, 570 - 1974, University of Washington Press, 1974.
- Badawi, Zaki "The rich who grab from the poor", The Independent, 13 April 1991.
- Baehral, Robert La protection et la mise en valeur des quartiers historique de Damas, Paris, UNESCO, 1976.

- Baer, Gabriel Egyptian Guilds in Modern Times, Oriental Notes and Studies, no. 8, The Israel Oriental Society, Jerusalem, 1964.
- Bahnasi, Afif "Mushkilat al-Madina al-Qadima fi al-Bilad al-Arabiya, Les Annales Archeologiques Arabes Syriennes, Revue d'Archeologie et d'Histoire, vol. XXIV, La Direction General des Antiquites et des Musees Republique Arabe Syrienne, 1974.
- Bakhtair, Laleh Sufi. Expression of the mystic quest, Thames and Hudson, London, 1976.
- Barrow, C. J. "Urbanisation and Growth, Growth and Environmental Degradation in Penang (Georgetown), Third World Planning Review, vol. 3, no. 4, 1981, pp. 407 - 418.
- al-Basha, Hassan al-Alqab al-Islamiyya fi al-Tarikh wa al-Wath'iq wa al-Athar, Dar al-Nahda al-Arabiyya, Cairo, 1987.
- _____ Dirasat fi al-Hadara al-Islamiyya, Dar al-Nahda al-Arabiyya, Cairo, 1988.
- _____ Qa'at Bahth fi al-'Imara wa al-Funun al-Islamiyya, Dar al-Nahda al-Arabiyya, Cairo, 1988.
- Behrens-Abouseif, Doris The Minarets of Cairo, The American University in Cairo Press, 1985.
- _____ "The Takiyyat Ibrahim al-Kulshani in Cairo", Muqarnas, V, Brill, Leiden, 1988, pp. 43-60
- _____ Islamic Architecture in Cairo, an Introduction, Studies in Islamic Art and Architecture supplements to Muqarnas, vol.III, E. J. Brill, Leiden, New York, 1989.
- Berger, John Ways of seeing, British Broadcasting Corporation and Penguin Books, 1972.
- Bergne, Paul "Cairo, Can the Medieval City Be Saved?", Architectural Record, 164, 978, 1978, pp. 113 - 126.
- Blake, G. H. (ed.) & Lawless, R. I. The Changing Middle Eastern City, Croom Helm, London, 1980.

- Bloom, Jonathan M. "The mosque of al-Hakim in Cairo", Muqarnas, I, Brill, Leiden, 1983, pp. 15-36.
- _____ "The introduction of the Muqarnas into Egypt", Muqarnas, V, Brill, Leiden, 1988, pp. 21-28.
- Briggs, S. Briggs Muhammadan Architecture in Egypt and Palestine, Dacapo Press, New York, 1974.
- Bouverie, Jasper "Recycling in Cairo: a tale of rags to riches", New Scientist, 29 June 1991, pp. 52 - 55.
- Bowker, John "We must work with Islamic language", The Independent, 25 August 1990.
- _____ "Procrustes wears a thousand faces", The Independent, 1 September 1990.
- al-Bukhari Sahih al-Bukhari, trans. Muhammad Khan, Hilal Yayinlari, Ankara, 1976.
- Burgoyne, M. H. "Some Mamluke Doorways in the Old city of Jerusalem", Levant, vol.III, 1971, pp.1-30.
- Burrell, R. M. & Melidar, A. R. "Egypt: The Dilemmas of a Nation, 1970-77", The Washington Papers, no. 48, vol.V, The Center for Strategic and International Studies, Georgetown University. Washington D.C., Sage Publications, California, 1977.
- Buwalda, J. "Expandable Minimum Ameriyah Dwelling, Proposal for low cost housing in new Ameriyah city, Egypt", Open House, vol. 5, no. 2, 1980.
- Calvino, Italo Invisible cities, Pan Books Ltd., London, 1972.
- Caroe Stonework: Maintenance and Surface Repair, 1984.
- Center of Planning and Architectural Studies (ed.) Housing in the Islamic city. Proceedings of a Symposium held in Ankara - Turkey, 17 - 21 shawwal 1404 A.H., 21 - 25 July 1984 A.D., Organization of Islamic Capitals and Cities, International Press, Cairo, 1986.
- _____ Up-Grading of the Urban environment of cities, Jeddah Municipality, Dar Al-Shorouk, 1986.

- _____ & Center of Revival for Islamic Architecture *Usus al-Tasmim al-Mimari wa al-Takhtit al-Hadari fi al-Usur al-Islamiyya al-Mkhtalifa bi al-Asima al-Qahira*, Organization of Islamic Capitals and Cities, International Press, Cairo, 1990.
- Cerasi, Maurice "Late Ottoman Architects and Master Builders", *Mugarnas*, V, Brill, Leiden, 1988, pp. 87 - 102.
- Charmes, Gabriel "L'Art Arabe au Caire", *journal des Debats*, Aug.1881.
Casanova, M. P. *Essai De Reconstitution Topographique de la Ville d'al Fostat ou Misr, Tome Premier*, MIFAO, 35, Cairo, 1919.
- Chlli, Moncef *La parole arabe: une theorie de la relativite des cultures*, Paris, Sindbad, 1980.
- Collart, Paul, et al. *Syria: Problems of Preservation and Presentation of Sites and Monuments*, Paris, UNESCO, 1954.
- Comite de Conservation des Monuments de l'Art Arabe *Proces-Verbaux des seances du Comite et Rapports des la section technique, Exercices 1946 -- 1953, Fascicule Quarantieme, Organisme General des Imprimeries Gouvernementales, Le Caire*, 1961.
- Crabbs, Jack A., Jr. *The Writing of History in Nineteenth-Century Egypt. A study in National Transformation*, The American University in Cairo Press, 1984.
- Cragg, Kenneth "The divine pathos of the Qur'an", *The Independent*, 22 September 1990.
- Creswell, K. A. C. *A short Account of Early Muslim Architecture*, Penguin Books, Harmondsworth, 1958.
- _____ *The Muslim Architecture of Egypt (MAE)*, 2 vols., Clarendon Press, Oxford, 1960.
- _____ *A Bibliography of the Architecture, Arts, and Crafts of Islam*, The American University in Cairo Press, 1960.
- _____ *A Bibliography of the Architecture, Arts, and Crafts of Islam, Supplement I, January 1960 - January 1972*, The American University in Cairo Press, 1973.
- _____ *A Bibliography of the Architecture, Arts, and Crafts of*

- Islam, Supplement II, January 1972 - January 1980,
by J. D. Pearson and George T. Scanlon (ed.), The
American University in Cairo Press, 1984.
- al-Dawadari *Kanz al-Durar wa Jami' al-Ghrrar*, vol. 9, Cairo, 1969.
- Dawud, Maysa Mahmoud *al-Kitabat al-Arabiyya ala al-Athar al-Islamiyya, mundhu al-Qarn al-Awwal hatta awakhir al-Qarn al-Thani Ashar li al-Hijra, 7 - 18 M*, Maktabat al-Nahda al-Masriyya, Cairo, 1991.
- al-Dawudi, Muhammad *al-Masjid fi al-Kitab wa al-Sunna wa Aqwal al-'ulama'*, Dar al-Wafa' li al-Tiba'a wa al-Nashr wa al-Tawzi', Al-Mansura, 1986.
- Derrida, Jacques *Speech and Phenomena and other Essays on Husserl's Theory of signs*, trans. David B. Allison, Northwestern University Press, 1973.
- _____ "Difference", *Margins of Philosophy*, trans. Alan Bass, University of Chicago Press, 1982, pp. 1 - 27.
- Description de l'Egypte*, Text and Plates 20 vols., Impreimerie Imperiale, Paris, 1808 - 1813.
- Dihni, S. "Yawm al-hasr", *Sabah al-Kher weekly*, May 1982, pp. 14 - 17.
- D'Huslst, R. "The Arab Monuments of Egypt", *The Architect*, XLII, 1889, pp. 226 - 7.
- Dillon, Frank "The Arab Monuments of Egypt", *The Nineteenth Century*, X, 1881, pp. 276 - 83.
- Dodd, Erica Cruikshank *The Image of The Word*, 2 vols., The American & Khairallah, Shereen University of Beirut, 1981.
- Dopp, P. H. "Le Caire: Vue par les voyageurs occidentaux du Moyen Age", *Bulletin de la Societe Royale de Geographie d'Egypte*, vol. 23, June 1950, pp. 117 - 149.
- Drummond, Hugh "Power, Madness, and Poverty", *Mother Jones*, vol. V, no. 1, Jan. 1980, p. 22.
- E.A.O. *Turathuna al-Qawmi bayn al-Tahaddi wa al-Istijaba*,

- Munjazat 1982 - 1985M, EAO Press, Cairo, 1985.
- _____ Islamic Cairo, al-Mashhad al-Hussayni, EAO Press, Cairo, 1985.
- _____ Islamic Cairo, Mosque of 'Amr ibn al-'As, EAO Press, Cairo, 1986.
- _____ Islamic Cairo, Mosques of Salah al-Din Square, EAO Press, Cairo, 1986.
- _____ Islamic Archaeological Studies, vol. 3, EAO Press, Cairo, 1988.
- Edwards, A. B. "The Destruction of Cairo", The Academy, XXII, 301 - 2, 1882.
- Eugene Hoade, O. F. M. Western pilgrims, Franciscan Printing Press, 1970.
- Fahim, Mohammad & Zaghloul, Ali The Great Madrassa - Mosque of Sultan Hassan, Dar al-Maaref, Cairo, 1974.
- Fahmy, Abd al-Rahman Watha'q li'lta'atud fi fajr al-Islam fi Misr, Bulletin de l'institute d'Egypte, LIV, 1972 - 3.
- al-Faqih, Selim "Islamic Style in Contemporary Arab Architecture", Mimar, no. 32, June 1989, pp. 48 - 52.
- Farghali, Abu al-Hamid M. al-Taswir al-Islami, Nash'atuhu wa Mawqif al-Islam minhu wa Usuluhu wa Madarisuhu, al-Dar al-Misriyya al-Lubnaniyya, Cairo, 1991.
- Fawcett, Jane (ed.) The Future of the Past. Attitudes to Conservation, 1174 - 1974, Thames and Hudson, London, 1976.
- Feilden, B. M. Conservation of Historic Buildings, Butterworth, London, 1982.
- Fernandes, Leonor "Three Sufi Foundations in a 15th century Waqfiyya", Annales Islamologiques, 17, 1981.
- _____ "The Foundation of Baybars al-Jashankir: Its Waqf, History, and Architecture", Mugarnas, 4, ed. O. Grabar, Leiden - E. J. Brill, 1987.
- Fitch, J. M. Historic Preservation: Curatorial Management of the

World, McGraw - Hill, 1982.

Fleming, Stuart

Dating in Archaeology. A guide to Scientific Techniques, J. M. Dent & Sons Ltd., London, 1976.

Fletcher, B.

A history of architecture, on the comparative method, 16th ed., London, 1956.

Galbraith, J. K.

The nature of mass poverty, Harvard University Press, Cambridge, Massachusetts, 1979.

Ghameri, Mohammad H.

Thaqafat al-Faqr. Dirasa fi Anthropologia al-Tanmiyya al-Hadariyya, al-Markaz al-Arabi li al-Nashr wa al-Tawzi', Cairo, 1980.

Goitein, S. D.

"Cairo: An Islamic city in the light of Geniza Documents", Middle Eastern Cities, Ira Lapidus, ed., University of California Press, Berkely 1969.

Gonzalea-Crussi, F.

The five senses, Hacourt Brace Jovanovich Publishers, Orlando, Florida, 1989.

Goulet, Denis

Looking at Guinea-Bissau: A New Nation's Development Strategy, Washington D. C., Overseas Development Council, 1978.

Grabar, Oleg

"Reflections on the study of Islamic art", Muqarnas, I, Leiden, 1983, pp. 1 - 14.

_____ (ed.)

Muqarnas. An annual on Islamic art and architecture, vol. 1, Yale University Press, New Haven London, 1983.

Muqarnas. An annual on Islamic art and architecture, vol. 4, E. J. Brill, Leiden, 1987.

"On Catalogues, Exhibitions, and Complete woks", Muqarnas, 4, Leiden, 1987, pp. 1 - 6.

"Between Connoisseurship and Technology: A Review", Muqarnas, V, Leiden, 1988, pp. 1 - 8.

Muqarnas. An annual on Islamic art and architecture, vol. 5, E. J. Brill, Leiden, 1988.

Muqarnas. An annual on Islamic art and architecture,

vol. 7, E. J. Brill, Leiden, 1990.

- Gran, Peter Islamic Roots of Capitalism: Egypt, 1760 - 1840, Austin & London, University of Texas Press, 1979.
- Gregory, W. H. "Arab Monuments in Egypt", The Architect, XXVII, 1882, p. 69.
- Greene "The Sanitation of Cairo", The Provincial Medical Journal, vol. VII, no. 73, January 1888, pp. 9 - 10.
- Haarmann, U. "Mamluk Endowment Deeds as a Source for the History of Education in late medieval Egypt", Al-Abhath, 28, 1980, pp. 31 - 47.
- Hakim, B. S. Arabic-Islamic Cities Building and Planning Principles, London, 1986.
- el-Hakim, Sherif M. & Haynes, Kingsley E. "Urban Waste Management System in Cairo", The Geographical Review, vol. 69, no. 1, January 1979.
- Hamid, Abdul Wahid Islam the natural way, MELS, London, 1989.
- Hanna, Nelly Construction Work in Ottoman Cairo (1517 - 1798), Supplement aux annales Islamologiques, Cahier no.4, Cairo, 1984.
- Harvey, William "Saracenic Vaulting", Architectural Review, XXX, 1911, pp. 241 - 5.
- _____ "Some Saracenic Doorways", Architectural Review, XXXII, 1912, pp. 255 - 340.
- al-Hathloul, Saleh "The role of the *sharii'a* in the transformation of the physical environment of Arab-Muslim cities", The proceedings of the conference on the preservation of architectural heritage of Islamic cities, 22-26 April, 1985. Istanbul, Turkey, pp. 21-27.
- Heritage Trust Conservation and Tourism, Basle 1st - 4th April 1985. Second International Congress on Architectural Conservation and Town Planning, Heritage Trust, 1985.
- _____ Planning & Conservation. Third International Congress on Architectural Conservation & Town

Planning, Heritage Trust, London, 1987.

Hertz, M.

"Les Monuments de l'art arabe. Le Comité de Conservation en Egypte", L'Ami des Monuments et des Arts, IV, 1890, pp. 193 - 5 and 301 - 4, with a plan drawing.

"La protection de l'architecture arabe", Bulletin de l'Institut Egyptien, IIIe serie, no. 9, 1899, pp. 137 - 141.

Hill, D. R.

A history of engineering in classical and medieval times, Croom Helm London, 1984.

Himdan, Gamal

Shakhsiyyat Misr, dirasa fi 'abqariyyat al-makan, 4 vols., Alam al-Kutub, Cairo, 1984.

Humphreys, R. S.

"The expressive intent of the Mamluk architecture of Cairo: a preliminary essay", Studia Islamica, 35, 1972, pp. 69 - 119.

Hunter, F. R.

Egypt Under the Khedives, 1805 - 1879. From Household Government to Modern Bureaucracy, University of Pittsburg Press.

Husaini, I. M.

The Moslem Brethren. The Greatest of Modern Islamic Movements, Khayat's College Book Cooperative, Beirut, 1956.

Husaini, S. Waqar A.

Islamic Environmental Systems Engineering. A systems study of environmental engineering, and the law, politics, education, economics and sociology of science and culture of Islam, Macmillan, London, 1980.

Hyland, A. D. C.
& al-Shahi, Ahmed

The Arab House, University of Newcastle upon Tyne, School of Architecture, Centre for Architectural Research and Development Overseas, 1986.

Ibrahim, L. A.

"The great khanqah of the Emir Qawsun in Cairo", Mitt. Deutsch Archaol. Instl. Kairo, no. 30, 1974, pp.37 - 64.

"The transitional zones of domes in Cairene architecture", Kunst des Orients, no. 10, 1975, pp. 5 - 23.

- _____ Mamluk Monuments of Cairo, Quaderni dell Istituto Italiano di cultura per la RAE, Cairo, 1976
- al-Jalabi Awdah al-Isharat fi man wulli Misr al-Qahira min al-Wuzara' wa al-Bashawat, al-Mawi, Cairo, 1977.
- Jenssen, Bernd,
Kunzmann, Klaus R.
& Saad-El-Din, Sherif "Taming the growth of Cairo, Towards a Deconcentration of the Metropolitan Region of Cairo", Third World Planning Review, vol. 3, no. 2, 1981.
- Jequier, Nicolas (ed.) Appropriate Technology, Problems and Prospects, OECD, Development Centre, Paris, 1973.
- al-Jindi, Anwar Tarikh al-Islam fi Muwajahat al-Tahaddyat, Maktab al-Turath al-Islami, Cairo, 1989.
- Jomier, J. "al-Azhar", Encyclopaedia of Islam, vol. 1, Leiden E. J. Brill, 1960, pp. 813 - 821.
- Kania, J.
& Slonski, L. Restoration of minaret in Ameer Qurqumas burial complex in Cairo, 2 vols., Warsaw, 1985.
- Kausar, Sajjad,
Brand, Michael,
& Wescoat Jr., J. L. Shalamar Garden, Lahore. Landscape, Form & Meaning, Department of Archaeology and Museums, Ministry of Culture, Pakistan, 1990.
- Kent, George "Community-Based Development Planning", Third World Planning Review, vol. 3, no. 3, August 1981, pp. 313 - 326.
- Kessler, Christel M. "Makkah-oriented building in medieval Cairo", Focus on Arab Architecture, Arab British Chamber of Commerce, 1984.
- _____ "Funerary architecture within the city", Colloque International sur L'Histoire du Caire, Grafenhairichen, 1972, pp. 257 - 267.
- _____ "Mecca-Oriented Urban Architecture in Mamluk Cairo: The Madrasa-Mausoleum of Sultan Sha'ban II", In quest of an Islamic Humanism, Arabic and Islamic Studies in memory of Mohamed al-Nowaihi, A. H. Green (ed.), The American University in Cairo Press, 1984, pp. 99 - 108.

- _____ The carved masonry domes of medieval Cairo, Art and Archaeology Research papers, The American University of Cairo Press, 1976.
- ibn Khaldun Muqaddimat ibn Khaldun, Dar al-Qalam, Beirut, 6th ed., 1986.
- Khan, Ahmad Nabi Conservation of Ancient Monuments and sites. Methods and aims, The Department of Archaeology & Museums, Ministry of Culture and Sports, Government of Pakistan, Karachi, 1989.
- Khan, M. Wali Ullah Mausoleum of Shikh Rukn - e - Alam, Multan, Department of Auqf Government of Punjab, Wajidalis Ltd., Lahore, 1985.
- Khouri, Mounah A. "Literature", The genius of Arab civilization, source of renaissance, Phaidon, London, 1976, pp. 17 - 24.
- King, Andrew "Holding the liberal tradition in contempt", The Independent, 15 September 1990.
- Koch, Ebba Mughal Architecture, Prestel, Munich, 1991.
- Lane-Poole, Stanley "Arab Art Monuments", The Academy, VI, p. 361, 1874.
- _____ "The Preservation of Arab Monuments", The Athenaeum, 31st March, pp. 415 - 16, 1883.
- _____ *"Des Principes qui president a la restauraion des monuments au Caire, d'apres les documents officiels"*, L'Ami des Monuments et des Arts, XII, pp. 314 - 18, 1898.
- Lapidus, Ira M. Muslim cities in the later Middle Ages, Cambridge, Mass., 1967.
- _____ Middle Eastern Cities, "A Symposium on Ancient Islamic and Contemporary Meddle Eastern Urbanism", University of California Press, Berkeley and Los Angeles, 1969.
- _____ A History of Islamic societies, Cambridge University Press, 1988.

- Lewcock, Ronald The old walled city of San'a', UNESCO, 1986.
- Lowenthal, David
Binney, Marcus Our past before us: Why do we save it?, London, & 1981.
- al-Madfai, Kahtan "A borehole into words or architecture and language", Proceedings of the Conference on the Preservation of Architectural Heritage of Islamic Cities, 22 - 26 S[to; 1985. Istanbul, pp. 80 - 89.
- Mahmood, Salman "Lahore's alien culture", The Nation, Lahore, September 18, 1991.
- Mahmoud, Abdul Halim al-Masjid wa Atharuh ala al-Mujtama' al-Islami, Dar al-Manar al-Haditha, 1989.
- al-Maqrizi Kiab al-Mawa'iz wa al -i'tibar bi-dhikr al- Khitat wa al-Athar (Khitat), 2 vols., Dar al-Tiba'a al-Misriya, Bulaq, 1270 AH, 1853 AD.
- Margoliouth, D. S. Cairo, Jerusalem, and Damascus: three chief cities of the Egyptian Sultans, Chatto and Windus, London, 1907.
- al-Masri, Sihab al-Din
Ahmed al-Khafaji Sifa' al-Jalil fima fi Kalam al-'Arab min al-Dakhil, Cairo 1371 / 1951.
- Maury, Bernard
& Revault, Jaques Palais et Maisons Du Caire Du XIVE Au XVIIIe Siecle, 4 vols., Institut Francais D'Archeologie Orientale, Cairo, 1977.
- Mayer, L. A. Mamluk Costume, Albert Kundig, Geneve, 1952.
- _____ Islamic Architects, and their works, Albert Kundig, Geneva, 1956.
- McGee, T. C. "The Persistence of the Proto-Proletariat: Occupational Structures and Planning of the future of Third World Cities", The Third World Urbanisation, Janet Abu-Lughud and Richard Hay Jr. ed., Maaroufa Press, Chicago, 1977.
- Meinecke, M. Islamic Cairo, London, 1980.
- Michell, George (ed.) Architecture of the Islamic World, Its History and Social Meaning, Thames and Hudson, London, 1978.

- Mitchell, Timothy Colonising Egypt, Cambridge University Press, Cambridge, 1988.
- Michels, Joseph W. Dating methods in Archaeology, Seminar Press, New York, London, 1973.
- Middleton, J. Henry "Ancient Buildings at Cairo", The Academy, XXIII, 1883, p. 28.
- Misorowski, A. "Polish restoration work on the al-Amir al-Kabir complex in Cairo, Africana bull., 19, 1974, pp. 9 - 30.
- _____ & Siarkewicz "The constructional and conservation problems of the Ameer Qurqumas complex, Cairo", Ochrona Zabythow, 2 (205) XXVII, 1974, pp. 103 - 115.
- Mitchell, Richard P. The society of the Muslim Brothers, Oxford University Press, London, 1969.
- Mubarak, 'Ali Basha al-Khitatt al-Tawfiqiyy al-Jadida li-Misr al-Qahira wa Mudunaha wa Biladaha al-Qadima wa al-Shafira, vols. 1 & 2, al-Hay'a al-Misriyya al-'Amma lil-Kitab, Cairo, 1980.
- Muhammad, Ghazi R. "The minaret of ibn Tulun: its construction and description", Sumer, 23, 1967, pp. 83 - 96.
- Mumtaz, Kamil Khan Architecture in Pakistan, Concept Media Pte Ltd., Singapore, 1985.
- Mumtaz, Kamil Khan & Siddiq-a-Akbar (ed.) Temples of Koh-e-Jud & Thar, Architectural Heritage of Pakistan I, Proceedings of the seminar on Hindu Shahiya Temples of the Salt Range, Held in Lahore, Pakistan, June 1989, Anjuman Mimaran, 1989.
- Musallam, Basim The Arabs, a living history, Harvill, London, 1983.
- Muslim Sahih Muslim, trans. Abdul Hameed Siddiqui, Kitab Bhavan, New Delhi, 1984.
- Mustafa, Saleh Lamei al-Watha'iq wa al-'Imara: Dirasa fi al-'Imara al-islamiyya fi al-'Asr al-Mamluki al-Sharkasi, Beirut, 1980.
- Nabi Khan, Ahmad (ed.) Pakistan Archaeology, no. 23 -1987 -88, The

- Department of Archaeology, Pakistan, Karachi, 1988.
- el-Nahal, Galal H. The Judicial Administration of Ottoman Egypt in the Seventeenth Century, Mineapolis and Chicago, 1979.
- al-Nawawi Al-Arba'in al-nawawiyya, trans. Ezzedin Ibrahim & Denys Dohnson-Davies, London, 1981.
- Normand, Charles "Les Ami de Monuments et des Arts en Egypte", L'Ami des Monuments et des Arts, XXI, 1907, pp. 90 - 96.
- Noweir, Sawsan & Volait, Mercedes "Cairo", Mimar, no. 89, Nov. 1984.
- Oldham, Linda, Hadidi, Haguier Tamaa, Hussein Informal Communities in Cairo: The Basis of a el-Typology, vol. 10, Monograph 4, Winter 1987, The & American University in Cairo Press.
- Oliver, Paul Dwellings, the House across the World, Phaidon, Oxford, 1987.
- Owen, Stephen "Change and Conservation in Settlements", Planning Outlook, vol. 18, 1976, pp. 35 - 41.
- Patai, Raphael The Arab mind, Charles Scribner's Sons, New York, 1973.
- Popper, William Egypt and Syria under the Circassian Sultans, 1382 - 1468 A. D. Systematic Notes to Ibn Taghri birdi's Chronicles of Egypt (continued), University of California Publications in Semitic Philology, ed. Walter J. Fischel and Henry L. F. Lutz, vol. XVI, University of California Press, Berkeley and Los Angeles, 1957.
- al-Qaradawi, Yusif al-Halal wa al-Haram fi al-Islam, Maktabat Wahba, Cairo, 1960.
- _____ Mushkilat al-Faqr wa Kayfa 'Alajaha al-Islam, Maktabat Wahba, Cairo, 1980.
- al-Qari, A. B. A. Qawa'id al-tajwid, al-Madina la-Munawwara, 1976.
- Qutb, Mohammad Manhaj al-Fann al-Islami, Dar al-Shorouk, Cairo, 1980.

- Qutb, Sayyed *Khasa'is al-tasawur al-Islami wa muqawimatu*,
Cairo, 1978.
- _____ *Al-Taswir al-Fanni fi al-Qur'an*, Cairo, 1989.
- Rapoport, Amos "An approach to designing Third World
Environments", *Third World Planning Review*, vol. 1,
no. 1, 1979, pp. 23 - 40.
- Raymond, A. "*Ahmad ibn 'Abd al-Salam un Sah Bandar des
Tuggar au Caire a la fin du XVIIIe siecle*", *Annals
Islamologiques*, VII, 1967, pp. 91 - 95.
- _____ "*La Localisation des bains publics au Caire au
quinzieme siecle d'apres les Hitat de Maqrizi*", *Bulletin
d'etudes Orientales*, 30, 1978, pp. 347 - 360.
- Rihawi, Abdul Kader *Muslim Architecture in Syria*, Ministry of Culture,
Damascus, 1979.
- Robinson, Francis *Atlas of the Islamic World since 1500*, Phaidon,
Oxford, 1982.
- Rodenbeck, John "Cairo, Preservation and Restoratin of Islamic
Monuments", *Arts and the Islamic World*, vol.1, no.2,
1983.
- Rogers, M. "Al-Kahira", *Encyclopaedia of Islam*, vol. , Leiden E. J.
Brill, 1960, pp. 424 - 443.
- _____ "The stones of Barquq. Building materials and
architectural decoration in late fourteenth century",
Apollo, 103, no. 170, 1976, pp. 307 - 313.
- Ross, Ole "Collaboration in Cairo: the conservation of the
madrasa el Gawhariya", *Monumentum*, ", no. 27,
1984, pp. 211 - 232.
- Rugh, Andrea B. *Family in Contemporary Egypt*, The American
University in Cairo Press, 1985.
- Rushdi, Rashad "English Travellers in Egypt During the Reign of
Mohammed Ali", *Bulletin of the Faculty of Arts*, Cairo
University, vol. 14 II, 1952, pp. 1 - 61.

- Ruskin, John The Seven Lamps of Architecture, George Allen, London, 1903.
- Ruthven, Malise "Construing Islam as a language", The Independent, 8 September 1990.
- Sacks, Oliver Seeing voices. A Journey into the World of the Deaf, The University of California Press, Los Angeles, 1989.
- Said, Edward W. Orientalism, Routledge & Kegan Paul, London and Henley, 1978.
- Said, R. The Geology of Egypt, New York, 1963.
- Salmon, M. Georges "*Etudes sur la topographie du Caire, 'La Kal'at al-Kabch et la Birkat al-Fil'*", MIFAO, 7, Cairo, 1902.
- Sameh, kamal al-Din al-Imara al-Islamiyya fi Misr, al-Hay'a al-Misriyya al-Amma li al-Kitab, Cairo, 1987.
- al-Sayyad, Nezar Streets of Islamic Cairo, a configuration of urban themes and patterns, The Aga Khan Programme for Islamic Architecture at Harvard University & MIT, no.2, 1982.
- Scanlon, George T. "Housing and Sanitation", The Islamic city, A. H. Hourani (ed.), Bruno Cassiver Publishers, Oxford, 1970, pp. 179 - 194.
- Schick, Conrad "Arabic Building Terms", Palestine Exploration Fund Quarterly Statement, 1893, pp. 194 - 201.
- Sebastian, Faulks "Why politicians are poor guardians of the past", The Independent on Sunday, 8 April 1990, p. 33.
- Serageldin, Ismail & El-Sadek, Samir The Arab city, its character and Islamic cultural heritage, Proceedings of a Symposium in Medina, Kingdom of Saudi Arabia, 28 Feb.-5 Mar., 1981.
- Serageldin, Mona & Vigier, Francois "Changing Roles and Procedures in the Design of Public Buildings", Architectural transformations in the Islamic World, vol. 5, The Aga Khan Award for Architecture, Amman, 1980.

- Seton, V. et al. Blue Guide Egypt, London, 1988.
- Siddiq-a-Akbar & Tirmizi, A. M. A. (ed.) Sultanate Period Architecture, Architectural Heritage in Pakistan II, Proceedings of the Seminar on the Sultanate Period Architecture in Pakistan, Held in Lahore, November 1990, Anjuman Mimaran, 1990.
- el-Sioufi, Mohamed M. A Fatimid Harah: Its physical, social, and economic structure, The Aga Khan Programme for Islamic Architecture at Harvard University & MIT.
- Smith, John A. "Desert Developments", Building Design, Nov. 11, 1983, pp. 18 - 21.
- Stauth, Georg Gamaliyya: Informal Economy and Social Life in a Popular Quarter of Cairo, Working Paper No. 87, University of Bielefeld, Sociology of Development Research Centre, Bielefeld, 1986.
- Sultan, A. A. "Notes on the Divine proportions in Islamic Architecture", Process Architecture, no. 15, May 1980.
- Tadros, Helmi R., Feteha, Mohamed & Hibbard, Allen Squatter markets in Cairo, Cairo papers in Social Science, vol. 13, Monograph 1, Spring 1990.
- Taylor, John S. Commonsense architecture, London, 1983.
- Tofler, Alvin Future Shock, Pan Books, London, 1970.
- UNESCO International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter), ICOMOS, Paris, 1966.
- Uthman, Husni Shaikh Haq al-tilawa, Amman, 1974.
- Uthman, Muhammad, A. al-Madina al-Islamiyya, al-Majlis al-Watani li al-Thaqafa wa al-Funun wa al-Adab, Kuwait, 1988.
- Van Huyck, Alfred P. "The economics of architectural conservation: thoughts from the Bangladesh Workshop, March 29 - April - 7, 1989, Mimar, 32, June 89.
- Vatkiotis, P. J. The modern history of Egypt, London, 1969.

- Vearncombe, J. "Architectural Conservation in Minas Gerais, Brazil", Third World Planning Review, vol. 3, no. 3, 1981, pp. 297 - 312.
- Vesely, Rudolf "*Les requetes en Egypte au XVe siecle*, Revue des Etudes Islamiques, 45, 1977, pp. 183 - 246.
- Von Grunebaum, G. E. Medieval Islam, a study in cultural orientation, The University of Chicago Press, 2nd ed., 1946.
- _____ Unity and variety in Muslim civilisation, The University of Chicago Press, 1955.
- Ward, Keith "Islam must be free of national politics", The Independent, 18 August 1990.
- Warren, J. & Fethi, I. Traditional house in Baghdad, Flexprint, worthing, & Sussex, 1982.
- Weill, J. David "*Quelques textes epigraphiques insecuits du Caire*", Bull. de l'Inst. Francais d'Arch. Orientale, XXVIII, 1929, pp. 15 - 24.
- Wiet, Gaston Materiaux pour un Corpus Inscriptionum Arabicarum, Prmiere Partie. Egypte, Tome II, IFAO, Cairo, 1929 - 30.
- _____ Cairo: City of Art and Commerce, Seymour Feiler (trans.), Norman: University of Oklahoma Press, 1964.
- _____ "*Decrets Mamlouks d'Egypte*", Eretz Israel, VII, L. A. Mayer memorial volume, Jerusalem, 1964, pp. 128 - 143.
- _____ Les Mosques du Caire, Les Livres de France / Hachete, 1966.
- Williams, Caroline "The Cult of 'Alid Saints in the Fatimid Monuments of Cairo, Part I: The mosque of al-Aqmar", Muqarnas, I, 1983, pp. 37 - 52.
- Williams, John Alden "Urbanization and Monument Construction in Mamluk Cairo", Muqarnas, pp. 33 - 45.

World Bank

For Efficient and Equitable Growth of Cities in Developing Countries, World Bank Staff Working Papers, no. 342, Washington, D.C., July 1979.

Lahore Urban Development and Traffic Study, Lahore Development Authority / Metropolitan Planning Wing, Final Report, 4 vols., Salman Art Press Ltd., Lahore, 1980.

Wulzinger, Karl
Watzinger, Carl

Damaskus, die Islamische Stadt, trans. Kassem & Toueir, Ministry of Culture, Damascus, 1983.

Zetter, Roger

"Imported or Indigenous Planning Education?, Some Observations on the Needs of Developing Countries", Third World Planning Review, vol. 3, no. 1, 1981, pp. 21 - 41.

Conservation of Buildings in Developing Countries, Working Paper no. 6, Oxford Polytechnic, Department of Town Planning, Oxford, January 1982.