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**THE ARAB AND ARAB ISLAMIC AND MUSLIM ARCHITECTURE**

**OF THE OLD HOLY MASJID AND AL-KA'ABAH**

**A Monadic Interpretation of the Two Holy Buildings**

**by Eduard Franciscus Schwarz**

**A Thesis**

**Submitted to Massey University Wellington Campus, New Zealand**

**in Part Fulfilment of the Requirements for the**

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**The Holy Complex in Makkah al-Mukarramah in Saudi Arabia**

## Acknowledgments

Although I belong to those who were indirectly indoctrinated by the Bauhaus, Architecture has moved well away from the Bauhaus architecture and Bauhaus philosophy into that can be referred to as labyrinth architecture with a poetic base. However, the tendency to perceive architecture as a body poetic needs to be queried. That architecture had moved away from the architecture advocated by the Bauhaus was particularly realized during my study at Massey University, Wellington Campus, during 2004. Contact with art students and staff, trained in art and fashion were very useful. Without the help of others, the writing of the thesis would have been more difficult. My thanks go to Professor Duncan Joiner, who was my supervisor. I am also thankful to the Massey University Library, Wellington Campus that carried out a literature search in support of this work.

Massey University also provided me with computers for the writing of the work. Brian Halliday, now retired, needs mentioning here, so does Ken Elliot for the constant help he gave computer-wise. Yet the amount of time involved in preparing a complete computerized document, inclusive of graphics, has been very large, to the detriment of preparing creative designs with pen, pencil and ink.

Attached to writing of a thesis is always the factor of cost. I am happy to say that the Internal Grants Committee of Massey University made available a series of small but welcome grants to me. Nevertheless, the greater part of the total cost incurred is mine. The Director General of Islamic Call Affairs at RABITAH in Makkah \* (see Glossary), Dr. Hashem Ali Moh Mahdi, needs mentioning here for his support during my fieldwork in Makkah in 1993. Dr. Khalid Sandhu of Wellington helped to set up the RABITAH connection. Without that connection no thesis on Makkah would have come about. Equally so for the unknown Arab of the Library of the Umm al-Qura University, who lent me a copy of the Kingdom of Saudi Arabia Engineering Report covering the Holy Complex. It proved to be one of the points of departure for this work.

## **Thesis Abstract**

This thesis covers the architecture of the Old Holy Masjid\* (see Glossary) in Makkah (Mecca) and to a minor degree the architecture of al-Ka'abah\* (see Glossary) also in Makkah. The shapes and spaces of those two Buildings are examined monadically applying a partial new Theory of Architectural Monadology. The Buildings' shapes and spaces are examined on their attached qualities, the way these configure and or correspond with other shapes and spaces. When attachments are made to shapes and spaces they become monads, configuring and corresponding with other monads. This draws-in the cosmos, the landscape, myth, folklore and the *Qiblaat* system (direction to Makkah).

By accessing architecture under the umbrella of the Theory of Architectural Monadology, together with other techniques of analysis, the conclusion is reached that the Old Holy Masjid is a Building of Arab Islamic and Muslim architecture and al-Ka'abah Building of Arab architecture. The differences and similarities between these two architectures are discussed, so are their exports as design models motifs. The historically created misconceptions about the Buildings, the Buildings' chronologies and the materials used in their construction are detailed.

## Preface

In 1989 CE (1410 AH) and 1993 CE (1414 AH) (CE stands for Christian era and AH for After Hegira) (See Appendix One)<sup>1</sup> I visited Makkah and the Holy Complex, a Complex that consists of al-Ka'abah and the Old and New Holy *Masajid* (plural for Mosque). To me, the Old Holy Masjid, a Building depicted in a drawing by Ali Bey al-Abassi (1814: Plate LIV) resembled a Classical Renaissance Building mainly because of its facade arches and the facade medallions. A photograph by the Kingdom of Saudi Arabia, Ministry of Information (n.d. and no pp.) in *Expansion of the al-Haramayn al-Sharifein*, reinforced the earlier impression that the building was one of Classical Renaissance architecture. At a first glance, I believed that this was so because the facade medallions reminded me of the medallions of the arcaded court of Bruno Brunelleschi's Foundling Hospital (Spedali degli Innocente) in Florence (Allsopp, 1959: 19) and Pesvner (1963: 176).

A closer examination of the Building was made during my second trip in 1993 CE (1414 AH) revealed that **the Building** was not a Renaissance one at all; it was Building of Arab Islamic architecture, an architecture that is synonymous with Muslim architecture rooted in the Arab architecture of al-Ka'abah. Arab Islamic Muslim architecture embeds in the Old Holy Masjid as the Building consists of Umayyad, Abbasid and Ottoman architectural components. The latter are the Arab domes and the front colonnade columns. Superficially, the domes look like Ottoman domes. The latter have octagonal bases whereas the Arab domes of the Old Holy Masjid have square bases with rounded corners. The Arab Islamic and Muslim architecture of the Old Holy Masjid is further recognizable by pinnacles, crenellations, medallions, interlocked arches and the floor plan pattern and the Ottoman facade and the interior palm tree-like columns. The 'Arab dome', which corresponds with the camel's hump, is the preferred name in this thesis.

This Arab Islamic and Muslim architecture differs from the architecture of the buildings of Islam of Iran, Spain, and Samarkand that are labelled by a number of art historians, buildings of 'Islamic architecture'. That term was, and is, art historians' nomenclature to what essentially is Muslim architecture that intertwines with Arab and Arab Islamic architecture. Most art historians have portrayed the buildings of Islam from a Euro centric perspective and stereotyped it 'Islamic architecture'. In this thesis this phrase is replaced by 'the architecture of the buildings of Islam'.

Once it was clear to me that it was not a classical Renaissance Building, research on the Old Holy Masjid became focused. Although the intention was to study the Old Holy Masjid exclusively, it became increasingly clear that the architecture of

al-Ka'abah could not be ignored. Most important, the *Qiblaat* system, a system of worldwide axes to al-Ka'abah, that is an integral part of al-Ka'abah, could neither be ignored. Initial research between 1989 CE (1410 AH) and 1993 CE (1414 AH) was spent on reading. It was followed-up with fieldwork in Makkah and Jeddah. It consisted of observations, particularly the observation of the stars and star patterns and local architectures, note taking, discussions, interviews, sketching, and the taking of photographs. They became an essential part as research methods.

Institutions and places visited in support of the study were the Umm-al Qura University in Makkah, Massey University, Wellington Campus, Victoria University of Wellington, National Library of New Zealand, Wellington City Council's Central Library, the National University of Singapore Library, the Singapore Central and Ang Mo Kio New Town Public Libraries, De Rijks Universiteit of Leiden, Het Rijks Museum of Amsterdam, De Universiteit of Amsterdam Bibliotheek, De Regionale Bibliotheek of Zeeland, the Hajj Research Center and the *Kiswah* factory both in Makkah. All institutions were probed on related material. Network consultations were conducted with the Kingdom of Saudi Arabia Embassy in Washington via Ohio University, the Semitic Museum and the Aga Khan Organization both at Harvard University, the Aramco Organization in Houston, Texas and the U.S. Naval Observatory, Astronomical Applications Dept. (2004), Washington DC: using [www.srrb.noaa.gov/highlights/sunrise/azel.html](http://www.srrb.noaa.gov/highlights/sunrise/azel.html)

Considerable difficulties were experienced in taking photographs in Makkah. Saudi Arabia Officials, but also individuals do not take kindly to some one taking photographs in public. Islam does not favour images of persons. Subsequently effective camera focusing was not always possible. It resulted in 'snapshot photography' with all its shortcomings. Due to the high contrast locally between sunlight and shadows, images became under exposed. This was less so in Mina\*, Muzdalifah\* and Arafah\* (see Glossary). There, the taking of photographs was easier to undertake and the results have been better.

Because of the difficulties in taking photographs, route reconnaissance preceded the taking of photographs. If the objects to be photographed were near police or military points the intended photography was abandoned. In the areas intended for study the police and the military are everywhere. The taking of photographs could neither be done when people were nearby. Thus selecting the most advantageous position for taking photographs was out of the question. After three times having been pulled into a police station, being questioned and the threat to destroy the camera dampened the enthusiasm for taking of photographs.

Although there was access to the Umm al-Qura University, no permission was given to take photographs by a difficult Arab of wall pictures, only note taking was allowed and than for one specific aspect only. Thus a browse of the Makkah Room was out of the question.

To overcome this difficulty, and difficulties, generally a number of contacts were set-up, at that same University to be followed-up later in New Zealand, but there was no response to questions or correspondence or e-mails. Promises came easy, but were not often honoured. Even so, a good interloan library system would have alleviated some of the problems experienced. But none is in existence between New Zealand and Saudi Arabia. This in part was overcome by buying books in Makkah and Jeddah and by relying on pilgrims bringing back some publications. In both instances the maximum weight that can be taken aboard an aeroplane started to govern.

Locally produced books and publications invariably emphasize the Saudi Arabian Kings and their Kingdom, but a bibliography, page numbers, publishing dates and publishers are often absent. The material produced is more or less propaganda for the Kingdom, like Louis XIV of France and his Versailles palace. The Saudi Arabian material is often too detailed, and critical analyses and or reasoning are missing. Nevertheless some publications that came to hand in 2005 contained photographic material not seen before.

### **Overview of Chapters**

This thesis consists of seven Chapters and ten Appendices. Chapter 1 introduces the thesis, outlining the framework under which it is undertaken. It introduces the Theory of Architectural Monadology and the *Qiblaat* system. The research methods used in this study are explained.

Chapter 2 put forward the intellectual basis and theoretical framework of the thesis. This involves a full coverage of the Theory of Architectural Monadology and its application to architectural shapes and spaces. Chapter 3 sets the Holy complex in its surrounding landscape and in its cosmic settings. The same Chapter introduces the *Haraam* (Sacred areas of land) and non-*haraam* areas and highlights the consequent *sous entendu* of place (meaning that imparts identity of place or the feel of the place). A *sous entendu* is a construct or structure or an assemblage consisting of contributing components.

Chapters 4 and 5 are the **core** of the work. Chapter 4 investigates al-Ka'abah as a monadic and as an architectural construct. Its forms, shapes and spaces, and

symbolic and monadic content are detailed. The inconsistencies in the different statements by different authors are noted. Consequently, it is demonstrated that the Building is one of Arab architecture. This draws-in configurations and correspondences between the different spaces and shapes of both Buildings. A chronological account of the construction, renovations, and building materials used in both Building is discussed. The *Qiblaat* system is further detailed.

Chapter 5 focuses on the Old Holy Masjid as a monadic and as an architectural construct. Its inherent numerology and al Ka'abah as a series of abutting and adjacent ka'abaat that makes for the Old Holy Masjid's floor plan are detailed. Consequently, it is demonstrated that the Old Holy Masjid is an architectural construct of Arab Islamic and Muslim architecture with Umayyad and Abbasid and Ottoman components. Its forms, shapes and spaces, and symbolic and monadic content are detailed. This draws-in configurations and correspondences between similar spaces and shapes. These are highlighted. The anthropomorphic, the zoomorphic and the botanic contents of the Building are discussed. The column patterns, the different types of columns, column patterns, column capitals and bases are detailed. A chronological account of the construction, renovations, and building materials used in the construction of the Building are detailed. The chronological and general inconsistencies are noted. Some aspects of monadic numerical ordering are broached.

Chapter 6 covers the Old Holy Masjid, the Safa\* (see Glossary) entrance and exit and al-Ka'abah's influences as architectural models for other Buildings of Islam and as design motifs for illustrations, miniatures, ceramics, textiles and metal objects.

Chapter 7 provides the aggregated conclusions on the issues examined, mostly inconsistencies in the accounts and chronological data of the different authors and the effects of monadology. This chapter also indicates follow-up research.

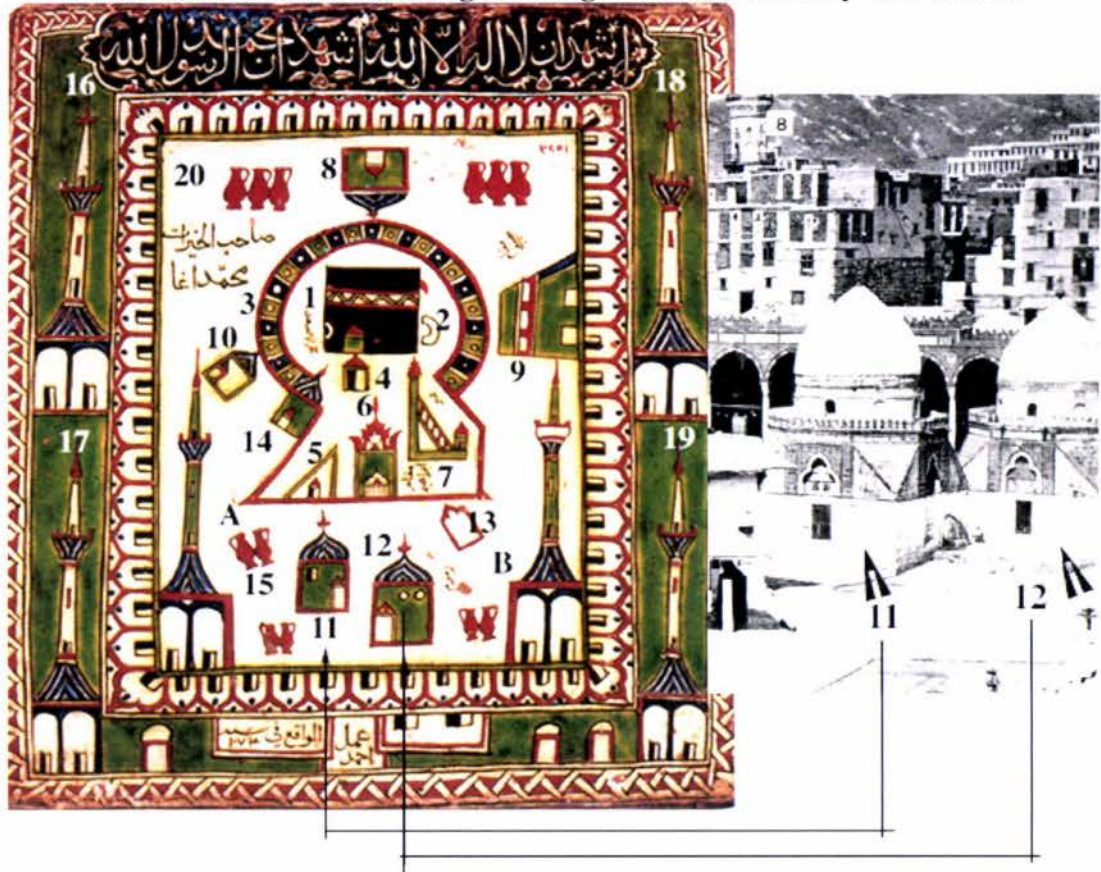
Of all the Buildings (see below illustration) only al-Ka'abah and the four elevations of the Old Holy Masjid have remained. The changes to the Old Complex but also to other historic building of Makkah have been destructive, almost a wanton act of official vandalism. It made the Daniel Howden (in RIBA World Issue 380 - August 12 2005 - Ref: 29),referring to a well known Saudi architect,remark:

**“What we are witnessing are the last days of Mecca and Medina, the final farewell to [old] Mecca is imminent”.**

That Saudi architect is an acknowledged specialist on the region's architecture of the Buildings of Islam. He presented a paper in 1981 called "The Conservation and

Development of the Holy Cities of Mecca and Medina', in Arab Urban Development Institute/Arab Town Organization / The Symposium High Committee (Editors), in *Paper Abstracts; Symposium on the Arab City; Its Character and Islamic Cultural Heritage*, Medina: The Symposium High Committee, pp.8. His plea contained in his paper has fallen on deaf ears.

**al-Ka'abah and surrounding buildings in a 16th Century Turkish tile**



No	Description	No	Description
1	al-Ka'abah and al-Mataf* (see Glossary)	11	<i>Qubbat al-Abbas</i>
2	al-Hatim* (see Glossary)	12	<i>Qubbat al-Sa'ad</i>
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8	<i>Maqam Maliki</i>	18	<i>Manarah al-Umrah</i>
9	<i>Maqam Hanafi</i>	19	<i>Manarah Salam</i>
10	<i>Maqam Hanbali</i>	20	<i>Hawasi</i>

Sources; LH illustration, Hattstein, (2000: 12).RH illustration, Sadiq Bey (in Badr el-Hagi, 1997). Labelling and numbering by Eduard Schwarz

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## Notes, Abstract, Acknowledgements and Preferences

<sup>1</sup> In this work the simplified conversion CE to AH table of Facey (1990: 9), in *The Kingdom of Saudi Arabia*, is used (It is appended to the back of this document as Appendix One). A computer program by Adel, A. al-Rumaih, *the Hijir-Gregorian Calendar 1996-1997* <http://beautifulislam.net/programs/HijriConverter> is also a useful program in converting CE to AH. Thus 22/10/2033 CE is 28/07/1455 AH.

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Pevsner, Nikolaus (1963), *An Outline of European Architecture*, Harmondsworth, Middlesex: Penguin Books, pp.175.

Sadiq Bey (in Badr el-Hagi) (1997), *Saudi Arabia Caught in Time 1861-1939*, Reading: Garnet Publishing, pp.12 [Photographs first published in 1880].

**THE ARAB AND ARAB ISLAMIC and MUSLIM ARCHITECTURE OF THE  
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 A Monadic Interpretation of the two Holy Buildings**  
 Foreign languages are expressed in *italics*. See Glossary for  
 the translation and transliteration

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Source; Marsden, Brian and the U.S. Naval Observatory, Astronomical Applications Dept. (2004), *Altitude and Azimuth Tables*, Washington DC : The Observatory, <http://www.srb.noaa.gov/highlights/sunrise/azel.html> and [marsden@metervice.com](mailto:marsden@metervice.com)

### Table 3

#### Altitude, Elevation and Declination of the sun for Makkah

Source; Marsden, Brian and the U.S. Naval Observatory, Astronomical Applications Dept. (2004), *Altitude and Azimuth Tables*, Washington DC : The Observatory, <http://www.srb.noaa.gov/highlights/sunrise/azel.html> and [marsden@metervice.com](mailto:marsden@metervice.com)

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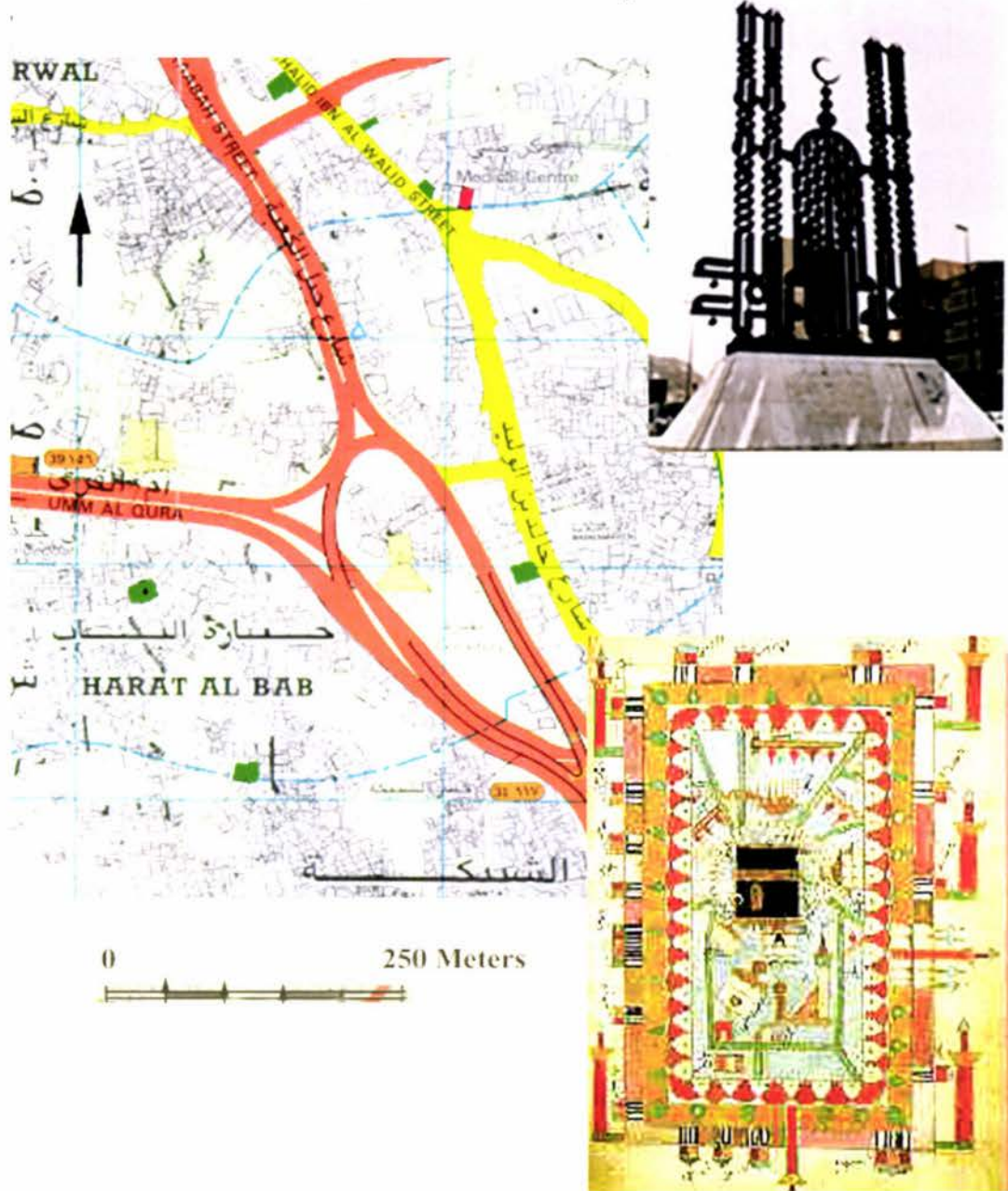
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# Chapter 1 Introduction

## Frontispiece Chapter 1

Sources: <http://www.kff.com/promotion/kabamap-1g.jpg>, (13 December 1997), Zaki, (1988: Map and Eduard Schwarz, 1993 Photograph)



All roads lead to the Holy Center

## Contents Chapter 1

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**Keywords:** Arafah, al-Hatim, jamaraat, al-Ka'abah, al-Mataf, Architecture, Design, Islam, Makkah, Mina, Monad, Monadology, Mosques, Muzdalifah, Old Holy Masjid, *Qiblah*, Theory of Architectural Monadology, Kingdom of Saudi Arabia

## CHAPTER 1 Introduction to the Thesis

### 1.1 INTRODUCTION

#### 1.1.1 Introduction to the Thesis

In this thesis some references are made to *al-Qu'ran*. However, the thesis is a non-religious one. Further, from the outset a clear distinction needs to be made between architectural studies carried on the Buildings of Islam by European scholars in those areas of the Orient that were accessible to them (those were areas mostly controlled by European colonial powers) as opposed to those scholars who studied buildings in areas of the Orient that were less accessible and not controlled by European colonial powers. The former has led to extensive studies of many of the Buildings of Islam that are reasonably accurate, while the latter involved studies that relied on hearsay, on travel accounts and on rhetoric philology. This has led to an unrealistic portrayal of the Holy Complex in Makkah in Saudi Arabia for some time.<sup>1</sup> This thesis examines the Holy Complex in a more realistic way. It incorporates updated information. Some discussions are reiterated to substantiate different perspectives.

The Holy Complex is comprised of the following elements shown in Figs.1.1--1.3.

Fig. 1.1

Sources:[http://www.islam.tc/images/satellite\\_photos.htm](http://www.islam.tc/images/satellite_photos.htm) Labeling by Eduard Schwarz

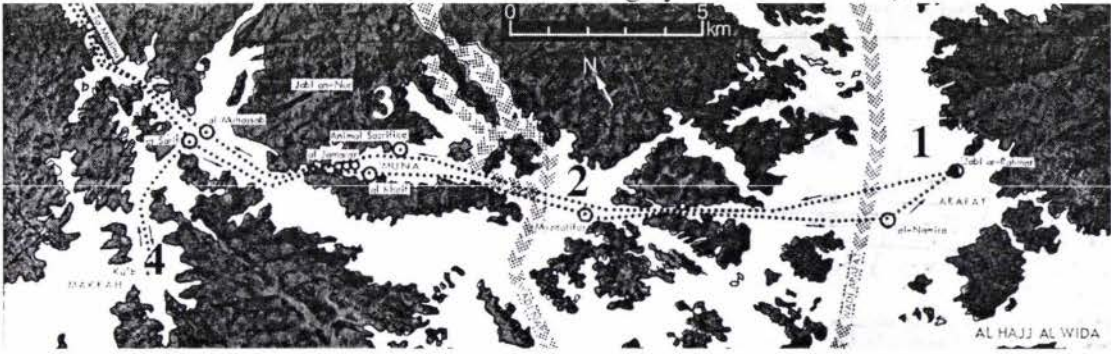


Aerial view of the main elements of the Holy Complex

No	Description	No	Description
1	al-Ka'abah (see also Fig.1.2)	4	Saudi II extension
2	The Old Holy Masjid	5	Safa
3	Saudi I extension	6	Marwa* (see Glossary)

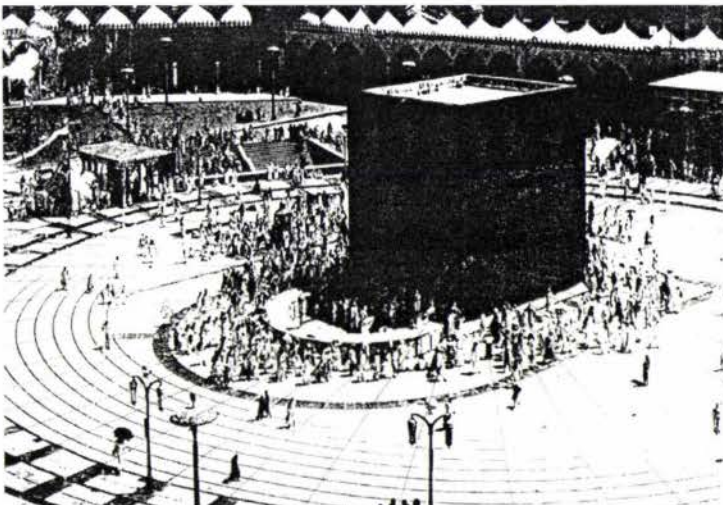
**Fig.1.2**

Source; Rasch (1980: 19, labeling by Eduard Schwarz)



**Places pilgrims visit and routes they follow during *al-Hajj***

The pilgrimage to Makkah is known as *al-Hajj* or *al-Umrah* (the minor *al-Hajj*). *Al-Hajj*, takes place on the 9th, 10th and 11th of *Dhu'l-hijjah* the last lunar month of the Islamic year. <sup>2</sup> Foremost, pilgrims arrive at the *Miqaat*, a place where they change into special prescribed clothing, *Ihram*. Ten inner and outer *Miqaat* surround Makkah. From there they go to Arafah (no.1 in Fig.1.2). The rites of *al-Hajj* commence by: standing at Arafah on *Jabal Rahman*, then picking up of pebbles overnight at Muzdalifah (no.2) for the stoning of the *jamaraat* (devils) in Mina; (no. 3), the ritual slaughtering of an animal in Mina (no. 3) and clipping of one's hair also at Mina (no. 3), participating in *al-Sa'y*, a rite conducted between the Safa and Marwa covered rock outcrops in Makkah (no. 4). That rite consists of walking and part jogging between Safa and Marwa, seven times up and seven times down (no. 4), hair clipping at Marwa (no. 4) and finally the seven times circumambulation of al-Ka'abah and al-Hatim (no. 4). The completion of these rites leads to the status '*Hajji*' (*Hajjah* for a female). The rites of *al-Umrah* consist of doing *al-Say* and the seven times circumambulation of al-Ka'abah. No other compulsory rites are involved. All rites imitate the Prophet's actions.



**Enlargement of no.4 of Fig. 1.1  
The circumambulatory area or al-Mataf of al-Ka'abah c1957CE (1377AH)**

**< Fig. 1.3**

Source; Kingdom of Saudi Arabia Ministry of Finance (c 1989)

In the background of this illustration are the steps to the *Zem-Zem* well. The concentric circles, the *sufuf*. They emphasize al-Ka'abah as the center. They are the result of the Islamic requirement of facing al-Ka'abah whilst praying. There is no trace left of the previous oval al-Mataf. At the left hand middle is the *Imam's* station.

Hierarchical ordering inheres in monotheism itself and in Arab culture. Hierarchical ordering corresponds with the 'Hajji' status. That status is divided into a range of categories depending on the level of perfection the would-be Hajji had in mind before the commencement of *al-Hajj*. Both *al-Hajj* and *al-Umrah* embed status, in that *al-Hajj* is superior to *al-Umrah*. *Al-Hajj* itself is divided status-wise into categories that are hierarchical ordered, and contradicts the dogma that every Muslim is equal to every other Muslim. That inequality exists in a hidden form throughout the religion of Islam. How to earn a better place in heaven is constant vision by the world's *Imaam* (plural for *Imam*, a religious leader). To participate in the design of a Mosque earns the designer a house in heaven!

This inequality comes particularly to the fore during *Ramadhan* (the last month of the Muslim lunar year). The last ten days of that month are the most important days for Muslims. The *Hajj* accommodation industry make use of that by charging 5000 SR, about NZ\$ 2500 per night for the last three days of that ten day period. 2005 *al-Hajj* pilgrims from New Zealand paid NZ\$10,000 each for a month stay in Makkah. *Al-Hajj* then has deteriorated into something that caters for those who have the means to do so and does less so for the would-be Hajji for example from a Malay Kampong who has to save a life time to participate in the same event, with, for example, the Tabung Hajj Banking Organization in Kuala Lumpur.

The *al-Hajj* rites have been in existence unaltered for many centuries. When under Napoleon Bonaparte the scientific studies of the Orient commenced, *al-Hajj* was already practiced for more than a 1000 years. This was not referred to in *la Description de l'Égypte*. Napoleon's forces occupied Egypt in 1798 CE (1213 AH). He decreed the setting up of l'Institute de l'Égypte (Said, 1978: 83). Europe became familiar with Egypt through the 1809 CE (1224 AH) written and the 1822 CE (1238 AH) published *la Description de l'Égypte*, executed mostly by recent graduates of the l'École Polytechnique in Paris (Gillespie, 1987: 1). The team who put *la Description de l'Égypte* together not only recorded many of Egypt's ancient buildings but also some Mosques. Influenced by the l'École Polytechnique of Paris, Education Authorities of the major cities of Western Europe set-up their own technical colleges. The drawings of Ali Bey al-Abassi carry the influence of that teaching imparted by the l'École Polytechnique.

In line with the curricula of these colleges, Ferguson wrote in (1893 CE / 1311AH), *History of Architecture in all Countries*. Fletcher wrote (1896 CE / 1314 AH) *A History of Architecture on the Comparative Method*, Creswell (1932 CE /1351 AH) wrote *Early Muslim Architecture in Egypt Umayyads, AD 622-750*, and Prisse d'Avannes 1867 CE (1284 AH), *The Decorative Art of Arabia*. It is evident from this

published and re-published material that quite an effort was put into investigating, measuring, describing, and recording of the ancient buildings and monuments of Egypt, but also those of Athens, Rome, and the Romanesque and Gothic Buildings of Western Europe. However, most of the works of that era took on the form of catalogues raisonnée (there are exceptions) and with it unnecessary material crept in. Together, and over time, these works have been quite influential in encouraging a subsequent romantic perception of the Buildings of Islam that is unreal but has lasted until to day.

Although romantically influenced the descriptions of the Buildings of Islam of Persia, India and Malaysia were reasonably accurate standards. However, that does not apply to the Holy Complex and the City of Makkah that is inaccessible to non-Muslims since the advent of Islam. Those descriptions were in the first instance impaired by a Qu'ran verse itself that states:

"O ye who believe, the polytheists only are unclean. Let them not then after this year come near the Sacred Mosque " (Hitti, 1973: 27 quoting Surah 9: 28, *al-Taubah*).

This verse (*ayer*) forbids non-Muslims to enter the City. It has created a major barrier in obtaining accurate information that in due course has resulted in distorted views of the Holy Complex. What came to hand were inaccurate descriptions written by a number of authors on the Holy Complex and the City of Makkah. Although this Qu'ranic verse led to distort views intellectual dishonesty was another self-created barrier. A laissez-faire climate came into existence when dealing with the Buildings of Islam.

Orientalists and art historians thought the Orient and Makkah were timeless, exotic and immutable. Under this umbrella a number of erotic stories surfaced, such as Burton's (1859 CE / 1272 AH) *The Book of the Thousand and one Arabian Nights* and Lane's (1883 CE / 1301 AH), *Arabian Society in the Middle Ages; Studies From One Thousand and One Nights*. Evidenced by rather recent reprints they are still in popular demand. This written material conveys a perception that is out of touch with reality. That out of touch perception is kept alive by the modern catalogues raisonnée on the Buildings of Islam, supported by high-resolution camera and digital photographs.

These images carry descriptions that are often inconsistent with the religion of Islam, but are in line with about one hundred years old orientalist's philosophies and rhetoric that would have been even more expansive if the classical science environment of that time had not laid down some rules. These, to some degree controlled the order of written documents, thus the advancement of a hypothesis, an introduction to it and a conclusion. These rules also involved chronologies on when, where, which and how and under who's regime Buildings of Islam were constructed. Although these days' chronologies

are not popular, this thesis nevertheless uses chronologies in the examination of drawings and photographs. Chronologies are useful in determining which buildings were there or not there anymore over historic time.

Adopting this approach, inconsistencies in information, in construction dates and in dimensions, advanced by the orientalists and art historians in their analyses of the two Holy Buildings of Islam will come to the fore. Once identified these works will remedy these inconsistencies if possible. Thus a 1717 CE (1130 AH) isometric drawing by Relandi shows two small sized domed buildings. When Sadiq Bey in 1880 CE (1298 AH) took photographs, they were still there, but they were not there anymore when Hurgronje took photographs of the same area in 1885 CE (1303 CE). Thus between 1880 and 1885 they were demolished.

On the other hand within that-historic-time created orientalist culture, Ali Bey al-Abassi and Burckhardt produced street and feature maps of urban Makkah which went well beyond the miniatures produced by the 16th and 17th Century Persians. For example, Ali Bey al-Abassi and Burckhardt who had visited Makkah respectively in 1804 CE (1219 AH) and 1814 CE (1230 AH) described and illustrated their experiences.<sup>3</sup> Ali Bey al-Abassi's and Burkhardt's maps and plans were subsequently published in 1816 CE (1232 AH) and 1829 CE (1245 AH).<sup>4</sup> They have been repeatedly copied without due recognition particularly by Arab sources.

The fifth pillar of Islam demands that the City of Makkah must be visited before one's death. A very large number of pilgrims have visited the City but no high standard and accurate accounts on the City and the Old Holy Masjid have surfaced except a document produced by a firm of Pakistani Engineers in c1989 CE (c 1410 AH) and an engineering document on the *Zem-Zem* well by Yahya Hamza Kushak.(1983 CE / 1403 AH) . Preceding these reports, historic descriptions had been written by az-Jubair (1952 CE / 1372 AH) and Ibn Batutta (1958 CE / 1378 AH) and others. These were used by a number of later authors and commentators over and over again. Their accounts barely qualify as comprehensive ones, except the one by Hurgronje. (1888 CE / 1306 AH), *Het Mekkaanse Feest* and *Der Bilder Atlas* (1889 CE / 1307 AH), and than only in a social science context.

Thus, those Europeans who described the Old City and its Holy Buildings followed each other quoting from mostly inaccurate descriptions, hearsay, from travel accounts and from annotated records specially the one of Abdul al-Waleed al-Azraki, annotated by Rushdi Malhas in 1967 CE / 1387 AH and transliterated and commented on by Badi in 1992 CE (1413 AH). Earlier, Muslims and Arabs themselves who lived in Makkah or

who visited the city also relied on al-Azraki such as al-Fasi Taki al-Din (1956 CE / 1376 AH) in '*Shifa' al-Ghazam bi-Akhbar al-Balad al-Haram*. Al-Azraki's annotated upon annotated manuscript have been quite influential. Most Saudi Arabia Officials and Institutions use al-Azraki's annotated chronologies when referring to or working with historic data.

Abdul al-Walid al-Azraki and al-Fasi were translated in 1858 CE / 1275 AH by Wüstenfelt. His translation had a considerable influence on the orientalists. Thus, for example, Creswell in 1961 CE / 1381 AH wrote *Early Muslim Architecture Umayyad AD 622-75* in two oversized volumes on the monuments of Egypt. He thought al-Ka'abah was no more than an insignificant artifact of architecture. But in the 1969 CE / 1389 AH reprint, al-Ka'abah was placed in the front of the first volume, thereby impliedly recognizing the Building's significance in a limited manner. The illustration showed a plastered Building with a staircase in the center of the NE wall (the *al-Maa'sa* side). But al-Ka'abah was never plastered and there was never a staircase in the center of the NE wall.

The same picture appeared in Rogers (1976), *The Spread of Islam*, another example of 'author following an author', but this time the same illustration was placed in the back of the book. Creswell was not referred to. For Muslims worldwide the City of Makkah is a Holy City of the utmost importance. According to Muslim scholars, its origin corresponds with *Ibraheem* (Abraham). He and Hagar his wife and son *Ishmael* resettled a barren Valley on command of Allah. According to Werblowski and Wigoder (1997: 5, 6) *Ibraheem* lived between 2000-1600 BC. That makes this settlement a late Neolithic but also a religious one that has evolved over centuries into the City of Makkah of today of which the urban core is the Holy Complex.

Those most important Buildings to Muslims are visited by in excess of two million pilgrims annually, a trend of the last ten years who perform *al-Hajj*, the annual pilgrimage to Makkah) or *al-Umrah*, the minor pilgrimage to Makkah. Further, and daily about, one billion Muslims world wide face this Holy City and its Holy Buildings from a multitude of geographic distances during the five times compulsory- per-day-prayers. Thus, al-Ka'abah is kept permanently in focus by about five billion invisible axes day and night. Those axes are known as *Qiblaat* (plural for *Qiblah*).

Thus, the importance of al-Ka'abah and the City of Makkah to Muslims is undeniable. That the City and its Holy complex are impressive religious nodes is evident from the following data supplied by the Saudi Aramco World (2002: 27). In 2002, 2,371,468 pilgrims participated in *al-Hajj* of which 45% were women. 1,596,525 were pilgrims

pilgrims participated in *al-Hajj* of which 45% were women. 1, 596,525 were pilgrims from outside Saudi Arabia. The yearly ratio of pilgrims to the local population is 2.4: 1. In the same year 6226 flights carrying pilgrims arrived at Jeddah airport. In comparison the number of flights arriving at Chicago's International Airport was 2490 for the same time period. 43,000 tents were used to accommodate the pilgrims. The area given over to tents in Mina was 2.5 km<sup>2</sup>. The total area of the Mina Valley is only 3.8 km<sup>2</sup>. The number of animals sacrificed during *al-Hajj* was 1,120,000. Over ten million meals were served during three day of *al-Hajj*. 10,000 people were trained to provide assistance to pilgrims and the number of workers involved in cleaning and trash removal was 14,000.

Numerous buses drive the pilgrims from Jeddah's *al-Hajj* terminal airport to Makkah. In the past, a network of overland trade routes from Asia and Africa was in existence to reach the City. The local streets of Makkah were the final, and to Muslims the most important tributaries to that network. To day, a worldwide network of aircraft routes and motorways has displaced that street network, except for the very inner part of the City. Thus, not only do pilgrims arrive at the Jeddah *al-Hajj* terminal, they also arrive at al-Madinah\* and al-Taif\* (see Glossary) airports. The latter is some 150 km East of Makkah, the former some 400 km North of Makkah (Fig.1.4). *Al-Hajj* then is a very large exercise in logistics.

The pilgrim routes terminate at al-Ka'abah's circumambulatory area, called al-Mataf. It surrounds al-Ka'abah. In that sense al-Ka'abah is the hub of wheel consisting of routes that encircle the world. Once the pilgrims arrive at the center they will observe al-Ka'abah as Building of Arab architecture, and the Old Holy Masjid as Building of Arab and Muslim architecture augmented by Umayyad, Abbasid and Ottoman architectural features. As a pattern of abutting and adjacent kabaat, al-Ka'abah and its symbolic content return in the floor plan Old Holy Masjid. Crenellations, a mass of columns, facade medallions and Arab domes make the Building into one of Arab and Muslim architecture, elements that are absent from al-Ka'abah, a Building that is constructed of grabbo stones laid in stretcher bond for the exterior walls. The inner walls are more or less rubble ones. The walls thus consist of two layers reinforced with high quality steel rods as pins between the layers in 1957 CE (1377AH).

Since 1955 CE (1375 AH) some very large additions have been added to the Old Holy Masjid, known as the Saudi extensions I and II or the New Holy Masjid. This Building, al-Ka'abah, al-Hatim, Safa and Marwa and the Old Holy Masjid form the Holy Complex. Western trained architects of different ethnicities collectively designed the New Holy Masjid's design. The new Buildings are of a modular design both

**Fig.1.4**

Sources; Zaki (1986: Map) and Eduard Schwarz (2005: Map based on a CIA website map of Saudi Arabia)



**Land and air pilgrim routes to Makkah**

vertically and horizontally and consist of two large squares of two different sizes that are diagonally imposed on each other: their diagonals intersect at the center post of al-Ka'abah. Thus, the combined squares form one large geometric shape with al-Ka'abah in its center. This large square is approximately 330 x 330 meters; the smaller square is about 280 x 280 meters. Together they form a Euro centric macro Islamic pattern. It arose out of the need to create a larger circumambulatory area inside the Sacred Court (*al-Sahn*), but also the need to provide more shaded areas for pilgrims, a functional requirement by itself. Whether it should have been two large-upon- each- other imposed squares needs to be questioned.

The Extensions accommodate 1.000.000 worshippers now. Besides the actual Saudi I and II extensions, a large open area was built just outside the new Extensions on the East side of the Holy Complex, an area that remains in shade up to 10am. It was finished in 1993 CE (1414 AH). The large open area followed a historical pattern in that outside a Mosque, a large area is needed for the *Eid* celebrations. *Eid* is a festival celebrated by all of the local Muslim community in one place on *Eid* day, hence the large open area that often attach to *Juma'ah* (Friday) Mosques. The large open area had its beginnings in the Kufa and Basrah military new towns.

From interviews, conducted by the author and a number of 2005 CE (1426 AH) pilgrims from Wellington, New Zealand, it is clear not many pilgrims remember the actual physical shapes of the Holy Buildings. Al-Ka'abah serves as a transcendental object. It is also remembered more or less poetically in written material such as an extension of the earth crust or as a protuberance that attempts to reach the heavens. Al-Ka'abah's cube-like form represents a crystallization of the cube of man (Samar Akkach, 1990: 304). With this statement, anthropology comes to the fore, yet the Building is a mimetic of the cosmos overhead, that great central area of the zodiac (Orion), also the grazing area of the herdsman, *Ra's al-Jauzah* (Betelgeuse of the constellation Orion) for Arabs of previous times.

Al-Ka'abah is thus not only a micro model of the macrocosmos overhead, it is also for *Shi'i* and Sufi Muslims, a replica of the Throne in Heaven around which the angels circumambulated, the place where *Allah* sits upon the Throne, his feet, resting on a Footstool (*al-kursi*). In a similar poetic tone, al-Ka'abah on earth is the heart of the world its center post being a lotus hyacinth. Under the *Wahabi* philosophy, this poetic interpretation was severely curtailed with the result that *Sunni* Muslims of to day do not readily accept these *Shi'i* notions. They see, and are instructed to see, al-Ka'abah as a small Mosque. Yet the Building remains shrouded with a mystic only pious Muslims understand.

Yet as Religious Officialdom likes to see it as such, remnants of the poetic are still there and al-Ka'abah is also known as al-Ka'abah *al-Musharrafah* (The Honourable al-Ka'abah) and the City of Makkah as *Makkah-al-Mukarramah* (the Blessed City). In general, Muslims do not see al-Ka'abah as an actual Building. They perceive the Building with an aura of mystique in which Sacredness dominates. It is Allah's house (*Beyt Allah*) on earth. All these notions give the Building an importance beyond the imaginable for Muslims.

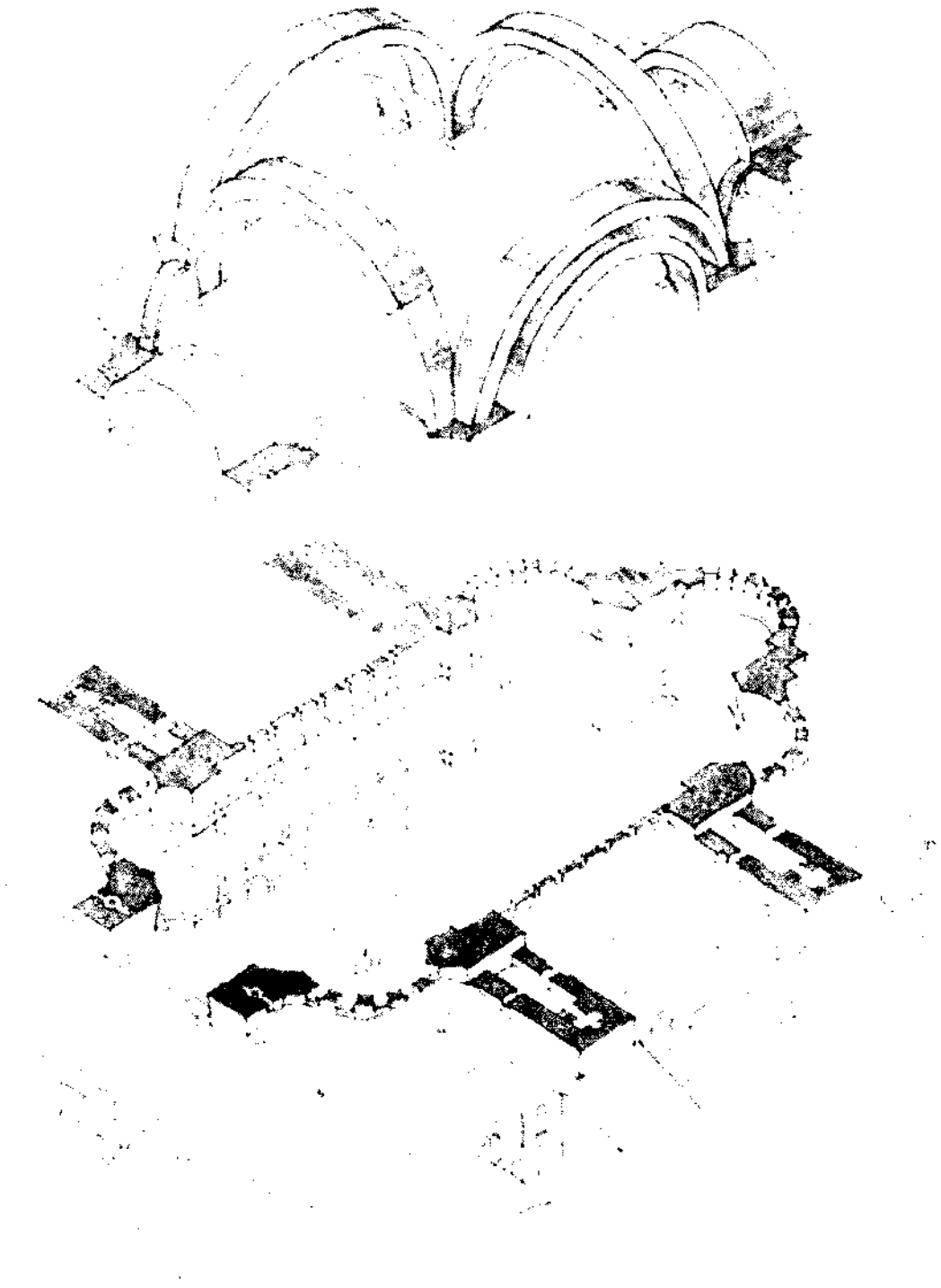
Al-Ka'abah and the Old Holy Masjid and their symbolic content are everywhere. It is in Muslim architecture, in prayer rugs, in textiles, in *Miraab*, in *Qiblaat*, in innumerable objects of art and in the heads and hearts of about one billion Muslims. This Holy Complex has attracted a continuous and huge attention. It has been subjected to analyses, investigations and inquiries in various ways, for example, the poetic, its construction and its role within the confines of Islam, but not as monads. As al-Ka'abah and the Old Holy Masjid and their symbolic content encircles the world a new and other way of examining the architecture of Islam is warranted. This new way involves the Theory of Architectural Monadology in which al-Ka'abah and the Old Holy Masjid are the points of departure and referents that contain numerous attachments such as al-Ka'abah is an 'image of heaven'.

### **1.1.2 Introduction to the Theory of Architectural Monadology**

In this thesis architecture is a construct of shapes surrounded by abutting and adjacent spaces. When attachments are made to them they become monads. Individuals or groups of individuals do the attaching. The attachments may consist of qualities, affinities, characteristics, the anthropomorphic and the zoomorphic, the cosmological, irregular geometry, myths, folklore, notions, concepts and many more. But whatever is attached must be present and embed in al-Ka'abah and or the Old Holy Masjid, hence both are referents setting limitations as to what can be attached to shapes and spaces of Arab Muslim architecture. These may and may not configure or correspond with likewise attachments. Configuring or corresponding of shapes and spaces are special aspects of the Theory of Architectural Monadology.

The monads with all their attachments form into a larger whole for example, a design (Fig.1.5). 'The Monadology of Architecture' or the 'Theory of Entities' governs this process. It is a new theory that perceives an architectural design of a Building of Islam, or the Building of Islam itself, as the dominant monad made –up of shapes and spaces with monadic content. That content is the same content that inheres in al-Ka'abah and the Old Holy Masjid. When al-Ka'abah and the Old Holy Masjid based attachments are made to other shapes and spaces these become monads.

**Fig.1.5**  
Source; Van Nice (1963: 132)



### **The Aya Sophia in Istanbul**

The Building as entities that are inseparable from its parts, the parts are inseparable from the whole, they are each other *mirzam*

This new theory is inspired by Leibniz's 1714 CE (1126 AH) Theory of Monadology and Jung and Kerényi's 1954 CE (1374 AH) numerical-wise use of that theory. In this thesis 'The Theory of Architectural Monadology' is used in the examination of the architecture of the Old Holy Masjid and al-Ka'abah but sets aside that part of Leibniz's theory that deals with substances, the indivisibility of monads and the concept that monads were created- by-God souls.

Leibniz theory states that the master monad could be divided. In this thesis the master monad, or the superior whole is also a dividable monad but in contrast to Leibniz the attached characteristics of the master monad can be transferred back to the contributing monads, a two way process. Once individuals or groups of individuals attach selective attachments to spaces and shapes, these transform into monads. The selected attachments used in this work are: the anthropomorphic, the zoomorphic, the botanic, and the irregular geometric, the cosmological, notions, stories, colours and textures. As a shape is simultaneously space the same criteria apply. That selection is based on attachments that embed in al-Ka'abah and the Old Holy Masjid. The once selected attachments can be removed or attached to other contributor monads and the dominant monad. 'The Monadology of Architecture' is further developed and detailed in Chapter 2.

## **1.2 ARCHITECTURAL SPACE**

### **1.2.1 Mosques; Architectural Abutting and Adjacent Spaces.**

Giedion in 1962 CE (1382 AH) introduced the theory 'Space and Time'. That space was a quantum of space and time, historic time. In this study architectural space is a quantum of abutting and adjacent space that surrounds built structures in all directions. True that space ultimately connects to outer space by way of the tropo and stratosphere spheres, but buildings are not built in these layers at least not in the foreseeable future.

When a building is put into position on earth it only occupies a very small part of that quantum. It punctuates, demarcates and simultaneously encloses that same small part, which is the building's territory on earth. For the purpose of this thesis space is architectural space, which is space and spaces immediate adjacent to or abutting a building in all directions. An architectural construct or assemblage occupies and demarcates that architectural space. That architectural space is three-dimensional space.

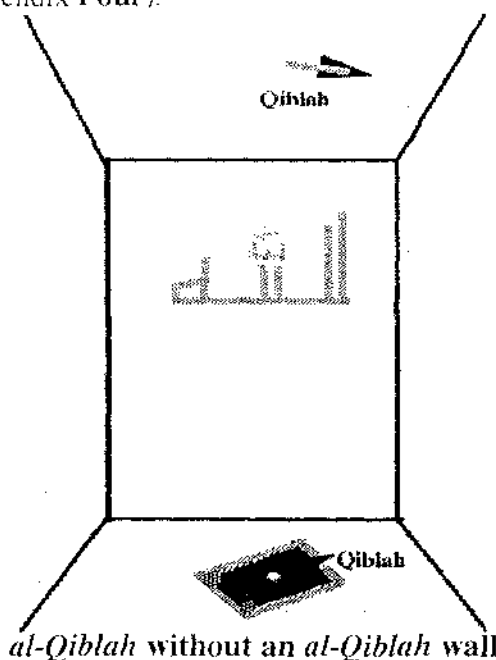
The three-dimensional in and outside abutting and adjacent spaces differ from building type to building type. They are determined by the use of the building. The use of a Mosque differs from the use of a home, hence both as spatial units they are entirely different. A Mosque's essentials are sex segregated Pray, *Whu'du* (wash before pray areas), toilet areas and entrances. *Whu'du* (wash before pray areas), toilet areas are and

and entrances are based on *Hadith* (customary rules based on Prophet Mohammed statements and habits). They apply to every one who uses the Mosque. Consequently the women enter the Mosque from the left hand side, the men from the right hand side. However the use of segregated Prayer areas is in part dictated by *al-Qu'ran* that states that during the pray one must face the direction 'Makkah and al-Ka'abah'. This direction is an *al-Qiblah*.

### 1.2.2 Introduction to *al-Qiblah* and the *Qiblaat* System

The importance of Makkah to the world's Muslim population is emphatic. This is significantly emphasized by the *Qiblaat* system, a system consisting of millions of invisible axes that connect more than one billion people per day to Makkah and al-Ka'abah, 5 billion every twenty-four hours, year in year out. Those unseen axes are directions to Makkah from wherever in this world. In most cases the *Qiblah* starts from a *Mihrab*, usually a niche in a wall, but a does not need to be part of a wall. A *Mihrab* can be free standing.

A *Mihrab* is not necessary. The direction to Makkah may be indicated by a single arrow on the ceiling or a prayer rug on the floor laid in the direction of Makkah (Fig. 1.6). The invisible axes are permanent and determine the orientation of Mosques (Figs. 1.7, 1.8). It follows that *al-Qiblah* is the determinant of the Mosque's shape in part or wholly. Thus to one shape of the Mosque, attaches *al-Qiblah* which may a wall with a niche, *al-Mihrab*, to which attaches the notion 'Qiblah'. This immediately involves the monadic, the 'architecture of direction' and the architecture of the Buildings of Islam. The *Qiblahi* system is presented in greater detail in Chapter 4, section 4.4 (See also Appendix Four).

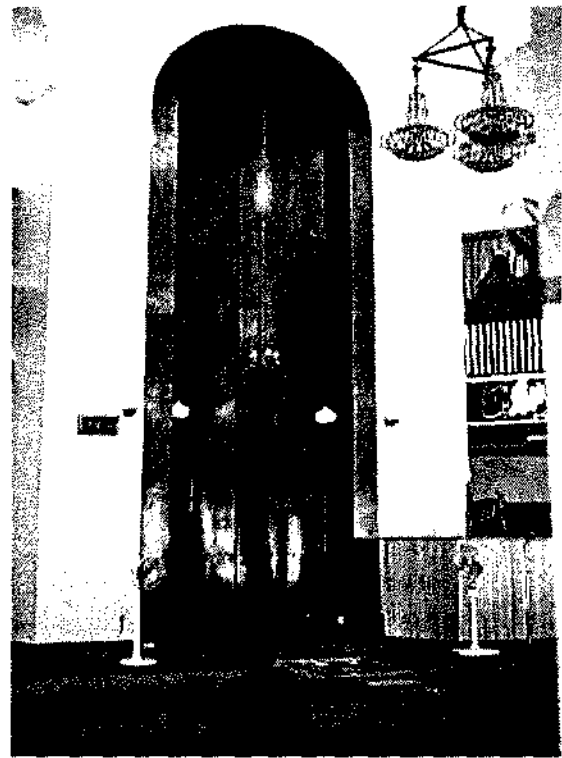


< **Fig.1.6**  
Source: Eduard Schwarz  
(2005: Schematic Drawing)

*al-Qiblah* in this figure is established with an arrow on the ceiling or a Prayer rug on the floor that orientates towards Makkah. It is not necessary to have both.

**Fig.1.7**  
 Source: Eduard Schwarz  
 (2001: Photograph)

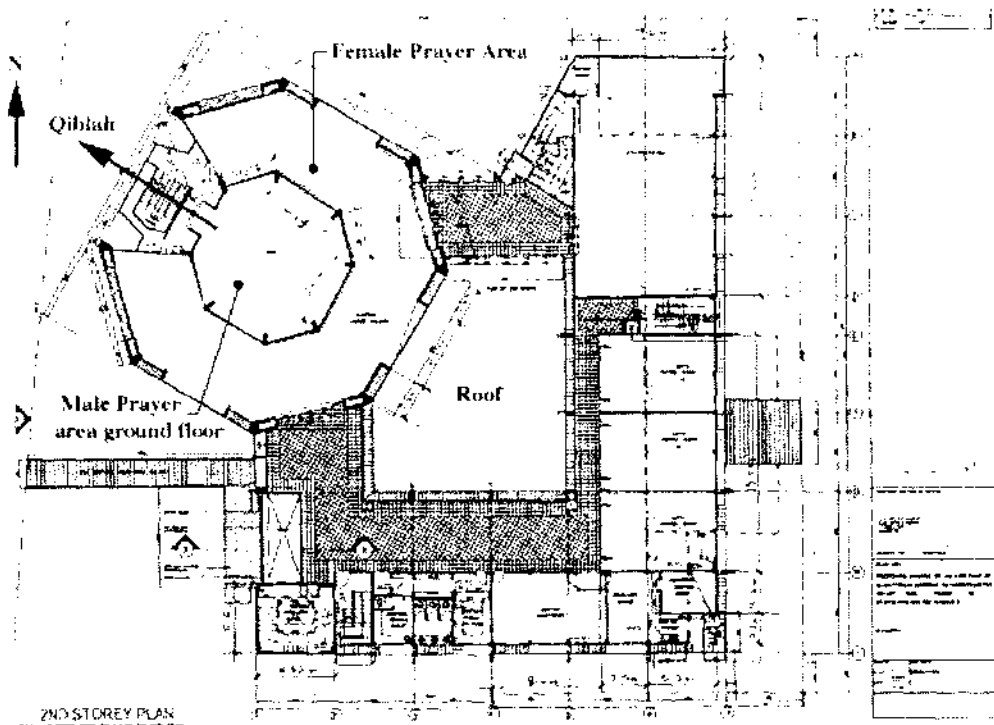
From this *Mihrab* springs a permanent invisible axis, *al-Qiblah* that connects this *Mihrab* to Makkah and al-Ka'abah. Note that the *Mimbar* is on the right side of the *Mihrab*. This Mosque has no exterior *Mihrab*.



**The *Mihrab* of the al-Muttaqin Mosque in Ang Mo Kio and Yishun New Town, Singapore**

**Fig.1.8**

Sources: Design by the Housing Development Board (HDB) of Singapore. Plan authorization provided by the owners, the Majilis Ulama Islam Singapore (MUIS). The Building Control Authority of Singapore made plans available on payment of a standard fee.



**Second storey floor plan of the al-Muttaqin Mosque in Ang Mo Kio Yishun New Town, Singapore**

### 1.2.3 The Old Holy Masjid and its Remains

The Old Holy Masjid is a Building that surrounds an *al-Sahn* (Sacred Court) with al-Ka'abah in its center. The Old Holy Masjid's floor plan consists of a pattern of kabaat modules. Two heavy octagonal columns of shumaysi stone and three cylindrical polished marble columns mark the corners of each module. Referred to earlier, the Old Holy Masjid itself consists of architectural elements that are absent from al-Ka'abah, such as the octagonal and cylindrical columns, arches, pinnacles, medallions, colonnades, crenellations, Arab domes, lamps, the patterns formed by octagonal and cylindrical columns and the *manaraat* (minarets).

The kabaat modules transfer symbolic content. Thus inherent in the symbolic content of the Old Holy Masjid is the symbolic content of al-Ka'abah, which includes the monadic, the complementary, and the illusive. Thus the Old Holy Masjid is expressive of Arab Islamic and Muslim architecture that is rooted in the Arab architecture of al-Ka'abah but moderated over time by Umayyad and Abbasid and Ottoman architectures. There are no other buildings in the Semitic *Arabiyy* land area that are similar to the Old Holy Masjid in that way.

By Saudi Arabia Royal Decree of 1948 CE (1368 AH), it was decided to build the New Holy Masjid. The design meant the demolishing of the Old Building, according to Kingdom of Saudi Arabia Ministry of Finance and National Economy Report (c1989:110) referring to Drawings 2121 and 2122 of 1955 CE (1375 AH). A circular building was to take its place. However, when the design was completed the religious authorities appealed to the King to retain the Old Building. Subsequently a Royal Decree of 1950 CE (1370 AH) (Drawing, 2123) was issued; the Old Holy Masjid was to remain in part, but had to be enclosed by a new Building in the form of an Islamic pattern on a macro scale.

The exterior perimeter of the Old Holy Masjid was made to fit the interior perimeter of the New Holy Masjid. It became a forced fit between the Old and the New Building. The Old Building was compromised. Its historic exterior perimeter was completely changed. Many of its old columns were relocated into new positions to fit the new exterior perimeter. Extra columns were also introduced. All four corners of the existing and centuries old interior court were chamfered thereby damaging a Building that carries amongst a number of notions, the name 'Image of heaven' (Zwemer, 1929: 35).<sup>5</sup>

### **1.3 THESIS OBJECTIVES**

#### **1.3.1 Detailed Thesis Objectives**

Thus much damage, that could have been avoided, has been done to the older part of the Holy Complex by the building of the New Holy Masjid and by building an infrastructure that makes easy access to the city by car and buses possible. That damage has not only affected the Old Holy Masjid but also extensive areas of traditional Makkah architecture.

This incursion of modern European oriented architecture into Saudi Arabia's traditional architectures has been subject of a symposium that was organized by the Arab Urban Development Institute and the Arab Town Organization in 1983 CE (1404 AH) but to no avail. The objective of this work is to follow-up on the concerns expressed by the symposium and subsequently provide as much historic and modern information as possible on the Old Holy Masjid and to a lesser extent al-Ka'abah, with the aim of creating a sympathetic climate that will safeguard the Old Building from future damage and possibly establish a world heritage status for it. The Aga Khan Organization at Harvard University was contacted about the possibilities.

### **1.4 RESEARCH METHODS**

#### **1.4.1 Methods Used**

To achieve this objective three methods are used. The etymology method is based on Lane's 1967 CE (1387 AH) etymology embedded in his *Arabic-English Lexicon*, the second one is the comparative method in which architecture is compared with other architectures and the third involves examination and comparison of photographs, illustrations and drawings. Collectively, these serve as an index for dates which buildings were built, rebuilt renovated or demolished where and when.<sup>6</sup> The three methods are mutually supportive of each other; one method may become a supporting method of the other and vice-versa. Figures, maps, tables, drawings, sketches and the written text support these methods.

### **1.5 TERMS AND DEFINITIONS**

#### **1.5.1 Orientation Criteria**

In terms of the modified Mercator grid the alignment of the Makkah Valley is approximately in the NNE-SSW direction. The corners of the Old Holy Masjid and al-Ka'abah approximately locate on the NE, SE, SW, and NW in terms of the same grid. These are usually shown in drawings as al-Ka'abah diagonals. The Building is however not a square, therefore the NE, SE, SW, NW as diagonals are not truly diagonals, they intersect obliquely in the center. The orientation of the Buildings in relation to true North is NEE, SEE, SSW and NWW This has led to difficulties in perceiving which

side is which of the Holy Complex. In this work the NEE, SEE, SSW and NWW are sometimes respectively referred to as North, as East, as South, and as West.

However, through social usage, and customs it is also possible to perceive the orientation of a Building differently for example by associating the Building with nearby buildings, landscape, objects or stories. This method appeals, in that people form relationships and affinities not only with the place they live in but also with other dwellers, with a variety of buildings, the surrounding landscape and with the cosmos overhead. People generally do not easily or readily associate themselves with a geographic grid system.

According to Lynch (1964 CE / 1384 AH) other ways of orientation are possible. They are expressed as nodes, landmarks, edges, and paths. This folklore approach has made it possible to escape from the rigidity of the Mercator grid, the N, S, W, and East system. It is thus possible to express the location of the Holy Complex in Lynch's mode using the sun, topography, *wudjun*, (plural for *wadi*, a dry stream bed) entrances, historic buildings and residential districts (*haraat*) as foci of orientation. This nexus bonds with the local world as perceived by the locals (Figs.1.9 and 1.10). It is described as follows: <sup>7</sup>

Sun orientation; The NW is the side of the setting sun, the NE side, the dark side, the lands of Syria locate, the SW side is the side of the full sun, the lands of the Yemen, the SE side the side of the rising sun. The full sun side associates with the direction of the favourable winds, with the Yemen and the right hand, the rising sun with Arabia and Persia. The setting sun associates with Egypt or the land of ruins, the dark side with Syria or *al-Shams* and the left hand and the direction of the cold winds.

Topographical; The NW is al-Marwa and *Jabal Qa'qi'an* side, the NE side al-Safa and *Jabal Abu Qubays* side, the SW side the *Misfalah* and *Jabal Omar* side, the SE side the *Jabal Ajiad* side.

Relation to inner residential areas (*haraat*); The NW side is the *al-Shamiyyah* side, the NE side the *Suwq al-Lail* side, the SW side the *al-Shubaikah* side, the SE side, the *Ajiad* side.

Relation to wudjun (plural of *wadi*); The NW side is the *Suwaiqa* stream side, the NE side the *wadi al-Ma'ala* side, the SW side the *wadi Misfalah* side, the SE side, the *Wadi Ibraheem* side.

Relation to historic buildings; The NW side is the Sultan Suleyman *madrassah* and *Dar al Nadwa* side, the NE side the Sultan Quatbey *madrassah* side, the SW side the *Suwq al-Saghir* side, the SE side, the *al-Ma'ala* side.

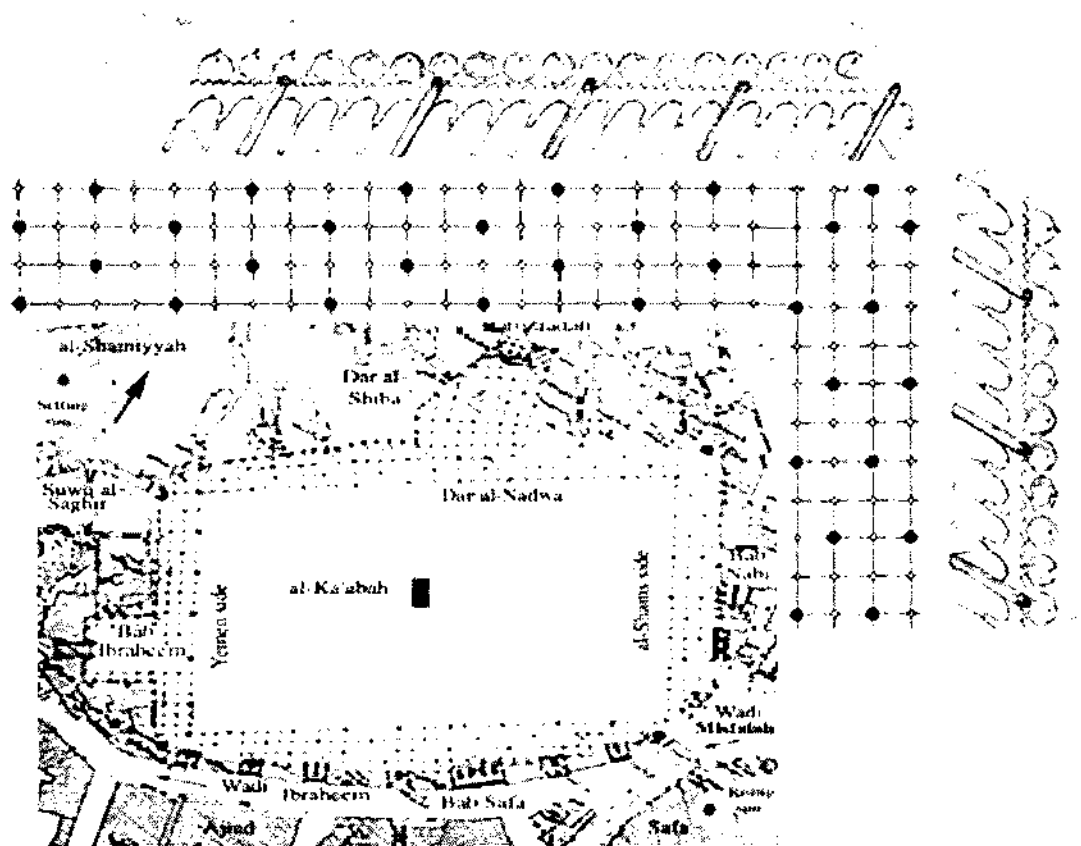
Historic entrances; The NW side is the *Bab Ziada* side, the NE side the *Bab Nabi* side, the SW side the *Bab Ibraheem* side, the SE side the *Bab al-Safa* side.

Alignment of the Makkah Valley; North correspond with *al-Ma'ala*, South with *al-Misfalah*, West with *al-Shamiyyah*, East with *Jabal Abu Qiwais* and the *Shi'b 'Ali* and the *Shi'b Amir* neighbourhoods.

Although it is not always possible, the **historic entrances** and *wudjun* are the preferred orientation nodes in this work.

Fig. 1.9

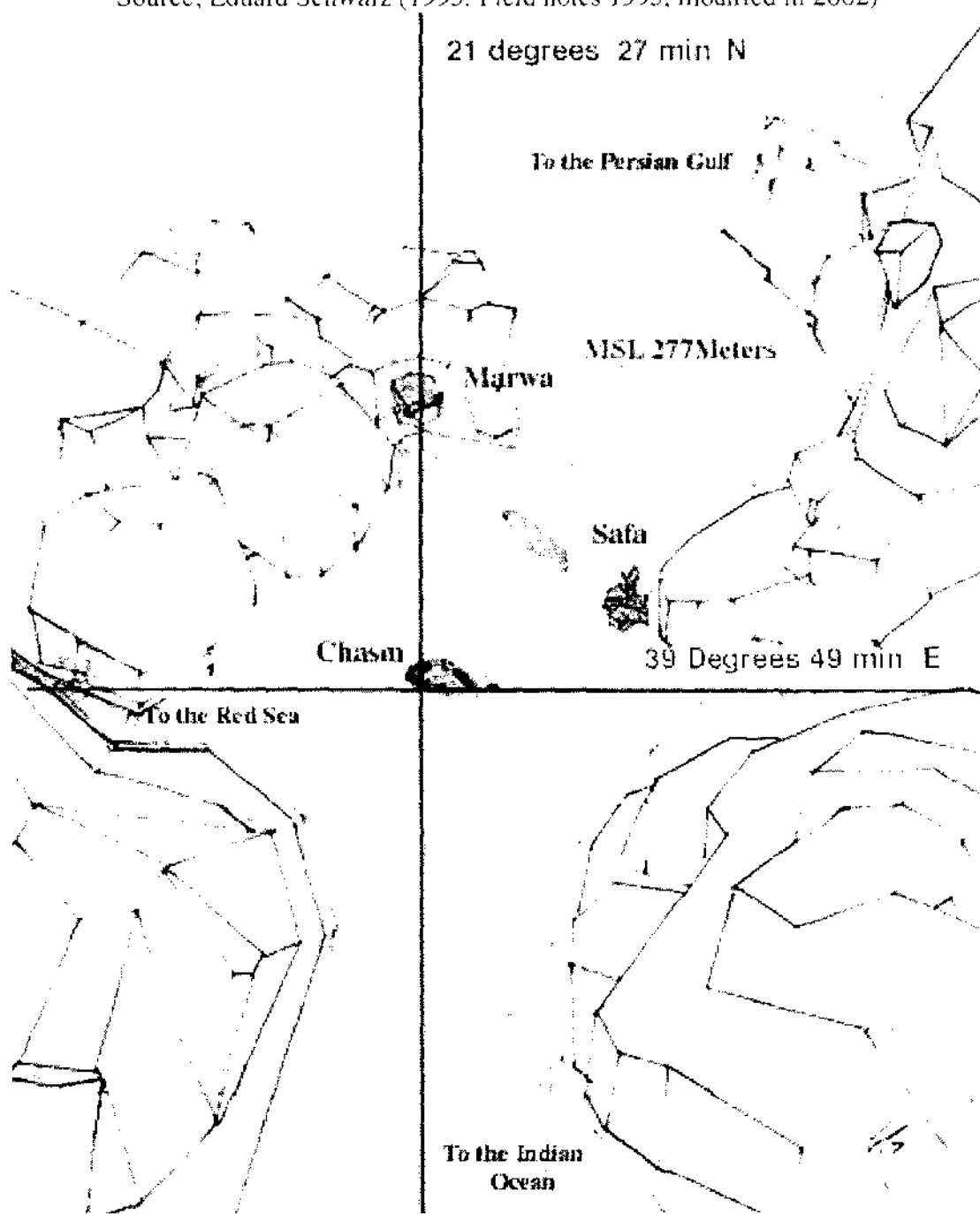
Source; Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c1989: no pp.)



Nodes of orientation map; orientation using entrances and *wudjun*

**Fig 1.10**

Source; Eduard Schwarz (1993: Field notes 1993, modified in 2002)



The ancient Makkah Valley with current Latitude, Longitude and MSL.

### 1.5.2 General Inconsistencies

Referred to earlier there are a number of distortions in the descriptions of al-Ka'abah and the Old Holy Masjid. Abdul al-Walid al-Azraki played a role in this. As an *Imam*, (religious leader) not as an architect he analyzed architectures of some eight hundred years before his death. Grabar (1985: 1-7) refers to a fictional al-Azraki account confirmed indirectly by Badi (1992: 100) who referred to al-Azraki's inventions. Al-Azraki (in Badi, 1992: 94), referring to *al-Qu'ran*, maintains that *Ibraheem* and *Ishmael* were the first set of persons to raise the foundations of the fourth al-Ka'abah. It was the fourth one when three ka'abaat in heaven are drawn into building chronology of al-Ka'abah, as Abdul al-Walid al-Azraki did (see Appendix **Three**). At-Tabari in Badi (1992: 92-94) and the Kingdom of Saudi Arabia, Ministry of Information (n.d.), in *Expansion of al-Harameyn al-Sharifeyn*, maintain *Ibraheem's* and *Ishmael's* al-Ka'abah was the first one. This view is the Official Arab Authorities' view, the thesis accepts, but questions some of al-Azraki's and different authors' observations on dimensions and construction details of both al-Ka'abah and the Old Holy Masjid. There are clearly inaccuracies between the different authors (See Appendix **Two**). Recent publications by Saudi Arabia Authorities such as Kingdom of Saudi Arabia Ministry of Information, Foreign Information (n.d.), *The Two Holy Mosques and their Architecture During the Saudi Reign*, Riyadh: the Ministry, pp.12, are not a great deal better.

There are differences between different authors and differences between documents produced by the Saudi Arabia Ministry of Information's different branches as to whether the Umayyad *Khalifa* al-Waleed Ibn Abdel Malik was involved in an extension of the Old Holy Masjid. This thesis incorporates the al-Waleed extension. There are also differences of opinion in what year the actual construction of the Old Holy Masjid began. This work maintains that the Old Holy Masjid began with the erection of the Affan colonnade in 647 CE (26 AH).

The next chapter details more fully the Theory of Architectural Monadology, and also outlines the concepts of shapes and spaces, correspondences and configurations.

## Notes, Chapter 1

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<sup>1</sup> A fair account exists on the buildings of Islam in Egypt, Syria, Iraq, and Iran, areas that were accessible.

<sup>2</sup> The last lunar month of the Islamic year shifts back each year by circa 11.6 days measured against the solar calendar.

<sup>3</sup> Both Bey and Burckhardt visited the City disguised as pilgrims.

<sup>4</sup> Ali Bey al-Abassi's and Burkhardt's maps and plans were followed by the maps and plans of Hurgronje, in 1885 CE (1303 AH), Margoliouth in 1905 CE (1323 AH) and Rutter in 1928 CE (1347 AH). Bey's, Hurgronje's and Margoliouth maps were copies of Burkhardt's map. Rutter in 1928 CE (1347 AH) produced his own plan which was copied by the Navy Intelligence Bureau in 1941 CE (1360 AH).

<sup>5</sup> Stage I of the new construction, the Safa-Marwa corridor commenced in 1955 CE (1375 AH). In 1993 CE (1414 CE) all extensions had been completed. In 2005 CE (1426 AH) two new domes are under construction that will be added to the already in existence three domes on the roof of the New Holy Masjid.

<sup>6</sup> From the seventeenth century and up to the early nineteenth century Persian miniatures and Persian and Turkish prayer rugs and a few European drawings were readily available in assessing which buildings were in existence and which ones were not. Since 1880, CE (1298 AH) photographs served that purpose. The latter are more precision oriented and were first used by Sadiq Bey of Cairo.

<sup>7</sup> From that, a worldview derives which differs from person to person depending on the points of departure taken.

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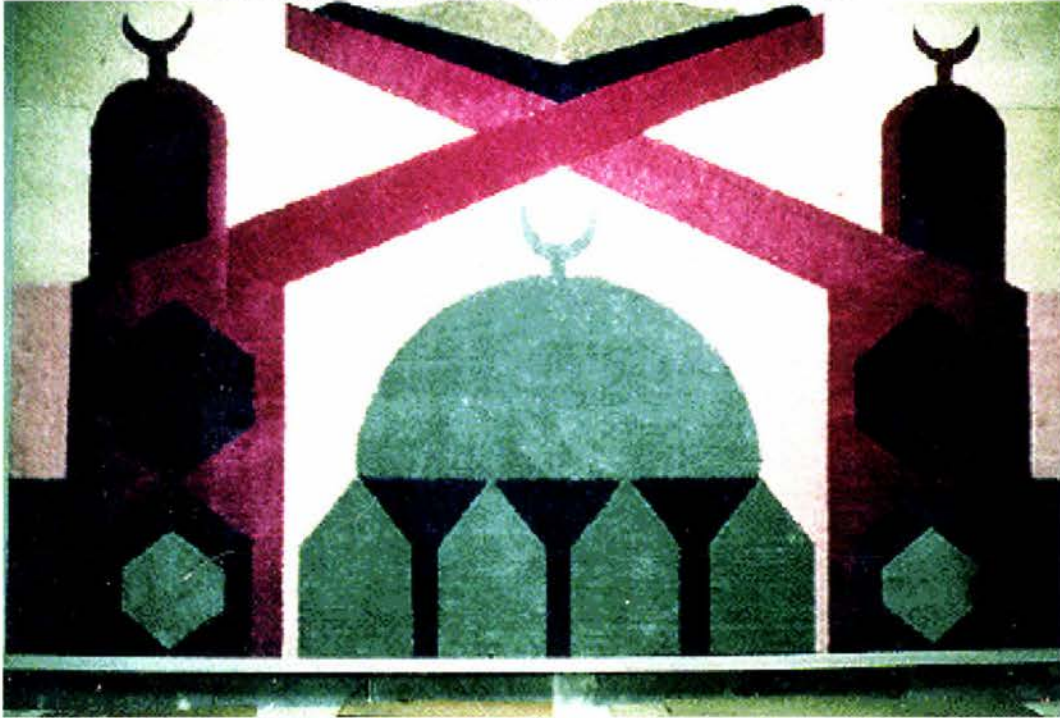
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# Chapter 2 The Theoretical Basis

## Frontispiece Chapter 2

Source; Umm al-Qura University, Makkah Room



### Root shapes of Arab culture and architecture

This tapestry near the access to the Makkah room at the Umm al-Qura University states the importance Arabs attach to *al-Qu'ran*, the foldable stand that goes with it, the first phase of the moon, the dome, the crenellations, the geometric, the symmetrical and *manaraat*. These shapes embed in Arab and in the culture of Islam. They contribute to Makkah's *sous entendu* of place but most importantly they represent Arab Islamic and Muslim architecture.

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## CHAPTER 2 The Theoretical Basis

### 2.1 Introductions and Chapter Focus

Section 1.1.2, of Chapter 1, introduced the Theory of Architectural Monadology or The Theory of Entities. This Chapter elaborates, develops and applies this theory in more detail by offering a number of examples and by making comparisons between this theory and the phenomenology of perception of Merleau-Ponty (in Langer 1989:12). In this Chapter the Theory of Architectural Monadology is applied to shapes and spaces, the cosmos, the landscape and Arab Makkah architecture. Spaces in this Chapter are architectural spaces that are adjacent or abut architectural shapes.

From the very large stock of architectural knowledge, the construct 'architectural shapes and spaces' is selected and subjected to the Theory of Architectural Monadology. From the very large stock of social knowledge the *sous entendu* of place, which makes for the identity and feel of place, is selected as a cultural phenomenon. The *sous entendu* of place itself is a construct. In this thesis, the selected attachments attached to architectural shapes and spaces are limited to notions, the anthropomorphic, the zoomorphic, the botanical, stories, the irregular geometric, the geographic, colours, and textures, collectively the **nexus**. These attachments are based on attachments that embed in al-Ka'abah and in the Old Holy Masjid and were in general use in Arab culture and Arab architecture. These attachments are transferable.

In this Chapter, the cosmos the sun, the moon, stars topography, historic buildings and residential districts (*haraat*) and specific futures of Arab culture support the selected attachments, the **nexus**. The selected attachments and their supports are capable of making configurations and correspondences between like-wise shapes and spaces. Configurations involve the geometric. Correspondences involve notions, the anthropomorphic, the zoomorphic, the botanical, stories, the irregular geometric, the geographic, colours, and textures.

This application of the Theory of Architectural Monadology does not stand in isolation from other features of Arab culture. The left and the right and the colours black and white were important, and they are discussed towards the end of this Chapter. In this thesis, architecture is a construct of shapes and spaces with attachments, the same attachments and supports that embed in al-Ka'abah and the Old Holy Masjid. The same shapes and spaces do not exist as attachments only. They have also a multitude of permanent characteristics, such as acoustic qualities, and strength properties, water absorption and heat transfers per unit time and so forth. Hence this Chapter presents the **theoretical foundations** of this thesis.

## 2.2 MONADOLOGY

### 2.2.1 Expanded Theory of Architectural Monadology

Expanding Section 1.1.2, of Chapter 1, for an entity, such as a shape and or a space to be a monad, it must embed attachment (s). Those can be historic ones, recent or future ones and must be attachments that are also present in al-Ka'abah and or the Old Holy Masjid. From the almost infinite stream of attachments inherent in both Buildings a subset of attachments can be extracted such as the illusive, affinities, characteristics, notions, tangibles, intangibles, stories, myths, folklore, the anthropomorphic, the zoomorphic, the irregular geometric, the botanic, colours, textures and so forth. From this subset specific attachments need to be selected to avoid the absurd and make the architecture and art of Islam comprehensible.

The attachments selected are notions, the anthropomorphic, the zoomorphic, the botanical, stories, the irregular geometric, colours, and textures. They are present as well as the more dominant features of Arab culture. They concord with Arab culture. Used individually or collectively they make for a reasoned stance, a hypothesis or a successful design. This process is akin to a stream of phenomena that is bracketed (or selected) by selecting those phenomena that together make for a reasoned stance, a hypothesis or a successful solution.

Selection of attachments is made by an individual or by consensus. That choice cannot be made without taking into account the way the selected attachments may correspond and or configure with other similar attachments. The selection of correspondences or configurations may (or can) precede the selection of attachments that form nexus. Although shapes invariably are made of real materials what is or will be attached is mostly of a subjective nature that may or may not configure or correspond with similar attachments of a subjective nature.

There are similarities here between the selection of attachments and the selection of phenomena. The stream of attachments and the stream of phenomena are very large, to the point of infinite. For both, to avoid the absurd, a choice or selection is a must. Thus, the selection of attachments or the selection of phenomena follow a similar path. That does not mean that they are the same, a monad is not a phenomenon. A phenomenon usually associates with a hypothesis that needs to be proved by scientific means for its validity. The monad's subjective matter, is objectified by clarification, by exposure, and by extracting and explaining the meanings embedded in the attachments. Clarification also means bringing the intended meaning to the fore.

For example, rows of crenellations consist of a series of single crenels flanked by single openings. They are used to finish the top edges of a fortress' wall and are generally known as bastions or ramparts. For a number of Mosques, crenellations are

used to decorate the roof edges as inverted vases. <sup>1</sup> To these attach the notions of figurines, the upward direction and above all Sacredness. In this example, to the shape of the crenel, the attachments 'vases' and the 'direction up and down' attach, which makes the crenel into a monad. These perceptuals are in line with Merleau-Ponty's 'figure, field, background' theme. The process of attaching, what was attached and the meaning that came with it, or could be derived from it, is the study of Architectural Monadology. It involves the theme 'contributing entities and the greater whole'.

The crenel as an individual shape and monad contributes to the larger shape also a monad, the string of crenellations, and the larger monad. In this process, crenels transfer their embedded up and down direction and notion as vases as attachments to the greater whole, the string of crenellations. Thus, the greater whole attracts all what is embedded in the individual entities, the crenels with the notion 'vase' and 'the up and down direction'. The loaded with attachments greater whole is itself is a monad that contributes to an even larger monad. In this study of monads, or Monadology, an entity is always part of a larger entity. One entity cannot be perceived without perceiving all the others that make the whole a reversible process in which each monad is inseparable from its parts; the parts are inseparable from the whole. They are each other's *mirzam* (adult non-identical twins).

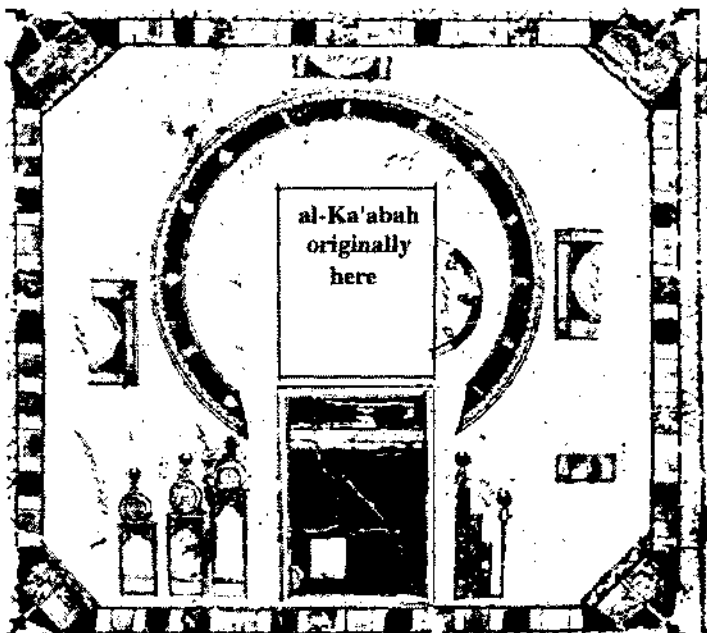
This theme 'contributing entities and the greater whole' can be compared to the different layers of a slide show computer program. Each layer is an entity contributing to the final entity when all the layers are finally merged. To each layer something special was attached to make the final whole a success. This technology can be changed by substituting the flat regular and the four-sided polygon layers for three dimensional and multi-directional ones, not unlike the laying of building blocks at random. The composition of each layer corresponds with the embedded specialties of the final composition intended. This process also is present in disassembled, axonometric or isometric drawings (See Chapter 1, Fig. 1.5).

The theme of the contributing entities and the greater whole also applies to the actual design process. Single entities when added together make for the dominant entity, the final design intended. That design embeds all the attachments of the individual entities or monads. Through this process uniqueness comes to the fore. But what one person perceives as unique may not be unique to others. Uniqueness is subject to change. The uniqueness of three of the Old Holy Masjid's columns of the 400 plus columns are their red colours. That uniqueness vanishes when considering the red columns as supports for the domed roof. Their red colour will not hold-up the domed roof. The red column must be strong enough, like all the others, to hold-up the roof. The uniqueness 'red' changes to non-uniqueness when the column becomes a

support like all the other columns that carry the roof.

These examples present the theme of the greater whole, or the greater monad consisting of a range of individual monads. It represents Architectural Monadology, in which the individual monads, when combined, make for the larger entity, a building, a fabric or an illustration. Built into the final design are all the attachments that were attached to the contributing monads. They transferred to the greater whole, the dominant monad. Thus, a column of a building, also a contributing monad, must combine with other columns to form the skeleton of a stable building, the whole, yet each entity is also a monad because of the attachments that were once attached or will be attached to those columns. In Arab culture the column was a camel's leg, itself a zoomorphic attachment, which made the column into a meaningful monad for Arabs. It contributed to the constructs 'Arab culture' and 'Arab Muslim architecture'.

The zoomorphic returns in the Arab arch, it represents a cross section of an animal's carcass; two camel legs support the carcass on both sides. These zoomorphic attachments, make the Arab arch a monad but one with significant symbolic content, as the Arab arch is also a stylized plan view of the combination al-Ka'abah and al-Hatim (Figs. 2.1—2.3). The Arab arch embeds symbolic content of al-Ka'abah and of al-Hatim that was changed negatively by calling it a horse shoe. To call it a horseshoe readily links to the narrative of the horse ridden Arab, ready to pounce. In reality, Arabs are camel ridden. The camel survives the desert for weeks, horses do not. Stories of that nature derive from folklore that is sometimes correct, or not correctly interpreted.



al-Ka'abah in a position that gives rise to the proto-type Arab arch

< Fig.2.1

Source: A 17th Century Persian tile

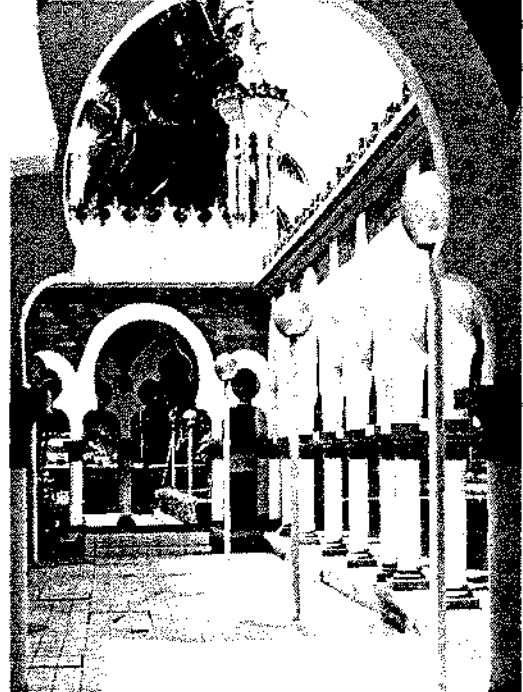
The original tile shows al-Ka'abah in the center of this ceramic. In this figure the Building has been pulled out of its permanent center and shifted into the balustrade's opening. That way they correspond with the Arab arches of Figs.2.2 and 2.3.

**Fig.2.2**  
Source: Eduard Schwarz  
(1993: Photograph)



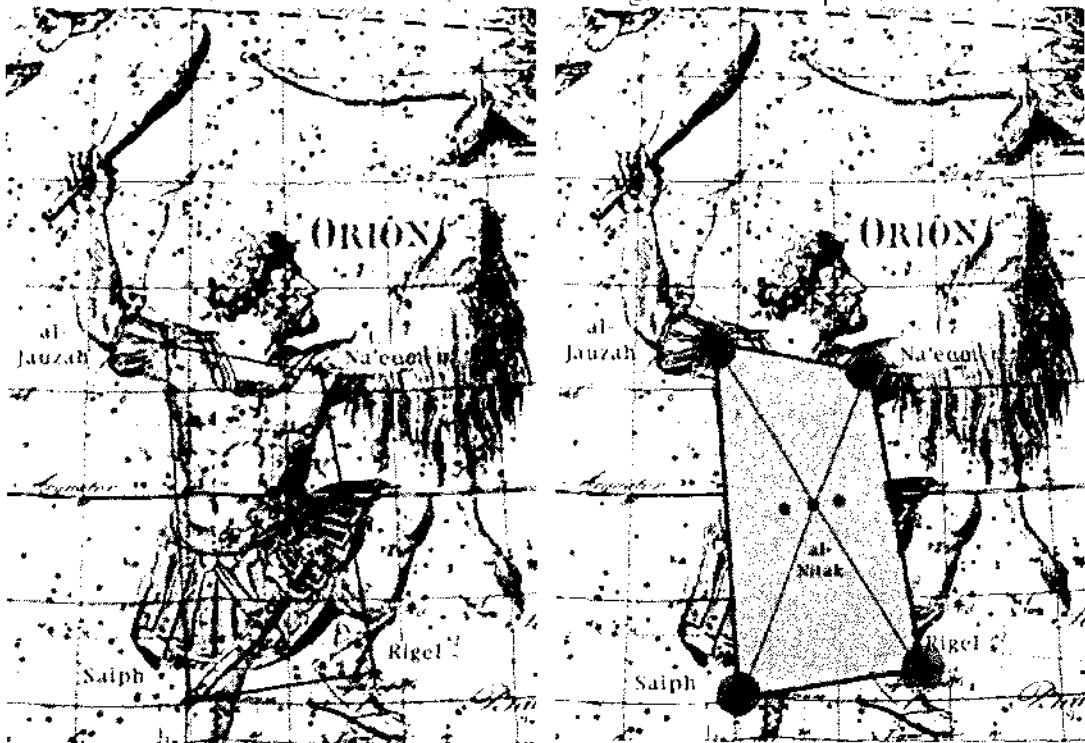
The Arab Arch in a foreshore *Masjid* in Jeddah

**Fig.2.3**  
Source: Eduard Schwarz  
(1999: Photograph)



The Arab Arch in *Masjid* Jamek in Kuala Lumpur

**Fig. 2.4**  
Source: Eduard Schwarz (2005: Drawing, based on Ridpath, 1988:97)



The anthropomorphic and the irregular geometric shapes of Orion

Stars are important in Arab culture for navigation and are embedded in folklore. They too have their attachments. Extracting from the range of selected attachments, the attachment 'story', is the Euro centric story of Orion's blindness that was cured when he faced the sun directly. Orion was also grazing field of *Ra's* sheep, the sheep being the four stars of Orion's geometric field. In this, the illusive comes to the fore. It serves as a support to one or more of the selected attachments. The illusive or the intangible here support the selected attachment, 'the story' of Orion's blindness. This story gives the anthropomorphic shape of Orion or *al-Jabar*, mythological significance that is reinforced by Euro centric narrative that presents Orion as the Medieval knight, his sword drawn whilst displaying three rubies on his belt (Fig.2.4). But to Orion's geometric field attaches the Arab notion of *manazil* or a heavenly mansion or a castle in the sky.

### 2.2.2 Leibniz's Theory

The Theory of Architectural Monadology is a theory that draws- on Leibniz's 1714 CE (1126 AH) Theory of Monadology and Jung and Kerényi's 1954 CE (1374 AH) expansion of it. Referring back to Chapter 1, section 1.1.2, but also the theme outlined above 'contributing entities and the greater whole', Leibniz labeled entities 'entelechies' (a substance with a soul) Leibniz thought that the human and animal body consisted of singular entelechies or monads.

An entelechy was a soul consisting of matter (substances) and appertition (parts of the whole). According to Leibniz matter and appertition changed spontaneously over time, but the indivisibility of the single monad did not change. Later in life Leibniz maintained God only could change this indivisibility. According to Leibniz, entelechies consisted of God given compounds (or substances). Those transferred to the superior and dominant entelechy, the greater whole in this thesis. Thus the dominant entelechy was made-up of an aggregate of singular but subservient entelechies that could be divided.

Jung and Kerényi expanded Leibniz's Theory of Monadology by saying that one monad could not exist without the other in their supposition 'now three now four' or three simultaneously is four, together forming one entity. It carries conviction when applied visually for example, to a facade divided by columns. Three columns create four openings. Three and four are individual and contributing monads that make for one dominant entity, the whole. They are monads as those openings and columns carry attachments. In this work Jung and Kerényi's idiom is used but extended into 'three is simultaneously four, is simultaneously one', or vice-versa. This theme is present in the Old Holy Masjid arrangement of columns.

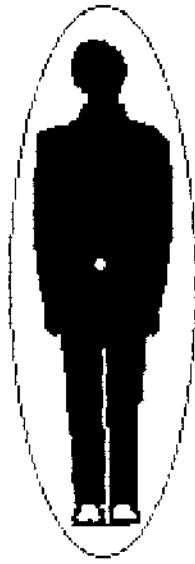
Leibniz Theory of Monadology is a hierarchically ordered system. Critically the singular and compound entelechies were monads but also metaphysical constructions. Leibniz treated entelechies mathematically but also, and unknown to himself, phenomenological. Although this thesis is indebted to Leibniz, it does not recognize Leibniz's subservience and indivisibility of monads. Under the Theory of Architectural Monadology the attachments of the greater whole can transfer back to the contributing monads. A contributing monad can become the greater monad. Old attachments can be removed, new attachments can be made. This was impossible under Leibniz.

### 2.2.3 Correspondences and Configurations of Monads

Although correspondences and configurations are specialties of the Theory of Architectural Monadology, in the discussion so far correspondences and configurations of shapes and monads took second place. Yet, correspondences and configurations cannot readily stand-alone or be isolated from attachments. In Arab culture they are each other's *mirzam*. Consequently, it is important to recognize the different categories of correspondences and configurations that can exist in conjunction with the selection of attachments that makes shapes and spaces into monads.

Correspondences and configurations with other correspondences and configurations make 'fits'. The types of 'fit' the monad makes are as follows: Monads fit perfectly when their centers and their perimeters match. Monads make a heteromorphic fit when their centers match but their perimeters do not. Monads make for a random fit when neither their centers nor their perimeters match. For example in Fig.2.4, the irregular geometric field of Orion makes a heteromorphic fit with anthropomorphic Orion, their centers fit but their perimeters do not. Correspondences differ from configurations, geometric figures configure, and all others correspond. This theme is illustrated in Figs.2.5—2.7. Centered shapes are also nodes of centrality, they associate with numbers. In Arab culture, the centers of most irregular and regular geometric figures associate with number one, the triangle with number three and the rectangle with number four. Off the number series in use by Arab culture, the numbers one, three seven and nine are the more important ones.

Numbers according to Jung and Kerényi's dictum, 'one is the other' inheres in the Old Holy Masjid. In the same Building the etymological, the anthropomorphic, the zoomorphic and the botanic also inheres. To say the column density of the Building represents a forest of trees is a reasonable notion as the columns are close together and there are many of them. For al-Ka'abah those notions are, the etymological, the monadic cosmos, the anthropomorphic, but not the zoomorphic or the botanic. To say al-Ka'abah is 'an image of heaven' is a reasonable notion when configuring it with the constellation Orion (*al-Jabar*) overhead.



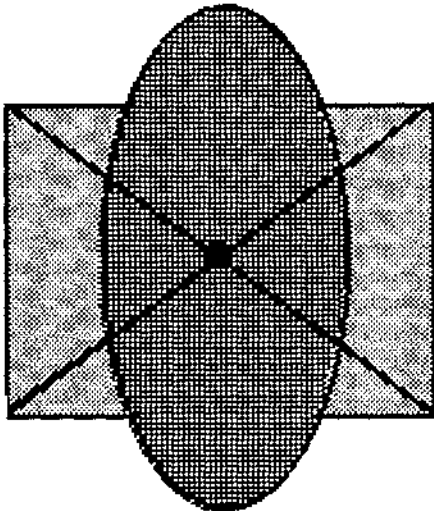
**A heteromorphic fit**

<

**Fig.2.5**

Source: Eduard Schwarz  
(2005: Elementary computer drawing)

This figure shows the correspondence of the geometric oval with the human figure. The fit is a heteromorphic one. The centers coincide, the perimeters do not. Both shapes become monads once attachments are made.



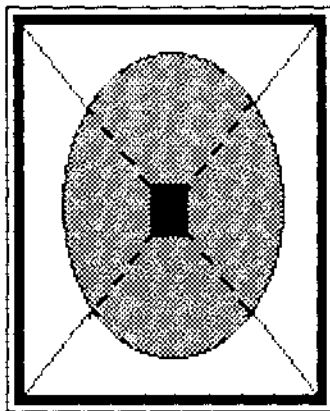
**A heteromorphic fit**

<

**Fig.2.6**

Source: Eduard Schwarz  
(2005: Elementary computer drawing)

As the figures superimposed on each other are both geometric ones, a configuration exists. Their fit is a heteromorphic one as their perimeters do not match but the centers do. Both shapes become monads once attachments are made. Both figures as shapes create another shape.



**A heteromorphic fit**

<

**Fig.2.7**

Source: Eduard Schwarz  
(2005: Elementary computer drawing)

As the figures superimposed on each other are both geometric ones, a configuration exists. Their fit is a heteromorphic one, as their perimeters do not match. This pattern, which is al-Ka'abah and al-Mataf surrounded by the Old Holy Masjid, was widely used in the carved panels of the *rawasheen* and as a design motif for fabrics.

## 2.3 COSMOS AND LANDSCAPE MONADOLOGY

### 2.3.1 The Monadic Cosmos

The nexus consisting of notions, the anthropomorphic, the zoomorphic, the irregular geometric, and the geographic the botanic, stories, colours and textures can serve as attachments to shapes and spaces. They can attach as a collection, part of that collection, or as individual attachments. As the cosmos and the landscape also consist of shapes, in the same way attachments as a collection, part of that collection or as individual attachments are and can be attached to the shapes of the cosmos and landscape shapes. Some of the cosmos and landscape shapes are more important than others. The more important ones served as nodes to find geographic directions. For Makkah's landscape those are the five low-rise mountains that surround the center of the City with the constellation Orion overhead.

Both the cosmos and the landscape with their attachments are ingrained in Arab culture; they spill over into Arab Makkah's *sous entendu* of place. The cosmos' fields embedded the anthropomorphic, the zoomorphic, the irregular geometric, the geographic and so forth, borrowed from what was below the cosmos on earth. The cosmos embedded all that life stood for, it mirrored daily life on earth, a life of humans, camels, women and black tents within a harsh environment. The earth was the cosmos, the cosmos the earth; they were each other's *mirzam*.

Of the cosmic field overhead, the sun and the moon were significant as permanent shapes. To these some very old permanent features attach such as:

F i r s t l y , the rising sun became important during the two days of absence of the moon. This led to an emphasis on it as a circle, the only circle in the sky.

S e c o n d l y , the status of the moon was related to its 'facial' nature, but also the shapes of each of its twenty-eight faces were used to determine travel time; for instance, the time taken to travel from one place to another counting the moon's 'swellings'.

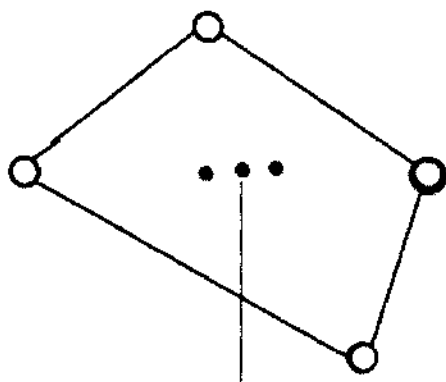
T h i r d l y , the most impressive moon phase was, and is, the last crescent phase with *Zahrah* (Venus). The phase of this last moon the first moon and the full moon are a one-off shapes. Although not as spectacular as the last phase, to the first phase of the moon Arabs have assigned the pronoun *al-Hilal*. It signals the start of a new Islamic month and may carry the notion 'the beginning'. That way it is more important than the last phase. The first phase together with *Zahrah* invariably surmounts the dome and the *manarah* of the Mosque. In reality the first phase never associates with *Zahrah*.

F o u r t h l y , the seven star constellation of geometric *al-Jabar* (Orion) was of equal importance. As with *Zahrah*, during the moon's two days absence *al-Jabar* would increase in status and importance as *al-Jabar*, the 'one' giant.

The moon, the sun and the constellations are permanent shapes that carry very old and permanent attachments, thus notions and so forth (Fig.2.8). The anthropomorphic embeds when the moon and the sun are given facial characteristics. The sun when referred to as ‘ a nuisance made of copper’ (The Dutch in Indonesia referred to the sun as such) embeds a notion that conveys high temperatures, but when the sun sets, the notion of a ‘glorious sunset’ commences, balancing positively the negative noon sun, a harsh and punishing sun.

An interpretation of the cosmos once accepted as valid was the Medieval one. European and Arab star maps bear little resemblance now to the star maps produced during that era. Yet, the 1985 CE (1406 AH) Ali Abandah and Abid star map still preserves features that were once part of medieval star maps (Fig.2.9). For example, the Ali Abandah and Abid star map refers to *al-Thawr* (the Bull) and *al-Qalb* (the stomach). The constellations of Canis Major and Canis Minor and Orion are known by their Arabic names, *al-Jabar*, *al-Kalb Akbar*, *al-Kalb Asghar* that are now absent from European star maps.

The same map also refers to *Suheil*, the Arabic name for Sirius. This major star of Canis Major associates with the geographical direction to *Yamaniy* or the Yemen. Procyon, the major star of Canis Minor associates with the direction to Syria or *al-Shams*. This Ali Abandah and Abid star map also portrays the twenty-eight *manazils* (large celestial houses), of which some as constellations transit over Makkah during the lunar year. Each *manazil* is visited by a phase of the full moon once per lunar year, the moon being the proverbial Semitic lamp. What attaches to these *manazils* is the notion ‘the lamp of life’, a notion derived from Surah XXIV: 35 (codified by A. Yusuf Ali (1982), “...is as if there were a Niche within it the Lamp...”(the *Mihrab* and its lamp) (Fig.2.8) The cosmos then is one made-up of *manazils* and large cosmic fields between and adjacent to them.



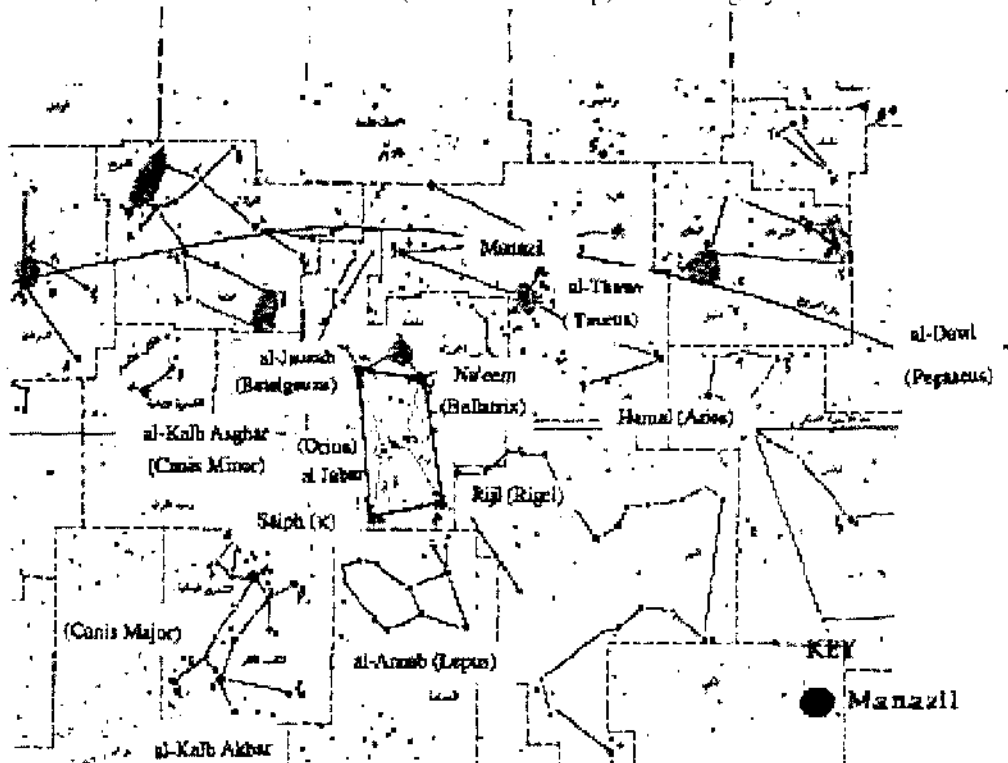
< **Fig.2.8**  
Source: Eduard Schwarz  
(2005: Elementary drawing)

< **The lamp of heaven**

Fig. 2.9 shows seven of the traditional Arab twenty-eight *manazils* along the ecliptic. It also carries geographic names now absent from western maps such as ‘the area deep under the sand’, that is located near Canis Minor, and transferred to the cosmos landscape feature. Sirius is located, in Arab terminology, at ‘the neck insert of the dog’ of the constellation Canis Major, a zoomorphic attachment. In this map, Canis Major is labeled the Syrian star, indicating the direction North, to Syria. Procyon of Canis Minor is labeled the Yemen star indicating direction South to the Yemen, which also relates to the right and the right side. The right is dominant over the left and is quite an important feature in Arab and Muslim culture.

Fig. 2.9

Sources; Ali Abandah and Abid (1985: Star Map). Labeling by Eduard Schwarz

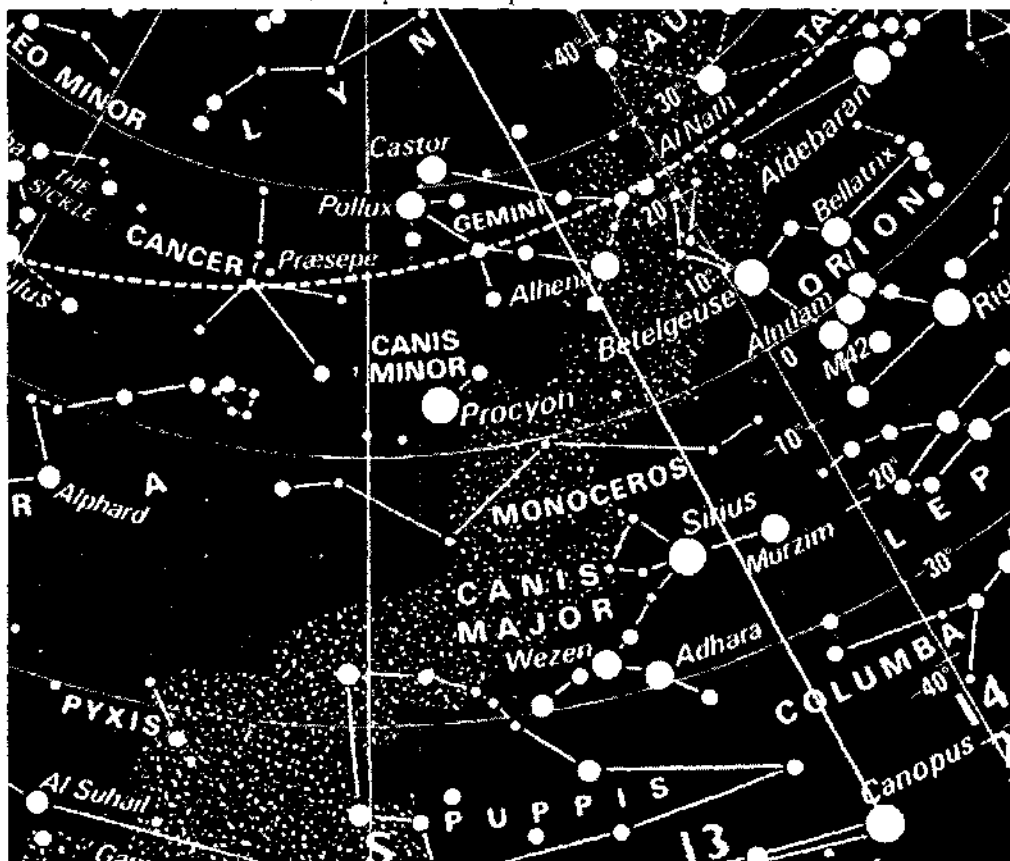


The cosmos over Makkah

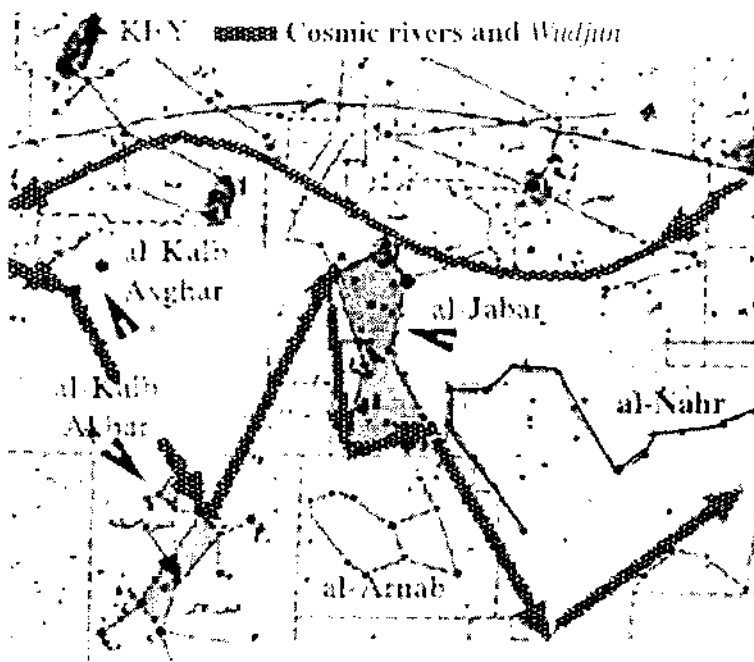
This 1993 CE (1414 AH) map was located in the Makkah Room, Umm al-Qura University

Focusing on the constellations overhead Makkah (Figs. 2.10, 2.11), those are orthodoxically shown in star maps as irregular geometric shapes, to which historically anthropomorphic and zoomorphic notions and stories were attached, such as Orion the mighty human and Canis Major and Minor respectively the biggest and the smallest dog of this giant, hunting a rabbit (Lepus). Thus, the concept of a *manazil*, and the stories attached to Canis Major and Minor make these three constellations into monads. As such they form part of the greater whole, that part of sky that once was seen as a giant camel in Arab culture.

**Fig.2.10**  
Source; Philip's Planisphere for Lat 32° North



The cosmos over Makkah



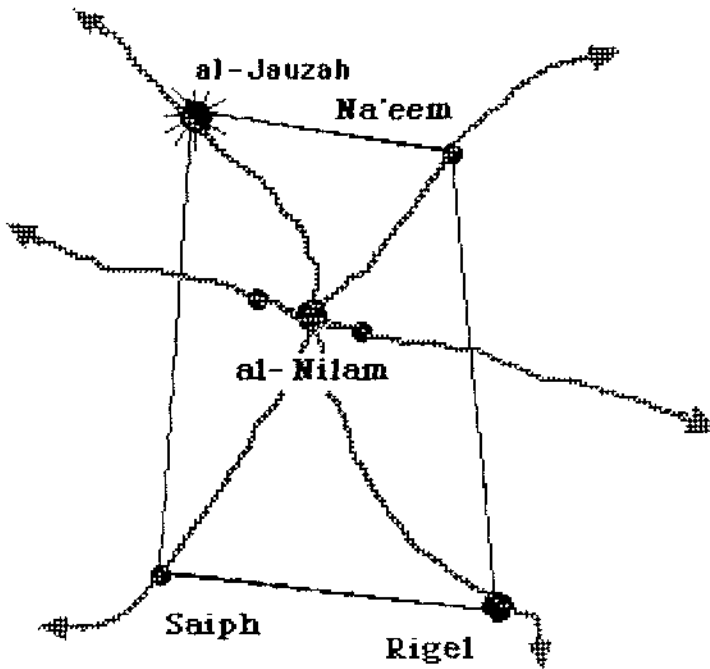
An imaginary cosmos over Arabiy

**Fig. 2.11**  
Source; Eduard Schwarz based on Ali Abandah and Abdul Qadr Abid (1985: Star map)

**Possibilities 1**

Stars over Makkah can be so linked as to form one long imaginary river, road or a narrow track.

< Fig 2.12  
 Source; Eduard Schwarz  
 1996: Drawing



Imaginary cosmic *wudjun* simultaneously roads

**Possibilities** ∴  
 The geometric pattern of Orion, transformed into a set of *wudjun* cum roads leading to and from the center.

In existence then is a monadic cosmos to which other attachments can be made that will reinforce the cosmos's monadic state, for example, by using phraseology that denotes landscape features such as the reference to a cosmic area with a few stars as a 'desert with a few stones' (Ali and Abandah map). Thus to the cosmos attach names that denotes and belong to the landscape and landscape features. For Arabs the cosmos and the real landscape are intertwined. Arabs attached the names and notions of their local landscape on earth to their cosmos overhead.

Arabs have always enriched the cosmos in that besides the story of the hunter that attaches to *al-Jabar* there are quite a number of other stories attached to other parts of the Arab cosmos.<sup>2</sup> In Arab culture *al-Jabar* had two distinct shapes, one representing the human *al-Jabar*, the other representing the centered geometric shape of *al-Jabar*. In the latter the four perimeter stars were viewed as sheep of the herdsman *Ra's al-Jauzah* (Allen, 1936: 310, 312), grazing the great central area of the zodiac. Eleven stars outline *al-Jabar*, as the human. This constellation is highlighted by three central stars, which according to Allen in (1936: 315) are the vertebrae (*fakar*) of *al-Jauzah*. The European three rubies of *al-Jabar's* belt are the Arab stars *al-Nitak*, *al-Nilam*, and *Mintaka*. The notion of rubies is an attachment that put Orion into a monadic context.

The orthodox representation of constellations is one of irregular geometric shapes. Those shapes are reasonably extensive and widely spread. The Arabs selected twenty-eight irregular geometric shapes and called them *manazils*<sup>3</sup>, the European castles of

heaven. However, the sky is not the only patterned feature, so is the landscape. Transfer of landscape features into the cosmos as notions occurred. There are just a few of those, but the few that exist are of interest, such as *Nahr*, the river, the Arabic name for the constellation of Eridanus (Fig. 2.11).

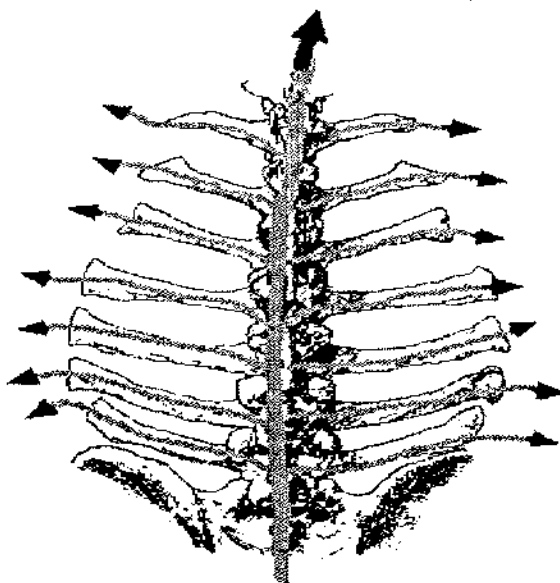
New attachments are possible beyond those in existence that involve water. By connecting the stars *Gomeisha*, Sirius, *al-Jauzah*, *Saiph*, *Rijl*, and *Suheil*, one long cosmic river, or one long road and narrow track can be constructed in harmony with existing narrative and folklore of the Arab world. By connecting the four perimeter stars of Orion to its center star, a radial system of rivers or roads is possible that relate to geographical directions (Fig. 2.12). Those new attachments restructure an existing and monadic cosmos that in due course will create new Arab or European folklore or a mixture of both.

### 2.3.2 The Monadic Landscape

The earth's landscape features that embed in the cosmos are only a handful. Notions attached to the landscape and embedded in the cosmos are even less. That is different for the real landscape. To desert landscapes attach quite a number of anthropomorphic and zoomorphic referents (Fig.2.13). Thus the eye (*ain*, a well) was used as a referent to a well, the eyebrow described a ridge. A smooth or good piece of land was compared to the forehead, and shoulder blades. The centerline between the shoulder blades was a boundary, a road or a landscape ridge. A narrow track inferred a woman. Thus some landscape features provided a basis for the anthropomorphic. All are attachments that make landscape shapes into monads, an extendable theme that need not rely on past attachments as was shown for the cosmos.

Fig.2.13

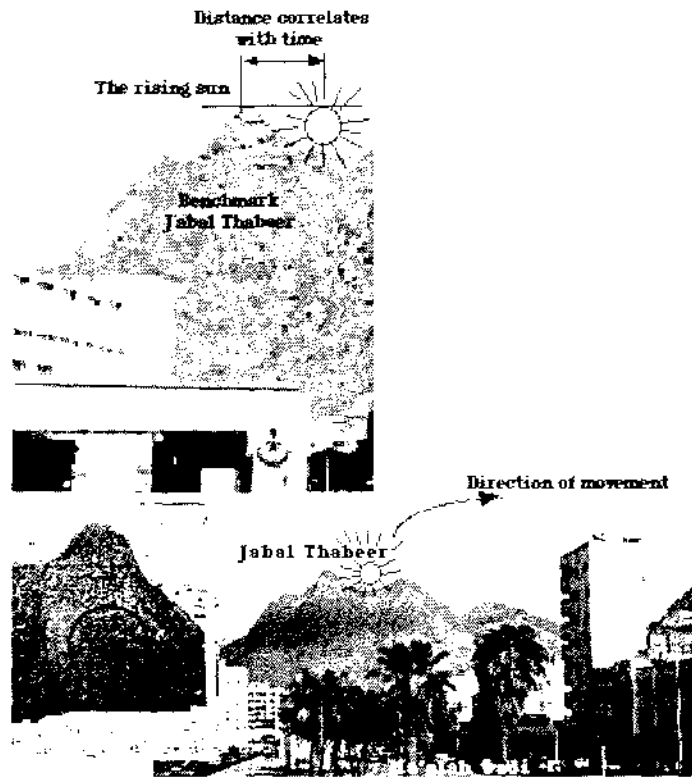
Source: Gauthier (1981: 18)



The breast bone and rib case as *wadi* or track system with tributaries

Fig.2.14

Source: Eduard Schwarz (1993: Photographs)



Wadi Ma'ala with *Jabal Thabeer*

Note the similarity between the camel's hump and the shape of *Jabal Thabeer*

### 2.3.3 Anthropomorphic and Zoomorphic Shapes

To the permanent shape of *Jabal Thabeer*, a mountain in Mina, the European notion of a benchmark attaches against which the movement of the sun can be measured. It was given that objective notion by the person(s) who happened to look at the mountain in the early morning. However, later in the morning it bears a good similarity to a camel's hump. The permanent shape of the mountain was changed into something else, equally as permanent, by the same observer. An Arab may attach to *Jabal Thabeer* an entirely different notion, but he or she may well agree with this European interpretation of *Jabal Thabeer* (Fig. 2.14). What is attached depends on the person(s) doing the attaching. That varies from culture to culture and from person to person. The Bororo of Africa interpreted the stars of Orion as otters; the field of Orion was the net to catch them (Levi-Strauss, 1964: 232-233). Involved is an individual's or group's stock of knowledge.

*Jabal Thabeer* is perceived as a camel's hump, a meaningful to-that-person notion. It is also a correspondence <sup>that</sup> comes into being, which is the shape of camel's hump that corresponds with the shape of *Jabal Thabeer*. The roots of that correspondence are

two corresponding shapes. Perceiving the mountain as a benchmark, another correspondence, but also a notion is created. This correspondence is functional, it relates a movement, that of the sun, to a benchmark. The notion is that the mountain is a benchmark. The correspondences and notions make *Jabal Thabeer* into a sizable monad amongst the communities of monads.

As shown above the zoomorphic can attach to the landscape, *Jabal Thabeer* the mountain is a camel's hump. It does not follow that the zoomorphic only attaches to the landscape. It attaches to the cosmos, to areas of water, to buildings and other objects. Some shapes carry both, anthropomorphic and zoomorphic attachments. These attachments are based on body organs and body parts of animals and humans. These served as models. Body organs and body parts were well known to Arabs. The slaughtering of camels and goats and the animals' vivisection led to a detailed knowledge<sup>4</sup> of the different animal body organs and body parts and their shapes. These were compared with those of males and females killed in warfare, accident or capital punishment. Most body parts the animal and the human have in common, but one animal shape not shared by humans was the camel's hump. The hump as an index or referent was widely used to compare other objects or subject matter.

Thus, shapes particularly valued by Arab culture are the camel's hump, the sun, the moon, the first crescent moon, some irregular geometric shapes of the zodiac and the womb, the latter often as a language feature. In other words, one-off features of systems of apparent regularity were greatly appreciated by the early Arabs to such an extent: they were used in their culture, in their architecture and in their objects of art. These were used as attachments, sometimes singly, or sometimes all at once. By way of attachments to these shapes, but unknown to them, Arabs made them into monads.

Thus, in Arab culture, shapes carried cosmic, landscape, anthropomorphic, zoomorphic and no doubt objective attachments. For example, the ellipse colloquially is an oval and a shape that corresponds with specific shapes of the human or the animal, but also with the oval moon (the moon is oval when it is quarter way during its twenty-eight day cycle). A body organ when perceived as an oval embeds the anthropomorphic and or the zoomorphic, but simultaneously infers fertility. Further, whilst a circle may be defined by way of Euclidean geometry, by attaching the notion 'fertility' to it, the circle embeds also both the anthropomorphic and the zoomorphic with fertility as a specific referent. By attaching a further notion to the circle that of Sacredness, a mandala or a *mater* is created. All invariably infer to a center of sorts, metaphorically a city center and its accesses.

This female aspect is particularly evident in the names of villages, towns, cities and regions in the lands of *Arabiya*. They associate with the feminine noun in Arab

language<sup>5</sup> and correspond with Munford's (1961: 3-50) urban container. The geographic names of villages, towns, cities and regions names are all invariably female nouns, enhanced for example, by the prefix Umm (Mother) or *Umm al-Qura*, the Mother of all Villages, which is Makkah. This explicates into fertility and subsequent growth that translates into urban expansion. Hence, Munford's reference to the urban container should be seen in the same light. Those notions and the reference make the City a monadic one.

#### 2.3.4 Other Specific Shapes Used and in Use by Arabs

In existence was the range of selected for this thesis attachments, the nexus, that attach to shapes and spaces. These, with their supports, qualities, affinities and so forth were the most prevalent ones in Arab culture. Yet that does not exclude other features that contributed to the construct 'Arab culture', one that developed with shortages of water and large areas of desert land, overarched by a specific cosmos. The night sky over Makkah is an emphatic sky with a standard but moving pattern of constellations and stars, a sky that is reliable, and is always there and that could be watched from the roof terraces of houses.

That Arab cosmos is not the same for every culture. There are zodiacal maps and pictograms in existence that convey different cosmoses that readily identify with the different cultures and their folklore. Orion for the Chinese was a turtle with eight directions (Harley, 1990:338). The main stars of Orion were otters for the Bororo (Levi-Strauss, 1964:232-233). Arabs extracted from the cosmos the circle, the oval, and a collection of irregular geometric figures loaded with the anthropomorphic, the zoomorphic and objects. Those are also **root** shapes (Figs.2.15—2.17) used in Arab and Arab Muslim architectures and in civil engineering. The *birkah* or *bi'r* (constructed water basins) are either close to the circular, the square, and the right angular. Although the cosmos carried names of landscape features, landscape shapes akin to irregular geometric shapes were not extracted for daily use.

Early Arabs did not use Euclidean nomenclature when they referred to the constellations and their shapes. Instead these fields, also shapes, were given human, animal and plant names. In this identification of cosmic patterns Arabs observed similarities, affinities, correspondences and configurations between irregular geometric figures.<sup>6</sup> The shoulder bone, for example stood for the triangle (Lane 1967: 2716). The triangle was represented by the cross-section of an animal's carcass, the camel's hoofs imprinted in the sand formed the rectangle and the circle stood for the belly with the navel in its centre (Badger, 1967:133, 660, 1138). As irregular geometric shapes per se, they infer permanence. By giving names to these shapes, attachments were created and attached; they became the monads of this thesis.

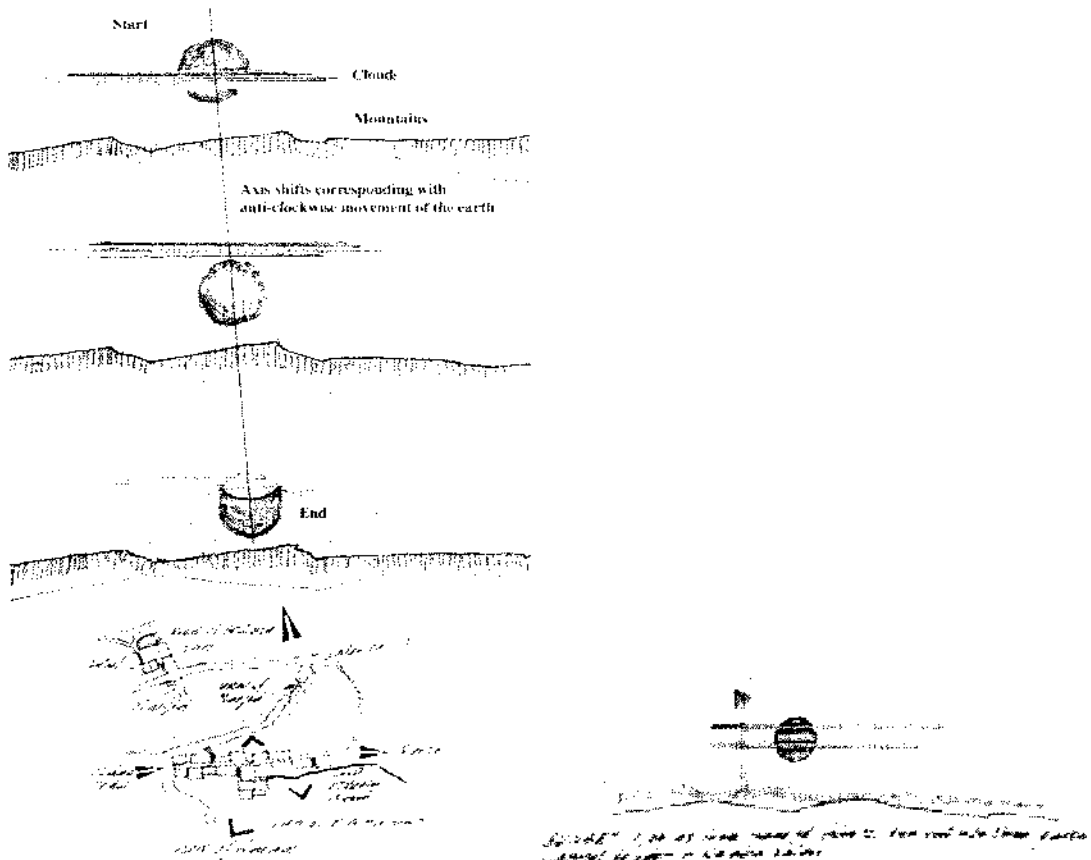
Amongst all these shapes one pronounced simple shape stands out that one of the camel's hump, a shape that is quite unrelated to any other root shape. To the hump many myths, meanings, folklore, colour and textures were attached, that are too numerous to detail. The hump was always on hand, always visible not unlike the sun and the moon, as a permanent object to draw inspiration from. Although too numerous nevertheless a few examples are offered that is useful recognizing the anchors of Arab culture.

Thus the smooth surface of a building was as smooth as the camel's belly. The camel hump's colour was an index used to match the hue of other colours. A well-groomed hump stood for the well-being and non-well being of humans and animals and between things good or not so good. In Arab Islamic and Muslim architecture the root shape of the camel's hump with the notion 'Dome of Heaven' returns as small domes of the Old Holy Masjid <sup>7</sup> (Fig.2.18).

In these examples the monadic comes to the fore as a series of attachments not only to the dome's shapes but also to the spaces below the domes of the same Building. the camel's hump with the notion 'Dome of Heaven' returns as small domes of the

**Fig.2.15**

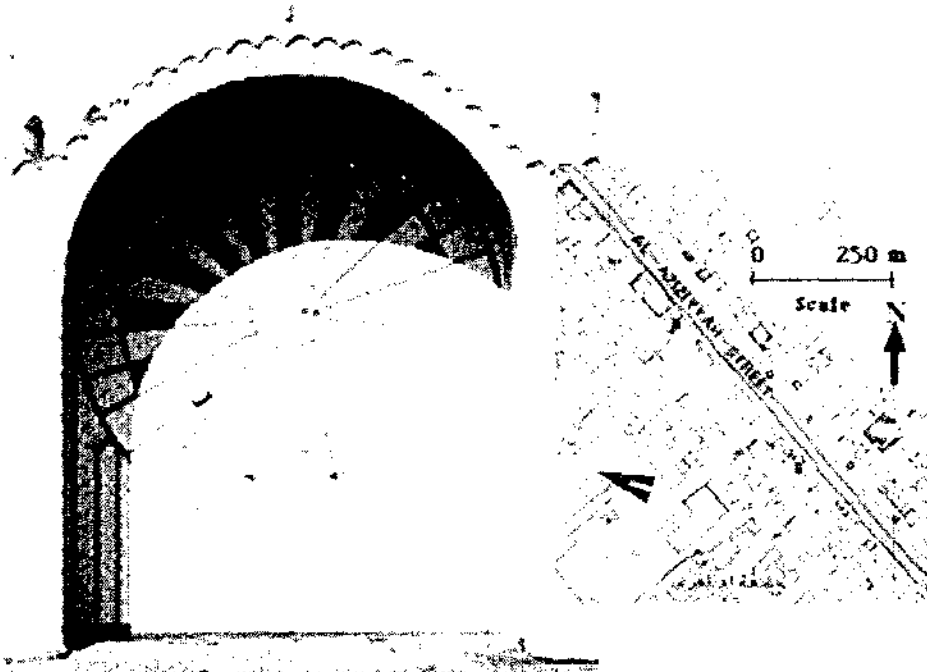
Source; Eduard Schwarz (1993; Field notes, 4 September )



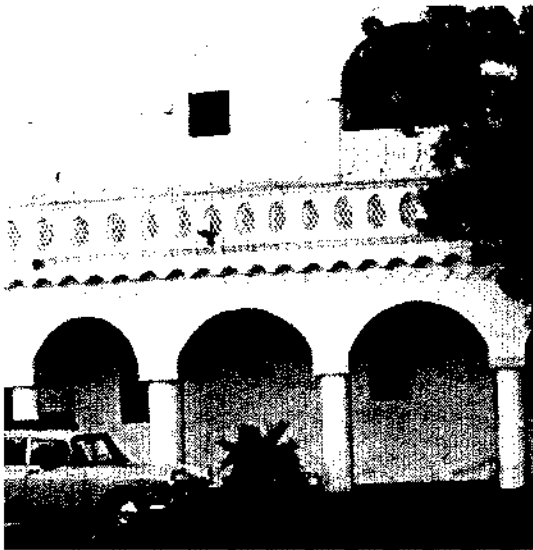
**Root shapes of the sun viewed from a ridge road, Makkah**

**Fig.2.16**

Source; Eduard Schwarz (1993: Photograph and Zaki 1986: Map)



**Root shapes, the sun as a radiant disk used as a design for a door**

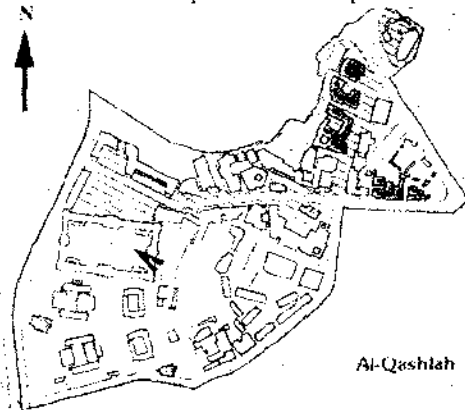


**Geometric shapes**

The 16<sup>th</sup> Century Sultan Suleyman palace in Makkah, decorated with geometric shapes those of the rectangle and the oval.

**Fig. 2.17**

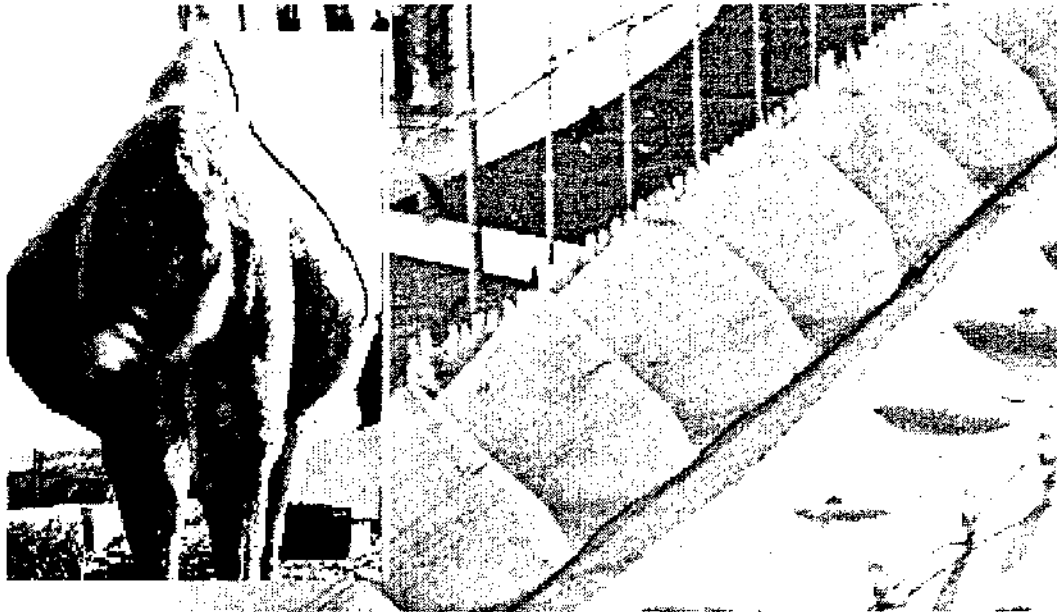
Sources: Eduard Schwarz (1993: Photograph and the Saudi Arabia Ministry of Pilgrimage and Waqaf, 1980: Map)



Location: al-Mahkim Street in *hara Jarwal* The palace became the Turkish barracks later

**Fig. 2.18**

Source; Kingdom of Saudi Arabia Ministry of Information (n.d.), in *Expansion of al-Harameyn al-Sharifeyn* (n.d.: no pp.) and Gauthier (1981: 31).



**Correspondences; the camel's hump and the Arab dome**

Old Holy Masjid (Fig.2.18). In these examples the monadic comes to the fore as a series of attachments not only to the dome's shapes but also to the spaces below the domes of the same Building.

### **2.3.5 Arab Specialties; Left and Right and Black and White**

In Arab culture the camel was an etymological index. For example, the camel's hump and its woolly cover depicted many and varied aspects of Arab daily life. A rough woollen surface denoted a stony ground or a building's rough surface. The camel's legs equated with columns and pillars and its leg patches with geometric figures. Camels were decorated with shaven geometric figures. The camel was very important and a major component in the formation of the Arab cultural construct.

Equally important were the the notions of left and right. The left and the right are standing alone notions. Those notions are emphasized in the positioning of objects particularly religious ones and calligraphy. Left and right identify with the better and the worse side of almost anything. Thus, the Makkah Valley had a good side, which is the right side of the Valley. Mountains on that side are associated with religious myths, whereas the other side has no such significances. On the left side of the Valley were the grave yards. The idea of 'good' or 'not so good' involved not only the mythical but also the conceptual relationships of:

## CORRESPONDENCES IN ARAB CULTURE

**male / right / right hand / auspiciousness / up (heaven)**  
complemented by  
**female / left / left hand / inauspiciousness / down (earth)**

**Good / big / tall** complemented by **bad / small / short**

**upward / downward / forward / backward / left / right**  
corresponding with eight sides of the human body  
**front / back / the two flanks / the two arms / and the two legs**

**left / sunrise / auspiciousness side of the Valley / Safa**  
complemented by  
**right / sunset / inauspiciousness side of the Valley / Marwa**

**auspiciousness / male / right side / al-Safa once occupied by a male statue**  
complemented by  
**inauspiciousness / female / left side / al-Marwa once occupied by a female statue**

**auspicious / male / right / right hand / white**  
complemented by  
**inauspicious / female / left / left hand / black**

Those notions when attached to shapes and spaces make them into monads. The left and the right were, and are, further significant in that they correlate with the anti-clock wise movements of the sun. Thus, when the back of the body is facing the black stone, or *Hadjar Aswad*, subsequently the front of the body faces the rising sun (East, Syria and Iran). When standing in the same position and then following the sun's movement with one's head, the head turns into the direction of the lands of the full and harsh sun (South and the Yemen). This is a movement towards the right, a clock-wise movement, which is also a movement towards the auspicious side of the Valley.

The movement of the head to the right associates with the right arm, the right side, and the male. Standing in the same position, turning the head anti-clockwise is a movement towards the left. The left is the less favourable side of the Valley, locates in the direction of the lands of darkness that relates in Arab culture to the left arm, the left side and the female. One eats with the right hand; one cleans with the left hand. On the left side of the Valley are the graveyards. Those notions when attached to shapes and spaces make them into monads.

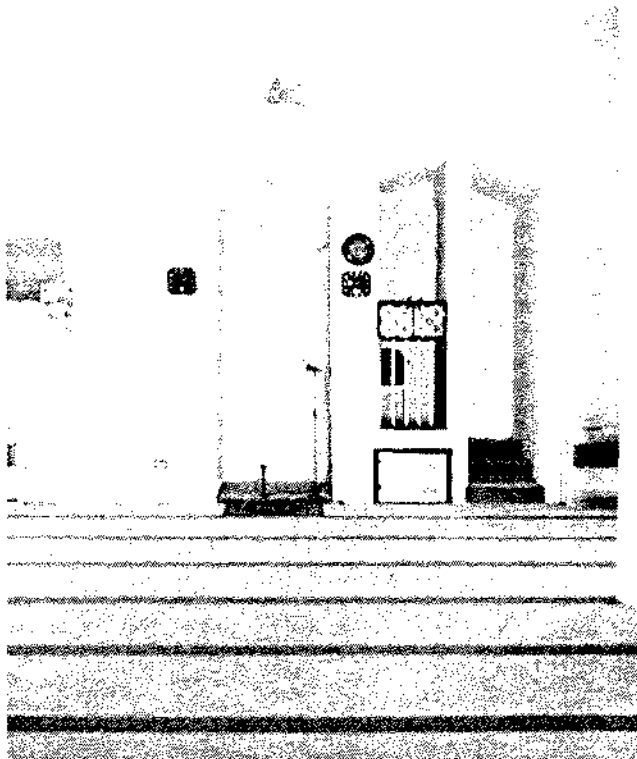
The left and the right as objectified notions return as root orientation components in

Arab and Arab Islamic and Muslim architecture. These roots inhere in all Buildings of Islam worldwide. For example, the *Mimbar* (a raised area for the preacher) is seldom positioned on the left hand side of the *Mihrab* (Fig.2.19), which is part of the *al-Qiblah* wall. Occasionally the *Mimbar* is located inside or in the front of the *Mihrab*. Also standing in the front row and on the right hand side facing the *Masjid's al-Qiblah* wall is a highly preferred position when praying. It establishes a correspondence between the right and auspiciousness.

Similarly, entering the *Masjid* from the right side is preferred over entering the Building from the left side. Men enter through the right hand entrance of the *Masjid*; women enter the left hand entrance (in the Lebanon, Maronite Christians follow the same rule). Also, calligraphy that contains the name of Allah is placed on the right side and higher as part of the overall display of calligraphy. As a single entity it is sometimes displa-

< **Fig. 2.19**  
Source: Eduard Schwarz  
(1989; Photograph)

Location: Along the Makkah  
Madinah Road in Saudi Arabia



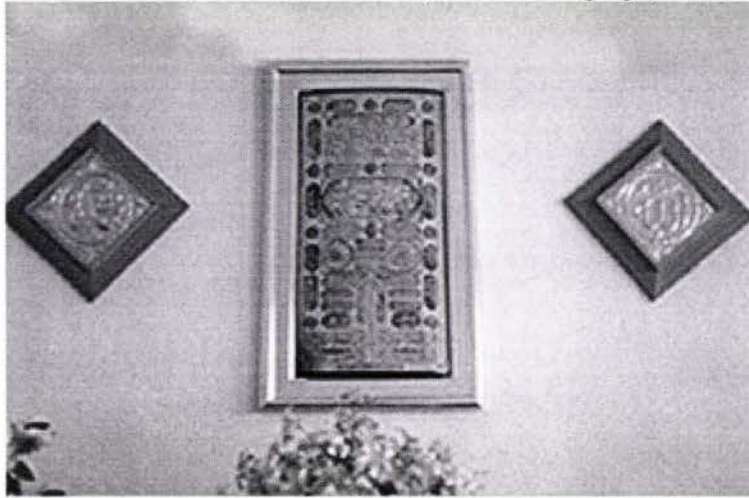
**Arab culture: the *Mimbar* is on the right side  
of the *Mihrab***

The *Mihrab* and *Mimbar* in this figure are in the center of the *Qiblah* wall. It faces al-Ka'abah which for this *Masjid* is towards the South

yed in the middle of and above the *Mihrab* arch. Moreover, in respect of the significance of left-right and the up-down orientations, almost every Muslim house has some sort of a calligraphic inscriptions with the names of *Allah* and *Mohammad*. They are positioned as close as possible to 'Direction Makkah and al-Ka'abah which subsequently becomes the *al-Qiblah* wall of the house. (Fig.2.20). Those above and below notions when attached to shapes and spaces or designs make them into monads.

**Fig. 2.20**

Source; Eduard.Schwarz (1992: Photograph)



**Calligraphy; left and right**

A flat of a Muslim family in Singapore. Facing the wall in this figure, on the right hand side is calligraphy with the name of Allah on the left hand one with the name Mohamad. Between the two calligraphies is a copy of the *Burquu*, a gold embroidered cover that covers al-Ka'abah's doors. The *Burquu* itself is attached to *al-Kiswah*.

Another example corresponding with the upward and downwards with exceptions when positioning of calligraphy is the action of pointing upwards, which is usually done with the right hand. Here the following a relationships exists between:

**The right side / higher complemented by the left side / lower**

**The right hand / upward direction / the upper part of the body / the heavens  
complemented by**

**The left hand / downward direction / the lower parts of the body / and the earth**

The upward and downward appear in the *manaraat* of *Masajied* (plural for *Masjid*, which is a Mosque) and the crenellations of the Old Holy Masjid, but also in Makkah's traditional architecture.

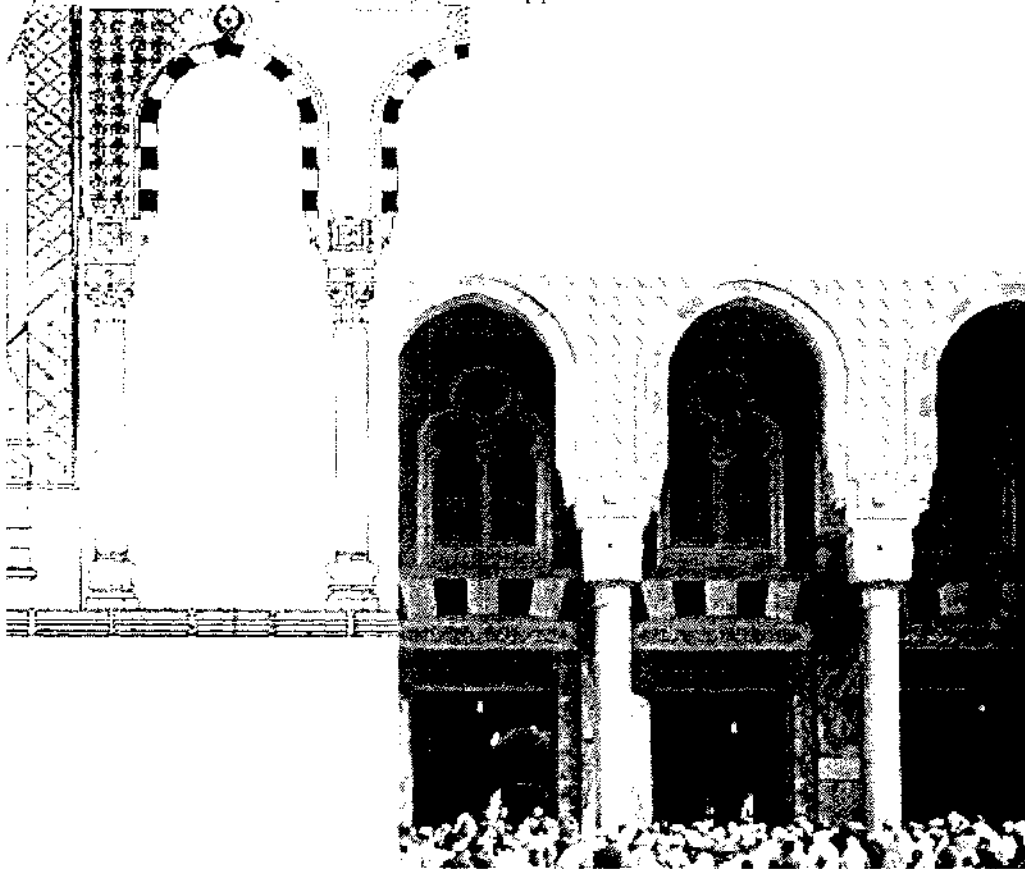
As important as the left and the right are black and white colours in Arab culture. That white and black are colours is derived from the phenomenology of perception (Merleau-Ponty in Langer 1989: 12, 17). Attaching these colours to shapes, the result is 'black and white shapes'. A colour may emphasize a shape and thereby enhance it. Further enhancement is possible if colours together with notions, stories, the anthropomorphic and so forth are attached to shapes. All may enhance or diminish the shape's significance and with it may create positive and or negative symbolic content or positive or negative monads. All impart a *sous entendu*

Arabs then preferred blacks and whites in association with some reds evidenced by the wearing of red head gear by Arab men and the red colour of the territory of the female

in the Arab black tent, the *haramlik*. The appreciation for black and white is manifested in today's clothing. Females are clad in black, males in white, imitating and harmonizing with landscape colours. Makkah's rocks are grey- black with some white veins, limited in extent. Correspondingly, al-Ka'abah is clad in black by way of *al-Kiswah*, al-Mataf surrounding it, is of white polished marble. Black and white return in some of the Arab arches of al-Hamra (Alhambra) in Granada, in Cordoba and in Seville, but also markedly in the main entrance of the New Holy Masjid<sup>9</sup> (Fig. 2.21). Black and white complement each other. They are each other's *nirzam*. They are contributing monads to the community of monads, the greater whole. They contribute to the *sous entendu* of architectural place.

Fig.2.21

Sources: Drawing by Kingdom of Saudi-Arabia, Ministry of Finance and National Economy (c1989: 218) and Kingdom of Saudi Arabia, Ministry of Information (n.d), in *Expansion al-Harameyn al Sharifeyn*, no pp.



Arab culture; black and whites

Black and white decorating the main entrance arches of the New Holy Masjid.

In Arab Islamic culture, these root shapes together with their notions were assembled and re-assembled into a variety of graphical media such as ideograms, pictograms, pilgrim certificates, tiles, and illustrations all depicting the Holy Complex, but without due acknowledgement of its symbolic content created by notions stories, the anthropomorphic, the zoomorphic, the geographic, the botanic, colours, textures and sedimented gossip.

For example, a Persian miniature depicts Noah in the Ark circling al-Ka'abah, restating an Old Testament story but in a different context and with it the Genesis' notion that permanence cannot be abandoned. Noah returns in one form or another in the world's narrative not unlike the severed head of Orpheus that remains singing forever. Those notions when attached to root shapes make them into 'colourful' monads.

### **2.3.6 Arab Makkah Architecture, its Monadic Contents**

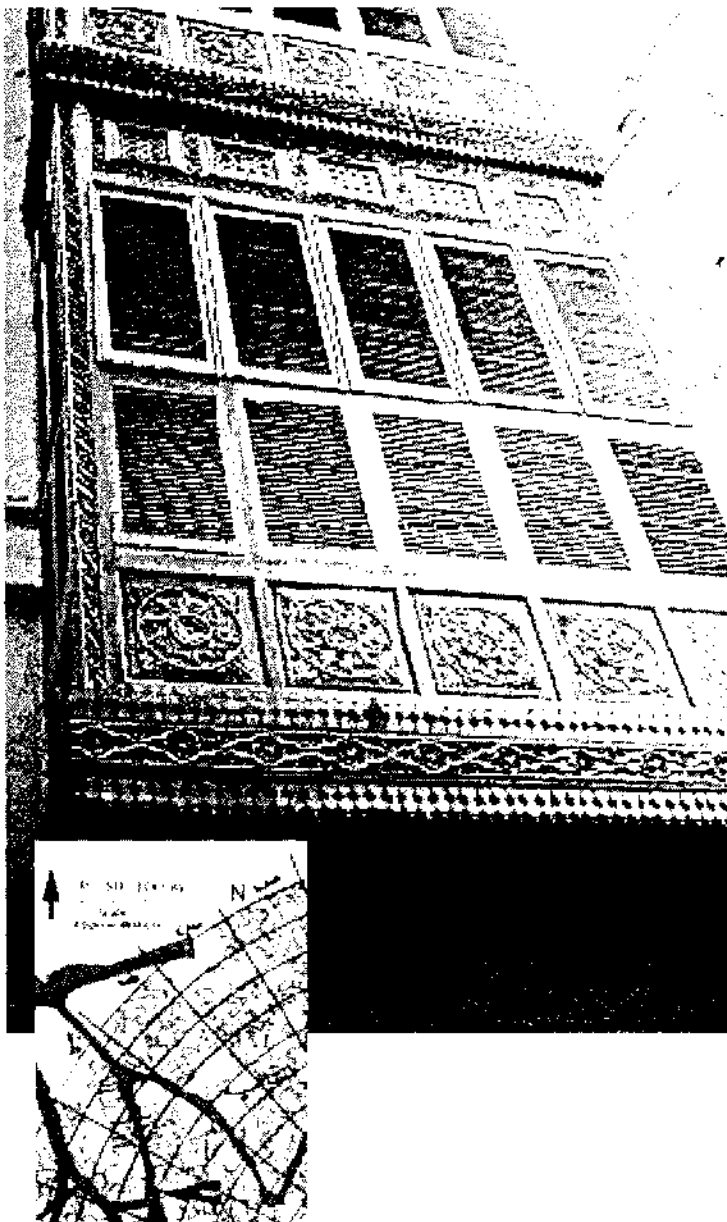
It is possible to make comparisons between Arab Makkah architecture and the Arab Muslim architecture of the Old Holy Masjid by assessing which shapes both architectures have in common or are similar as configurations and or as correspondences. What attachments are common or similar ones to both architectures? Those are, for example the ovals, that decorate the carved timber panels of the *rawasheen* (screened protruding from the wall bay windows) and the much larger oval of al-Mataf. The latter was once was an oval, now it is a circle.

The same timber panels also show rectangles that surround the oval, a micro Old Holy Masjid carved into the wood panels' edges. The actual Old Holy Masjid also surrounds a center, but as proportionally much larger rectangle. The crenellations of the Old Holy Masjid return as crenellated edges that decorate a number of houses in Makkah. The house of Arab architecture and the Old Holy Masjid have some shapes in common, but the Arab house is not an Old Holy Masjid, the latter is for communal use the former for private use. Both have in common the segregation of the sexes that highlights the architecture of the Old Holy Masjid and in part make for the architecture of the Arab house. Arab Makkah architecture of the house has a Mamluk Cairo imprint (Figs. 2.22 and 2.23).

Arab Muslim architecture of the Old Holy Masjid goes beyond that of the architecture of the Arab house. The Old Holy Masjid's *manaraat* are surmounted by the first phase of the moon together with *Zahrah* (Venus). That first phase of the moon together with *Zahrah* invariably surmounts the *manarah* of any *Masjid* but not the Arab house. There are other examples that lead to the conclusion that Arabian architectural features of to day still embody early aspects of Arab culture with its

affection for the cosmos and geography. Both helped to create the constructs Arab Islamic and Muslim architecture.

Thus a much-used shape exclusively belonging to the *Masjid* is the first phase of the moon with *Zahrah*. Each is an individual entity that forms into the greater whole, which worldwide is recognized as a symbol of Islam. Its meaning however is not always understood. For example, the meaning, which can be ascribed to the combination of the first moon phase and *Zahrah*, differs from the meaning of this moon phase without *Zahrah*. When the last phase of the moon together with *Zahrah* surmounts the *manarah* it means that the *Masjid*, which is a male domain, has female company (however as a noun the moon is male).



Carved panels of a *rowshan*

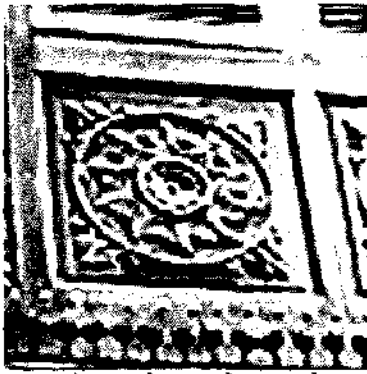
< Fig.2.22

Sources:  
Eduard Schwarz  
(1993: Photograph and  
the Kingdom of Saudi  
Arabia Ministry of  
Information (1992:  
Map)

Location: Corner Khalid Ibn  
al-Walid street and an  
unnamed street

<

The crenellations suggests  
sacredness of the home. They  
signify a boundary  
indicating the extent of the  
female domain of the house.  
The crenellations are  
mimetic of the Old Holy  
Masjid's crenellations



An enlarged panel



Fig.2.23

Sources: Eduard Schwarz  
(1993: Photograph)

The carved panels indicate the centre from which four directions spring. The panel is an ideogram of the stylized Ka'abah, the city's central core.

Accepting this contradiction as a valid one different meanings and attributes can also be ascribed to the male moon. It loses its maleness for example, by way of the notion that says that the last moon and *Zahrah* are close companions; one cannot be seen without the other, they form a *mirzam*. The close companions notion turns the *mirzam* into a monad. The *mirzam* here is interpreted monadically using the Theory of Architectural Monadology.

*Zahrah* and the moon are shapes surrounded by abutting and adjacent spaces, so are buildings but on a larger scale. Buildings designs and architecture can be expressed as assemblages or constructs of spaces created by shapes. Thus columns and the distances between them determine the space of an arched opening. That architectural space immediately associates with architectural spaces surrounding the arched opening, which act as a boundary defining its space and adjacent spaces. Thus boundaries determine the extent of shapes and spaces (Fig.2.24).



Fig. 2.24

Source: Eduard Schwarz  
**Shapes**

One shape determines the other. The black shape is defined by the white shape's perimeter and vice-versa.



One cannot be isolated or disassociated from the other. One is always the other. One, at one glance belongs to the other. One is simultaneously the other, an extension of 1954 CE Jung and Kerényi's 'one is simultaneously four' dictum. These notions make for

monads. One is the other represents a monadic set-up. Both are entities that make for the larger whole. Beside these three notions ‘ other attachments are possible. These influence the greater whole. For example, the idea of heaven traditionally attaches to domes, to columns the idea of strength, in Arab idiom the long legs of a camel. The attachments of the dome are transmitted to the columns. The attachments of the columns are transmitted to the dome.

The space enclosed by the dome and columns is enriched by specific qualities, the dome by its internal ribs, the column by capitals which occupy a strategic location, which is the point where the column ends and the arch begins or where the shape of the arch is emphasized by a selected colour or interlocking arch stones or the dome by a flower or mosaic pattern. Thus numerous concretes and abstracts embedded in monads make up the greater whole in which each entity complements the other. As with shapes numerous attachments can be made to spaces, which consequently turn them into monads under the Theory of Architectural Monadology. It involves the theme ‘contributing entities and the greater whole’ .How this theory is applied to al-Ka’abah and the Old Holy Masjid is discussed in Chapters 4 and 5. The next Chapter covers the setting of the Holy Complex in its natural environment.

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## Notes, Chapter 2

<sup>1</sup> Crenels do not need to be rectangular openings and when used for religious buildings they may be vase-like.

<sup>2</sup> There are further examples of this remarkable translation of one shape into another. Four stars define *al-Dawl's* geometric shape. As a winged horse, more than sixteen stars represent it. The center of its geometric shape configures with the horse's navel. Thus, *al-Dawl* like *al-Jabar* has a dual shape. Attached to *al-Dawl* is an extensive mythology.

<sup>3</sup> The Egyptians knew thirty-six decans.

<sup>4</sup> The acquisition of this early medical knowledge was an outcome of the detailed knowledge of animal and human biology and anatomy Arabs had developed. They passed it on to Renaissance Europe. Arab medical knowledge appears to have influenced the Italian Renaissance School of Anatomy, according to Bernal (1969: 278 and 387) who said: "Nearly all Islamic scholars were doctors and practicing doctors". They had an important and not sufficiently recognized influence on their scientific and philosophical views'.

<sup>5</sup> Female nouns are recognizable by the noun's ending, which is a transliterated h.

<sup>6</sup> In this work geometry is used only formally to indicate what Arabs meant when referring to fields, figures, and shapes, and their correspondences; it is not intended to suggest that is the way in which the Arabs themselves understood or perceived these phenomena in the manner of detail as we understand it.

<sup>7</sup> We may say here that a sign is involved of which its symbolic content refers to fertility (the camel used in this figure is a pregnant one). Snodgrass (1990: 45) said that a symbol is distinguished from sign; a sign conveys meaning belonging to the empirical realm, whereas a symbol conveys meanings belonging to the supra-empirical realm.

<sup>8</sup> The significance of left, the right, upward and downward directions is not confined to Islam only. It was generally present in the lands of *Arabiya*.

<sup>9</sup> These colours express anthropomorphic unity, that can be understood as the united character of the pair, as claimed by (Fritsch, 1968: 14) in her discussion of the left and right. As directions, the left and the right were also embedded in the cosmos, as a cosmic axis between Sirius and Procyon. The left and the right and their relationship to the Black Stone are important features of al-Ka'abah.

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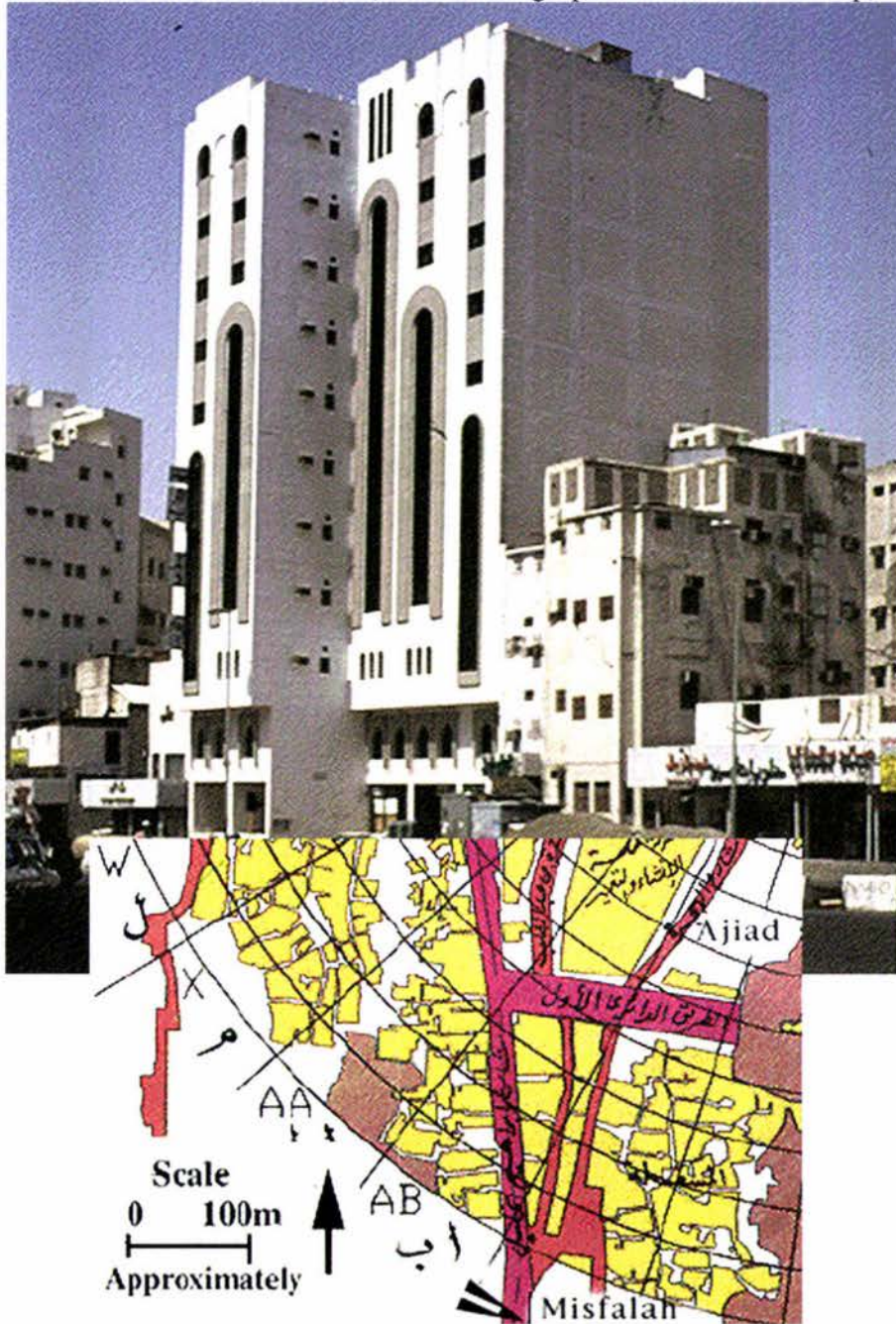
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# Chapter 3

## The City of Makkah and the Holy Complex in its Natural Setting Frontispiece Chapter 3

Sources; Eduard Schwarz (1993: Photograph and Zaki 1988: Map)



### Makkah; Modern and 19th Century Architecture of Misfalah

This urban core of Makkah is surrounded by a number of homogeneous but poly nucleated inner residential areas. Those areas consist of a mix of European Islamic and traditional Makkah architecture

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Source; World Weather Information Service, the Hong Kong Observatory and [www.worldwide.com](http://www.worldwide.com)

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Source; Marsden, Brian and the U.S. Naval Observatory, Astronomical Applications Dept. (2004), *Altitude and Azimuth Tables*, Washington DC: The Observatory, <http://www.srb.noaa.gov/highlights/sunrise/azel.html> and [marsden@metSERVICE.com](mailto:marsden@metSERVICE.com)

Table 3, Page 90

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## CHAPTER 3 Makkah and the Holy Complex in their Natural Settings

### 3.1 Introduction and Chapter Focus

In Chapter 2 the Theory of Architectural Monadology was outlined as a background to the monadic analysis of Makkah and the Holy Complex in later Chapters. This Chapter focuses on the practical and the social by highlighting the City of Makkah's demography, climate, its natural setting, the Holy Buildings in their urban setting and the architectures of the *rawasheen*, the *mashrabiyaat* and the *dribaat*<sup>1</sup>. The social is discussed by emphasizing the 'sous entendu of place', itself is a construct consisting of components. The latter draws-in special features of the Arab way life-world, such as building skills that were necessary to construct the pre-Islamic and the early Buildings of Islam, which is al-Ka'abah and later the Old Holy Masjid. The objectified *sous entendu* of place imparts a recognizable identity to place, thus what gave Makkah its identity is discussed. The orientation criteria used in this Chapter are topographical features and the names of residential districts.

### 3.2 THE HOLY CITY OF MAKKAH

#### 3.2.1 Demography and Infrastructure; Inconsistencies

By 1950 CE (1370 AH) a considerable number of pilgrims were entering the Greater Haram by motorcar.<sup>2</sup> Consequently, the three-day rite of *al-Hajj* had degenerated into something that approached chaos; pilgrims and the motorcar freely intermixed with the result that neither could move freely. It led to a number of serious and fatal accidents (Rasch, 1980: 112 and 113) but also to five yearly planning proposals. Suffice to say that Makkah has experienced rapid urban change. Since 1955 CE (1375 AH) the city witnessed the start of a completely new era of development corresponding with the increase of the Muslim world's wealth and from oil wealth in Saudi Arabia. At that time planning and its implementation was mainly concerned with providing efficient traffic and communication systems that were later modified when pedestrianization became internationally popular. Locally newly constructed overpasses and road links were demolished to make way for open space. In 1927 CE (1346 AH) 90,764 pilgrims entered the Holy Environment.

The following figures indicate the growth and change in the last 75 years. According to Arab News 6 Jan. 2004, close 2,000,000 participated in the 2004 CE (1425 AH) *al-Hajj* including pilgrims from Saudi Arabia itself. Including Saudi pilgrims, Ilam (1979: 60 and 73) states that there were 197,039 pilgrims who performed *al-Hajj* in 1926 CE (1345 AH), 107,981 in 1950 CE (1370 AH) and 862,520 in 1979 CE (1400 AH). Al-Shareef referred to 2,502,845 pilgrims in 1983 CE (1404 AH). Pilgrims are a temporary but short-term addition to the permanent population of Makkah. The 1974 CE (1394 AH) Census Forecast for a permanent population of this City was for 566,460 persons by 1983 CE (1404 AH).

According to al-Shareef (1990:102) Makkah's permanent population for 1963 CE (1383 AH) were 200,000 persons. Ilam (1979:163) refers to a permanent population of 185,000 for 1965 CE (1385 AH). Rasch's (1980: 26) estimate was for 1980 was 350,000 persons. Abdullah Sultan (1987: 66) for 573,500 persons in 1987CE (1408 AH), the Kingdom of Saudi Arabia, Ministry of Planning for 700,000 persons in 1985 CE and the Kingdom of Saudi Arabia Ministry of Municipal and Rural Affairs (1986) 1,584,700 by 2005 CE (1426 AH). To date the population of approximately 550,000 (anAtlas 2005 webpage) is well below that figure.<sup>3</sup>

A 1978 CE (1399AH) study done by Rowly and El-Hamdan (in Ilam, 1979: 410) says that 2,800,000 pilgrims is the maximum the Holy Environment can sustain. The Saudi Aramco World of 2002 CE (1423 AH) states that limit is almost reached. Arab News of 27 March 2005 reported that more than two million pilgrims, 1.3 million from abroad, performed the 2005 CE (1426 AH) *al-Hajj*. The Arab News of 2 June 2004 expects 13 million *al-Hajj* and *al-Umrah* pilgrims by 2014 CE (1435 AH) for the whole year. These demographic figures contain quite some built-in inconsistencies that are not very helpful for forward planning.<sup>4</sup>

In view of the considerable demographic and modes of transport changes since 1970 CE (1390 AH), the Kingdom introduced five-year plans for planning purposes. Makkah then associates with an infrastructure that must accommodate a massive number of transients for about one month, of which almost all arrive by airplane, then transfer to motorcars and buses. The construction of many tunnels, ring roads, and bridges, under and over passes, clover leaves and car park buildings have made access to the Holy Environment fairly easy. They form now a large and entirely new component of Makkah's built environment. Urban growth and subsequent development then has been rapid due to the natural increase of the local population and the increase in the number of pilgrims.

Ilam (1979:230) has stated that between 1953 CE (1372 AH) and 1964 (1384 AH), six new residential areas were established. Like in so many urban cities, expansion took place on the most fertile (*wadi*) areas. Particularly, the *wadi al-Aziziyyah* was affected. Elementary agriculture was displaced by urban development. Planning and the reconstruction of the constructed environment were carried out without necessarily adhering too strictly to the existing 1972--1986 CE (1392—1407 AH) Makkah Developments Plans. Implemented planned physical development took place on a rather ad-hoc basis, sustained by finance sufficiency and United Nations assistance. To-day more suburbs, small towns (they are not new towns) and pilgrim villages have been built, are being built and are planned. The center of Makkah then is surrounded by old

inner residential areas (*haraat*) and new outer ones that differ considerably in layout from the older areas and by small self-sufficient towns.

The Kingdom of Saudi Arabia, Ministry of Agriculture and Water; Land Management Department (1984: 7-18 and maps 158,159), classifies the Makkah Environment as unsuitable for large scale irrigation farming, but suitable for small scale farming. (Land class VI, categories of 39 and 41) evidenced by the small agricultural plots on *wadi* land in the vicinity of Makkah.<sup>5</sup> Makkah's land area is 10,096.14 ha (Abdullah Sultan, 1987: 74)<sup>6</sup> of which about 15 ha consists of *al-Harameyn al-Sharifeyn*, an area that is mainly occupied by the Holy Buildings.<sup>7</sup> The area occupied is small when compared to the overall area of the

The Makkah region itself is located between Lat.20° to 22° N and 39° to long. 40° E, Makkah itself is located in the Makkah region (Fig.3.1) that occupies 802,000 ha and contains 29% of Saudi Arabia's population. Makkah's location is Lat. 21°27' N and Long. 39° 49', in the belt where the maximum solar radiation occurs, hence high temperatures prevail. Minimum temperatures are from 18.6 °C in January to 28.9° C in August and maximum temperatures are from 30.2° C in January to 43.6°C in July. The climate of Makkah is hot (Table 1) and uncomfortable hot when there is no wind. The mean total precipitation based on monthly averages covering the period 1985- 2000 was 163.7 mm. Extremes have been recorded of 3 and 310 mm. The latter, when it occurs, result in flash floods that are a regular occurrence. The region is drained from East to West via *wadi Hawarrah*, *wadi al-Yamaniyyah*, and *wadi Fatimah* discharging into the Red Sea.

The dominant features of Makkah's climate are little rain; few rain days and high sunshine hours with subsequent intense solar radiation of building and earth surfaces. Makkah is located within the zodiacal belt the width of which is determined by the Solstices. It lies between 23.5 °South and 23.5 ° North of the Equator. The sun is South of the Equator from 22 September to 21 of March, and North of the Equator from 22 March to 21 Sept. Hence, Makkah's buildings receive solar radiation mostly from the South and some from the North during the solar year. This needs to be recognized when designing buildings within that belt.

Because of this low rainfall, water supply to Makkah has been solved by desalinated water from the Red Sea that is pumped and piped to Makkah. The *Zem-Zem* underground stream is another additional water source but this is exclusively used within the Holy Complex and only for religious purposes. Previously water came from a series of wells located in *wadi Fatimah* which are dry now, corresponding with a drop of water levels generally of Saudi Arabia's aquifers. Another water supply source came

was the Zubaydah canal, a narrow canal that runs from Arafah to Makkah. Referring to the wastage of water in Riyadh, the Arab News of 15 May 2005 referred to studies that state that 20 percent of water is lost through leakage. It amounted to a loss of about one million cubic meters per day.

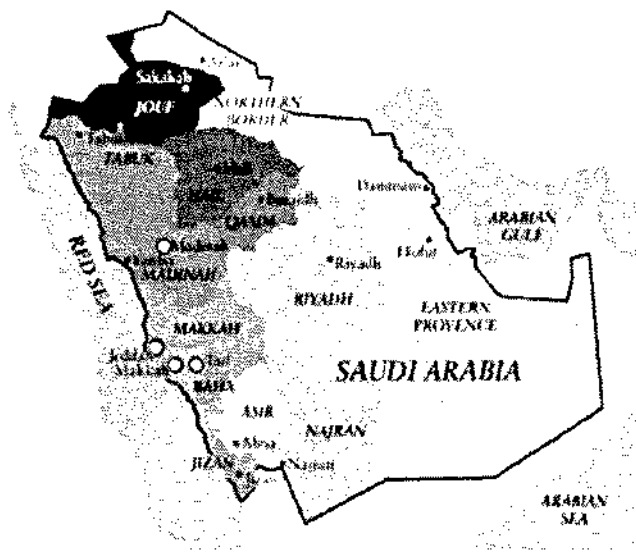
Protection from the sun has traditionally been achieved by providing maximum areas that are permanently in shade, obtained by roofs over arcades, and by constructing buildings with sun-resistant and sun reflecting materials. New subdivisions and housing areas have been built using western planning and subdivision standards, thus wide streets, and front, side, and back yards around the houses in such a way they cannot be naturally kept cool. Massive air conditioning has replaced passive cooling to the point of irresponsibility. In recent planning the Municipal Authorities of Makkah failed, although enough historical examples were available to draw-on. In the past Makkah's narrow streets, their abutting houses and courts created permanent shaded areas that helped to keep the sun out.

That Makkah has a high temperature climate is not only due to high solar radiation, it is also due to its location in a deep-seated- into-the landscape Valley. The Valley is surrounded on all sides by low-rise grabbo mountains and foothills as rock outcrops. Although mountains and outcrops reflect heat, the aggregated mountain mass is too massive to release its stored heat overnight. It remains permanently stored not unlike a heat night storage unit that never releases all its stored heat. Together with high solar radiation it turns the City into a heat sink, regardless its height above MSL of 350 meters (Rasch (1980: 26).

According to Ghazi (1976: 32) Makkah's is 277 meters above MSL. A map compiled by the Kingdom of Saudi Arabia, Ministry of Municipal and Rural Affairs from aerial photographs refers to a height of 289 meters above MSL. Madji (1986: 14, 16) has graphically indicated the heights of the grabbo mountains in the immediate vicinity of Makkah (Fig.3.4). Which MSL was adopted, Madji does not state. Madji's heights differ from those indicated by the Navy Intelligence Bureau (1949: Map of Makkah). For planning purposes the differences in the respective altitudes need to be solved.

### **3.2.2 The Sun and Makkah**

Direct sunshine is the major factor controlling the weather and climate of Makkah. From the Tables 2 and 3 the Zenith (noon) sun is almost vertical overhead (Fig, 3.2, 3.3). As Makkah is deep-seated into the *Wadi Ibraheem* Valley and with its surrounding mountains, the sun becomes visible and goes out of site well past and well before the tabulated Marsden / OUAA sun rise and sun set data. Yet the sun remains longer visible as extended twilight measured against the Marsden / OUAA norm.



< **Fig.3.1**  
 Source:  
[http://www.lib.utexas.edu/Libs/PCL/Map\\_collection/Atlas\\_middle\\_east/Saudi\\_Arabia\\_land.jpg](http://www.lib.utexas.edu/Libs/PCL/Map_collection/Atlas_middle_east/Saudi_Arabia_land.jpg)

< **The regions of Saudi Arabia**

**Table 1**

**Mean climate data for Makkah 1985- 2000**

Source: World Weather Information Service and the Hong Kong Observatory and [www.worldwide.com](http://www.worldwide.com)

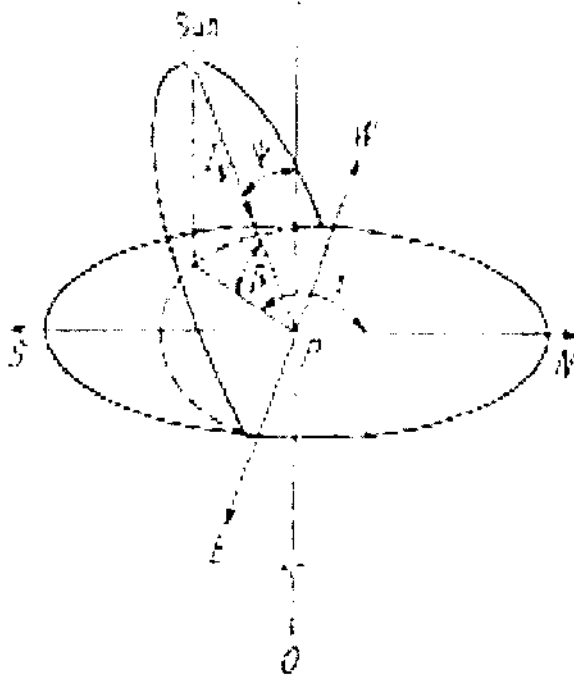
Month	Mean Temperature °C		Mean Total Rainfall (mm)	Mean Number of Rain Days
	Daily Minimum	Daily Maximum		
Jan	18.6	30.2	16.1	3.9
Feb	18.3	31.2	1.3	0.9
Mar	20.6	34.4	6.0	1.8
Apr	24.0	38.3	9.9	1.9
May	27.4	41.8	0.7	0.8
Jun	28.0	43.6	0.0	0.1
Jul	28.6	42.8	2.1	0.3
Aug	28.9	42.6	6.3	1.6
Sep	28.5	42.6	4.7	2.6
Oct	25.5	39.8	11.1	2.2
Nov	22.5	34.8	25.9	4.7
Dec	20.0	31.6	25.6	4.3

Climatological information is based on WMO Climatological Normals (CLINO). Mean temperature is based on monthly averages for the period 1985- 2000. Mean total precipitation is based on monthly averages also for the period 1985- 2000.

Tables 2 and 3 below indicate the Azimuth, and Elevation of the sun at hourly intervals for Makkah. It is clear from the sun's path that the Elevation and Azimuth, are at their lowest during the rising and setting sun and highest at Zenith noon sun, but not as high as for places that locate on the Equator. Those components are important in the assessment of the intensity of solar radiation and the amount of shadow necessary to protect the pilgrims from the sun and for calculating the thermal mass, hence the cooling load of the Holy Complex. From this table it is clear the maximum sun angles occur between 12.00 hrs and 13.00 hrs. The maximum sun angle equates with the local

Zenith sun that for Muslims sets the time for the afternoon Prayer (*Zohor*). Thus the local maximum sun angles are the local determinants of prayer times.

**Fig .3.2** Source: Eduard Schwarz (2004: Diagram) based on Threlkeld (1977: 288)



**The celestial horizontal surface**

*NSEW* is the horizontal earth equatorial plane projected onto the equatorial plane horizontal celestial plane *NSEW*

*P*=The position of the observer on the celestial plane *NSEW*

$I_n$ =Is the cos angle

$\beta$ =The Altitude angle, the angle in a vertical plane between the sun's rays and the projection of the sun's rays on the equatorial horizontal plane

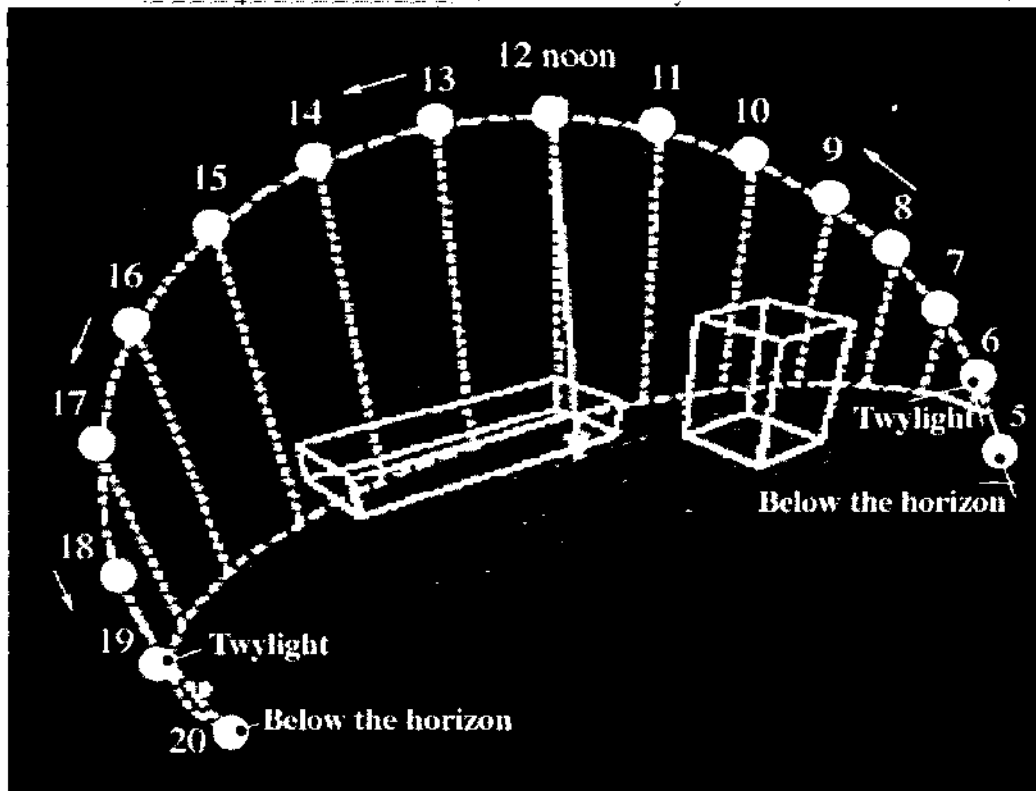
$\gamma$ =Azimuth angle, the angle in the celestial horizontal plane measured from North clock wise

$\psi$ = The sun's declination angle

The sun's rays striking a horizontal plane on top of the atmosphere with an intensity that lies between 1300 to 1395  $Wm^2/h$

**Fig.3.3**

Source: [www.squ1.com/site/html](http://www.squ1.com/site/html) (2004, labeled by Eduard Schwarz in 2005)



**The sun's daily apparent movement at circa 21.5° N Latitude**

**Table 2**  
for Makkah on 21 March 2004, Equinox date and 21 June 2004, Solstice date  
Offset to UTC: -3 hours. No daylight saving  
Makkah's Latitude is N 21°25' and Longitude: E 39°49'  
Source: Marsden /NOAA

Sun path on 21 March 2004 <b>Equinox</b>			Sun path on 21 June 2004 <b>Solstice</b>		
Time	Azimuth	Elev	Time	Azimuth	Elev
06:00	87.13	-6.32	06:00	66.17	3.730
07:00	92.62	7.710	07:00	70.76	16.57
08:00	98.46	21.54	08:00	74.47	29.87
09:00	105.52	35.19	09:00	77.45	43.41
10:00	115.38	48.29	10:00	79.6	57.09
11:00	131.59	60.01	11:00	80.03	70.84
<b>12:00</b>	<b>161.18</b>	<b>67.95</b>	<b>12:00</b>	<b>67.71</b>	<b>84.41</b>
<b>13:00</b>	<b>201.56</b>	<b>67.61</b>	<b>13:00</b>	<b>284.92</b>	<b>81.11</b>
14:00	230.00	59.27	14:00	279.76	67.42
15:00	245.59	47.41	15:00	280.82	53.68
16:00	255.18	34.26	16:00	283.21	40.03
17:00	262.13	20.59	17:00	286.36	26.54
18:00	267.95	6.770	18:00	290.27	13.32
19:00	273.47	-7.26	19:00	295.13	0.800

Azimuth is measured in degrees clockwise from North. Elevation is measured in degrees up from the horizon. Azimuth and Elevation both report dark between astronomical twilight (sun elevation more than 18° below horizon)

**Table 3**  
for Makkah on 21 September 2004, Equinox date and 21 December 2004, Solstice date  
Offset to UTC: -3 hours. No daylight saving  
Makkah's Latitude is N 21°25' and Longitude: E 39°49'  
Source: Marsden /NOAA

Sun path on 21 September 2004 <b>Equinox</b>			Sun path on 21 December 2004 <b>Solstice</b>		
Time	Azimuth	Elev	Time	Azimuth	Elev
06:00	88.16	-2.890	06:00	110.55	-12.42
07:00	93.7	11.03	07:00	115.47	0.84
08:00	99.75	24.85	08:00	121.75	12.74
09:00	107.3	38.41	09:00	129.97	24.04
10:00	118.23	51.29	10:00	141.00	33.85
11:00	136.88	62.44	11:00	155.68	41.21
<b>12:00</b>	<b>170.45</b>	<b>68.83</b>	12:00	173.85	44.92
<b>13:00</b>	<b>209.83</b>	<b>66.23</b>	<b>13:00</b>	<b>193.13</b>	<b>44.06</b>
14:00	234.52	56.69	<b>14:00</b>	<b>210.16</b>	<b>38.86</b>
15:00	248.18	44.39	15:00	223.43	30.47
16:00	256.92	31.06	16:00	233.32	20.02
17:00	263.48	17.31	17:00	240.74	8.36
18:00	269.13	3.540	18:00	246.46	-4.18
19:00	274.65	-10.61	19:00	251.00	-17.25

Azimuth is measured in degrees clockwise from North. Elevation is measured in degrees up from the horizon. Azimuth and elevation both report dark between astronomical twilight (sun elevation more than 18.00° below horizon).

### 3.3 THE LANDSCAPE

#### 3.3.1 Geography, Geomorphology, Archaeology; *Wadi* Patterns and Mountains

Low-rise grabbo mountains together with grabbo buttressed rock outcrops at lower levels are the dominant nodes of the Makkah landscape. The rock outcrops are steep to very steep, which makes access to buildings, building sites and houses difficult to very difficult. It is a landscape without water dissected by many *wudjun* that are most of the year dry and used as paths, roads and narrow tracks. They are often contorted.

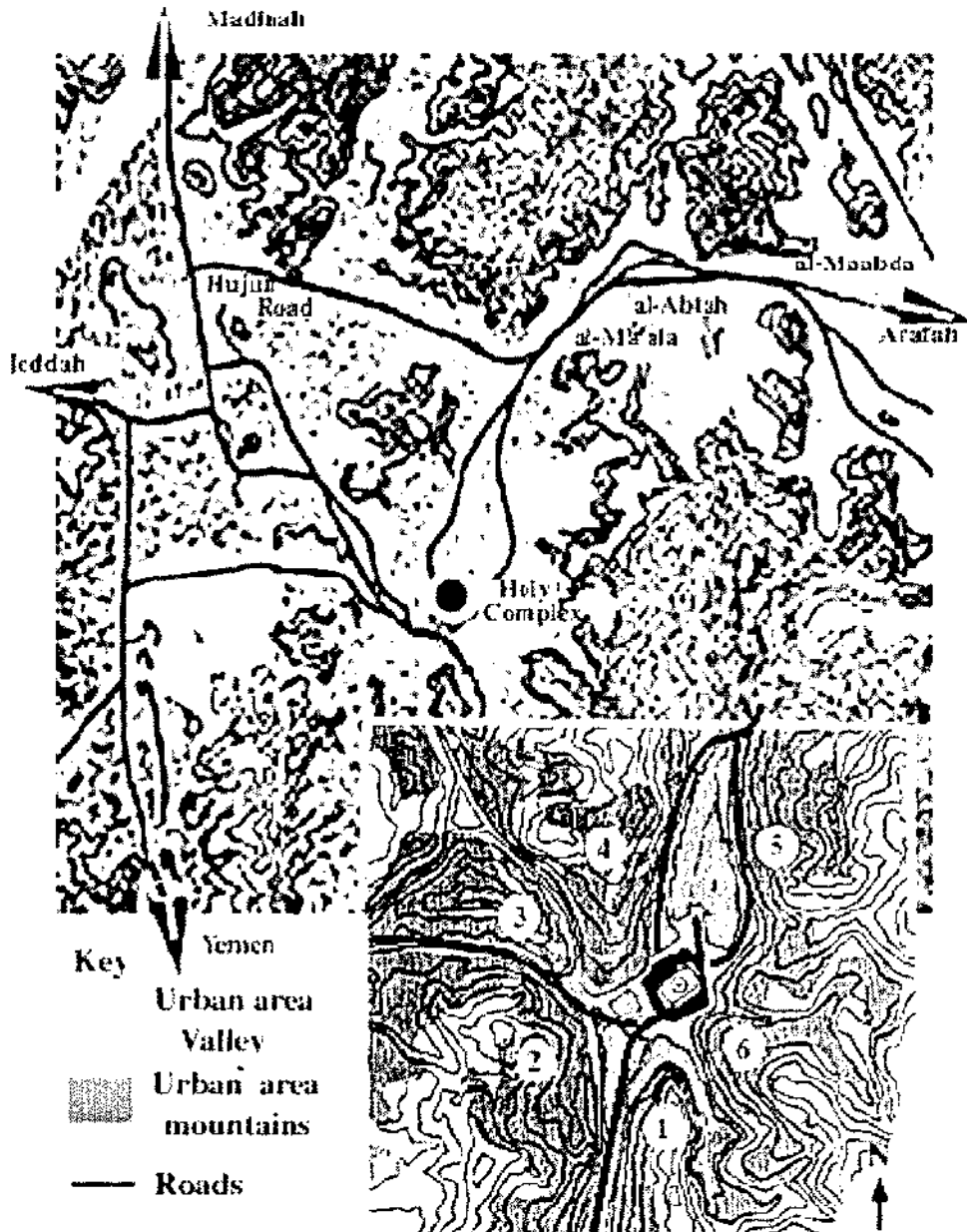
The main part of the Valley, the deepest part is occupied by *al-Harameyn al-Sharifeyn* straddles *Wadi Ibraheem*. This *Wadi* consists of a mixture of sand and gravel that is reddish in colour, suggesting a once volcanic origin. The other *wudjun*, tributaries to *Wadi Ibraheem*, also consist of deposits of similar material but that is rather thinly spread over grabbo rubble and grabbo rock. These up-ward sloping rocks terminate as narrow ridges that are also narrow lanes connecting to narrower lanes that give access to dwellings. These are often in state of disrepair. The same narrow ridges are buttressed by similar ridges, which slope steeply down to the center of the Valley. They visually center the Valley. Some of the same *wudjun* are also old, now new, pilgrim routes, to Mina, Muzdalifah and Arafah (Figs. 3.4, 3.5). The same routes are used by traffic that transports pilgrims, their goods and tents. Through traffic to the same places and beyond follow the Aziziyyah valley. The tents are supplied and erected by the Saudi Government.

The landscape is a mass of rocks and grabbo rubble in all directions. The different *haraat* are recognizable by their buildings and by areas that are bare. Their bare rock faces glitter in the sun sometimes causing glare. Houses cover the accessible rock faces, They spill over the ridges down a valley up another ridge. Massive cuts have been made in Makkah's rocks to accommodate buildings that never were built. Collectively these areas of rocks and houses present a high thermal mass with temperatures that would become unbearable was it not for the many narrow lanes and alleyways that provide shade. Their narrowness prevents the sun from entering these lanes.

This labyrinth of narrow lanes and alleys corresponds with Makkah's volcanic geology. According to Whalen et-al (1988: 77-85) the landmass of Saudi Arabia is about 600,000,000 million years old. Stone tools discovered in the *wadi Fatimah* region date back some 20,000 years. Rock art dates from 7000 to 2000 BC. Arab News of 8 June 2005 reported finds of 7500 BC settlements in *wadi Fatimah*. This Neolithic rock art portrays local animals and human beings interacting with each other, presenting a way of life of a then in an existence Paleolithic-Neolithic settlement (Figs. 3.6, 3.7).<sup>8</sup>

Fig.3.4

Sources; Municipalities and Towns and Islam, (4) *Half Yearly Report*, Makkah, Fig.5 and Mohammad Said Farsi (1986: Map / insert). Enhancement Eduard Schwarz



**The Makkah Valley; roads and surrounding mountains**

This figure shows Makkah in the center of a *wadi* complex. The old route to Mina, Muzdalifah and Arafah are clearly visible. In Rutter's map the road to Arafah is labeled *Ma'ala* and *al-Abtah*. According to Madji (1986: 14-16) number 1 in the insert represents *Jabal Qalat Ajjad* (406 meters); no.2, is *Jabal Omar* (380 meters); no.3 is *Jabal al-Ka'abah* (340 meters); no. 4 is *Jabal Qa'iqu'an* (472 meters); no.5 is *Jabal Hujun*; no.6 is *Jabal Abu Qubais* (372 meters). These heights differ from the 1941 Navy Intelligence Service.

**Fig.3.5**  
Sources; Mohammed Sa'id al-Farsi (in al-Shareef 1992: 31  
and Eduard Schwarz, 2005: Landscape sketch from field notes)

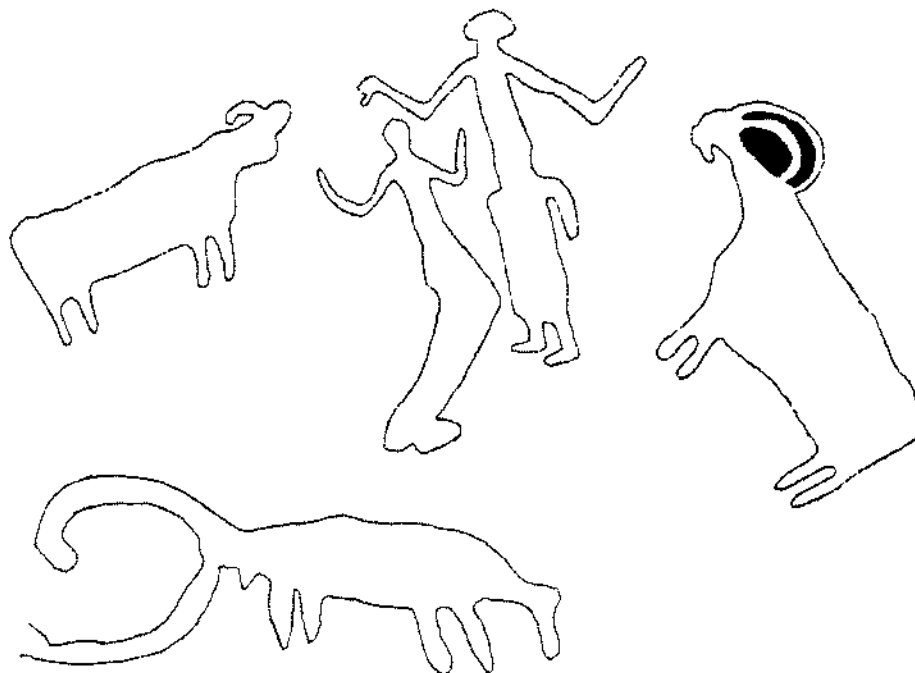


**Pre-Islamic settlement of Makkah near and adjacent to steep rock faces**  
The small circles along the Valley edges are the first houses

The Valley itself locates along NNE-SSW axis of the Mercator grid. Expressing these directions geographically and in the Lynch mode (see Chapter 1, Fig. 1.2), the NNE is on the *wadi Ma'ala* side: the SSW is the *wadi Misfalah* side. *Wadi Ma'ala* and *wadi Misfalah* when linked together are part of *Wadi Ibraheem* that was once a wide *wadi* tributary discharging into *wadi Fatimah*. *Wadi Ibraheem* runs through the approximate center of Makkah. There are further a number of narrow most- of- the-year dry streams from the adjacent mountains. They are used as streets that can become

**Fig. 3.6**

Whalen, et al (1988: Plate 78)



**An incomplete rock art panel uncovered in *wadi Fatimah* in Abhur near Jeddah in Saudi Arabia**

**Fig. 3.7**

Source: Yahya Hamza Kushak. (1983: Plate).



**Ancient Pottery recovered from the *Zem-Zem* well**

In this figure the pottery is of the pre-Islamic and Islamic eras. It contained Greek and Roman finds. It was found at the bottom of the *Zem Zem* well.

dangerous run-offs during the December-January rains when rainwater comes cascading down the low-rise mountains and rock outcrops finally discharging into *Wadi Ibraheem* but as flash floods. Those have repeatedly caused quite some damage.

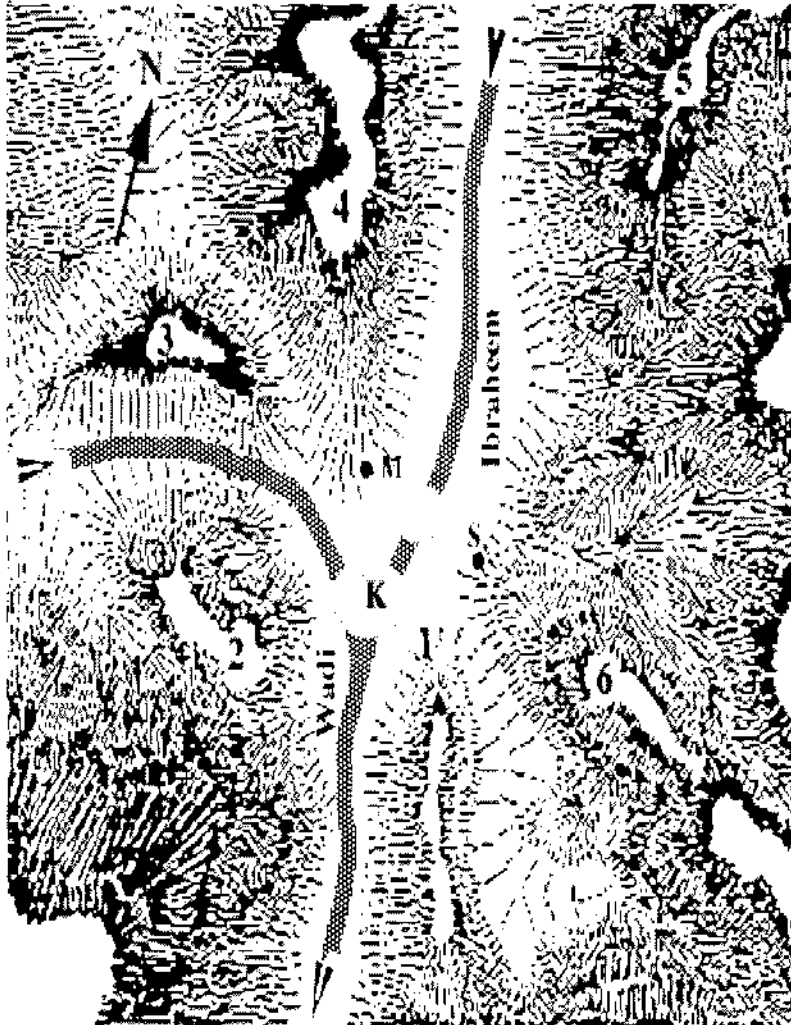
*Wadi Misfalah* and *wadi Ma'ala* are wide *wudjun*. They are respectively the upper and lower ends of *Wadi Ibraheem* that associate with the upper and lower part of the City. *Wadi Fanah al-Thana* is a narrow gorge discharging into the Valley of *Wadi Ibraheem* from the Jeddah side. It is wedged in between *Jabal Omar* and the cliff edge of *al-Shamiyyah* and al-Marwa. On the other side, the *Ajiad* one, there is a confined *wadi* area at a higher level that once was occupied by the Sheriffs' palaces, an area not subject to flooding. It also discharged into *Wadi Ibraheem*. There are further the rock areas of *Jabal Hujun*, *Shi'b Ali* and *Shi'b Amir*. Their surface water also discharges into the same *wadi* but than on the *Ma'ala* and *Jabal Abu Qubais* side. The center part of *Wadi Ibraheem* is confined between the cliff faces of al-Safa and al-Marwa. The distance between these two cliffs is c 400 meters. In front of those cliffs but unattached are standing by themselves the now roofed-over rock outcrops of al-Safa and al-Marwa.

*Wadi Ibraheem* once skirted al-Ka'abah; its streambed was crossed by a sandy track connecting Safa and Marwa that became a curved street that later became known as *al-Maa'sa*. During the rainy season this sandy track became a *wadi* itself. The street's centre, now the Safa-Marwa corridor, is a depression in the Valley floor, with the street itself rising rather steeply towards both ends. Marwa is at one end and Safa at the other. It is the present route along which the *al-Sa'y* rite is conducted of which the depressed part is that part where the *Hajji* and *Hajjah*, (male and female pilgrims) are required to jog.

Thus of the Valley's overall area there were, and are, two small depressed areas that were deeper than the remainder of the Valley floor. Those were the area where al-Ka'abah stands now and the center part of now demolished street *al-Maa'asa*. After floods pools of water remained behind that stayed longer in these same locations than water deposited in the remainder of the Valley. Viewed from the Valley's rim this flooded center visually appeared as a hollow in the earth or 'The Hollow of Makkah' (Kassis (1983: 504, 1095) (Fig.3.8).<sup>9</sup>

This hollow and *wadi* became gradually urbanized, by small settlements along the edges of *al-Shamiyyah*, al-Marwa, *Ajiad*, *Shi'b Amir*, *Shi'b Ali* and *Hujun*. The settlement of the center can only have occurred at a later date and not until sediments of a sufficient height had been deposited that made it possible to build houses and al-Ka'abah in the center of the Valley. That the first houses were built along the edges of the Valley is

stated by Mohammed Sa'id al-Farsi (in al-Shareef 1990: 15) who by way of a drawing has shown that the first houses were built on the *al-Shamiyyah* and *Ajiad* sides, which is logical, as floods do not affect those sides. As the center was a streambed, that made it subject to flooding. Therefore it is unlikely that al-Ka'abah and the houses built around it were the first structures as Muslim scholars maintain. The same scholars also maintain that the first al-Ka'abah was built on a mound. That remains a good possibility, but that event happened only after previous settlement along the Valley's edges had taken place.



◀ Fig.3.8

Source; Tarek Ali Fadaak ((1988: 5)

The center used to be a natural hollow that transformed gradually into the present *Zem-Zem* well. The three routes leading into and out of the Valley form a threefold pattern. The darker areas in this figure are those areas that remained longest under water after a flood

K stands for al Ka'abah  
M stands for Marwa  
S stands for Safa

1 is *Jabal Ajiad*  
2 is *Jabal Omar*  
3 is *Jabal Lala*  
4 is *Jabal Qa'qa'ian*  
5 is *Jabal Hujun*  
6 is *Jabal Abu Qubays*

Arrows indicate stream flow

### Hollow of the Earth with its threefold *wadi* pattern

By building al-Ka'abah on a mound, the streambed of *Wadi Ibraheem* was realigned and floodwaters could not enter the Building. That mound submerged gradually once more gravel and sand had been deposited by floods from the *Hejaz* (mountain range East of Makkah). It is possible the early inhabitants, had their houses also built on mounds such as the al-Ka'abah one. On both sides, and over time, more houses with narrow lanes between them were built, that formed a radial pattern that was centered by al Ka'abah. Muslim scholars maintain the houses were circular. This view accords with Smith (1971: 61), who states that early Semitic and Syrian houses were circular and had domed roofs. A spill over of the idea from Syria may have occurred.

Although edge development preceded development of the center, it needs to be accepted that the benchmark of Makkah's urban development commenced by the building of al-Ka'abah and by extending its *al-Fina'*. That formed the urban core and, except for houses, it still does. The construction al-Hatim, of more houses and narrow streets expanded that core. What developed was a pattern of houses along very winding and narrow streets that in turn were demolished in stages by the building, rebuilding and expanding of the Old Holy Masjid. This continuous process took centuries to complete until 1993 CE (1414 AH) when the Holy Complex's surrounding open area with underground toilets and *Whu'du* (male and female pray wash areas) and underground car parks were constructed.

In other words the Old Holy Masjid and later the New Holy Masjid were carved out from once built-up areas, a displacement process. The building of the Old Holy Masjid meant also the deliberate shifting of *wadi Ibraheem's* streambed away from the center and towards the cliff side of al-Marwa, to form ultimately the curved street of *al-Ma'asa*. That street was in turn demolished in 1955 CE (1375 AH) to make way for the Safa Marwa corridor. The wisdom of building the heavy walls of the Old Holy Masjid across a streambed needs to be questioned considering the extensive flood damage to the Buildings over the centuries. A massive underground storm water drainage system of recent has alleviated much of the past problems.

The Makkah Valley is accessible by three routes (See again Fig. 3.8). It is a confluence area of geologically ancient underground *wadi* or *wudjun* and later the confluence area of surface *wudjun*. The three routes, now streets but also pilgrim routes, all lead to the center of the City that is al-Ka'abah.<sup>19</sup> Of these the narrowest is the present Khalid Ibn al-Walid Street, the streambed of the ancient *Jabal al-Ka'abah* stream. It leads directly into *al-Harameyn al-Sharifeyn* and is approximately fifteen-meters wide and about one kilometer long. The old city streets are the final parts of the pilgrim routes coming in from Asia and Africa (Birks, 1978: 17-27). Pilgrims traveled these routes, but trade was also conducted and ideas conveyed.

The Khalid Ibn al-Walid Street was a narrow entrance; the two other accesses are wide. *Wadi al-Ma'ala* is about five hundred-meters wide, and wide *wadi al-Misfalah*, about one hundred-meters wide, with *Jabal Nur* and its *Hira* cave form the background of Makkah observable from *hara al-Qararah's* plateau. Closer in is the hump-like landscape of *Jabal Thabeer*. Both mountains are permanent landmarks with meanings that vary depending on what was attached. Referred to in Chapter 2, section 2.3.2, both mountains are also landmarks or nodes that assist in geographical orientation and the finding of direction.

### 3.3.2 The Early Urban Development of Makkah

Except for purpose built new towns, the formation of most cities starts with a small cluster of houses with or without open space nearby. Makkah is no exception to that rule. For Makkah, urbanization started with the construction of some houses along *Wadi Ibraheem* edges followed by the building of a pre-Islamic al-Ka'abah. Many centuries later this late Neolithic settlement became the focus of early Islam. The City became a Holy City emphasized today by reference to Makkah as *Makkah al-Mukarramah* or Makkah, the Blessed.

Based on archaeological evidence uncovered in *wadi Fatimah*, (Whalen et-al, in *Atlal*, 1988: 77-85), and Biblical narrative regarding Abraham (*Ibraheem*) it seems almost certain that al-Ka'abah was a late Neolithic architectural artifact. Werblowski / Wigoder (1997: 5,6) state that *Ibraheem* was alive between 2000-1600 BC. Linking this date to the Muslim view that maintains that *Ibraheem* and his wife *Hagar* were the first settlers of the Valley that settlement must have occurred between 2000-1600 BC. However, Muslim scholars also maintain that *Ibraheem*, and *Ishmael* raised the foundations of al-Ka'abah on existing green stone foundations, which itself suggests an earlier settlement of the Valley, subsequent abandonment, and a later re-entry. Judging by geological and archaeological evidence the Valley had become barren over time.

Whilst the pre-Islamic kabaat were built and re-built, Makkah simultaneously expanded into a small Arab settlement where religious cults were practiced. Cells of Christianity and Judaism were also present. When the Islamic era officially came about in 622 CE (1AH), the late Neolithic settlement of Makkah was already an important pre-Islamic religious-commercial city with al-Ka'abah in its center. All created a *sous entendu* of place that gave meaning to and imparted an identity to the place.

That identity associated with a Building that served as a temple and a shrine, which was dedicated to a number of gods, the sun, and the moon. It also contained a number of relics on which precise data is not available including the many images of gods and goddesses (idols to Muslims) from foreign countries near or inside al-Ka'abah. Makkah was a small town with a mixed population that pioneered and made in their very own way their contribution to the '*sous entendu* of place'. Besides its climate, geographical, cosmic and landscape features, such as water well in its center, Makkah identified with polytheism and commerce. The water well made sales of water possible and induced skills used to manufacture and sell jars for the collection of *Zem-Zem* water.

### 3.3.3 The Place of Primordial and Later Arab Skills

The City's early development was one inside an arid area, with materials that were products of the same environment. Some were scarce, such as wood; others were in

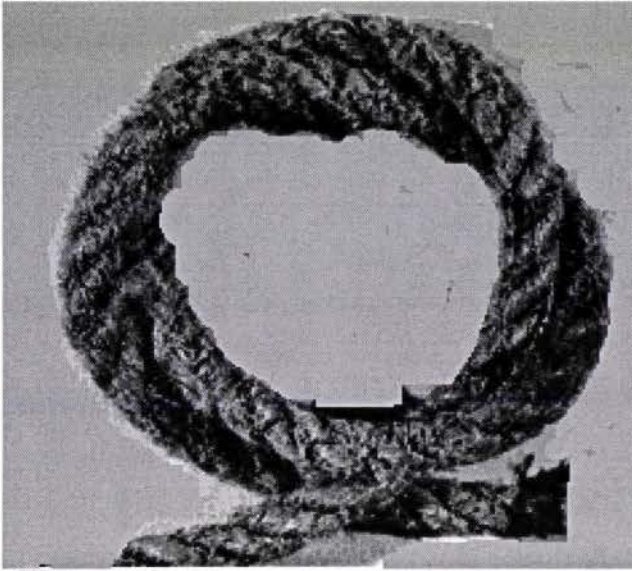
abundance such as natural stone. As with any other society there was daily life to cope with that produced an arid area attitude necessary for survival. Initially a number of skills evolved based on the symbiotic relationship between animals and humans. Collection and supply of water required other skills and a job.

Construction skills became available, an evolutionary process itself, that were the outcome of living in black tents in a harsh environment. Those are the physical facts, yet there is also a mental process, such as the perception of and structuring and restructuring of objects, such as spaces and shapes, mastery of concepts, and the invention and application of myths, folklore to shapes and spaces. According to Merleau Ponty shapes and spaces can be perceived as figures, fields and backgrounds. That visual perception stands by itself, but when qualities are attached they are monads.

The configuring and corresponding of different spaces and shapes in terms of etymology was important to Arabs (see Chapter 2, section 2.3.5). The camel's hump, human shapes and shapes of the cosmos and landscape meant many things, particularly one-off shapes of systems of apparent regularity. Those served as anchors that anchored 'Arab culture'. For Makkah that culture was further enriched by the specifics. Those, amongst a number of other specifics, they are its *rawasheen* and *mashrabiyaat* (protruding and flush with the wall screened windows) architecture and its urban development in concentric circles that started with the first extension of *al-Find'*. Architecture and urban development, together with acquired skills imparted a *sous entendu*, of Makkah, the City of al-Ka'abah, but also the City of *rawasheen*, *mashrabiyaat* and *driba'at* (shared alleys with access to a number of houses).

The resulting culture embedding this specific *sous entendu* of Makkah developed in a sun drenched climate. The city produced only a very few products from plants and trees, yet it was endowed with good quantities of different types of stones from grabbo to a series of different coloured marbles. In due course, the earliest skills mastered developed into more sophisticated ones by the processing of stones. Stone handling, stone cutting and laying of stones was one of the first acquired more sophisticated skills. With those skills al-Ka'abah and later the Old Holy Masjid were built.

Apart from stones there was also a range of local construction materials such as camel and goat hair, bones, sticks, and small logs. The anthropomorphic and zoomorphic lock was used to join these materials together. The idea may have come from human and animal joints and the art of hair plaiting. For example, to construct the tent, the skill of weaving and knotting had to be mastered first. With these skills, materials and tools on



**The rope knot**



**Fig.3.9**

Source: Eduard Schwarz

Twined rope made of hemp can be transformed into a knot. The knot, the rope's strands and plaited hair, became models in the development of building skills



**The bone joint**



**Fig.3.10**

Source: Eduard Schwarz

The skeletal joint as a model, which conveyed the idea of construction joints assisting in the development of building construction joints.



**Arab culture; the horizontal pattern**



**Fig.3.11**

Source: Housego (1978:10) The Jajim weaving technique, Hashtrud, NW. Iran

This figure shows the weaving of individual bands of dyed goat hair into long horizontal strips, which are later sewn together length-wise. The strip under construction in this figure is probably an interior tent divider. The dominant colour red of the divider associates with the woman, who not only weaves the tent but also is in charge of the tent household. The colour of the outside of the tent is usually black, which also is a colour in Arab culture that is associated with women.

hand, the early Makkah Arabs were capable of producing their own tents and buildings and with it their own architecture, that of Arab architecture. In support of this argument Figs. 3.9 to 3.11 imply an evolutionary process, which finally resulted in a range of 'constructed' textiles, the constructed tent, and late Neolithic buildings such as kabaat and later al-Ka'abah and much later the earliest parts of the Old Holy Masjid, the 647 CE (26 AH), the *Khalif* Othman Bin Affan colonnade.

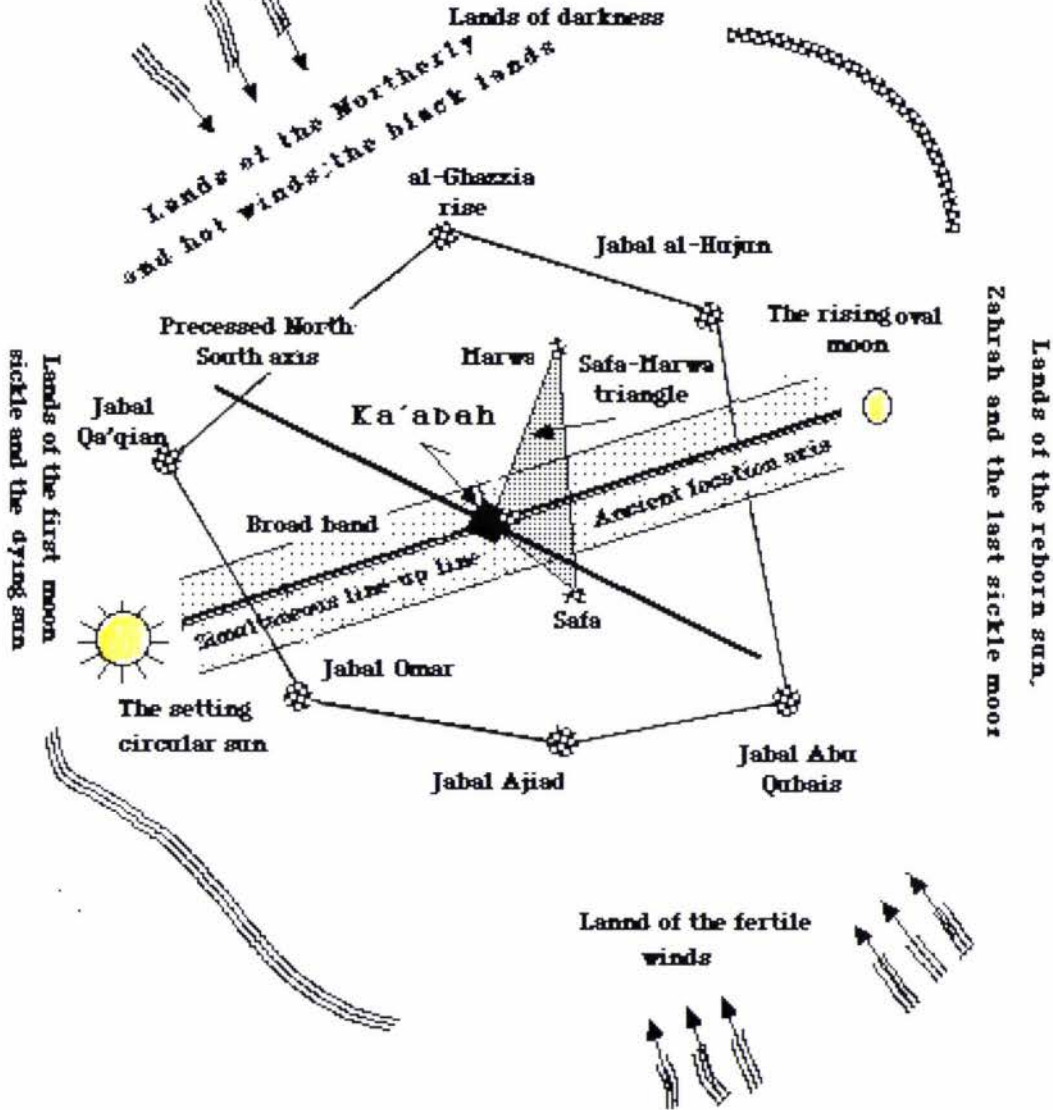
Those edifices comprised of root architecture not only correlated with the art of weaving but also with the amassed knowledge of a range of shapes and the knowledge of how to put these together. With it architecture was created. The shapes used were based on anthropomorphic, the zoomorphic, cosmic and landscape shapes and their configurations and correspondences with similar shapes. Explained in Chapter 2, section 2.3.1, there were numerous ways of interpreting the cosmos overhead and a number of ways of comparing the topography of the landscape with animal, human and cosmic shapes. Those form the etymological content of Arab culture. The cosmos overhead was abstracted into ideas, which served as architectural models for the tent but also for al-Ka'abah and later the Old Holy Masjid. Those Buildings were constructed as 'Images of Heaven That Were Procured From Heaven'.

#### 3.3.4 Cosmic influences

The cosmos over Makkah is distinct, its influence on buildings is an important aspect, more than is generally realized. Orion's irregular geometric field was influential in establishing the shape of al-Ka'abah's floor plan; the sun and the moon appear to have influenced the location of the Building's corners that involves an axis that links the sun and the moon twice per lunar month (observed in 1993 CE). This cosmic line-up line is one between the setting sun and the rising-over-the *Khandamaraat* oval moon. It is an imaginary cosmic axis<sup>11</sup> that corresponds with al-Ka'abah's SE corner, the Black Stone corner, and with the Building's NW corner, the corner that points in the direction of the setting sun. Thus, an oval moon highlights one end of this cosmic line-up line, later in the evening by a circular moon (Fig.3.12). The setting circular sun highlights the other end. This moon-sun alignment is a pronounced celestial occurrence; it also serves as a recurring reminder that the moon and the sun are moving yet permanent objects consisting both of a series of fixed shapes. The moon more so than the sun. The line-up line occurs twice per lunar months with approximate one-hour interval between each day. Due the solstices this cosmic line-up line, shifts in relation to al-Ka'abah's center post. However it does not shift a great deal. It stays within the boundaries of the solstices broad band.

Fig.3.12

Source; Eduard Schwarz (2000: Drawing)



### The cosmic line-up line and al-Ka'abah's axes

The cosmos over Makkah. The cosmic line-up line of the sun and the moon is shown in this drawing as a black line between a circle and an oval. This line can be seen as dividing the world into two parts corresponding with two gendered social areas one on either side of the line. The same line can also be seen as a dividing line between the lands of darkness and the lands of the full sun. These lands relate to the colours black and white and to the left and the right directions. The circle and the oval, significant geometric morphs were translated into Arab architecture. In the context of geographical direction finding, the simultaneous line-up line is also a radial, corresponding with one ancient location axis of the Ka'abah. Further, the landscape hillocks can be so connected as to form irregular polygons.

Al-Ka'abah and the Old Holy Masjid, both microcosms modeled on the macrocosm overhead provided for the mythical-spiritual needs of the ancient Arab community of Makkah. From early times onwards al-Ka'abah was, to use Geddes (1949: 194) phrase: "The place of [Arab] People, of [Arab] Folk and of [Arab] Work". Makkah was the place where Arabs produced, developed and anchored their way of life as their culture that embeds a specific *sous entendu* that of Makkah. The place identifies with religion and providing accommodation for pilgrims at a price, a basic industry by itself.

Besides skills and the anthropomorphic, and the zoomorphic interpretation of shapes there was a need to find geographical directions, a paramount need in an arid and desolated region. The cosmos overhead was used as an index from which directions and the angles of directions were extracted. Canis Minor was the direction to *al-Shams* (Syria), Canis Major pointed in the direction of *Yamaniy* (the Yemen), both traversed by *al-Majarrah* (Milky Way), the Arab track that cut across both constellations.

Both constellations were referents to places beyond Makkah. The cosmic line-up line and other nearby axes were referents to close by landmarks, buildings and other nodes. Standing on al-Ka'abah corners axes come into existence that point in the direction of *Jabal Omar* on one side and to and the *Khandamaraat* and mountain ranges beyond, on the other side. In due course, al-Ka'abah's four corners and later the Old Holy Masjid's *manaraat* and columns became objects from which directions in all directions could be and were determined.

Al-Ka'abah's four corners refer to the Yemen, Syria, Egypt and Iraq on Persian miniatures. The Building was thus not only the center of the *Qiblaat* system it was also a functional one when it was used to find geographical direction. The corners were used for that purpose but as reversed *Qiblaat*. If used like so, no Sacredness attaches. Direction finding made its own contribution the *sous entendu* of place that *Qiblaat* in reverse were used for finding geographical direction is evident from Persian miniatures designed as compass roses.

### **3.4 THE HARAM AREAS.**

#### **3.4.1 The Origins of the Haram Areas**

The cosmos then was quite influential in practical and spiritual ways. It was, and is, permanent with irregular geometric and etymological features that are also permanent. That permanence translates into an anchor, a *sous entendu* component that is difficult to separate from the invention and subsequent evolution of the Arab *haram*. Arabs developed a type of enclave where daily life and certain rules of conduct and behaviour had to be followed and adhered and enforced. To be stoned to death was not

uncommon. Those enclaves are known as *haraam* (plural for *haram*). The bundle of prevailing rules formed a *manasik* (the rules of the place), thus the *haraam* were also *or manasik* areas, sacred areas with rules, in case for the Makkah *Haram* a *manasik* biased towards the Sacred.

Serjeant (1982: 43-57) has investigated the origins of such areas in Hydramaut and has noted the similarities between these *haraam* and the Makkah one. Up to a point Makkah relates to Serjeant's social, political, philological and economical deterministic hypotheses; the religious aspects are barely touched. The notion of a *sous entendu* of place is also missing from Serjeant's work, as it is with Crone (1987 CE / 1408 AH) and Mahmood Ibrahim (1990 CE / 1411AH). In their works the economic aspect dominates and speculation on what might have been.

Serjeant, Crone and Mahmood Ibrahim discussed Makkah without recognizing some of the religious subtleties inherent in the place, in Makkah's architecture, the City's urbanization and the way buildings were and are constructed. This is mostly due the prohibitions placed on visiting the place by non-Muslims. However, all three authors are helpful in obtaining an insight into the way of life as lived in the *haraam*, politically commercially and economically, equating with Mumford's (1961: 3-50) metaphor the 'urban container'.

The subtleties important are the specific religious rites that are conducted. Those are the circumambulation of al-Ka'abah in Makkah, the stoning of the *jamaraat* in Mina, and other religious acts in Mina, Muzdalifah and Arafah. The three authors did not pay enough attention to these rites. Mina, Muzdalifah and part Arafah are located in the Greater Makkah *Haram*, the broader symbolic environment, shown as a polygon in a sketch by Abdul al-Walid al-Azraki (in Badi, 1992: 90). How those acts were conducted identifies with the *manasik* of place, translatable into a *sous entendu*.

The pre-Islamic and Islamic practices could only have come about in areas, which had been declared safe and sacred according with ancient Semitic, and later Arab rules that regulated for a way of life, and how to live it. Regulation meant controls from the top. Regulated also were the relationships with other tribes and the behaviour and conduct of the locals in and visitors to the ancient and non-ancient Haram areas. Those areas were 'haramnized'. They are not an Islamic invention but a Semitic Arab one, sanctioned and continued under Islam. According to Adeleke's (1992: 24) but also Esin's (1963: 38-44), throughout pre-Islamic *Arabiyy* numerous, using a Euro centric phrase, religious cults existed. Those were practiced in safe-for-those cults *haraam*.

### 3.4.2 The Pilgrim Routes and the *Miqaat*

A haramized territory is the Greater Makkah *Haram*, which is dominated by the Holy Complex or *al-Harameyn al-Sharifeyn*. It locates in the 'Hollow in the Earth', thus in that part of the *Ibraheem* Valley that is deepest. This deepest and central part is the dominant node of the Greater *Haram*, emphasized by large-scale buildings. The extent of the Greater *Haram* is defined by the inner *Miqaat* of Taneem, the somewhat further away Jauran'ah *Miqat*, and the entrance to the Arafah plain at *wadi Aranah* (Figs. 3.13--3.16). There are further another eight outer *Miqaat* (see Glossary on *Miqaat*). The *Miqat* furthest away is *Miqat Dhu'l al-Huleyfah* near Madinah (Medina) A *Miqat* is a place where the pilgrim changes his or her cloths into a special dress that of *Ihgram*, that must be worn during the trek from the *Miqaat* to al-Ka'abah in Makkah. When participating in *al-Hajj* or *al-Umrah*, al-Ka'abah must be circumambulated wearing *Ihgram*.

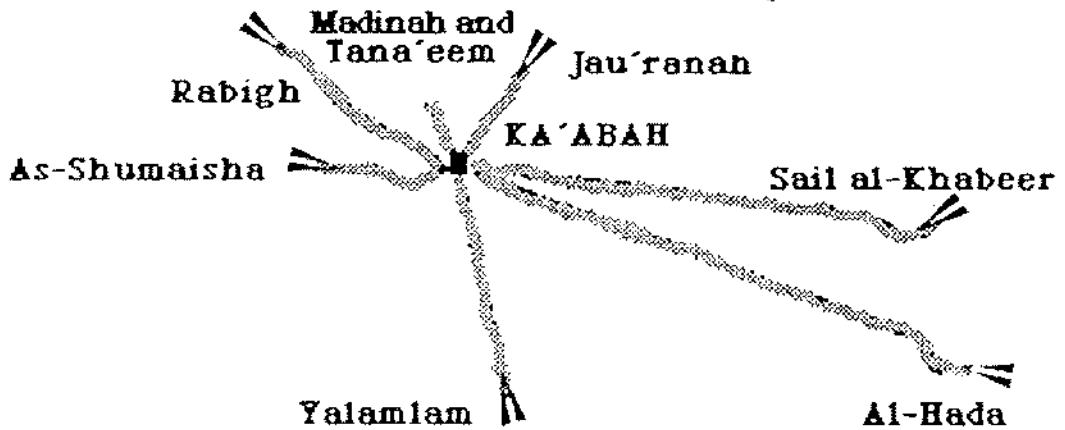
Suhacim (1990: Drawing) has indicated the extent of the Greater *Haram*. It was based on Abdul al-Walid al-Azraki who indicated its extent as an irregular geometric shape, a five sided irregular polygon with al-Ka'abah in the center, a misrepresentation of the reality in that *wudjun* and *grabbo* mountains dissect the actual landscape in such a way that makes such a polygon impossible. However, it is possible this diagram was an annotation.

A considerable improvement in indicating the extent of the Greater and Inner *Haraam* has come from Abdul Malik Bin Abdullah Bin Dehaish who has traced in detail the actual boundaries of the entrances of the Greater and Central or Inner *Haram* in a 1996 CE (1407 AH) publication. The Inner and the Greater *Haram* is accessed via the *Miqaat*. The *Miqaat* themselves were, and are, also *Haram* enclaves and foremost Sacred Entrances to the Greater *Haram*. Pillars mark those entrances. Besides the pillar defined *Haraam* there were a number of other non-Muslim *haraam*.

Stones, stone constructed pillars (Fig.3.17), or just outcrops of rock defined the *haram* boundaries. Abdul Malik does not give any credit to those pre-Islamic edifices as such but merges them with those parts of Islam that are concerned with the defining of boundaries. The boundary defined *Haraam* of Makkah, Mina, Muzdalifah, part Arafah, *Naklah* and *Ukaz* existed during the pre-Islamic period. Except for *Naklah* (South-East of Makkah), *Okaz* (Tihama coast) and *al-Taif*, East of Makkah in the *Hejaz* Makkah, Mina, Muzdalifah and part Arafah have remained in existence because of Islam and the rites associated with it. In pre-Islamic times religious rites were conducted in all these the valleys, the pre-Islamic *haraam*. These *haraam* included the *haraam* of the goddesses of *Manet* (in *al-Naklah*), *al-Uzza*, (in *Okaz*, Tihama coast) and *al-Lat* (a rock

Fig.3.13

Source: Eduard Schwarz (1997:Drawing)

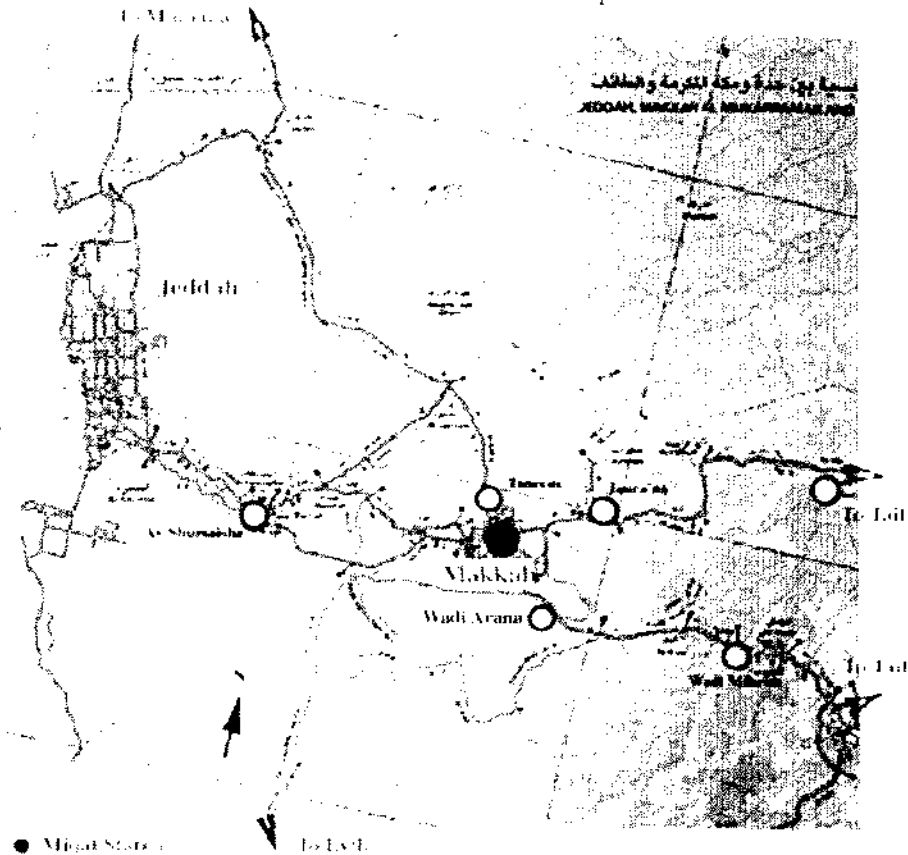


**The pilgrim schematic routes into Makkah**

This figure indicates the extent and direction of the traditional pilgrim routes coming in from Asia and Africa. The figure on the right hand bottom is the pilgrim route and modern highway from al-Hada, Riyadh and Eastern Arabia. They end in the center of the Muslim world that is Makkah.

Fig.3.14

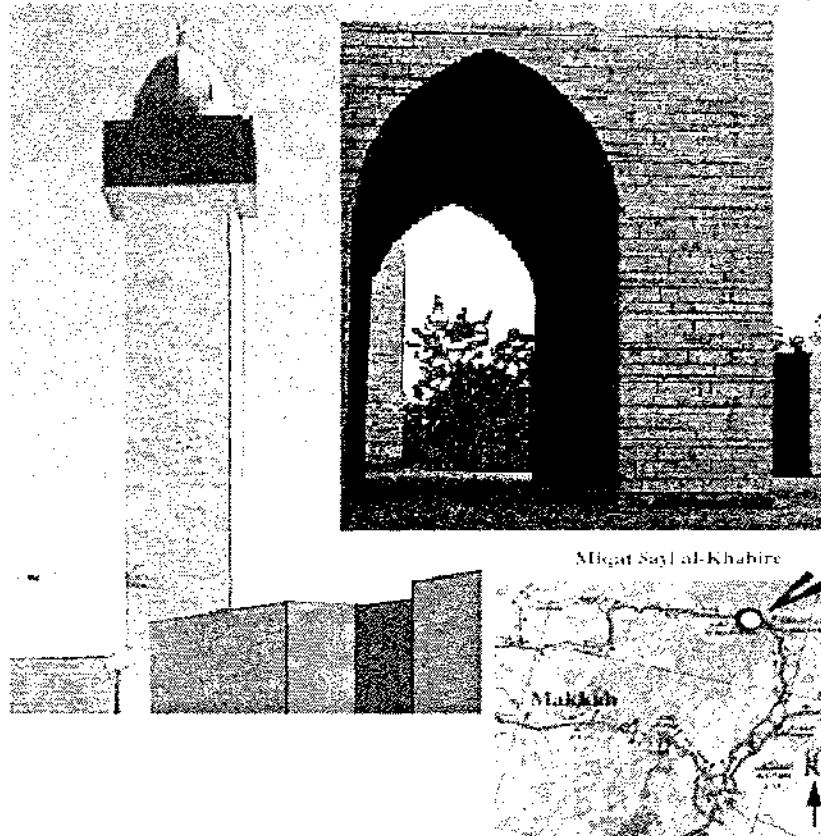
Source: Zaki (1986: Map)



**Makkah and some Miqaat**

**Fig.3.15**

Source: Eduard Schwarz (1993: Photograph and Zaki, 1988:Map)



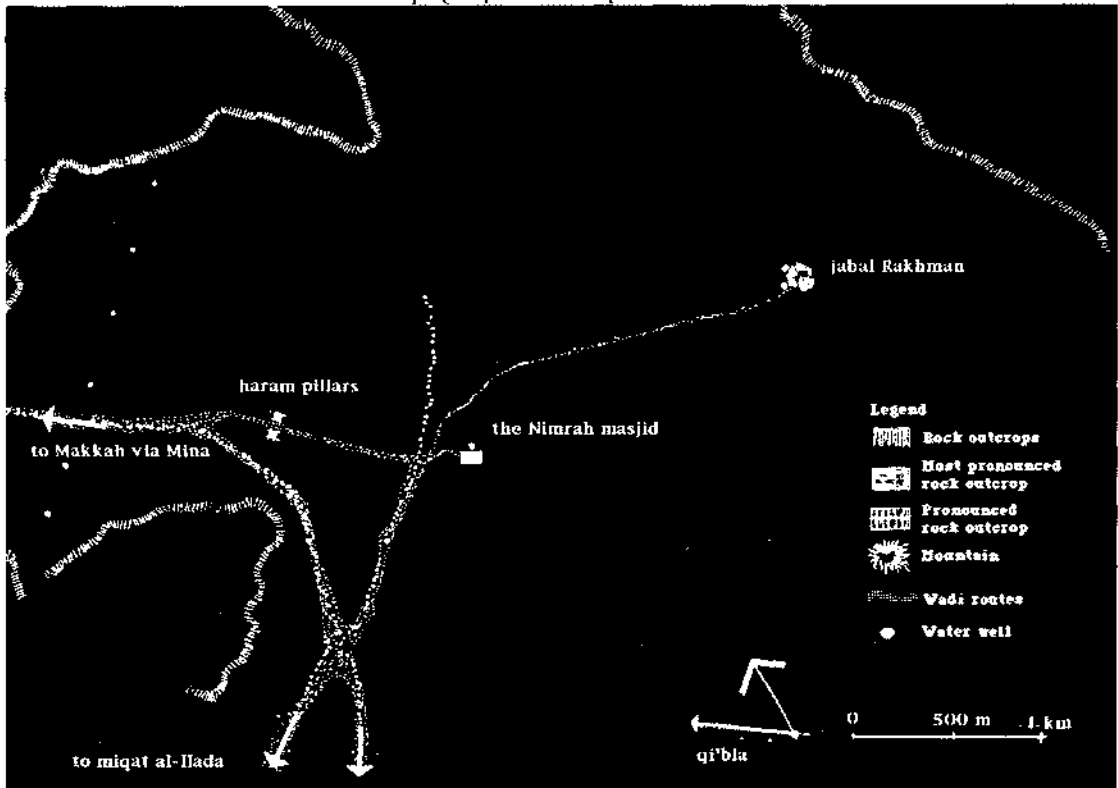
*Miqat al-Sayl al-Kabire; the al-Miqat Masjid*

in Taif). These three valleys do not exist anymore as *haram* (Esin 1963: 38). Yet, Makkah, Mina, Muzdalifah and part Arafah remain of high religious importance locally and for Muslims world wide, particularly for those participating in *al-Hajj* and *al-Umrah*.

Besides the local routes, Makkah was reached via the historic trade, silk and pilgrim routes that came in from China and Africa. Near Makkah, they were sacred for Muslims. Along the same routes were other non Muslim sacred places. Pilgrims destined for Makkah entered them at the *Miqat* stations.<sup>12</sup> The change of worldly cloths there into the white of *Ihgram* makes the *Hajji* highly visible and by historical tribal agreements, inviolate; he is temporarily subject to the rules of *manasik* of the Greater *Haram* of Makkah, which demands amongst a number of requirements the compulsory wearing of *Ihgram* whilst on *al-Hajj* or *al-Umrah*. Over time, Mina, Muzdalifah and a minor part of Arafah with *manasiks* of their own became part of the Greater Makkah *Haram* that induced subsequent changes to the *manasik*.

**Fig.3.16**

Source; Eduard Schwarz (1993, Based on Kingdom of Saudi-Arabia topographical map of c 1990



**The Arafah plain**

In the left middle are the *Haram* pillars serving as an entrance to the *al-Mazameyn* or *al-Alamein*



**Half of a left over *Haram* pillar giving access to the Greater *Haram* Area**

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**Fig.3.17**

Source; Eduard Schwarz (1993: Photograph)

Burton, in 1893 CE (1311 AH) sketched two then still in existing pillars. This figure shows what is left, only half of one pillar. Once there were two pillars on either side of the road. They stood at the entrance to the Greater *Haram* at *al-Mazameyn*, a *wadi* road leading into the Muzdalifah valley from the Arafah plain. Rutter, in 1928 CE (1347AH), referred to this same road as *al-Alamein*. The entrance was recently displaced by a highway

### 3.4.3 The *Haraam*, Their *Sous Entendu* of Place

Discussed earlier, the way of life, the way it was lived in the life-world, involved direction finding, building and weaving skills, and enforced by consensus behaviour and conduct. Those are a few factors out of the very many that helped to create and established the *sous entendu* place of Makkah in its earliest and early stages of its development. Over historic time that *sous entendu* became a sedimented one leading to the dogmatic. Thus *al-Hajj* cannot be undertaken without wearing *Ihgram* or non-Muslim cannot enter the Holy Territory. The circumambulation of al-Ka'abah has to be seven times round. Failing in this the pilgrim's *al-Hajj* becomes invalid and must be redone the next or any other year. When the Makkah *Haram* came about is shrouded in mystique, itself a contributor to Makkah's *sous entendu*. However, Serjeant (1982:42-57) has provided some useful insights on the creation of *haraam* that are indicative of the *sous entendu* generally of the Arab *haraam*.

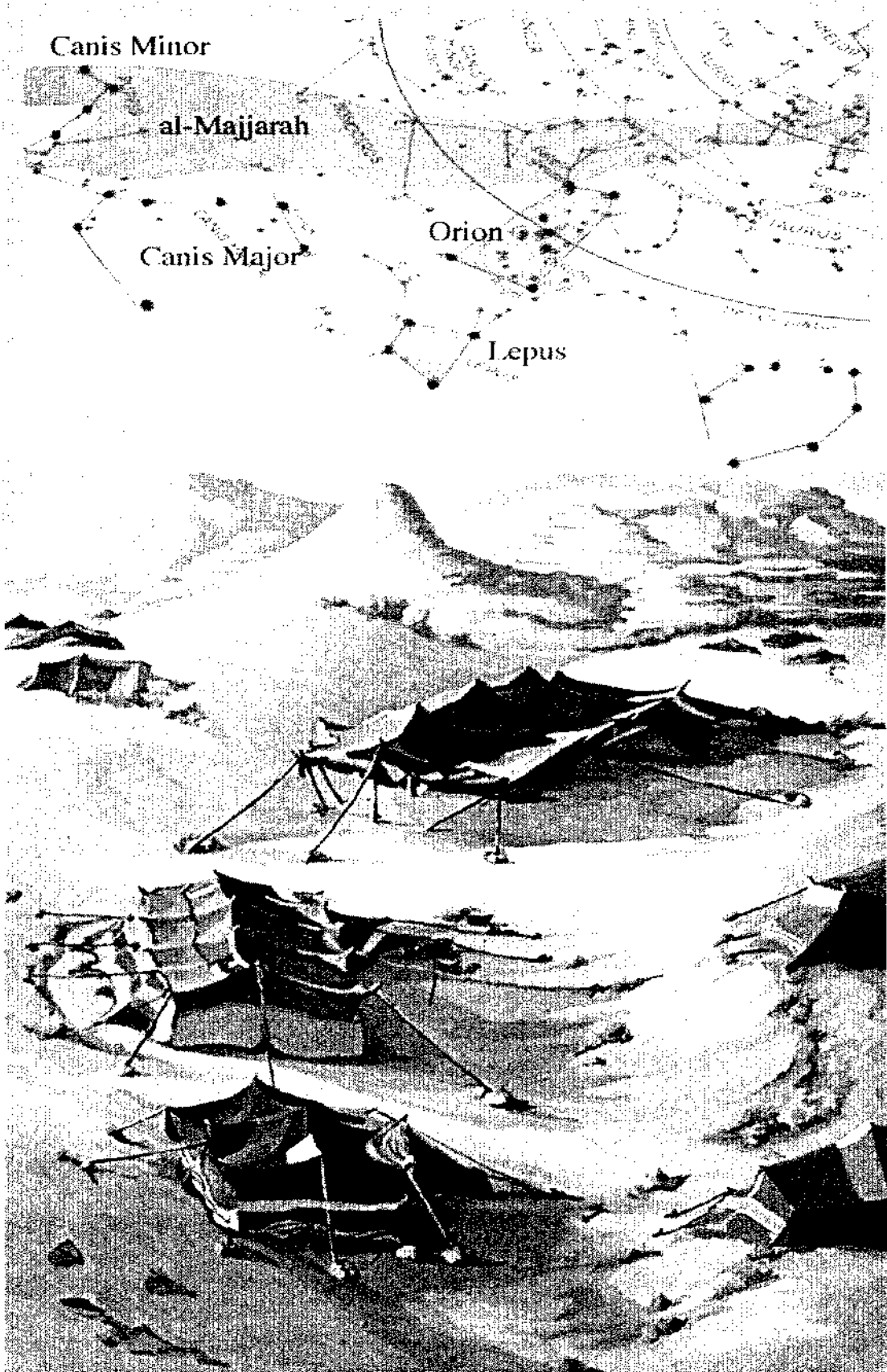
He states that tribal chiefs, who came from the most influential families, instituted the *haram*. Presumably, like monarchs, they were initially warlords that, with the help of a private army had conquered or pegged-out territory or additional territory and made it into a sacred territory per se, forestalling future uprisings. The tribal chiefs' private armies policed the *haraam*'s daily affairs, and with it the behaviour and conduct of the permanents living there. They kept control over the coming and going of visitors. To all, rules applied what could be done and what was forbidden. The end result was a *haram* with a *sous entendu* of place of its very own.

Controls infer enforceable rules and their application to conduct and behaviour. Those are invariably imposed from the top then sedimented and endorsed by consensus over time. They cover morals, mores, and human characteristics ranging from vice to virtue. According to Zakariah Bashir (1978: 9-25), women expected from men *karama* (dignity), *karam* (nobility), *muruwah* (chivalry), *nadjah* (deliverance), and *jud* (generosity). A man would look for a good wife and a good mother for his children. Those were and still are integral to Arab culture. They governed overall and specific social relationships. They formed, and still do, the foundation of social order, conduct, and relationships in the Arab Muslim life-world. Those characteristics involve the monadic and the complementary imparting a *sous entendu*.

A different code of conduct existed in the non-*haram* areas, the no-man's or *hil* lands. Regardless the different codes of conduct they equally were contributors to the Arab cultural construct embedding a *sous entendu*. One was always the other. These qualities formed the foundation of a social order, conduct, and relationships in the real local world of the non-*haram* areas.

**Fig.3.18**

Sources; Redactie Winkler Prins Encyclopaedia (1950:15), *Winkler Prins Atlas*, Brussels: Elsevier, and Eduard Schwarz, 2005: Collage)



**Contributors to the origins of the *haram*, stars and tents**

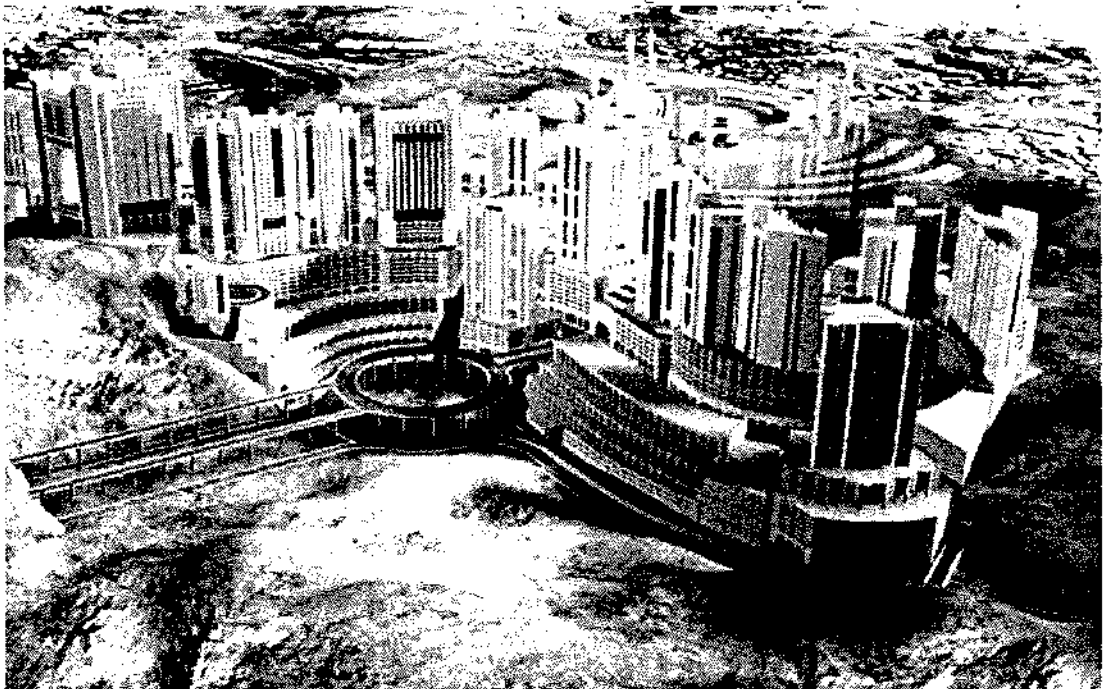
A *sous entendu* of place imparts a meaning and identity that is specific to that place, but there can be little doubt that conduct and behaviour, attending to and participating in ceremonies for example, were important and were enforced by those in charge of the *haram*. For Makkah those were the Religious Authorities assisted by the Sheriffs of Makkah in the 19th Century. They were powerful people. To day the controls are exercised by The Custodians of the Holy Mosque. They are members of the present Royal household, also powerful dignitaries. Whereas previously the Religious Authorities had the upper hand, to day the political arm of Kingdom has. Nevertheless, in daily affairs the Religious Authorities still have a considerable input and influence.

#### 3.4.4 Makkah's Special *Sous Entendu*

What has come about for Makkah is a *sous entendu* that is quite different from the 19th Century one. The change is a prominent architectural one, the sedimented religious *sous entendu* has not changed, quite the opposite. What has changed is that part of the *sous entendu* that intertwined with Arab Muslim architecture. It has been and is being displaced by imported European Islamic architecture, which is architecture of large-scale buildings on a large scale (Fig 3.19). This has been made possible from income derived from oil wealth. The amounts of money spent on Makkah's infrastructure, the New Holy Complex and on hotels surrounding it are truly astronomical, but also irresponsible.

Fig.3.19

Source: E mail with attached image of 18 May 2005



**Proposed accommodation for the world's wealthy pilgrims**

A proposed scheme for housing pilgrims during *al-Hajj* and *al-Umrah*, a scheme that will displace nearby traditional architecture of Makkah. It is a scheme of overpowering scale

From Crone and Mahmood Ibrahim it is clear that Makkah, Mina, Muzdalifah, and Arafah were trading posts based on exchange of commodities. It was barter trade to make the participation in *al-Hajj* at all possible. However, they were also exchange-of-ideas places. In particular, in the Makkah, *Haram Arab* architecture, Arab Muslim architecture, *rawasheen*, *mashrabiyaat* and *dribaata* architectures were available that was put on memory and subsequently reproduced as ideograms, illustrations, pilgrim certificates, ceramics, and as architectural models and design motifs used outside Makkah. It was a mental images-no-cost- attached -export by pilgrims from the Holy Environment to other adjacent places and areas and to the pilgrims' hometowns well beyond Makkah.

Makkah was a Sacred Place, which made a living by providing accommodation for pilgrims. Accommodation means construction of buildings and buildings represent architecture. What Makkah identified with was a place that had produced a range of architectures particularly that architecture which is seen today as traditional architecture. It is emphasized by *rawasheen*, *mashrabiyaat*, a fenestration architecture and *dribaata*. The same Enclave also attracted, and subsequently acquired architectural elements, which were initially foreign to their own, such as the *Maqam* (station of) *Ibraheem*, a *Maqam* of Ottoman design.<sup>13</sup> The early Old Holy Masjid also attracted Umayyad, Abbasid and later Ottoman architectures. This import and export of architectures imparted a *sous entendu* that belongs to Makkah alone. The next Chapter details the most important component of Makkah's urban territory, al-Ka'abah.

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## Notes, Chapter 3

<sup>1</sup> *Rawasheen* and *mashrabiyaat* are screened windows. *Driba* are shared alleys that give access to a number of houses.

<sup>2</sup> Once the pilgrims' mode of transport was the animal back of the camel and donkey.

<sup>3</sup> Robert Matthew, Johnson-Marshall and Partners' (RMJM&P) 1972 estimate for 1991 CE (1412 AH) was respectively for 1,200,000 pilgrims from abroad and 800,000 from within Saudi Arabia. The Ministry of Municipal and Rural Affairs (1986) in their *Final Project Report* anticipated 2,590,000 pilgrim arrivals in 1994 CE and 3,730,000 in 2005. The Saudi Arabia Ministry of Information Affairs, Internal Information (1991:19) in *At the Services of Allah's Guests*, refers to 827,36 pilgrims who arrived from abroad in 1989 CE (1408 AH). The New Zealand Embassy in *Middle East Economic and Business Update*, March 2000), pp.1, refers to 1,267,000 overseas pilgrims and 750,000 pilgrims from within Saudi Arabia, a total of 2,017,00 pilgrims. The Saudi Aramco World (2002: 27) states that in 2002 CE (1423 AH) 2.371468 pilgrims participated in *al-Hajj*.

<sup>4</sup> The Umm al-Qura University Library holds demographic statistical data, but their catalogue cannot be accessed via the web, neither is there an interloan system in existence between Saudi Arabia and New Zealand

<sup>5</sup> 39 stands for: Rock outcrop-Torriorthents mountains, rock outcrops are highly dissected mountains and steep moderately saline to saline soils on hill sides with low water retention. Limitations are not correctable. 5% of category 39 is suitable for small-scale farming.

41 stand for: Category 41 is similar to category 39 except that the drainage pattern is worse than for category 39. Of category 41, 40% is suitable for small-scale irrigation farming.

<sup>6</sup> 20.300 ha according to Ilam (1979: 37, Fig.1.5). The difference could be due to the re- definition of the City's boundaries.

<sup>7</sup> Ilam refers to 45 ha. The construction of the Holy Complex has let to large scale clearing of areas of traditional Makkah architecture.

<sup>8</sup> Atlal (1985: 67) refers to the variation in the Red Sea climate during the Holocene's cycle IV, in which a rise and re-establishment of normal temperatures and fauna took place in comparison to the coolest part of the Late Pleistocene that was one of an impoverished micro fauna, low temperatures and high salinity and a surface water temperature of 13-14 ° C. During that time the MSL was 80 -125 meters below the present MSL. Sea levels associate with deposits of seashells that turned into marble when subjected to the earth crust pressure. With the drop in sea levels the marbles become exposed. Around Makkah there are deposits of black marbles with white veins, which likely are thrust-up ones by volcanic action.

<sup>9</sup> Sometimes this hollow is incorrectly referred to as the navel of the earth. The latter is a European notion that originated with Plato's navel of water.

<sup>10</sup> The routes now are identifiable by their architecture.

<sup>11</sup> According to Linsey (1971: 35), a Babylonian text says: '*on the 14th (lunar phase) the god was seen with the god.... when the moon and the sun are seen with one*

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*another*: Linsey's quotation indirectly applies to the pre-Islamic cult of the sun and the moon, and to the existence of the cosmic line-up line.

<sup>12</sup> Visitors to Makkah came from many different directions and countries, well before the advent of Islam. As visitors' and trade attracting center Makkah is an ancient one. This was less so for Mina and Muzdalifah. Because of Makkah's isolation and for visitors to find their way in and out of the city, the finding of geographical direction became a necessity; it was star based, corresponding with geographical direction finding on land. This manifested itself by way of a number of *Miqat*, which surround the city.

<sup>13</sup> The now demolished *Maqam Ibraheem* was remarkable alike to the existing Ahmet III çeçme (fountain), a building near the Aya Sophia in Istanbul.

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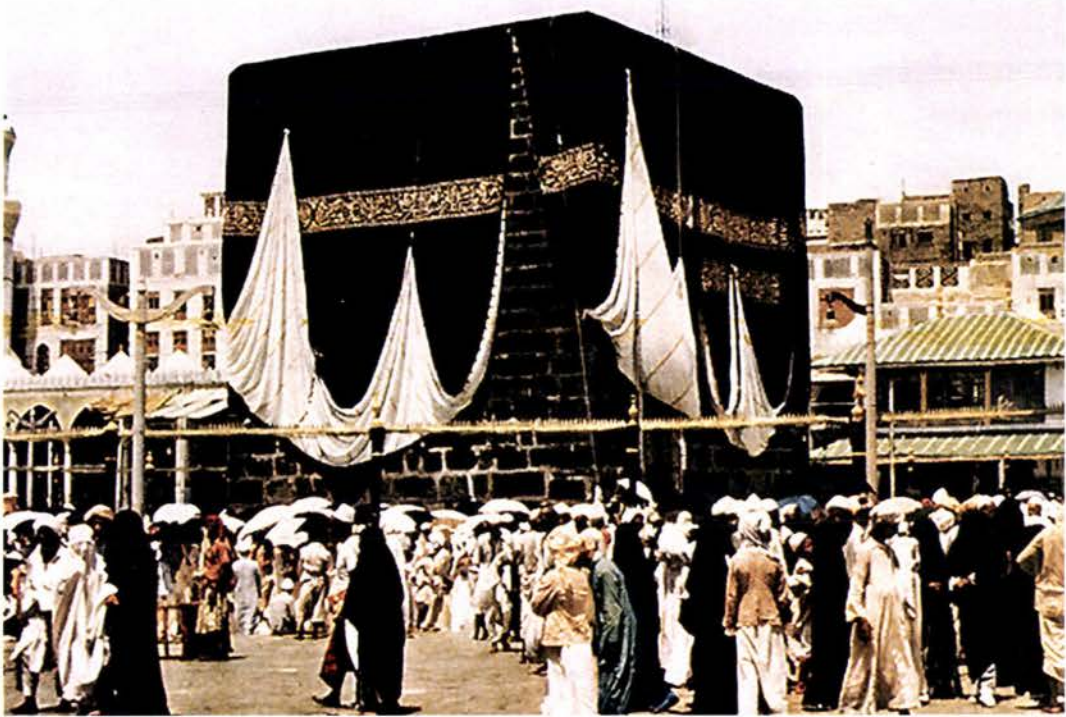
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# Chapter 4

## al-Ka'abah as an Architectural and Monadic Building

### Frontispiece Chapter 4

Source; Abdul Sheik Gafur (1953:36)



al-Ka'abah, the innermost part of *al-Haram* in 1953 CE (1372 AH)  
surrounded by the Old Holy Masjid

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## Chapter 4 al-Ka'abah as a Monadic and as an Architectural Building

### 4.1 Introduction and Chapter focus

Chapter 3 documented the Old Holy Masjid and al-Ka'abah of Makkah as critical components of urban Makkah and discussed their setting in the surrounding landscape. Al-Ka'abah itself is the most critical component of the Holy Complex. This Chapter describes this Building as a monad, including the Building's architecture as signified by its specialties, its construction chronology and its dimensions and their variations, the materials used in its construction, the Building's function and its Arab architecture.

### 4.2 MONADOLOGY; AL-KA'ABAH AS A MONAD

#### 4.2.1 The Monadic al-Ka'abah

Al-Ka'abah is a Building made-up of horizontal and vertical irregular geometric shapes whose extent is confined by boundaries created by other similar shapes. The same applies to the irregular geometric constellation of Orion overhead. Local Arabs used the shapes of a number of constellations and shapes known from their own surroundings to create their architecture of shapes and surrounding spaces. These spaces and shapes make for an al-Ka'abah that embed the attachments, amongst other attachments and specialties, cosmos, the anthropomorphic, notions, colours and textures. Those make these spaces and shapes, and with it al-Ka'abah itself, into monads. Al-Ka'abah itself can be perceived as a monadic construct.

To that great central area overhead al-Ka'abah, which is *al-Jabar* (Orion), similar attachments, correspondences and configuration were once made. *Al-Jabar* corresponds with al-Ka'abah's floor plan via an imperfect or heteromorphic fit in that the center post of al-Ka'abah corresponds with the central star of Orion, al Nitak. Al-Ka'abah's floor plan and roof are irregular trapeziums or irregular four sided polygons; they correspond with the irregular trapezium of *al-Jabar*, which is also a *manazil* with the numbers six and seven (Kunitzsch (1961: 78). From that, al-Ka'abah can be described as a micro cosmos corresponding with the macro cosmos overhead connected to it by an axis mundi, an imaginary axis from al-Ka'abah reaching into the heavens. This heavenly connection is appropriate and relevant to al-Ka'abah as a Sacred Building. The other heavenly connections involve spaces created by the walls, the floor, the roof and the ceiling of the Building. Together they enclose cubic space connected to abutting and adjacent spaces by way of double doors and an opening in the roof. Thus the particular way in which the shapes and spaces of al-Ka'abah are related and interlink to each other, the thickness of the walls, their

roughness, the posts, the way the Building is constructed, its function, its direction to precessed North and Canopus, and its specific symbolic content, make the Building one of Arab architecture specific of Makkah. That content consists of attached notions, the cosmos, the anthropomorphic, colours and textures, or the nexus. The zoomorphic or the botanic do not attach to al-Ka'abah. As a complete whole, al-Ka'abah itself is a monad amongst the community of monads. That community consists of al-Mataf, al-Hatim and the Old and New Holy *Masajid* or the Holy Complex that is centered by al-Ka'abah.

As a monad and as the whole, al-Ka'abah consists of contributing entities that embed a single or collective attachments selected from the nexus. The monad al-Ka'abah embeds attachments mostly as notions and stories that have been made and attached since time immemorial. Thus to the area left of the doors, which is the *Mutalzam*, and the area and below the doors attaches an element of disfavour inherent in Arab and Muslim culture, where the left is inferior to the right. Worshippers cling to that area whilst praying that is suggestive of seeking approval to access the Building. This attached notion is an historic one: the beginnings of al-Ka'abah go back some four thousand years. The Building itself consists of nine shapes. Those are the floor, the four walls, the roof, the ceiling, the double doors, and the staircase to the roof. The four walls enclose a single space; the roof and the ceiling enclose another single space.

In some Prayer rugs al-Ka'abah's four corners are emphasized leading here to a new and poetic notion that those four corners support the flat roof of heaven, which is al-Ka'abah's flat roof. This heavenly flat roof is represented by the constructed space between al-Ka'abah's roof and the ceiling and is based on Surah II: 20 that refer to the earth as a bed and heaven as a flat roof or ceiling. A similarity exists between this roof and ceiling space of al-Ka'abah. This notion is analogous to the notion of heaven in architecture that is attached to the dome by architects.

Further and notionally, the centre post of al-Ka'abah is the centre of the world and corresponds with the pivot of heaven, *al-Jauza* of Orion. Its parapet is a Sacred Boundary corresponding with *al-Qu'ran's* edges that are decorated with calligraphy that form a Sacred Boundary. Clad with *al-Kiswah* (a gold embroidered cover), al-Ka'abah resembles a *mater imaginaria*. The latter infers the anthropomorphic. Referred to in Chapter 2, section 2.2.1, Lethaby (1954: 147), although not directly

referring to al-Ka'abah, discussed the cosmic connection between architecture and the cosmos by stating:

*'Ideas of sharing the permanence of the universe by correspondence.*

Chelhod (in Needham, 1973: 250) made a similar connection between architecture and the heavens. Applied to al-Ka'abah, it makes the Building a micro cosmos. These collective notions under the Theory of Monadology make al-Ka'abah into a monad and the dominant spiritual monad of the Holy Complex.

### **4.3 AL-KA'ABAH AS AN ARCHITECTURAL CONSTRUCT**

#### **4.3.1 General Characteristics of al-Ka'abah**

The Building, however, is also a functional one as it was used, and still unofficially is, to track the movement of the sun and its shadows. The shadows cast by the Building were important in this. Thus, when there is no shadow on the al-Mataf floor directly below the Black Stone, the sun is at its daily Zenith, which varies slightly throughout the solar year for that Latitude, hence a variation in local prayer times. Local Zenith sun signals the time of the *Zhohor* prayer. Al-Mataf as a flat surface, besides being the circumambulatory area, served also as an area where the sun's movement is traced by way of al-Ka'abah shadows, in technical language, a trace.

At *Zhohor* the sun's shadow at the foot of *Hadjjar Aswad* (Black Stone) is zero. *Al-Asr*, the late afternoon prayer commences when the shadow cast by al-Ka'abah is equal to the height or twice the height of the Building. The shadows cast by al-Ka'abah determined the times of the five daily prayers. Thus the time of the day was determined without using twenty-four time units. In that way al-Ka'abah was used functionally, which was done in conjunction with al-Hatim. This low semi circular wall is about 1.25 meters high can be used to track the movement of the moon and the twenty-eight cosmic *manazils*.

The Old Holy Masjid has surrounded al-Ka'abah, its Hatim, and al-Mataf since the completion of the al-Waleed extension and more recently by the New Building (Fig. 4.1). In the center of this Complex, the rites of *al-Tawaf* are conducted, which is the circumambulation of al-Ka'abah, and *al-Tawaf al-Wi'da'* the farewell circumambulation of al-Ka'abah. *Al-Tawaf al-Wi'da'* are conducted after the completion of *al-Hajj* or *al-Umrah*, which in Eliade's (1969: 43) terminology are rites of the centre. The other rite is *al-Sa'y* that consists of walking, part jogging seven times between al-Safa and al-Marwa. The part where pilgrims do the jogging is that part of the Safa-Marwa corridor where the ancient *Wadi Ibraheem* crossed *wadi*

*al-Maa'xa*. The remainders of the prescribed Islamic rites take place outside Makkah, in Mina, Muzdalifah, and on the Arafah plain. Those rites are fully detailed by Glassé (1989: 313-317) and by Aramco, Vol. 53, 2002, pp. 11. The Aramco description of *al-Hajj* is shown below as *The Steps of al-Hajj*.

# The Steps of Hajj



An annual gathering at Makkah long predates the coming of Islam, but the Muslim Hajj, the last of the five "pillars" of Islam, is ordained in the Qur'an, and it was the Prophet Muhammad who, by his example, defined its elements exactly. Muslims from around the world fol-

low in his footsteps to this day. The Hajj always takes place on the same six days of the lunar calendar, beginning on the eighth and ending on the 13th of the month of Dhu al-Hijjah, the last month of the year. The rituals take place in five locations in and near Makkah: On the outskirts of the Holy City; in the Holy Mosque; on the plain of 'Arafat; at Muzdalifah; and at Jamarat. Each ritual must be completed at or within a prescribed time.



## ① *Ihram* ("purification"): up to 14 days before Hajj

Before entering Makkah, pilgrims clean themselves physically and spiritually at designated times and places at the edge of the sacred precinct surrounding the city. At this time they announce their intention to perform Hajj by reciting an invocation called *talbiyah*. (See page 20.) Men don a garment of two seamless pieces of white cloth called *ihram*, which they wear for the duration of Hajj. Women wear modest and unobtrusive dress of any color, and cover their heads. (Pilgrims arriving by air may don the *ihram* before or during their flight.) For the next six days, all outward differences among pilgrims are erased.

## ② *Tawaf* at the Holy Mosque: before Hajj

Between their arrival in Makkah and the eighth of Dhu al-Hijjah, pilgrims walk seven times counterclockwise around the Ka'bah, the cubical structure at the center of the Holy Mosque in Makkah. This circumambulation, which expresses the centrality of God in life, is called *tawaf*. Afterward, along the eastern side of the Holy Mosque, pilgrims run seven times between the fountains of Safa and Marwah, commemorating the desperate search for water by Abraham's wife Hajar. This ritual, undertaken now in a 400-meter (1,300') covered arcade, is called *safu*. The spring that God brought forth for Hajar and her baby son, Isma'il, is *Zamzam*, which flows copiously still.

## ③ Encampment at Mina: the first day of Hajj

On the eighth of Dhu al-Hijjah, pilgrims gather in the flat valley of Mina, about five kilometers (3 mi) east of Makkah. Meditating and praying in preparation for the next day, most spend the night in tents.

## ④ *Wuquf* ("standing") at 'Arafat: the second day

In the morning of the ninth, pilgrims continue 10 more kilometers (6 mi) east to the plain of 'Arafat. From noon prayers until sundown, this is the emotional climax of the Hajj and the devotional apogee of Muslim spiritual life. Pilgrims stand or sit—some for minutes, some for hours—and before God reflect on their lives and pray for mercy and renewal. Some climb Jabal Rahmah, the Mount of Mercy, a rocky hill at the foot of which the Prophet Muhammad delivered his farewell sermon.

## ⑤ Muzdalifah: the second night

After sundown at 'Arafat, pilgrims turn back toward Makkah and stop for the night at Muzdalifah. There, most pick up 49 stones that they will throw at the three pillars of Jamarat over the next three days.

## ⑥ Stoning at Jamarat and 'Id al-Adha: the third day

At dawn on the 10th, pilgrims begin moving to a place just west of Mina called Jamarat ("stoning"). There they throw seven pebbles at the first of three pillars which have come to represent

Satan. This symbolic repudiation of evil commemorates Abraham's three rejections of Satan when God asked him to sacrifice his son; afterward, pilgrims further commemorate Abraham's faith by sacrificing a sheep, as God commanded Abraham to do. Thus this day is the first of the three-day *'Id al-Adha*, the "Feast of the Sacrifice." After throwing stones at the first pillar, men shave their heads, and women cut off a lock of their hair. Male pilgrims may return to their customary clothes, although many remain in *ihram* for the duration of the three-day *'Id* or until they leave Makkah.

## ⑦ *'Id al-Adha* and *tawaf al-ifadah*: the third through sixth days

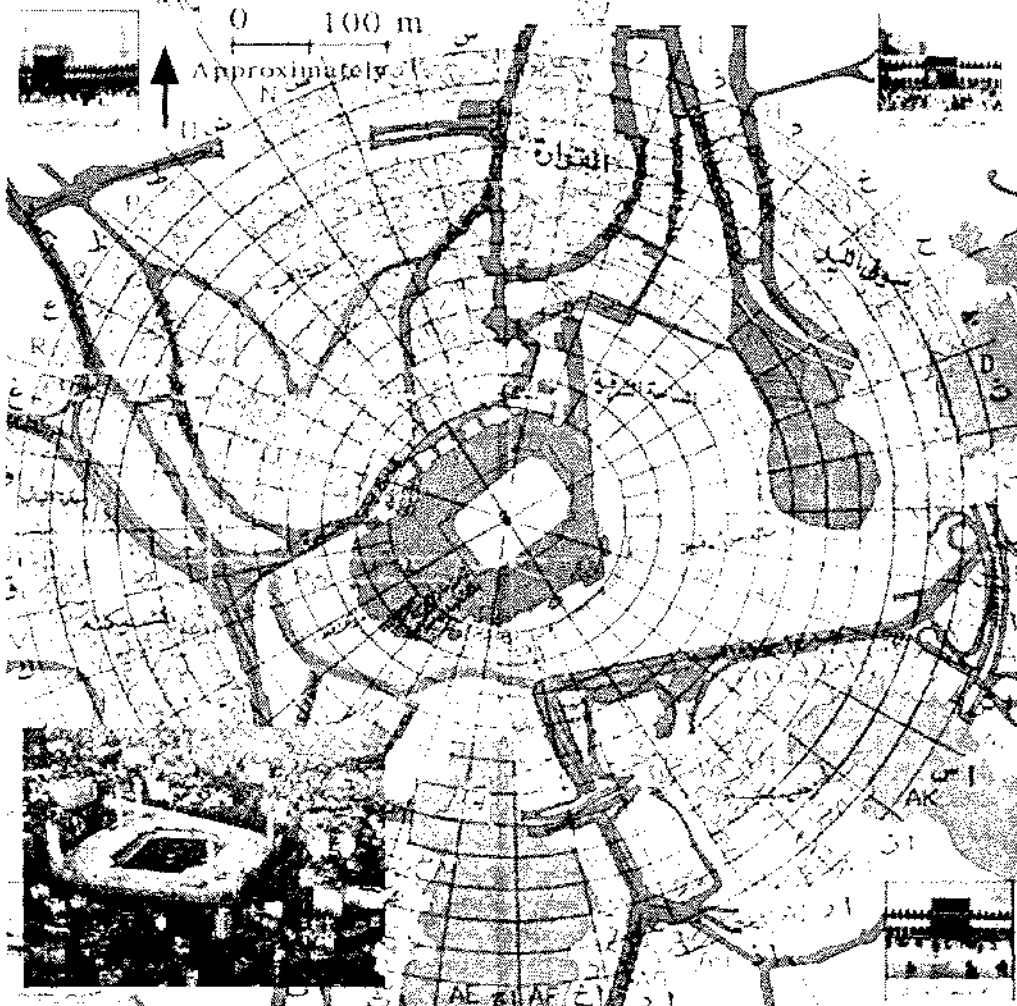
Pilgrims return to the Holy Mosque in Makkah at any time during these days, again circle the Ka'bah seven times and perform *safu* again. After this, many return to the tents at Mina and, from there, pass through Jamarat again on the fourth and fifth days, stoning each of the three pillars with seven pebbles. On the 13th of Dhu al-Hijjah, pilgrims return to the Holy Mosque to make a third, final, "farewell" circumambulation called *tawaf al-ifadah*. At this point, pilgrims are deconsecrated, and the state of *ihram* is ended.

## ⑧ Departure: up to 14 days after Hajj

To ease crowding, pilgrims do not leave Makkah and Saudi Arabia all together. Many pilgrim groups go north to visit Madinah, the second Holy City of Islam, and the Prophet's Mosque there.

Fig.4.1

Source: Kingdom of Saudi Arabia Ministry of Information (c 1990: Map)



*al-Haram al-Sharifein*

The Old and New Holy *Masajid* surround *al Haram al Sharifein* or the Sacred Court with al-Ka'abah in the centre. Ancient neighbourhoods, and narrow streets surround the Complex.

#### 4. 3. 2 al-Ka'abah's Construction Chronology

The raising of al-Ka'abah on existing foundations by *Hazrat Ibraheem* and his son *Ishmael* is referred to by *al-Qi'ran* (A. Yusuf Ali, Surahs II: 127 and XXII: 26). This places the Building in the late Neolithic era. Some 2200 years later the earliest recorded enlargements of the Sacred Area surrounding al- Ka'abah commenced in an area previously held as sacred by polytheists. Its extent was marked by *haram* pillars (Abdul Malik, 1990: 23).

Al-Ka'abah, al-Hatim, and al-Mataf have been renovated and re-constructed a number of times throughout their history. According to The Kingdom of Saudi Arabia, Ministry of Finance and National Economy (c 1989: 96) the last two comprehensive restoration of al-Ka'abah occurred in 1629 CE (1039 AH), followed by the 1957 CE

(1377 AH) one. The Building's construction and dimensions are shown in Figs. 4.2-4.6. Its construction chronology is fully detailed in Appendix Three.

Of the Holy Complex, al-Ka'abah is a great deal older than the Old Holy Masjid. Although al-Ka'abah has been rebuilt and renovated a number of times, the Building's construction, as it exists to day, is a late Neolithic model; the method of construction and the materials used in its construction have not, or little changed, since then. The Building is a collection of horizontal and vertical irregular geometric shapes that correspond with of Arab culture and architecture. It does not have the architectural components such as cylindrical and octagonal columns, pinnacles, medallions, crenulations or *Manaraat*. Those are Old Holy Masjid architectural elements.

The Kingdom of Saudi Arabia, Ministry of Information, Foreign Information (n.d.: 12) states that the first renovation of al-Ka'abah, which is also the late *Bani Quraish* Ka'abah, occurred in 605 CE (-16 AH). According to Glassé (1989: 454) this happened in 608 CE (-19 AH). Abdul al-Walid al-Azraki (in Badi, 1992: 92, 94 98-101) refers to four earlier constructions. He states there were eight constructions and re-constructions of al-Ka'abah altogether. In this Abdul al-Walid al-Azraki differs from at-Tabari. According to at-Tabari (in Badi), al-Azraki's fourth construction was the first one, that one of *Hazrat Ibraheem* and his sun *Ishmael*.

The first al-Ka'abah according to Abdul al-Walid al-Azraki (in Badi) narrative was the Throne in heaven constructed by angels. The second was the one of Adam, the third construction by the son of Adam, Seth, followed by the construction of *Hazrat Ibraheem* and *Ishmael*. There were four other kabaat those constructed later by the *bani* (tribe) *al-Amaliqa*, *bani Jurham*, *bani Qu'say*, and *bani Quraish*. Those ka'abaat belong to the pre-Islamic period, except the late *Qu'raish* one which covers both the end of pre-Islamic era and the early Islamic one.

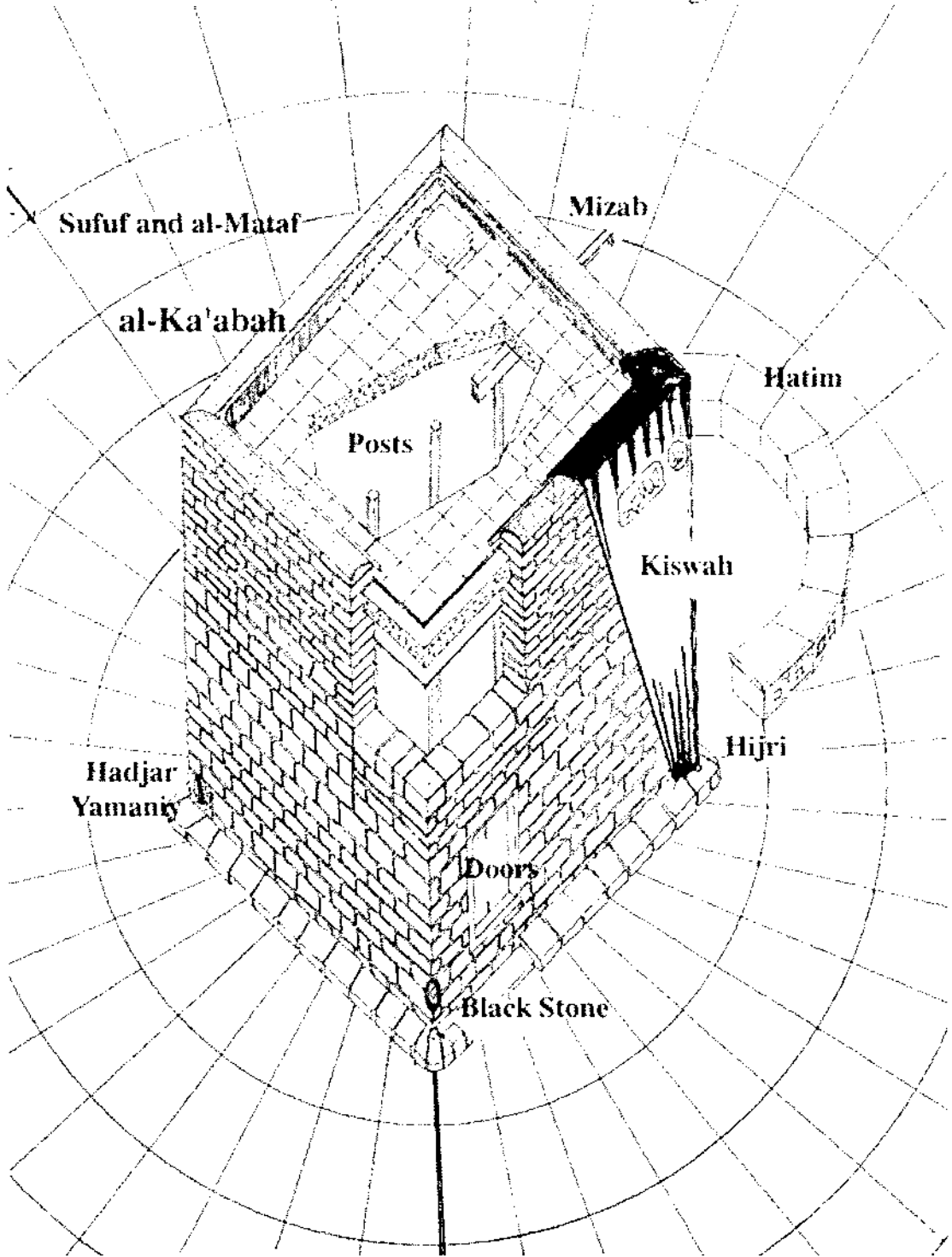
According to the Kingdom of Saudi Arabia, Ministry of Information, Internal Information (n.d.: 62) in *At the Services of Allah's* and al-Shareef (1990: 31) other improvements of al-Ka'abah's environment were carried out in 639 CE (17 AH) by extending *al-Fina'* (the open area immediate adjacent and surrounding al-Ka'abah. *Al-Fina'*, was cleared from encroaching houses under *Khalif Omar Bin al-Khattab* followed by a further clearance in 647 CE (26 AH) under *Khalif Othman Bin Affan*. These dates and events occurred after the introduction of Islam. Fire swept al-Ka'abah in 684 CE, (64 AH), according to Creswell (1969: 4), cracking *Hadjar Aswad* (Black Stone). Subsequently the Building was demolished. The development from *al-Fina'* to the Sacred Interior Court or *al-Sahn* is further covered in Chapter 5, section 5.4.2.

Chapter 4 al-Ka'abah axonometric drawing Fig.4.2.

The access lid to the roof should be on the right hand side top, thus towards the Hatim corner.

Fig.4.2

Source: Eduard Schwarz (1993: Drawing)

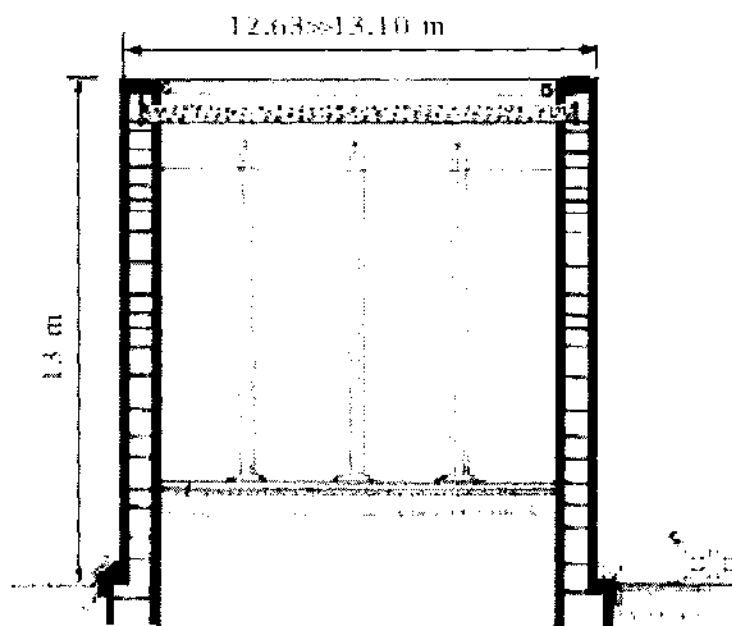


al-Ka'abah and its Hatim

This axonometric figure, together with Figs.4.3–4.6, displays the different components of al-Ka'abah and al-Hatim.





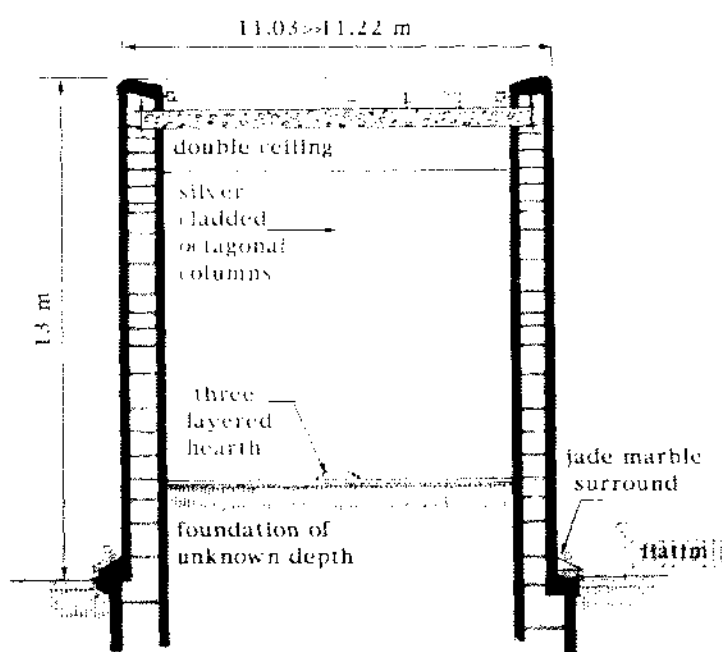


Scale 1:200

al-Ka'abah; dimensioned longitudinal section

◀ Fig.4.5

Source; Kingdom of Saudi Arabia, Finance and National Economy (c1989),  
Base plan enhanced by Eduard. Schwarz



Scale 1:200

al-Ka'abah: dimensioned cross section

Corrections

◀ Fig.4.6

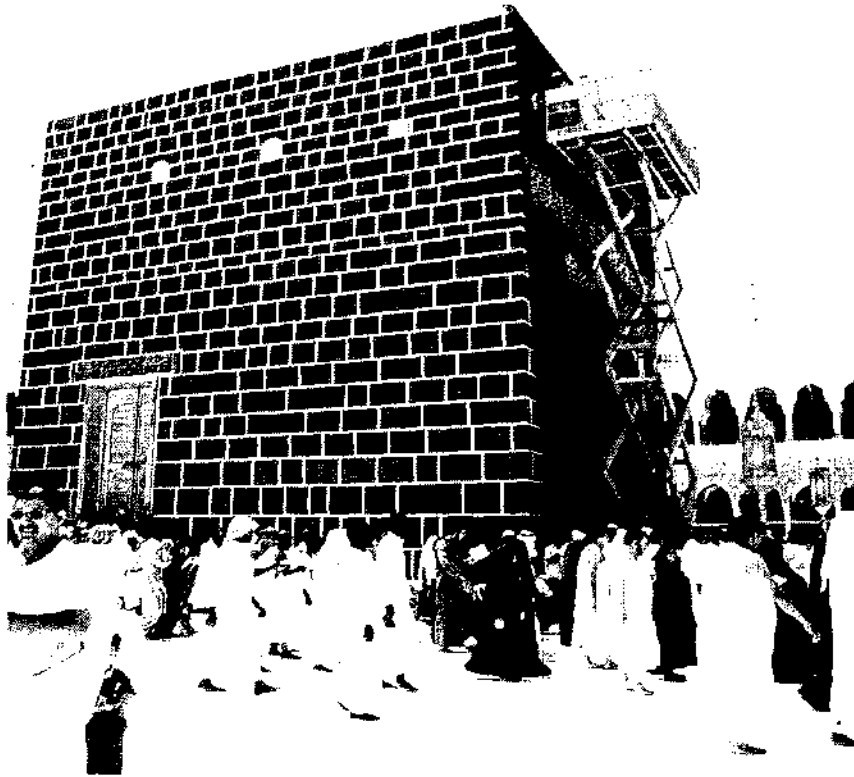
Source; Kingdom of Saudi Arabia, Finance and National Economy (c1989),  
Base plan enhanced by Eduard Schwarz

**Chapter 4 al-Ka'abah longitudinal and cross sections Figs Fig.4.5 and 4.6.**  
The walls are shown as single ones. In reality they consist of two layers pinned together during the reconstruction of the building in 1957. They are about one meter thick. Further I have accepted that the height of the building of 15 meters as quoted by a number of authors was incorrect. It is possible they were correct. The building was reconstructed in 1975 and the building may have been lowered in that year to 13 meters.

Under the self appointed *Khalif* Abdullah Ibn az-Zubayr the al-Hatim area became part of al-Ka'abah in 685 CE (64 AH). This made the Building's floor area larger. Under general al-Hajjaj Ibn Yusuf of *bani Thaqeet*, al-Ka'abah was demolished and reconstructed in 693 CE (74 AH) to dimensions of the late *Quraish* except for its height, which was increased to 27 cubits (13 meters) from 18 cubits (8.66 meters). The earlier *Bani Quraish Ka'abah* was 9 cubits (4.33 meters).<sup>1</sup> The al-Hajjaj construction re-established a separate area once again for al-Hatim and one for al-Ka'abah itself, thereby re-establishing the boundary, *al-Hijr*, between al-Ka'abah and al-Hatim. From photographic evidence, the increase in height from 18 to 27 cubits can be observed. The wall surface between 18 to 27 cubits shows smaller grabbo stones in comparison to the grabbo stones between 0 and 18 cubits (Fig.4.7).

**Fig.4.7.**

Source; 2004: e-mailed web page from Christchurch, New Zealand



**The 18 and 27 cubits heights of al-Ka'abah**

This photograph is one after 1993. In that year the joints were quite irregular. In this photograph they are excessively linear. This photograph also depicts the installation of *al-Kiswah* on the al-Hatim side

Al-Ka'abah throughout its history has not only been affected and damaged by fire but also by a series of floods or *sayls*, particularly the 1629 CE (1039 AH) one, which did considerable damage.<sup>2</sup> Repairs to al-Ka'abah were carried out in 1230 CE (629 AH), in 1282 CE (680 AH) and in 1355 CE (757 AH). In 1552 CE? (960 AH?) cracks were

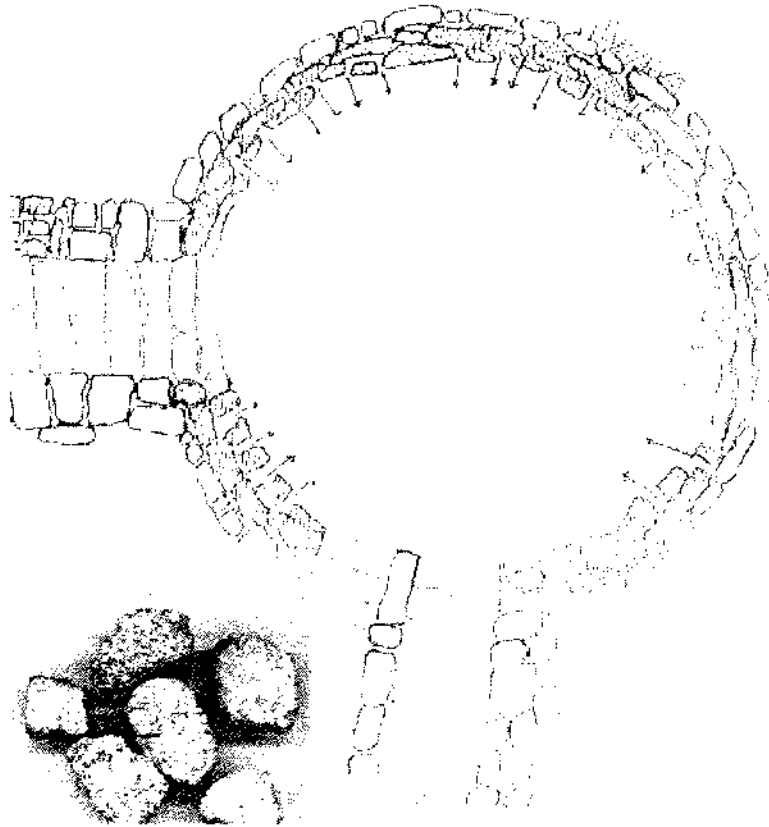
found in al-Ka'abah's ceiling followed by cracks in the wall in 1621 CE? (1031 AH?). The 1629 CE (1039 AH) flood caused some of the walls of al-Ka'abah to fall down and *Maqam* (station or stand) *Ibraheem* was swept away. This led to the Building's subsequent repair under the Ottoman Sultan Murad III. According to the al-Haramain Office (1993: 78) in 1858 CE (1275 AH) the ceiling was renewed and covered with marble. Gazanfar Ali Khan (1905:174) says that in 1885 CE (1313 AH) the floor was renewed with marble. All surfaces were clad with marble in the major upgrade of 1957 CE (1377 AH) when the whole of the interior of al-Ka'abah was restored. To what extent is only partially known. (Kingdom of Saudi Arabia, *The Two Holy Mosques in the Reign of the Custodian of the Two Holy Mosques King Fahad Bin AbdulAziz*, n.d.: 65-77.

Also, in the same major upgrade, the roof timbers were replaced with a reinforced concrete. This concrete slab was finished with white marble slabs replacing green marble slabs. Below the roof, a new suspended wooden ceiling was installed of Burma teak. The roof and suspended ceiling are between 1.35 meters and 1.40 meters apart as was the earlier one. The existing three silver or gold clad octagonal wooden posts were renewed. Some of the older parts may have been re-used in the upgrade. The posts support a timber beam on which the new Burma teak ceiling joists rest according to Kingdom of Saudi Arabia (n.d.: 74), *The Two Holy Mosques in the Reign of the Custodian of the Two Holy Mosques King Fahad Bin AbdulAziz*.

Al-Ka'abah consists of four walls, a floor and a roof and foundations. How deep the foundations are is unknown. There have been many floods. With the floods came the sediments, gradually filling in a deep seated Valley and *wadi*. It can be assumed that the foundations' depth of al-Ka'abah correspond with the approximate depth of the *Zem-Zem* well which is 13 meters deep where water enters from an underground stream. Logically al-Ka'abah's foundations would not have penetrated the underground streambed. The actual depth of the well is 31 meters (Figs.4.8--4.10). That depth most likely was created by the continuous falling water on greywacke rocks, creating an irregular hole of various diameters, down to 31 meters. This happened over a long historic time period. Due to the steady depositing of gravel and sand the well was gradually built-up to the present -1.00 meter level, a process that took thousands of years. In 1993 CE (1414 AH) three other wells were drilled just outside the confines of the New Holy Masjid. Water was encountered at a depth of about 13 meters in one well. The two other wells were dry (personal observation).

**Fig.4.8**

Source: Eduard Schwarz 1993:Fieldwork, based on Yahya Hamza Kushak (1983: 228).

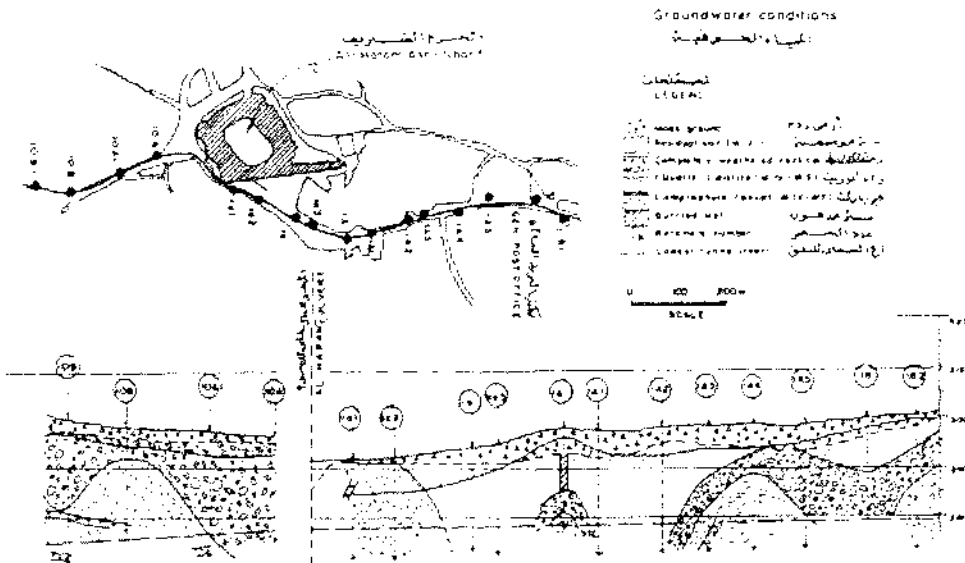


**Plan section of the Zem-Zem well at -13.00 meters**

The arrows indicate the flow of water discharging into the well. The wider parts suggest ancient paths leading to the well. The insert displays rock material from an about 13 meters deep well drilled just outside the confines of the New Holy Masjid. At that depth water was encountered (personal observation). Width of the small stones is approximately 10 mm.

**Fig.4.9**

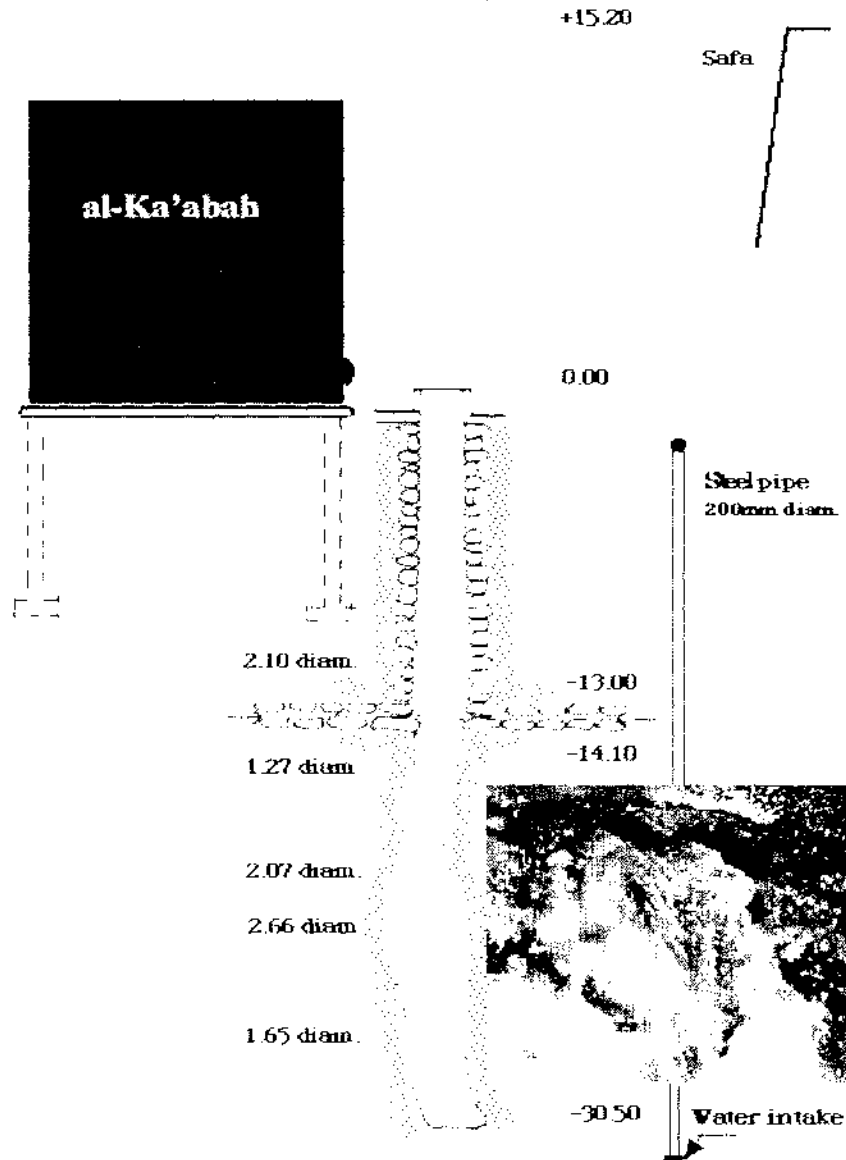
Yahya Hamza Kushak. (1983: Fig.120)



**Soil strata of Wadi Ibraheem**

Fig. 4.10

Source: Eduard Schwarz (1998: Drawing, based on Yahya Hamza Kushak (1983:228).



The Zem-Zem well; cross section

The insert (Zaki, 1986: 46) shows water flowing into the well from a water path that corresponds with the -13.00 meters level. All dimensions are in meters and are subject to verification. Scale approximately 1:20

### 4.3.3 al-Ka'abah's Construction and Materials Used

Al-Ka'abah is constructed of heavy blocks of rough-hewn grabbo laid in stretcher bond. The grabbo was initially quarried nearby in the *Harat ul-Bah* area (locals maintain) and has been re-used in subsequent rebuilding and renovations. Fig.4.9 however suggest that not all stone is grabbo, but greywacke instead. The walls are circa one about one meter thick and consist of two layers. The exterior wall is of grabbo and some greywacke. The interior consists of grabbo rubble that fills in the holes and openings of the exterior wall but on the inside (Fig.4.11).

**Fig.4.11**

Source; Kingdom of Saudi Arabia, General Directorate (n.d.: 70)



**al-Ka'abah's interior walls being strengthened in 1957 CE (1377 AH)**

The wall thickness consists of two layers of stone, laid adjacent to each other. The tooth-like stones are inserted in the inside holes of the exterior wall

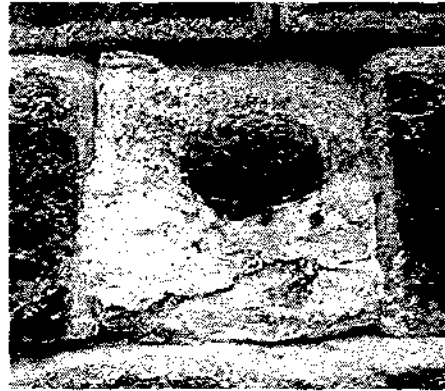
From personal observation, the exterior length of the grabbo stones vary but on average, they are about 50 to 75 cm long and about 40 cm high. In 1993 CE (1414 AH) the mortar joints were still of weathered white cement (Figs. 4.12 – 4.15). They were very irregular due to the irregular fit of the grabbo stones themselves. Fig.4.15 shows white mortar joints that are very linear and protrude unrealistically beyond the face of exterior wall. This linearity does not fit-in well with the rough texture of the old stones or with the general irregularity of al-Ka'abah itself. The stone's rough texture and very irregular mortar joints were observed and touched in 1993 CE (1414 AH).

Al-Ka'abah's two layered walls vary little in their one-meter thicknesses. However the parapet wall appears to be about half the thickness of the walls. Which need to be verified. At the base of the Building the splayed foundation protrudes through al-Mataf's floor. It forms also the raised surround consisting of different heights of the Building. This surround protrudes about 20 cm beyond the wall surface of al-Ka'abah and 40 cm from al-Mataf's surface on the SE side (visual observation). On the *al-Hijr* side those dimensions are smaller and the surround is lower. Burckhardt (1814: 76) referred to a 25.5 cm (10 inches) protrusion above al-Mataf floor. This splay consists of part polished part bossed green marble slab (observed in 1993 CE (1414AH).)

**Fig.4.12 and Fig.4.13**

Sources: LH image, Abdul Sheik Gafur (1953: Plate 27)

RH image, Kingdom of Saudi Arabia, General Directorate (n.d.: 65)



**Weathered mortar joints and worn out stones in about 1953 CE (1372 AH)**

The worn out stones suggest the use of greywacke rocks instead of grabbo. Greywacke underlies part of the Valley.

**Fig.4.14**

Source: Kingdom of Saudi Arabia,

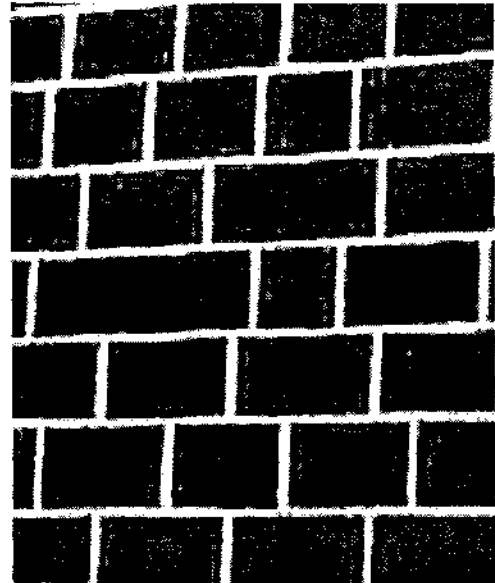
Ministry of Information (1986: Postcard)



**Irregular mortar joints near the Black stone**

**Fig.4.15**

Source: 2005: e-mailed website



**Linear mortar joints after 1993 CE (1414 AH)**

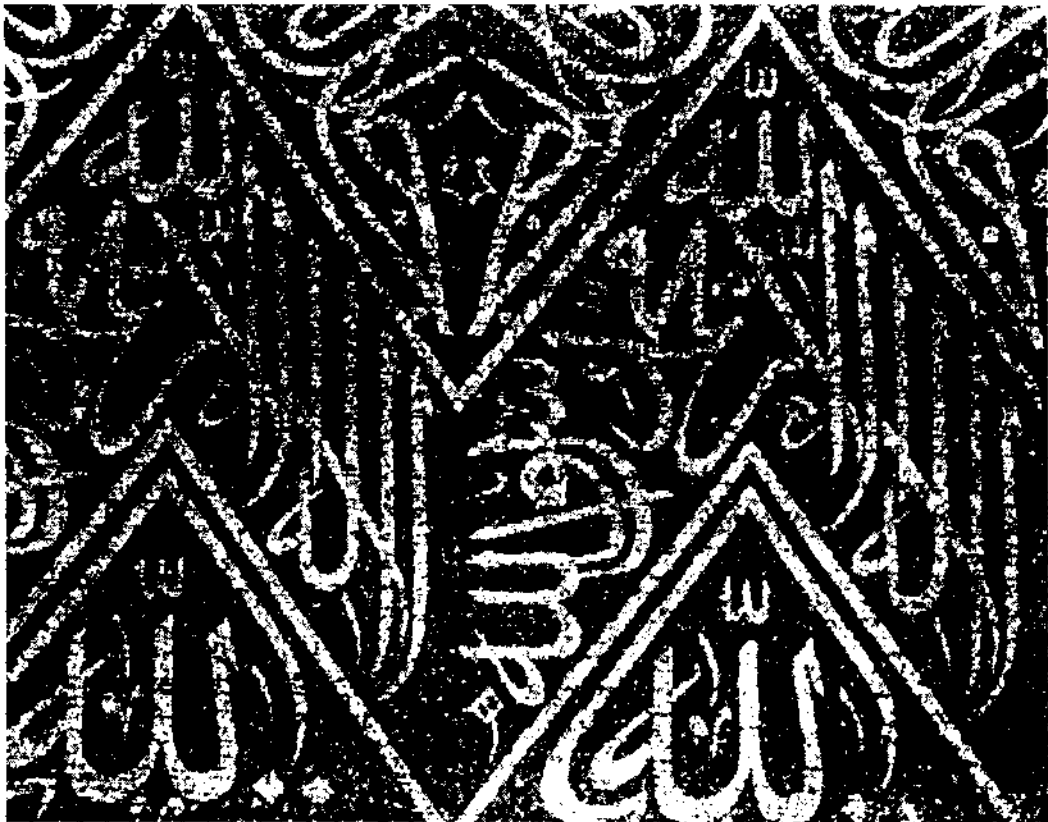
Date of the photograph unknown

The roof once consisted of timber beams laid across the shortest distance supported by a wooden beam itself supported by three gold or silver clad octagonal columns of wood. Each post is placed on a three-layered marble base. The height of the marble frieze that once clad the walls is unknown. It is possible the full height of the wall was covered with white marble in the 1957 CE (1377 AH) upgrade in which all walls, the floor and ceiling were clad with white marble. Clad with marble infers a smooth wall and ceiling surface, obtainable by plastering or a timber lining of battens. Photographs that came to hand in 2005 in The Kingdom of Saudi Arabia *The Two Holy Mosques in the Reign of the Custodian of the Two Holy Mosques King Fahad Bin AbdulAziz* (n.d.: 70) show quite the opposite.

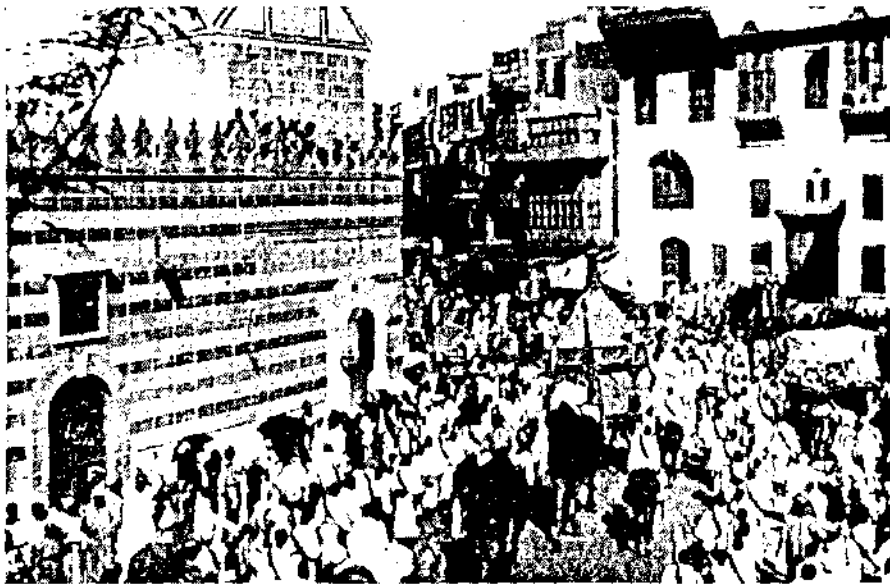
In the past, the ceiling was of timber that must have been substantial as marble tiles (or slabs) were fixed to them. It is reasonable to accept that all past timbers were teak as references to teak timbers have been numerous. Folklore states that teak came from a stranded ship in Jeddah. A green drape hangs from the ceiling. Its extent is unknown. Possibly it drapes partially over the marble wall surface. Built into the parapet wall above roof level and on the inside, are concrete beams to which a

Fig.4.16

Source: Esin (1963: 212)



al-Ka'abah's *al-Kiswah* (cover)



Procession of the *Mahmal* along the *wadi Ibraheem* side  
Fig.4.18 Source: Sadiqe Bey (1880: Sketch)



The *Mahmal* leaving from Cairo for Makkah  
Part of *al-Kiswah* is inside the tent like structure (litter)

steel girder is attached that hold the rings that hold *al-Kiswah* (al-Ka'abah's gold embroidered cover of silk) in place. The inside of al-Ka'abah's parapet is clad with white marble. *Al-Kiswah's* cover (and *al-Burquu*, al-Ka'abah's door cover) is renewed every year at the completion of *al-Hajj*. Previously it was made and brought to Makkah from Cairo by caravan (Fig. 4.16--4.18). To day it is made in Makkah in the *Kiswah* factory.

Figures 4.17 and 4.18 are indicative of *al-Kiswah's* importance. It relates to an extensive journey and is a procession from Cairo, via the Sinai desert to Makkah. As a caravan it was inviolate. According to Glassé (1989: 228) a *Kiswah* embeds the symbolic of Beyond-Being or the Absolute. Lane (1967:90, 260-61, 463, 2136-37), links *al-Kiswah* to the veiled woman, who has already conceived but wishes to conceal her pregnant body. He further links the grave, grave clothing, and darkness, to the foetus, thus establishing a correspondence between perceived fertility, the earth, the grave, and black. These correspond with the status of al-Ka'abah as a symbolic *mater imaginaria*. Instead, Young (1993: 296) assigns to al-Ka'abah the role of a bride, protected by male and female pilgrims. The *Mutalzan* gains significance in this. On the other hand, it is quite possible that throughout al-Ka'abah's history it was felt by the locals that the Building's rough surface needed to be covered. Some additional references to *al-Kiswah* are made in section 4.3.6 of this Chapter.

The concrete roof of al-Ka'abah is flat and drains-off towards the centre of the NW side, which is the *al-Shamiyyah* side, discharging into the golden *Mizab*. *Al-Mizab* is a spout that drains the roof and discharges over the graves of *Ishmael* and *Hagar* in the al-Hatim area. The two graves as marble slabs were still in the al-Hatim area in 1993 CE (1414 AH). In subsequent photographs they are absent. The practice of pouring water over a grave is a very old one, water substituting blood, to keep the dead alive.

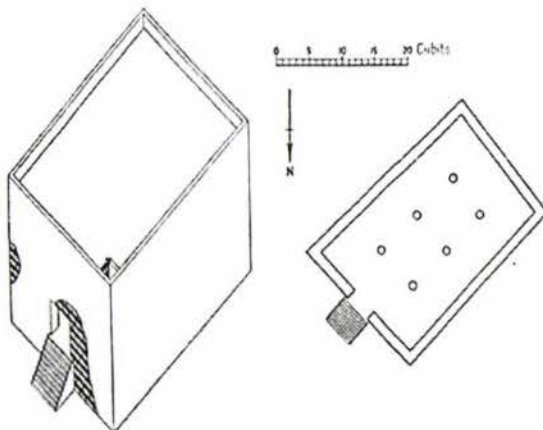
#### 4. 3. 4 al-Ka'abah and al-Hatim: Description and Dimensions.

Abdul al-Walid al-Azraki (in Badi, 1992: 97, 113) mentions the late *Bani Quraish* Ka'abah dimensions. He used the iron *dhira* as the standard unit of measurement, which are 56. 5 cm. using this unit al-Ka'abah's dimensions would be as follows: the NW and NE walls each 14. 15 meters (25 cubits), the SW wall 11. 32 meters (20 cubits) and the SE wall 11. 89 meters (21 cubits) height 15.23 meters (27 cubits)<sup>3</sup> Ali Bey al-Abassi (1814: Plate LIV) drew an 11. 45 meters (converted from Parish feet) high Ka'abah. Burckhardt (1814: 75) mentions a height of 10. 43 meters (conversion from French feet). Wüstenfelt in his translation of al-Azraki used the iron *dhira* as the standard unit, as did Badi in 1992 CE (1413 AH) equating the cubit with 56. 6 cm.

Drawing-on Abdul al-Walid al-Azraki's and on Wüstenfeldt's annotated records of 1858 CE (1275 AH), Lane (1973:169), and Rutter (1928: 219) refer to al-Ka'abah's height in feet which when converted amounts to 15 meters. Wensinck (1941: 236) also refers to 15 meters. However, the Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c1989: 164), refers to a height of 13 meters. When converted to *dhiraat* that amounts to a *dhira* of 48.14 cm, an old fore arm length. It appears Wüstenfeldt introduced an incorrect conversion that subsequently was accepted as valid by a number of authors who wrote on al-Ka'abah and the Old Holy Masjid.

According to Saudi Arabia Ministry of Finance and National Economy, (c1989: 164), and Fig.4.4, the Ka'abah's outside dimensions inclusive of the marble surround are 12.63 meters [NE side], 11.22 meters [SE side], 13.10 meters [SW side] and 11.03 meters [NW side]. The height measured from the al-Mataf is 13 meters (the construction drawing refers to 12.95 meters) (See Figs.4.4, 4.5 above). The Abdul al Walid al-Azraki (in Badi, 1992), Wüstenfeldt (1858 CE / 1275 AH), Lane (1967 CE / 1387 AH), Rutter (1928 CE / 1347 AH) and Wensinck (1942 CE / 1361 AH) dimensions are thus at variance with those of the Ministry of Finance and National Economics (c1989) and with those of Rasch (1980:15).

Regardless the different dimensions and inconsistencies quoted by the different sources, what exists is a Building that consist a number of horizontal and vertical irregular geometric shapes that form a shape close to a cube, with walls of substantial thickness. Al-Ka'abah then is not simply a cube as Creswell (1969:1 and Rogers in 1976:147) have said in their discourses (Fig.4.19). By calling it a cube, ignorance sets in about the immense importance of the Building to Muslims and its symbolic content, for example that one of gender and Sacredness both notions that makes the Building into a monad.



**Creswell's and Roger's al-Ka'abah**

< **Fig.4.19**  
Source; Creswell  
(1969: 1 and Rogers,  
1976:147)

The staircase is in the centre; access to the roof is on the NE corner. North is going through the same corner. None is correct. Rogers imitated this diagram.

**4. 3.5 Uncertainties of al-Ka'abah's Dimensions and Plan Inconsistencies**

Wüstenfelt annotated Abdul al-Walid al-Azraki, but how accurate was al-Azraki? He died in 864 AD (284 AH), which means that during his lifetime the al-Hajjaj Ka'abah of 692 CE (73 AH) was in existence. The Building was not renovated during his lifetime. The extensions of *al-Fina'* were carried out respectively in 639 CE (17AH) and 647 CE (26 AH) thus well before he was born, yet he described them. That description is an annotated one confirmed by Badi who examined al-Azraki's multi annotated manuscript. Badi (1990:104) refers to Dar al-Kutub and az Zahiriyyah as annotators of al-Azraki's book but has not supplied the dates when the manuscripts were annotated. These annotations are in addition to previous annotations by annotators (in Wüstenfelt). As an annotated record it was again annotated by al-Khuza'i in 992-93 CE (382-383 AH) and by Rushdie Malhas in 1967 CE (1387 AH).

The earliest European translation of al-Azraki was written abridged by Wüstenfelt in 1858 / 1964 CE (1275 / 1384 AH) who incorporated also al-Fasi's, al-Fashiki's and Qutb 'Un-din annotated works. What thus exists is an annotated upon annotated work which Grabar (1985: 2.3) has referred to as a fictional account, confirmed by Badi (1992: 100) who accused al-Azraki of inventions. This is reinforced by the drawings produced by Abdul al-Walid al-Azraki (in Badi) of al-Ka'abah. They do not correspond with to-day's Building dimensions (Figs.4.20, 4.21).

**Fig.4.20**

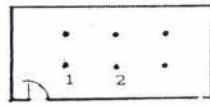
Source: Abdul al Walid al-Azraki and MS Leiden Or 424.f374

The image shows a page from an Arabic manuscript. At the top, there is a block of text in a cursive script. Below this text is a diagram of a rectangular structure, possibly representing a plan or a section of a building. The diagram consists of a long horizontal rectangle divided into several smaller rectangular sections by vertical lines. Below the diagram is another block of text, also in cursive script. To the right of the main text and diagram, there are vertical marginal notes. The overall appearance is that of an old, handwritten document with technical or architectural content.

**An annotated copy of Abdul al-Walid al-Azraki's al-Ka'abah of c 850 CE**  
 This is an annotated record by Rushdie Malhas of 1967 CE

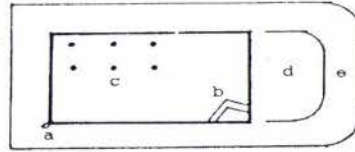
**Fig.4.21**

Source; Badi (1992: 165)



Plan  
(Fig.-9a)  
Annotated book

(Fig.-9a)  
The numbers indicate the pillars on which the painting of Jesus was drawn



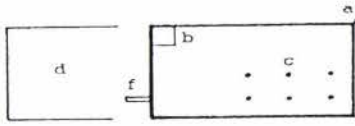
Plan  
(Fig.-9b)  
Dār al-Kutub manuscript

(Fig.-9b & 9c)  
a. al-ḥajar al-Aswad (black stone) الحجر الأسود  
b. The internal stair الدرجة  
c. The two rows of pillars  
d. Al-Ḥijr الحجر  
e. The area of compassing  
f. Al-Mizāb (gutter) الميزاب

**Notes:**

The drawings are copied as illustrated in their original sources.

The difference of the position of the two plans b and c seems to be made by the writers of the manuscripts.



Plan  
(Fig.-9c)  
aḏ-ḏāhiriyya manuscript

Plans of al-Ka'ba  
(Figure-9)

**Badi's interpretation of al-Azraki and annotators of al-Ka'abah drawing**

Thus, no original copy or copies exist written by Abdul al-Walid al-Azraki himself. What exist to day are descriptions of al-Ka'abah that lack technical detail and a Building that is made glamorous with poetic and selective Sufi narrative of Samar Akkach (1990: 305) and Snodgrass (1990: 1-7 and 410-424). For example, Akkach, quoting Ibn Arabi, refers to the angels in heaven who circumambulated the Throne. Badi (1992: 92), using al-Azraki as a base, advanced a similar narrative; al-Ka'abah was the Throne in Heaven. Badi also refers to al-Ka'abah's height being 27 cubits, whereas Samar Akkach (1990: 305) refers to al-Ka'abah's height as 27 cubits and 28 cubits when the parapet is included. That height he relates to a Divine Order making use of Ibn Arabi's Sufi philosophy. Snodgrass (1990: 413) discussed al-Ka'abah in a similar manner supported by the wrong or incomplete al-*Qu'ran* references.

Sufists, Samar and Snodgrass employed a narrative that is biased in favour of the mystic of their description of al-Ka'abah's architecture in line with Sufi poetic narrative and the interpretation of to-days architecture under the umbrella of hermeneutics. Badi (1992: 108) maintained:

*... al-Azraki was the first person that initiated the beginning of the use of drawings in the studies of architectural history...*

However, the drawing shown in Fig.4.20 is not a drawing that conveys critical architectural data of al-Ka'abah. Further, a drawing on vellum of 820 CE (205 AH) of the St Gall Monastery (Pesvner, 1960: 49) preceded the drawing of al-Azraki's al-Ka'abah of about 850 CE (236 AH). Badi has accepted and based his thesis on the

Old Holy Masjid construction chronological data that are of a doubtful nature, and ignoring Grabar's (1985: 1-7) negative comments on al-Azraki. It would make the three authors post-orientalists in Said's (1978) view. They attached to al-Ka'abah a range of qualities, the Building does not have.

These inconsistencies are less pronounced when it comes to the plans of Ali Bey al-Abassi's and Burckhardt. Both plans were respectively published in 1814 CE (1230 AH) and 1822 CE (1238 AH). Bey visited Makkah in 1807 CE (1222 AH) and Burckhardt in 1814 CE (1230 AH). Possibly Burckhardt was aware of Ali Bey's drawings. Yet the town plan of Makkah produced by Burckhardt (or his publisher) is more accurate than Bey's plan although Burckhardt was not a good draughtsman and not technically trained. The Burckhardt plan within reason corresponds with to-day's street pattern. For Bey there is no such excuse. He was a trained surveyor, yet his drawings contain a number of inexcusable mistakes. For example, he drew an eleven-meter high al-Ka'abah, the *manaraat* he drew, were similar to an old Cairo Mosque and bear no relation to the reality. His town plan of Northern Makkah is distorted.

#### **4. 3. 6 The Geometric Ka'abah; *al-Kiswah* and Stones of al-Ka'abah**

The exterior of al-Ka'abah is covered by *al-Kiswah* (see Fig.4.16) and emphasizes the upward direction of the Building. It makes the building appear higher than its width. Yet, the height of 13 m is only one meter more than its 12 m length embedding an optical illusion, which is confirmed by quite a number of photographs. On the face of it, al-Ka'abah looks like a cube, in reality it is not.

This geometric visual perception of the Building is further enhanced and quite clearly defined by its parapet, which forms a Sacred Boundary defining a Sacred Area.

Although the Building has no dome, it attempts to reach the heavens, symbolically and poetically. This sets-up an axis mundi that links life on earth to life hereinafter, somewhere in a heavenly mansion (*manazil*), which can be accessed by the symbolic staircase, located in the NE corner of the Building. It is closed-off with a door.

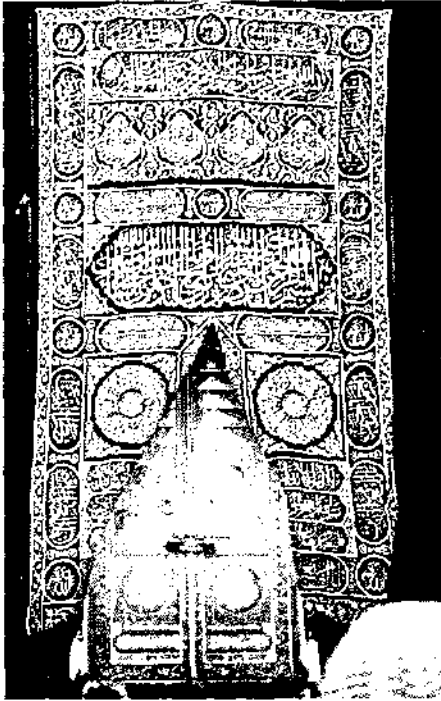
Symbolically and poetically they are the steps to heaven, a feature that Eliade (1969: 45-47) has extensively commented on for other religious buildings.<sup>4</sup>

The door opening of al-Ka'abah is covered with a veil or *al-Burquu* (Fig.4.22)<sup>5</sup> that is attached to *al-Kiswah*, reminiscent of the veiled woman. Its importance to the Muslim world is undeniable in that one was given to the United-Nations for permanent display (Aramco World, 1992: 18). In the weaving process of *al-Kiswah*, only the right hand is used indicating the importance of the right in Arab and Muslim culture. When al-Ka'abah is visually perceived as a whole, the geometric shape is the dominant feature,

softened by *al-Kiswah* which itself is a masterpiece of gold embroidered textile design. *Al-Kiswah* is an integral part of al-Ka'abah's architecture, reminiscent of the Tabernacle's tent curtain and other ancient structures, where curtains were used to demarcate holy areas and segregate the sexes.

**Fig.4.22**

Source: Kingdom of Saudi Arabia, (n.d.: 75) Ministry of Information



*al-Burquu*

**Fig.4.23**

Source: Kingdom of Saudi Arabia, (n.d.: no pp.) Ministry of Information



The Black Stone

#### 4. 3. 7 The Black Stone and al-Ka'abah's Doors

There is little doubt that *al-Hadjar Yamani* and *al-Hadjar al-Aswad* (Fig.4.23) were important stones in pre Islamic times and still are. *Hadjar Yamani* is touched by many, but seldom kissed, *al-Hadjar al-Aswad*, 'the Pearl of Paradise', is both kissed and touched<sup>2</sup> by both men and women. Islamic scholars cite the myth of *al-Hadjar al-Aswad* having been once white in colour, before it turned into black. This indirectly aligns with the importance Arabs attach to black and white. Generally, it is accepted that al-Ka'abah and the Black Stone are synonymous. One is simultaneously the other. One cannot be seen without the other. In that sense they are a *mirzam* (non-identical twins) and with it the monadic sets in.

The Black Stone is located on the South East corner of al-Ka'abah. It is the dominant node of the overall Sacred Area and it points towards the rising sun. Its oval opening is about 1.45 meters up from the al-Mataf marble floor. *Al-Hadjar Yamani* is much smaller. The stone is cemented into the Southwest corner; and is about 1.00 meter up from the al-Mataf floor. It points towards the noon sun and the favourable winds.

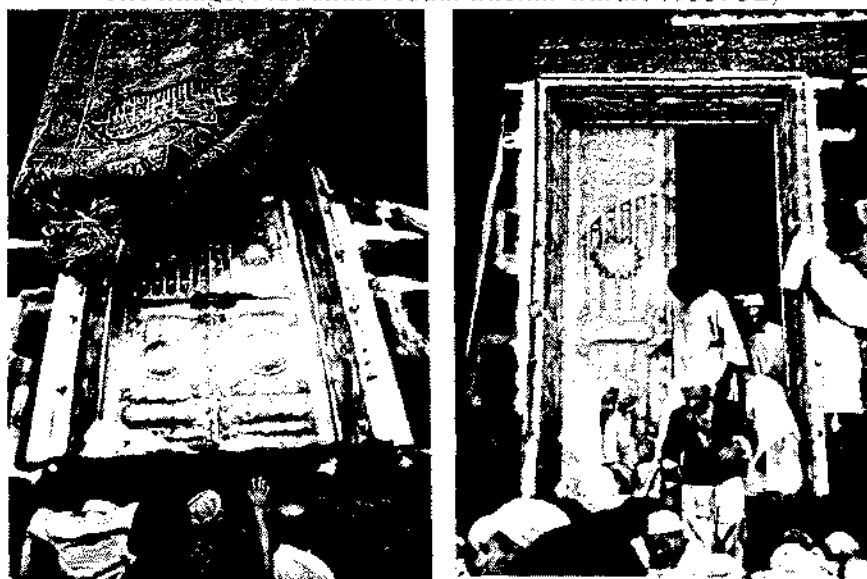
*Al-Hadjar Yamani* is red and black held together by three silver lodes at the top of the stone.

The interior of al-Ka'abah is accessible by way of two sets of double doors that open inwards, inferring a portal opening. The front double doors have been illustrated, described, and photographically recorded by many sources always in the context of their finish, never as a construction by itself. The Kingdom of Saudi Arabia, Ministry of Information Affairs; Internal Information (n.d.: 74). *At the Services of Allah's Guests*, states that the present door surface is clad with gold. Previously it was gilded or copper (personal observation during a visit to the *Kiswah* factory in Makkah in 1993). The double doors (Fig.4.24) of al-Ka'abah, *Bab al-Ka'abah*, are on the *al-Maa'sa* side. The sill is 1.97 meters above the Mataf level. At one stage, the door was at al Mataf level, but it was placed higher because of the Valley's repeated flooding. This must have lead to a back fill of about 1.97 meters above the present level of al-Mataf. The composition of the fill is only locally known.

Muhammad and Salina Samar (1998: 50) say that the sill height is 2.00 meters above the Mataf level and the door width as c 2.75 meters. In *al-Haramain Office Special Issue* (1993: 78) states that the sill height is 2.25 meters above al Mataf's level. They further state that the door width is 1.68 meters. Again, there are a number of inconsistencies.

The positive aspect of al Ka'abah is that it was an architectural model to a very limited degree. It was, and is, however, quite influential as a design motif to decorate prayer rugs, carpets and fabrics. This aspect is dealt with in Chapter 7.

Fig.4.24 Source: LH image, Mohammad Abdul Rauf (1978: 593).  
RH image, Abdullah Abdul Sheikh Gafur, 1953: 32)



al-Ka'abah's double doors

## 4.4 THE QIBLAAT SYSTEM

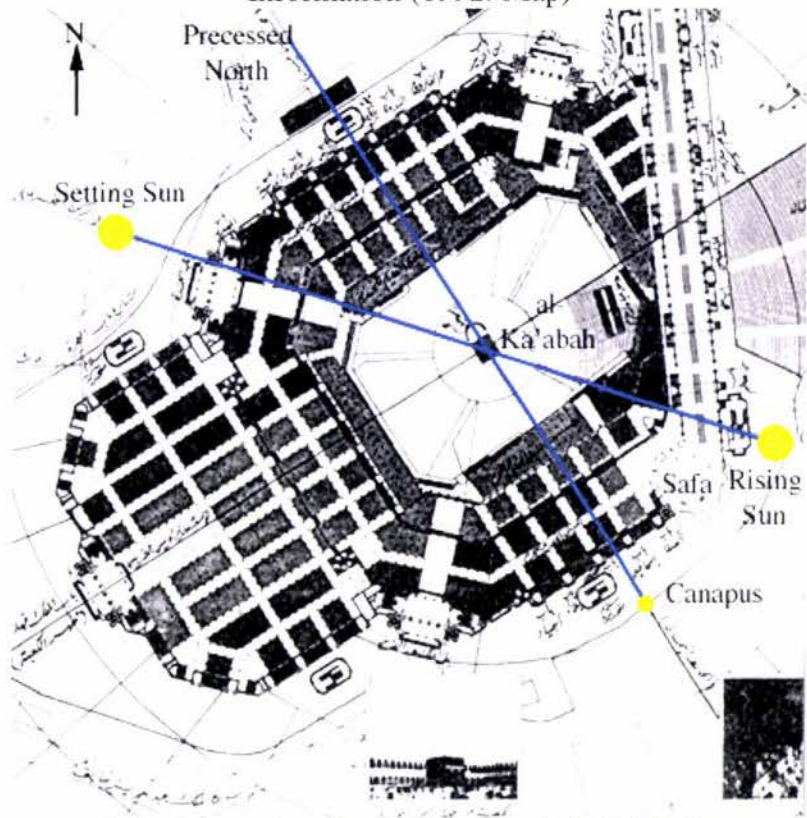
### 4.4.1 Geographical Axes, *al-Qiblah*, and the *Qiblaat* System

Chapter 3, Fig.3.12 introduced the cosmic line-up line, an imaginary line which is an axis between the rising oval moon on the *Wadi Ibraheem* side and the setting sun on the *Jabal Omar* side. The same line comes into existence when connecting the rising sun with the setting sun. Superimposed on/of al-Ka'abah floor plan it is also one of its diagonals. It connects the SE corner, the *al-Hadjar al-Aswad* corner to the NW corner, and the *Jabal Omar* corner of al-Ka'abah. This same diagonal is also one of the ancient location axes of al-Ka'abah (Fig.4.25). The other ancient location axis is one between precessed North and Canopus. This cosmic line-up line and the diagonals were roots for the finding of geographical directions. Later a worldwide *Qiblaat* system came into existence, a system introduced in Chapter 1 section 1.2.2. But whereas the ancient location axes are diverging ones, *al-Qiblah* radials converge onto al-Ka'abah and are Sacred. The diverging ones are not, they are geographical axes embedded in compass roses.

The diverging axes that start from al-Ka'abah's corners to Egypt, Syria, Iran and the Yemen augment the ancient location axes. In Persian miniatures they are respectively called the Egyptian, Syrian, Persian and Yemen corners (*rukun*), Factually there are millions of diverging axes possible corresponding with millions of locations on this Earth. As geographic non-sacred axes they connect worldwide locations to al-Ka'abah (Fig.4.26).

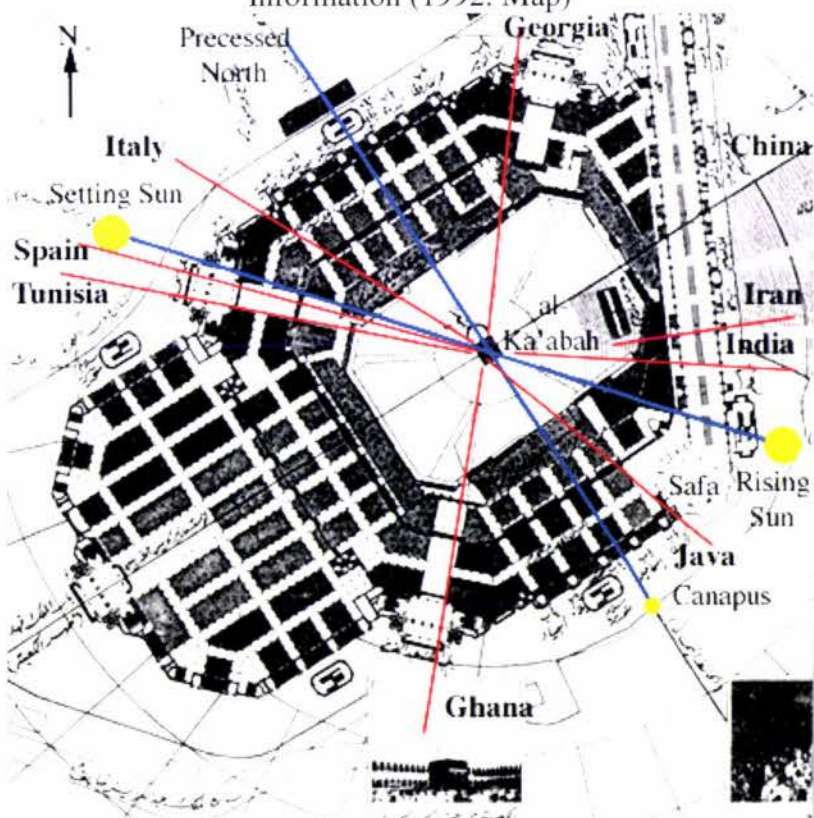
In Makkah, the rising sun, on occasions, cannot be seen as a disk when shrouded in clouds, but is seen as a radiant disk with widely spread radials that cover the sky over al-Ka'abah and the Makkah Valley (Fig.4.27). Those radials point to different geographical locations, such as regions and countries. The sun as a radiant disk has no equals; it is a pronounced and impressive cosmic feature. It is therefore quite possible that the sun as a radiant disk may have served as a prototype orientation compass that initially created a folklore discipline of geographic directions finding. This happened well before Islam that accords with the Arab News (8 June 2005) that stated that settlements in *wadi Fatimah* date from 750.000 BC. This *wadi* with its three-fold pattern (Fig.4.28) cuts across the Northern part of Makkah. Other archaeological finds in the same area were referred to Chapter 3 section .3.3.1.

**Fig.4.25** Source; Eduard Schwarz based on Kingdom of Saudi Arabia, Ministry of Information (1992: Map)



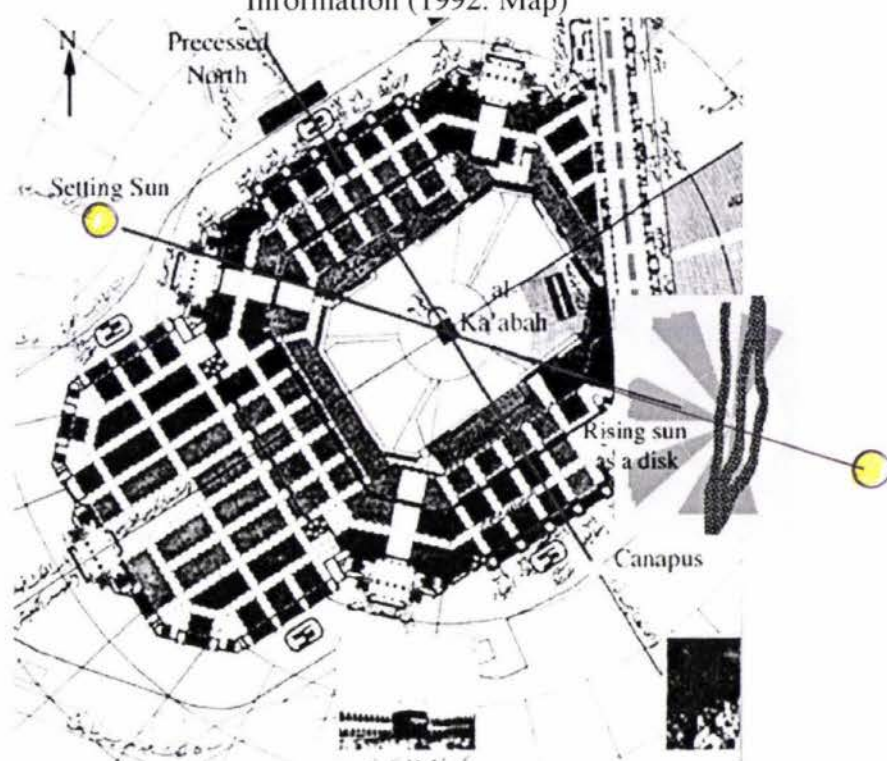
**The two ancient location axes of al-Ka'abah**

**Fig.4.26** Source; Eduard Schwarz based on Kingdom of Saudi Arabia, Ministry of Information (1992: Map)



**Diverging lines from al-Ka'abah to different countries**

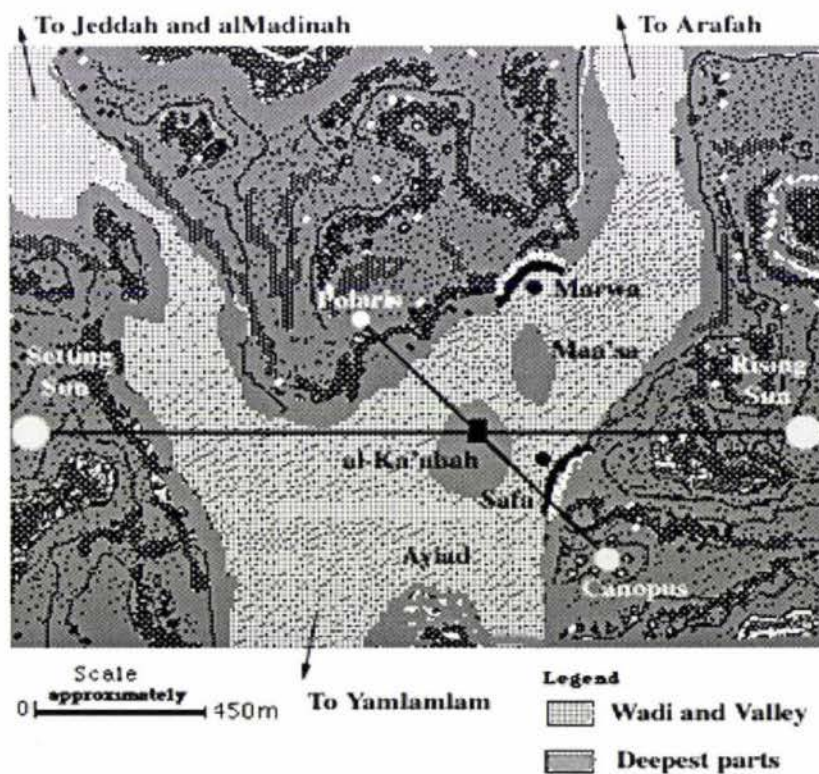
Fig.4.27 Source; Eduard Schwarz based on Kingdom of Saudi Arabia, Ministry of Information (1992: Map)



The sun as a radiant disk, its radiant pattern

One location axis is al-Ka'abah centered. The other is sun centered, as are the sun's radials.

Fig.4.28. Source; Eduard Schwarz (1996: Drawing, based on Mohammad Sa'id Farsi, 1986:42)



The threefold wadi pattern and al-Ka'abah's location axes

Other geographical directions come into being when one is facing the rising sun (facing with one's back al-Ka'abah's black stone). Doing so the left hand and arm points towards the North which is *al-Shams* or Syria and the Caspian Sea, the lands where the cold winds come from, Arabs say, and where it is dark, a darkness which is black corresponding with the left direction. Anything to do with the left in Arab and Muslim cultures associates with things not so good, with in-auspiciousness. Standing in the same position the right arm and hand faces *al-Yamaniy* (the Yemen) corresponding with the auspicious, the right direction, and the lands of the full sun, the South where the fertile winds come. Subsequently the following correspondences exists:

**Right / right arm and hand / sun / white / auspiciousness / *al-Yamaniy***  
 complemented by

**Left / left arm and hand / no sun / black / cold / inauspiciousness / *al-Shams***

There is however, a stream of other, also invisible axes that converge onto al-Ka'abah's centre posts for twenty-four hours per day. They are *Qiblaat* that assemble into a rather fluid but worldwide *Qiblaat* system. *Qiblaat* can be used as geographical axes. That system is fluid because the numbers of converging *Qiblaat* are not static. Worshippers worldwide and the *Mihraab* of individual *Masajied* throughout the world form *Qiblaat*. *Qiblaat* are apparent straight lines. In reality, they are curved due to the earth's curvature. It is a system existing of unequally spaced longitudes and latitudes that are centred by al-Ka'abah. It is an old centred system that makes use these days of the modified Mercator grid, thus of Latitude and Longitudes, when establishing the correct *Qiblah*. The number of *Masajied* *Qiblaat* is fairly constant. Worshippers' *Qiblaat* are less constant and only come into existence during the five times pray per day and then only for the duration of the prayer. Further the daily compulsory prayers correlate with local Zenith Sun. The prayer times, for example for Wellington, Auckland or Dunedin correlate with minute local Zenith Sun time differences creating their own very fine time zones between these three cities within the standard international time zone for New Zealand (-12 UTC).

Not all prayers are conducted in the *Masjid*. *Masajied* are Buildings that are permanently connected to Makkah and al-Ka'abah via their *Mihraab*. A considerable number of people pray at home, in other places and in the street. In doing so, they must face Makkah and al-Ka'abah. If a special room is set-aside for that purpose then

one wall of that home or other venue becomes a *Qiblah* wall usually labelled by calligraphy or another sign. Another way of indicating the direction to Makkah is by an arrow on the ceiling or on the floor (see again Chapter I, Fig. 1.6). This is often done in public spaces. Some *Qiblah* referents to Makkah are simple and some are quite elaborate. Here design comes in. Whether the *Qiblah* direction is a wall itself, a mark on the wall or on the ceiling, all set up a permanent connection between the Prayer designated space and Makkah and its al-Ka'abah. Facing Makkah and al-Ka'abah is an *al-Qu'ran* requirement.

The Kingdom of Saudi Arabia, Ministry of Finance and National Economy (c1989: 169) states that there are 110 arched openings of the Old Holy Masjid of the interior facades that face al-Ka'abah. As such, they are *Mihraab* with *Qiblaat* of which most face al-Ka'abah obliquely rectified by the person who occupies the opening whilst praying. The *Mihrab*-like openings of the Old Holy Masjid as design are elaborated on in Chapter 6, section 6.3.2, Fig. 6.12. Essentially the linearity of the Old Holy Masjid is at odds with the requirement of facing al-Ka'abah in concentric circles. That oddness disappears the further the *Masajied* and line-up circles (*sufuuf*) are away from the centre. Mosques well away from Makkah that cannot face Makkah use lines (*sufuuf*) that run parallel with their *Qiblah* wall.

People facing al-Ka'abah for Prayer generate irregularly spaced concentric circles and a radial pattern of straight lines, also irregularly spaced. For the linear New Holy Masjid introducing a floor plan pattern consisting of series of concentric circles, the *sufuuf* has solved this problem. The latter are equally spaced apart parallel lines along which worshippers line-up during prays. This pattern is superimposed on the floor plan of a linear and modular building and on its adjacent open spaces (Fig. 4.32). The concentric circles are made of 10 cm wide strips of black marble. These *sufuuf* are inserted in between white marble slabs that are one meter long. During *al-Hajj* this area can take one million prayees.

Finding Makkah and al-Ka'abah involves setting-up a *Qiblah*. David, A, King (1999: 47) refers to the *Qiblah* as a Sacred Direction. The study of direction to Makkah has been a discipline exercised by mainly Islamised ethnic groups living outside Arabia, but also by non-Muslims. The 16th and 17th Century Persians, but also others, are known for their *Qiblah* diagrams and related prayer timetables that simultaneously indicate geographical direction. Many western institutions during the colonial era acquired these. As an example, the forty-sector scheme of Ahmad al-

Sharafi al-Safaqu- si's Sea Atlas (in Bruce, 1981: Drawing and in David King, 1986: 55)) is superimposed on a thirty-two-division compass rose. Bruce's diagram is an al-Sharafi' copy with European names (Figs. 4.29--4.32) divided in forty sections. Forty is a number that correspond with happy occasions in Muslim culture.

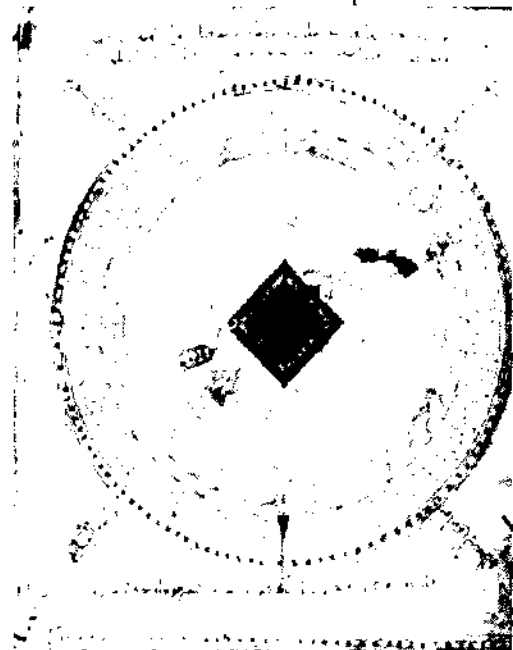
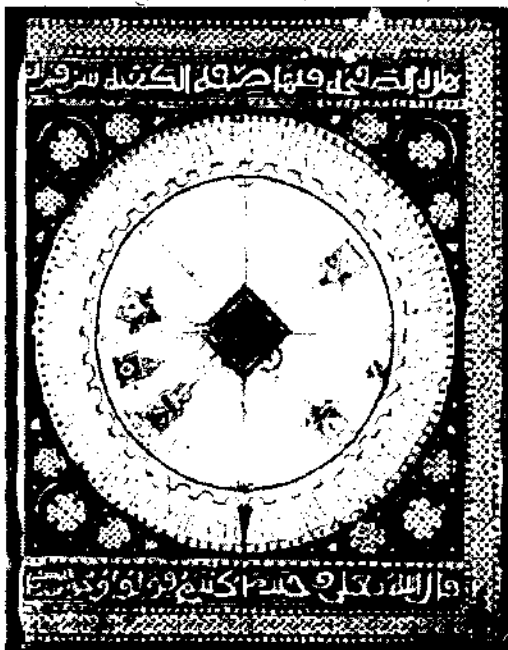
There are also two extant copies, one from the Bibliotheque Nationale France (ms. Paris B. N. F. ar. 2278, fol. 2 v) and the other at the Bodleian Library, (MS, Oxford BL Marsh No. 294, Vol.2v). In the latter document the Syrian corner is on the NE corner, in the former document it is on the SE corner. The two extant copies have been reproduced in David King (1989: 55). In this Tunisian Atlas, al-Ka'abah is misrepresented. The Building has been made into a square so the diagonals would intersect at the centre: neither is al-Hatim in the correct location. It should be on the NW side.

Such inconsistencies are now being eliminated. Computer programs are available these days that establish the *Qiblah* and *Qiblah* angle and pray timetables from any point on this earth (Monzur, 1994: [www. starlight.demon.com.uk](http://www.starlight.demon.com.uk)) (see Appendix Four). These computer programs take the Earth's curvature into account, whereas before a flat map was often used to obtain the *Qiblah* angle between a Mosque or another venue and al-Ka'abah. The difference between the obtained angles can be large, depending on Latitudes (Figs. 4.33, 4.34). Almost all *Qiblah* computer programs are based on Azimuth, Elevation, cosine angle and Declination of the Sun (Naval Observatory Washington, D.C., [http:// www.srrb.noaa.gov](http://www.srrb.noaa.gov)

Fig. 4.29

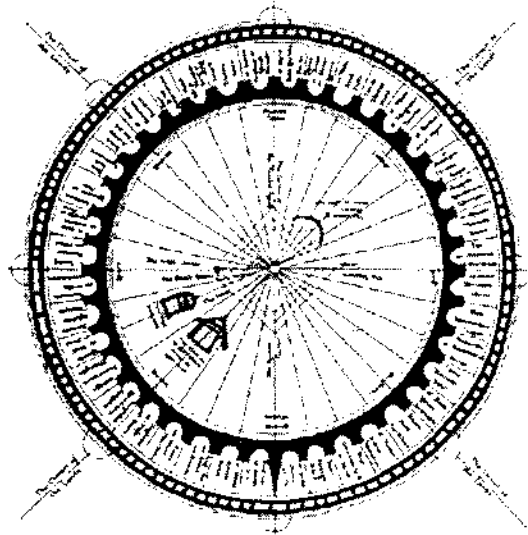
Fig.4.30

Source: King, David, A. (1989: 55) based on Ahmed al-Sharafi al-Safaqusi's Atlas



Two copies from the 16th Century Ahmed al-Sharafi al-Safaqusi's Sea Atlas

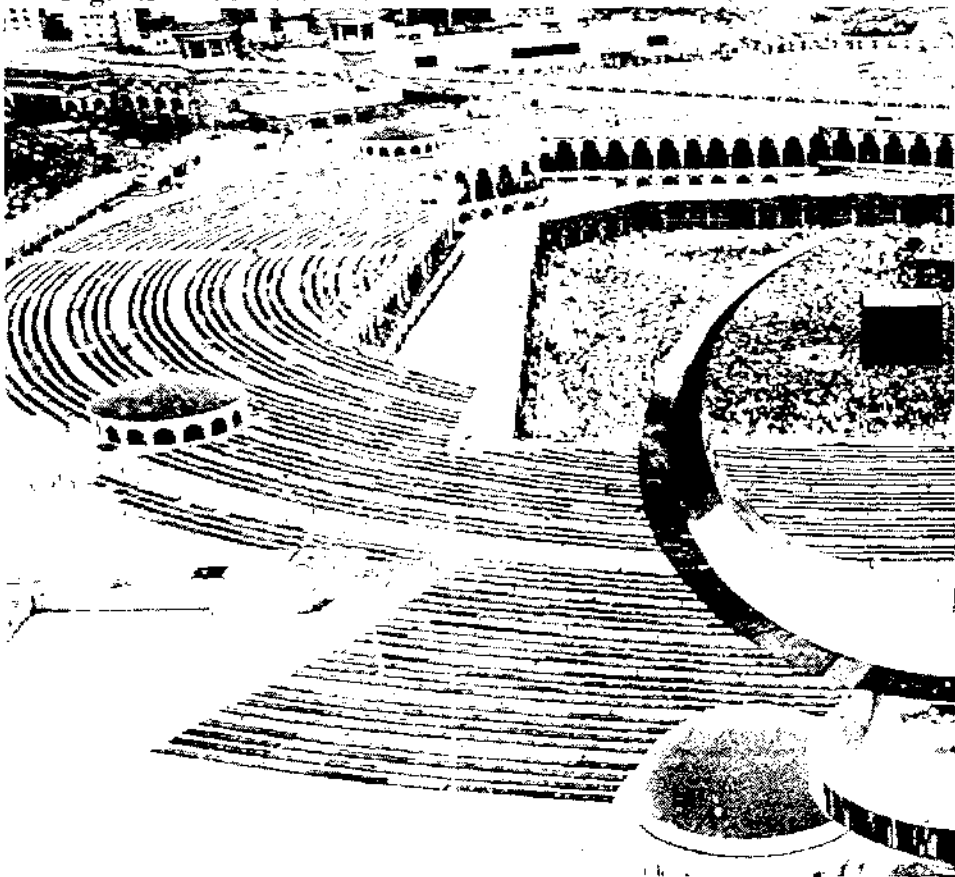
Fig.4.31 Source; Bruce (1981: Drawing)



*al-Qiblaat from different countries*

This *Qiblah* rose is based on Ahmed al-Sharaf al-Safaqusi's Sea Atlas

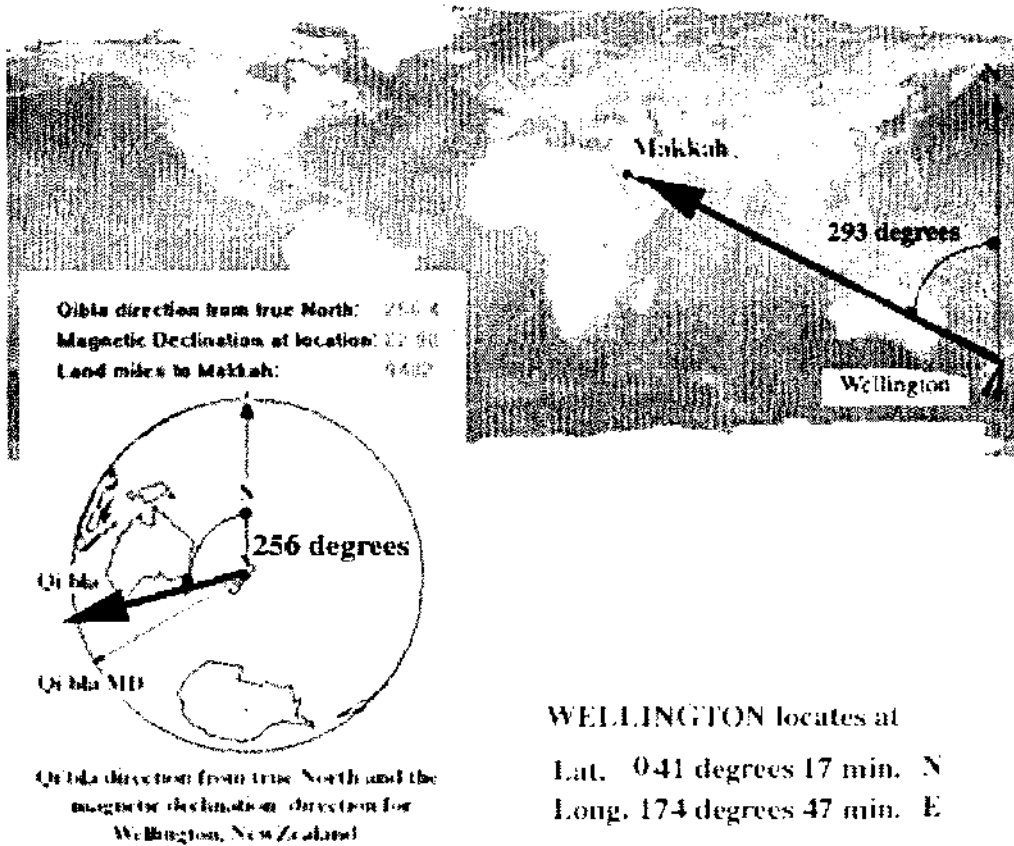
Fig. 4.32 Source; Muhammad and Salina Samar (c 1998: 106)



*al-Qiblah* pattern abutting al-Ka'abah

Each path across the concentric rings is a *Qiblah*. The dark colours are Prayer carpets

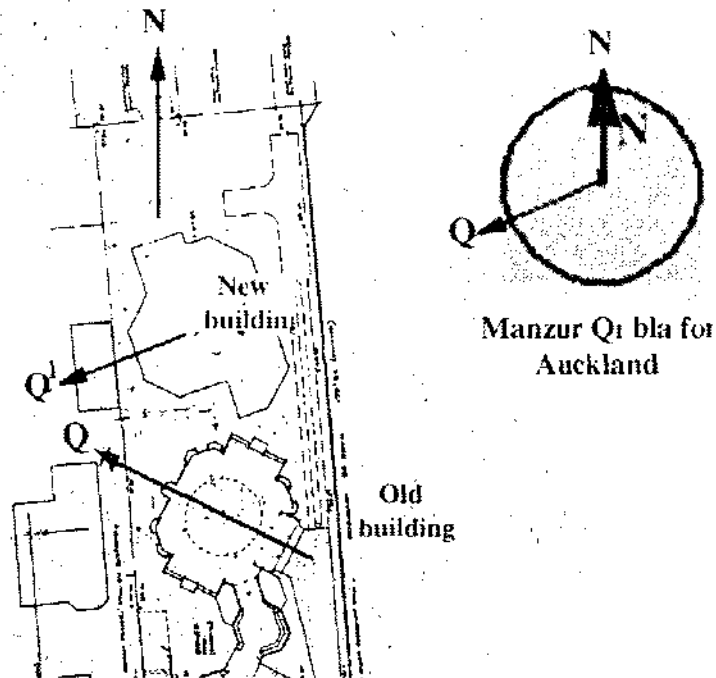
Fig.4.33 Source; Eduard Schwarz (2005: Labelling, based on computer programs anAtlas and on [www.starlight.demo.com.uk](http://www.starlight.demo.com.uk)



**Possible Qiblah angles for Wellington and Makkah**

The difference in Qiblah angles are quite large when using a flat map or taking the Earth curvature into account

Fig.4.34 Sources; Ponsonby architectural drawings made available in 2004

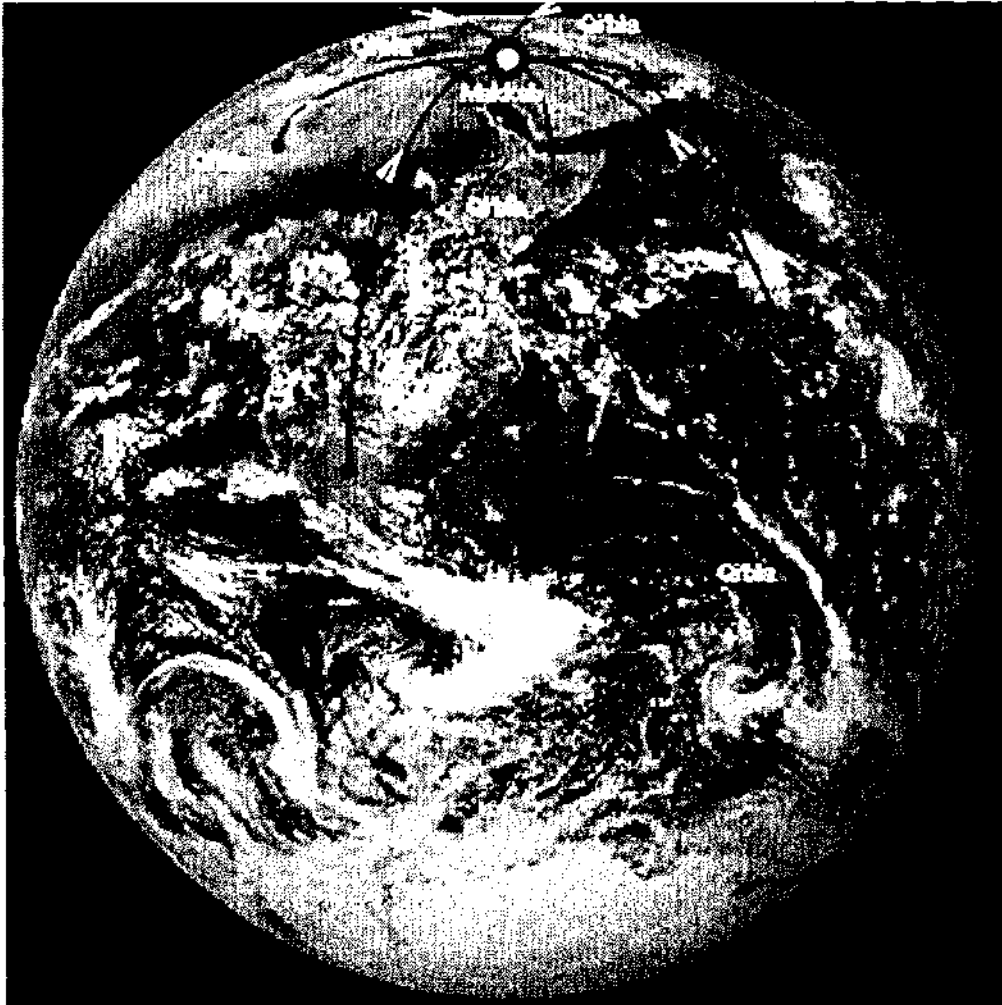


The flat and Earth curvature Qiblaat for the Ponsonby Mosque in Auckland

A *Mihrab* is an architectural element, which connects a prayer space (wherever it is located in this world) with a *Qiblah* that terminates at al-Ka'abah's centre post. A *Mihrab* and its *Qiblah* establishes an **architecture involving direction**. All Mosques have a *Mihrab*; a Mosque is Mosque when its *Mihrab* faces Makkah. This can be achieved in a number of ways. A Mosque in total may follow the boundary lines of the street in which it locates. Such Mosques usually do not and cannot face Makkah. But facing Makkah whilst praying is a must. Thus if the Mosque cannot face Makkah, the prayer areas themselves or the *sifiuf* must. The latter run parallel with the *Qiblah* wall. If there is sufficient site space available, all or parts of the Mosque can be made to face of Makkah. Under those circumstances, the prayer areas invariably face Makkah (Figs. 4.35 - 4.38).

Fig. 4.35

Source; Eduard Schwarz based on a NASA satellite image



*Qiblaat follow the Earth's curvature*

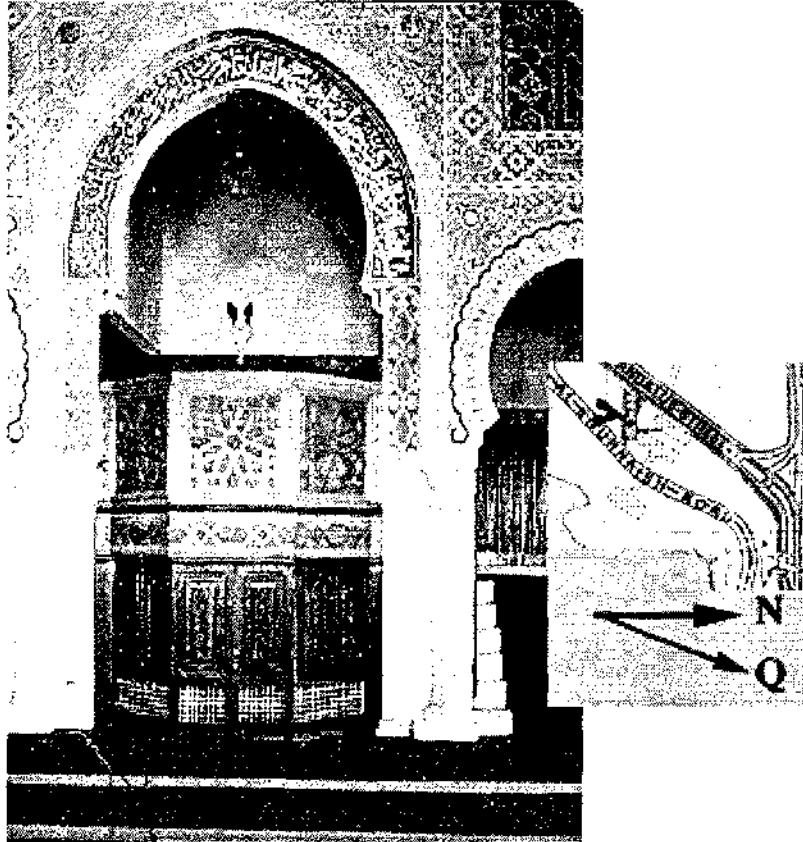
**Fig. 4.36**

Source; An oblique Aitoff (equal area) projection *Qiblah* radials by Eduard.Schwarz (2002)



**The worldwide *al-Qiblah* system**

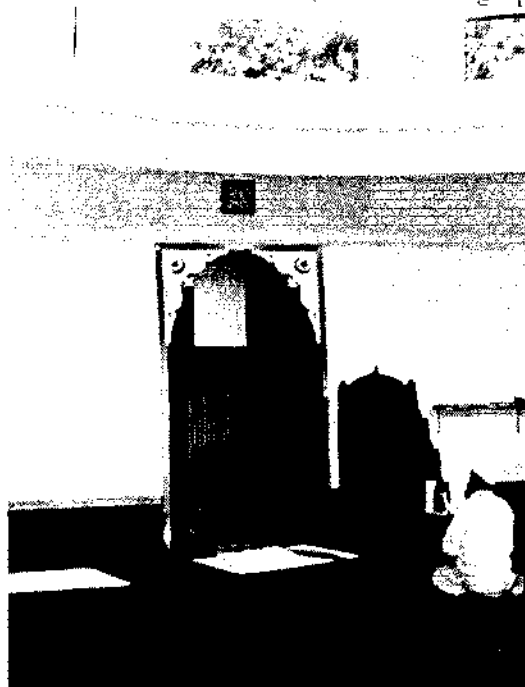
Fig.4.37 Source: Eduard Schwarz (1989: Photograph)



**The one entity; *Mihrab* and *Mimbar* of a Mosque on Jeddah's foreshore**  
Note that the single lamp is in the center of the arch, a symbol extensively used in the decoration of the buildings of Islam

Fig.4.38

Source: Eduard Schwarz (1988: Photograph)

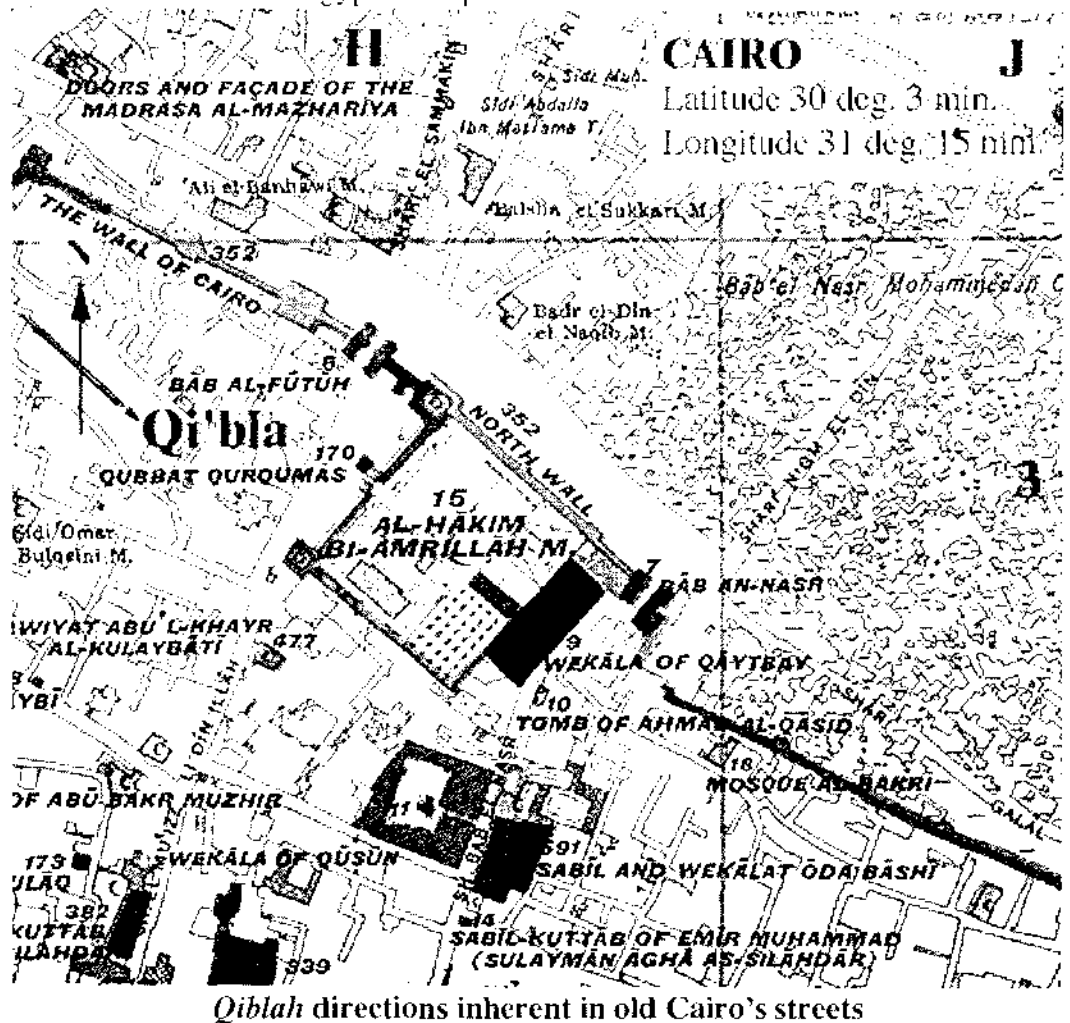


**The *Mihrab* and *Qiblah* of the Ponsonby Mosque in Auckland  
in 1988 CE(1409 AH),  
based on a flat map**

When a collection of adjacent Mosques and other Buildings of Islam of one city or a town face Makkah the street along which those buildings locate will point in the direction of Makkah. In that sense, the street becomes a *Qiblah* radial. In Cairo this is a pronounced feature (Fig.4.39). It is even more pronounced for cemeteries. As the feet of the body in the grave must face Makkah, the pathways between the graves become *Qiblah* radials. This applies to all Muslim cemeteries worldwide. Other Muslim cities in which part of their street pattern face Makkah are Baghdad, Basra, Kufa, Taif and Riyadh. This feature of streets being *Qiblaat* can be used in assessing whether a city is a Muslim one or once was a Muslim one or is a Muslim neighbourhood of a city.

Fig. 4.39

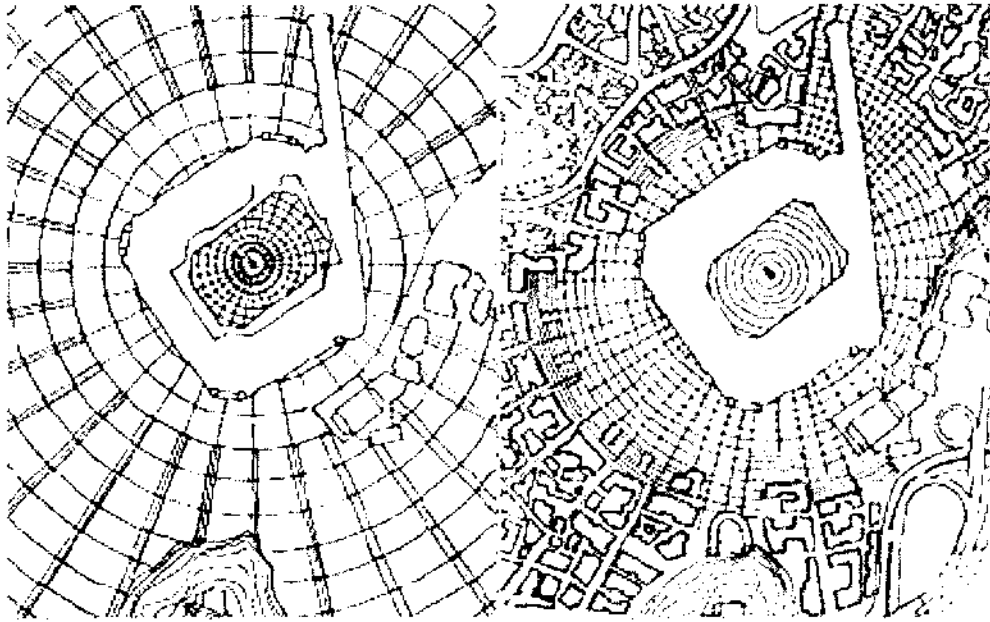
Source: Egyptian Department of Ancient Monuments



Most Mosques and palaces of this map face Makkah in toto. Consequently the streets do also.

**Fig. 4.40**

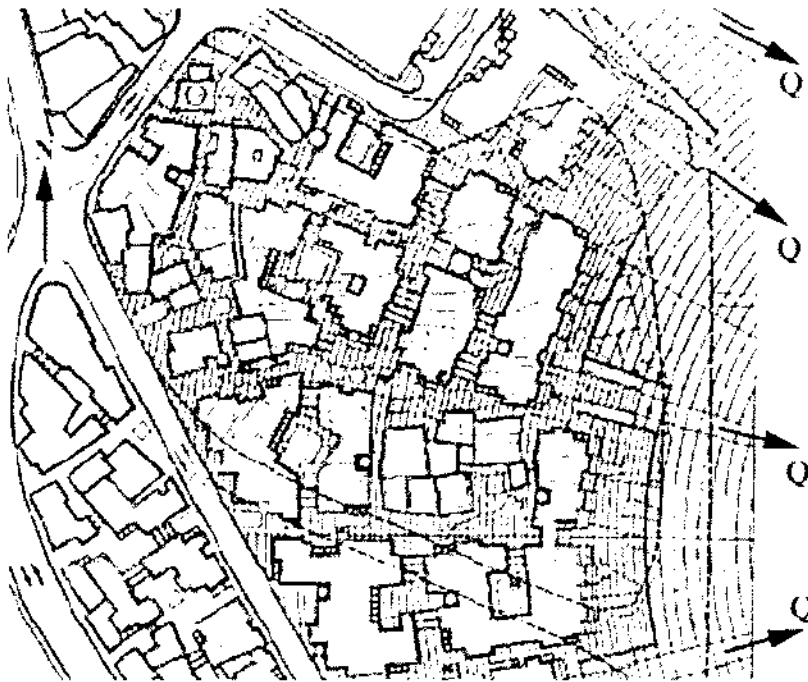
Source; Makkah Development Company (1986; Proposal)



**Proposed radial development for central Makkah**

**Fig.4.41**

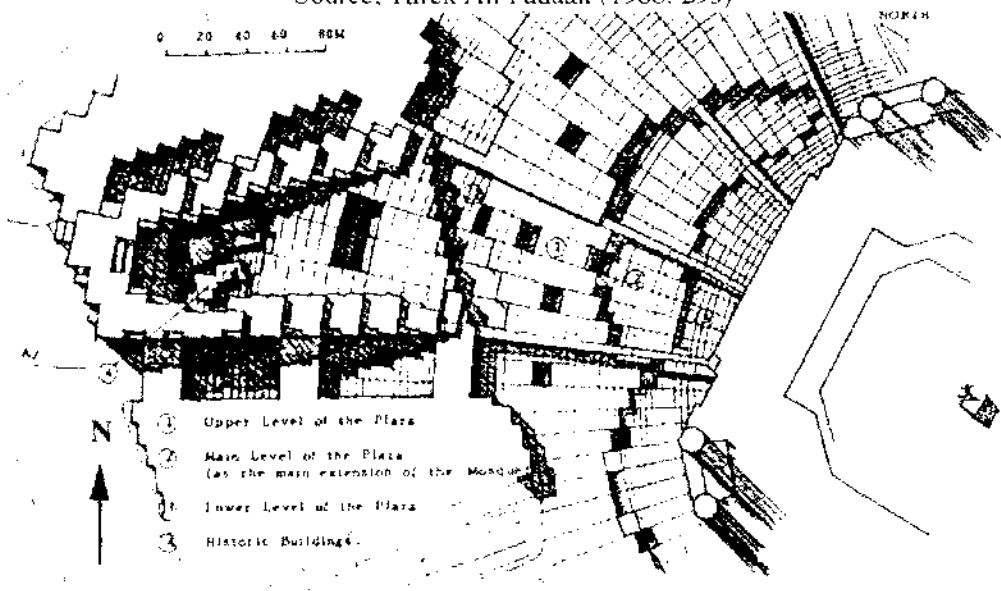
Source: al- Shareef (1990: Proposal)



**Proposal for high-rise pilgrim accommodation and housing in radial central Makkah in accordance with the overall plan of Makkah**

Fig.4.42

Source: Tarek Ali Fadaak (1988: 295)



### Proposal for low-rise pilgrim accommodation and housing in radial central Makkah in accordance with the overall plan of Makkah

The 19th Century European street maps Makkah by Bey, Burckhardt and Hurgronje do not refer to streets being *Qiblah* radials, but some were in Makkah North. European or Arab authors were not concerned with that aspect. They were interested in the city's streets and those buildings and houses, which they thought, played an important role in the establishment of Islam. When Bey in 1807 CE / 1222 AH, Burckhardt in 1814 CE / 1230AH travelled to Makkah there were no plans available (Hurgronje used Burckhardt's map in 1885 CE / 1303 AH). There was thus a need to produce street and nodes maps. These maps indicated geographical features such as names of districts, major roads, streets and buildings important of Islam, fortresses, palaces, wells and the mountains, which enclose the Makkah Valley. By portraying the location of these features the extent, but not the detail, the extent of the urban district became known.

This not recognized feature assumed overwhelming importance in the planned development of Makkah. Under the Makkah Region Comprehensive Development Plans (1985) it was decided to redevelop central Makkah like a compass rose with streets and pathways as radials, also *Qiblaat*, pointing to al-Ka'abah in the centre (Figs.4.40 -- 4.42. Those areas were free from traffic when under internationally impact traffic free pedestrian areas became popular.

Although Bey, Burckhardt and Hurgronje produced street maps, they did not observe the detail, the *al-Qiblah* direction inherent in clusters of buildings and cemeteries. The paths between these buildings and cemeteries were *Qiblah* radials and by definition monads as Sacredness attaches. Bey before he went to Makkah, went to Cairo, but also failed to recognize this remarkable feature. Embedded in old Cairo's street pattern and its cemeteries are *Qiblah* radials pointing to al-Ka'abah the most Sacred Building and the most dominant monad surrounded by other monads, the city's urban elements, its cemeteries and the Old Holy Masjid. This Building is detailed in the next Chapter.

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## Notes, Chapter 4

<sup>1</sup> The measurement used was the forearm length of 48.1 cm, which makes for heights of 4.33 meters (9 cubits) and 8.66 meters (18 cubits).

<sup>2</sup> The Ministry of Finance and National Economics (c1989: 96) states that floods occurred in 1196 CE (593 AH), 1223 CE (620 AH), 1369 CE (771 AH), 1399 CE (802 AH), 1460 CE (863 AH), 1462 CE (867 AH), 1466 CE (871 AH), 1514 CE (920 AH), 1563 CE (971 AH), 1629 CE (1039 AH), 1645 CE (1055 AH), 1662 CE (1071 AH), 1795 CE (1208 AH), 1871 CE (1278 AH), 1907 CE (1325 AH) and 1909 CE (1327 AH). Badi, 1992:114) states that damage was caused to al-Ka'abah by the 1040 AH (1626 CE) flood. The last flood occurred in 1974 CE (1394 AH).

<sup>3</sup> The illustrations produced by Abdul al-Walid al-Azraki of the Ka'abah are as incomplete as those produced for the Tabernacle (Plaut, 1981:5).

<sup>4</sup> Gans-Ruedin (1973: 293), manufacturer of carpets incorporated a type of staircase into the designs of prayer rugs, which are reminiscent of the mosaic of the Beth Alpha synagogue near Galilee (Cambell, 1973: 205).

<sup>5</sup> There is an Arab linguistic correspondence between *al-Burquū* and *al-burqa*, the veil Muslim women wear covering their face. The head cover is the *hijab*.

<sup>6</sup> Sale (1734: 13,15), Wherry, (1882: 40-43), Rutter (1928: 257, 258), Doughty (1964: 549, 563), and De lacey O'Leary (1979: 195,196) have all referred to stone worship. Although no worshipping of stones takes place now, there is still a tendency to draw spiritual strength from *al-Hadjar al-Aswad*.

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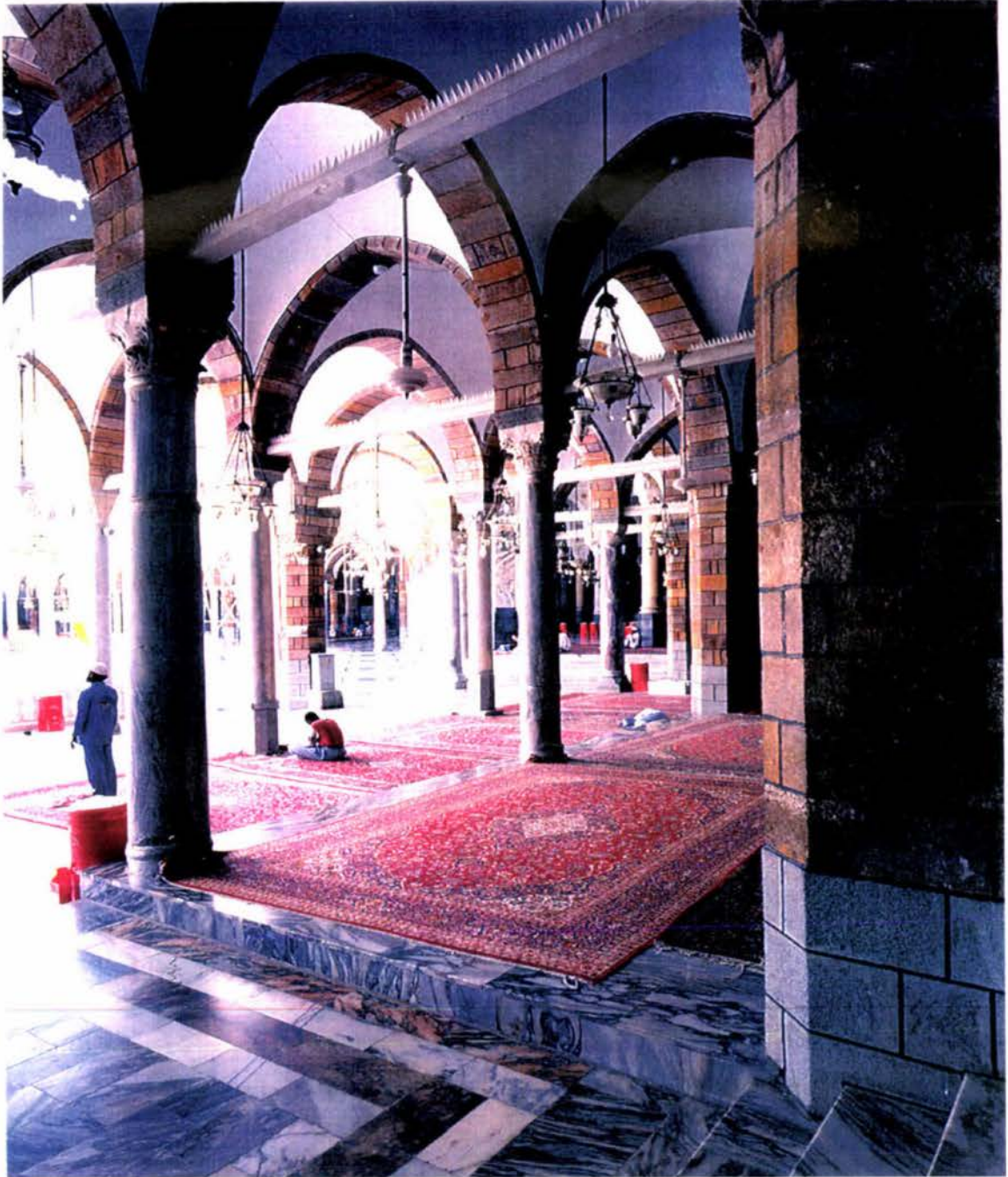
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# Chapter 5

## The Old Holy Masjid as an Architectural and Monadic Construct Frontispiece Chapter 5

Sources; Muohammad and Salina Samar (c1998 : 96)



**The Monadic Old Masjid in 1993 CE (1414 AH)**

Numerous elements make for the overall design. To the columns attach the notion of the long legs of the camel and sacredness that support the arch. Those notions make the columns monads.

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## CHAPTER 5 The Old Holy Masjid as an Architectural and Monadic Building

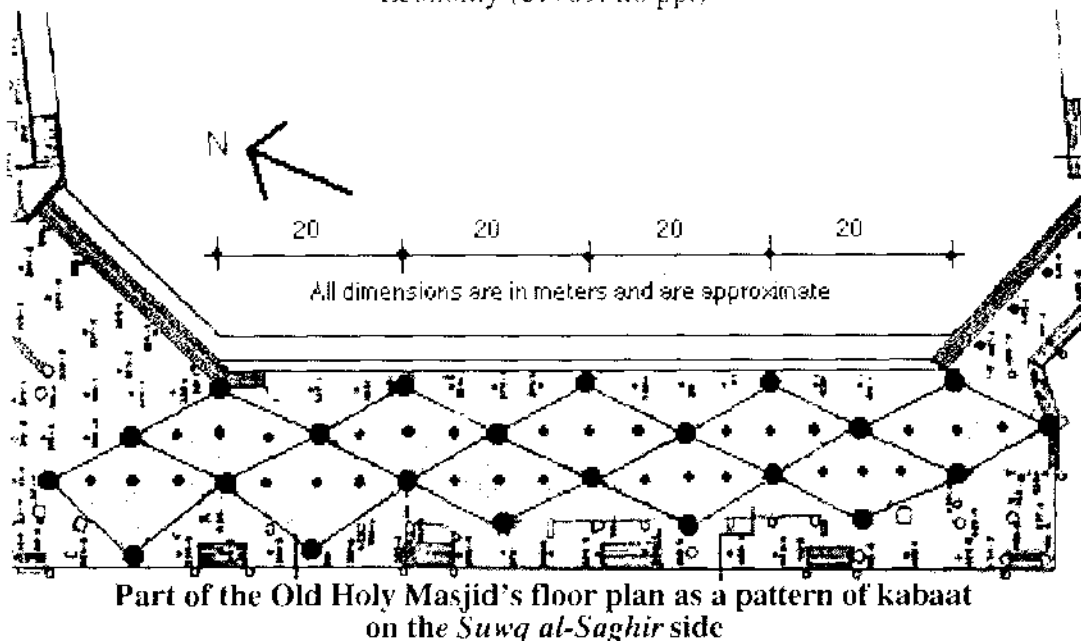
### 5.1. Introduction and Chapter Focus

In the previous Chapter al-Ka'abah as an architectural and monadic construct was examined. The entity 'al Ka'abah' re-appears as abutting and adjacent ka'abaat forming the floor plan of the Old Holy Masjid (Fig. 5.1, 5.2). This Building however has a number of other features and attached notions that al Ka'abah has not. For the Old Holy Masjid those are number series inherent in the columns' spacing, forming special column patterns, the polished marble columns, the heavy octagonal columns of shumaysi stone, the Arab dome, the crenellations and the medallions. This Chapter focuses on those elements. It further details the Old Holy Masjid's construction chronology, the materials used in its construction, the Building's function and its architecture. For want of more reliable data, the construction chronologies adopted in this Chapter are those of Abdul al-Walid al Azraki (in Badi 1992) (see Appendix Two).

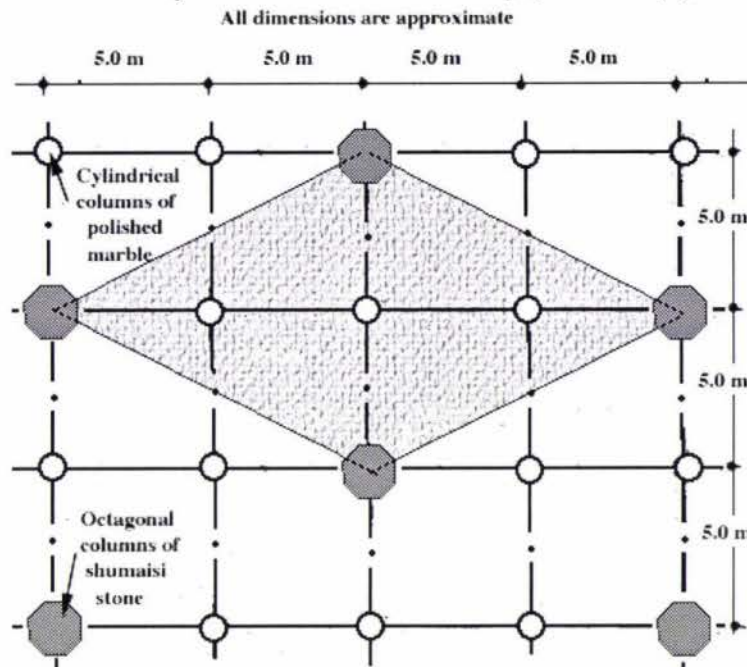
For orientation purposes the sides of the Old Holy Masjid referred to in this Chapter are: NW is the *Dar al Nadwa* side, NE is the *Bab Nabi* side, SW is the *Bab Ibraheem* side and SE is the *Bab al-Safa* side (see Chapter 1, Fig.1.9).

Fig.5.1

Source: Eduard Schwarz based on Kingdom of Saudi Arabia. Ministry of Finance and Economy (c1989: no pp.)



**Fig.5.2** Source; Eduard Schwarz in 2005, based on Kingdom of Saudi Arabia, Ministry of Finance and Economy (c1989: n.p.)



**The Old Holy Masjid's floor pattern, enlargement of one module of Fig.5.1**  
 The octagonal columns are about 90x90 cm. Cylindrical columns are from 50 to 70 cm in diameter. This figure is symmetrical. In reality column spacing is irregular.

## 5.2 HISTORIC PLANS OF THE OLD HOLY MASJID

### 5.2.1 Some Old Holy Masjid Historic Plans

The physical entity of the Old Holy Masjid is clearly of great significance spiritually and emotionally to millions of people, mostly as pilgrims. Plans, diagrams and representations of the Old Holy Masjid have been produced in a wide variety of forms. For example, the first person to produce a sketch of three modules of the Old Holy Masjid has been Abdul al-Walid al-Azraki (Fig.5.3). He knew an Old Holy Masjid that was built under the regimes of the Abbasid *Khalifs* Mohammad al-Madhi and Musa al-Hadi in 778-781 CE (162-165 AH), a Building that existed during his lifetime.

However, al-Azraki not only covered that extension, he also covered extensions, constructions and re-constructions that were built before his birth. Some elements were correctly assessed by way of inscriptions, but most would have come from hearsay and invention. His record is not very accurate architecturally, as evidenced by his sketches of the column footings, column spacing, and column patterns of the Old Holy Masjid (Figs.5.3, 5.4) but also of al-Ka'abah (see Chapter 4, Fig.4.20). They are at variance with the reality. Nevertheless, Official Saudi Authorities use Abdul al-Walid al-Azraki's chronologies, which in turn are based on ACE Engineering documents of c1989, (in al-Shareef, 1990; Fig.1.10) and Aramco (1999: 26).

Fig.5.3

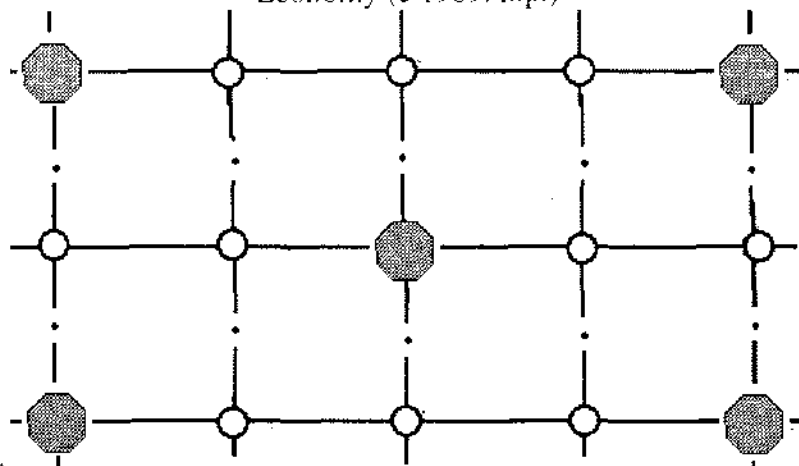
Source: Abdul al-Walid al-Azraki and MS Leiden Or 424.f. 996



Three modules of the Old Holy Masjid drawn in circa 850 CE (236 AH)

Fig.5.4

Source: Eduard Schwarz based on Kingdom of Saudi Arabia, Ministry of Finance and Economy (c 1989: n.p.)



One module of the Old Holy Masjid in 2005

This figure is symmetrical. In reality column spacing is irregular

Besides the al-Azraki sketches, plans of the Old Holy Masjid have been produced as pilgrim certificates and miniatures and as orthographic, isometric and as perspective drawings and also as designs in fabrics such as carpets and Prayer rugs. However, despite the Building's fundamental importance, the most extraordinary thing is that the Building's portrayal is often inaccurate. For example, the Bruce drawing (see Chapter 4, Fig.4.3f), itself based on a Persian pilgrim certificate, shows al-Ka'abah as a square, whereas it is an irregular trapezium (or a four sided polygon). Secondly, the 1717 CE (1130 AH) Relandi perspective showed the *Bab Ziadah's* and *Dar al-Nadwa* arcaded side of the interior court consisting of forty portals, instead of the actual thirty-six<sup>1</sup> and thirdly Hurgronje in his 1886 CE (1304 AH) plan showed respectively thirty-seven and twenty-seven arcaded openings an error that was not noticeable in the German translation (1889: Plate Grundriss) by showing the roof plan only.

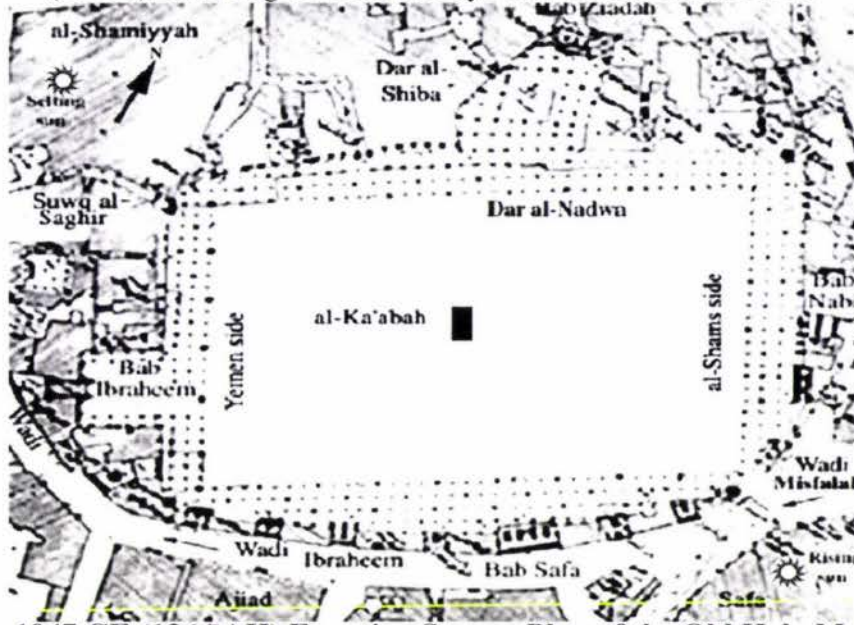
On the other hand the same drawings and representations were influential in the designs of other Buildings of Islam and are useful themselves in tracing the chronological development of the Old Holy Masjid. Thus from Relandi it is known that the interior court facades of the Old Holy Masjid were already domed with Arab domes in 1717 CE (1130 AH). The 1807 CE (1222 AH) drawing by Ali Bey shows the same domes thus indicating that no change had occurred in between these two dates. From Ottoman records it is known that the domes were introduced in 1571 CE (979 AH).<sup>2</sup>

The 1947 CE (1367 AH) Egyptian Survey Department (Cairo) plan became available in 1993 CE (1414 AH) (Fig. 5.5). It accurately indicates the extent of the Old Holy Masjid inclusive of the location of its columns, *manaraat*, entrances, dimensions and abutting buildings. From this same Survey Plan, the al-Madhi and al-Hadi plan of 778 CE (161 AH) and 780 CE (164 AH) is visible in outline. In this plan the Sacred Court was extended in such a way, it placed al-Ka'abah once more in the centre of the Court. Previously it was quite off-center. Al -Ka'abah itself was not touched. Under the Ottoman Sultans Suleyman Selim II and Murad III this design was re- modeled in 1571-1576 CE (979-984 AH) on the *Dar al-Nadwa* and *Wadi Ibraheem* sides (Fig.5.5 and 5.11). *Dar al-Nadwa* and *Bab Ibraheem* were integrated into the Mosque proper in 897 CE (284 AH) and 918 CE (306 AH) during the reign of the Ottoman *Khalifs* al-Mu'tadid Billah al-Abassi and al-Mugtadir Billah al-Abassi.

The first drawing using a drawing technique taught by the Paris École Polytechnique that to day is known as technical drawing was the one by Ali Bey al-Abassi (Fig. 5.6). It is a rectangular drawing and differs from the 1947 drawing by the Egyptian Survey Department (Fig. 5.7).

**Fig.5.5.**

Source; Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c1989). Labeling of entrances by Eduard Schwarz in 2002.



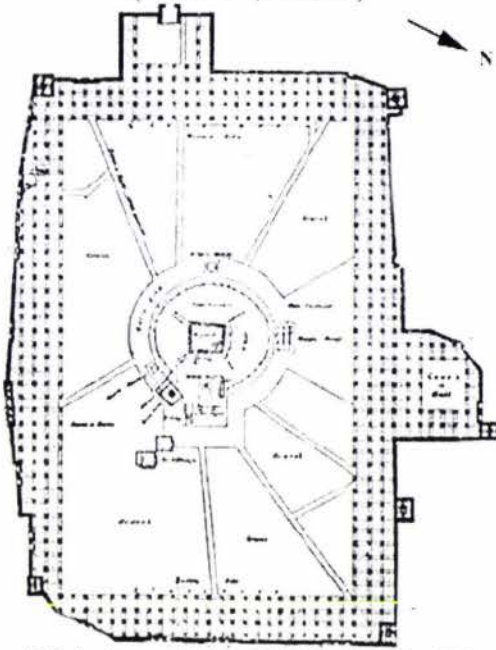
**The 1947 CE (1367 AH) Egyptian Survey Plan of the Old Holy Masjid**

The entrances in Bey's plan are numbered and are separately labeled in a schedule (1807: 75, Vol. 2, Plate LIII and Fig.5.8). Subsequent authors, for example, Ferguson (1893: 537), Burton (1893: 195, 295), Sale (1900: Plate), Zwemer (1929: 84) and Bloom (1987: 52), all used and re-used Bey's plan but re-numbered and or re-named the entrances. Lane (1883 CE / 1301 AH) used Bey's plan textually. An Arab drawing of about 1970 CE (1390 AH), introduces entrances that are linked to districts thus *Bab Ali* became *Bab Suwq al-Lail* and *Bab Ziadah*, became *Bab Qa'iqu'an*. Both *Suwq al-Lail* and *Qa'iqu'an* are inner residential areas (*haraat*) of long standing. A number of gates on the *Ma'asa* side of the Old Holy Masjid were linked to older tribes, for example to the *Qu'raish*. *Bab Nabi* once was an alley, that of *Zugag al-Attarin*, the Prophet used when entering *al-Fina'* from *hara Suwq al-Lail* where he lived. *Bab Nabi* and *Bab Djama'iz* (Bosworth, 1991: 160) were used to bring in and carry away the dead from the Old Building for burial after the *janazah* prayers at night. To-day's *Bab Nabi* is still used for that purpose. It is distinctly labeled in blue.

Like the Arab drawing, the Egyptian Survey Plan also refers to personalities, tribes, *haraat*, gates and abutting buildings such as *Bab Ibraheem*, (the gate where a tailor domiciled) *bani Hashim* (the tribe of Hashim), *Bab Madrassah* (the gate of the religious school) and *Bab-Salam* (the welcome gate). Muohammad and Salina Samar (1998: 60) used Bey's plan to explain the architecture of the Old Holy Masjid's although the 1947 CE (1367 AH) Egyptian Survey (Cairo) Department's drawing was available. Bey's plan itself is at variance with the Egyptian Survey Department's plan.

**Fig.5.6**

Source; Ali Bey al-Abassi (1807: 74, Vol. II)

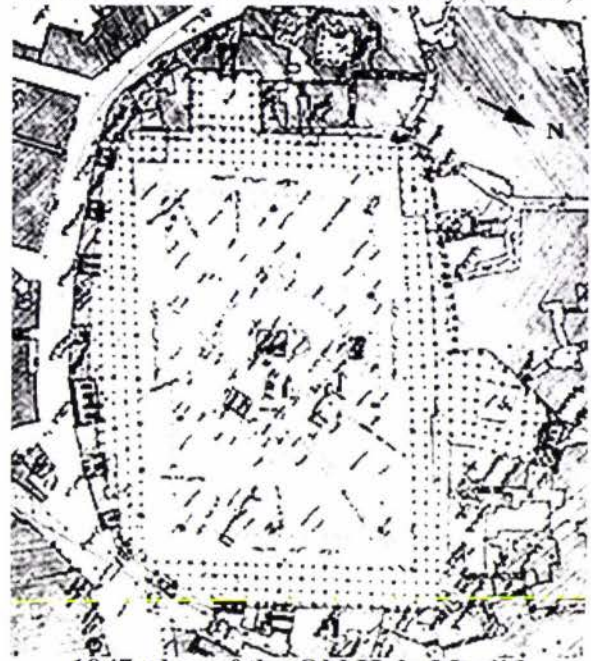


1814 plan of the Old Holy Masjid

Note the rectangularity of Bey's plan and the reality

**Fig.5.7**

Source; Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c1989).



1947 plan of the Old Holy Masjid

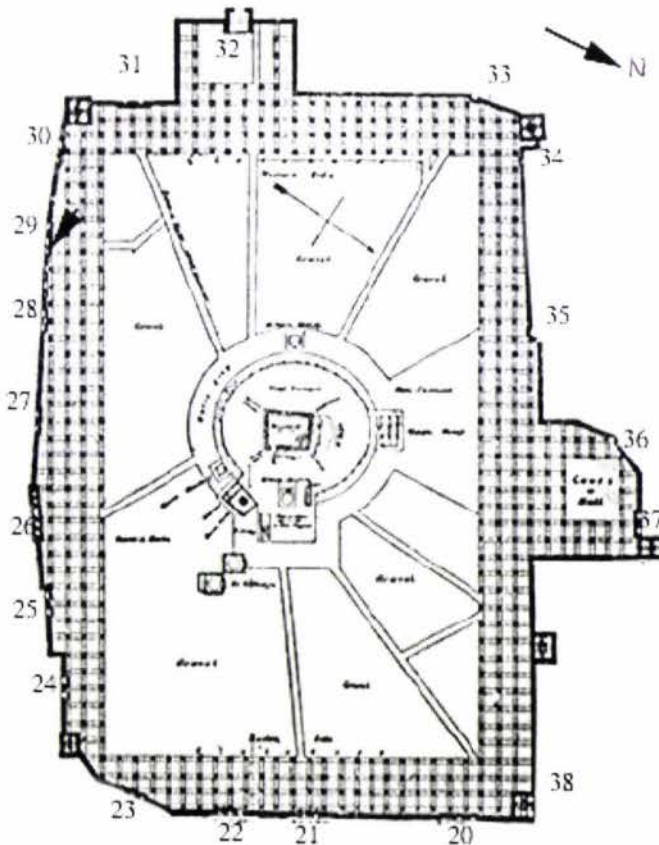
**Fig.5.8**

Source; Ali Bey al-Abassi (1807: 74, Vol. II) (Bey spelling and numbering)

**No. Entrance names**

- 20 Beb es Selem
- 21 Beb en Nabi
- 22 Beb el Abbassi
- 23 Beb Aali
- 24 Beb Litoun
- 25 Beb al Bagala
- 26 Beb Saffa
- 27 Beb Allahara
- 28 Beb Modjahet
- 29 Beb Omhani
- 30 Beb el Oudaa
- 31 Beb Zeliha
- 32 Beb Ibrahim
- 33 Beb el Aamara
- 34 Beb el Aatik
- 35 Beb Bastia
- 36 Beb Koutoubia
- 37 Beb Ziada
- 38 Beb Douriba

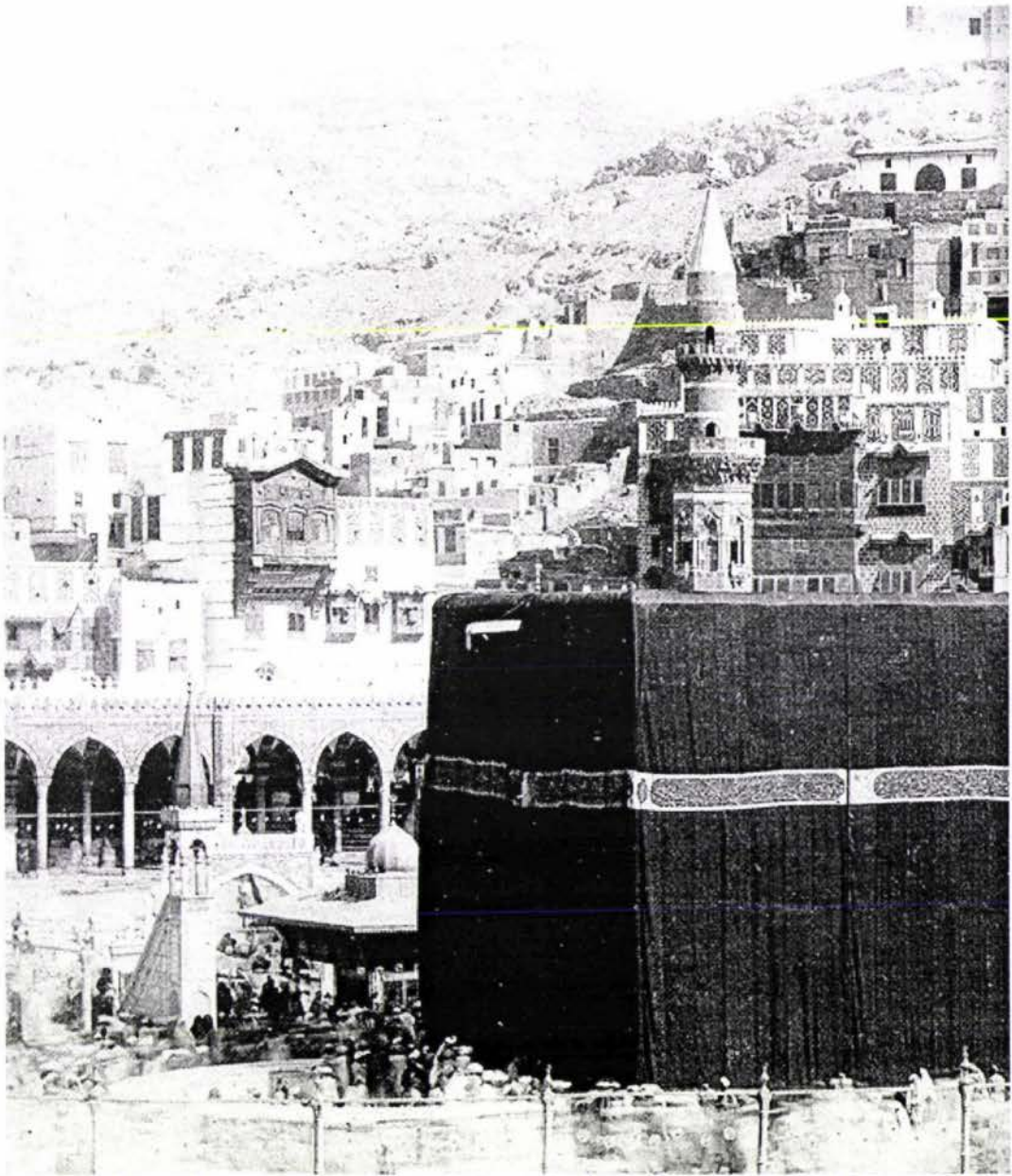
Sale used this plan and numbered the entrances one ahead of Bey. Bey's no.38 is Sale's no 39



Floor plan of the temple of Mecca, called El Haram (Bey's phrase and spelling)

**Fig.5.9**

Source; Muhammad Sadiq Bey, an 1880 photograph (in Badr, 1997: 22)



**The Holy Complex of the Ottoman Sultans Suleyman Selim II and Murad III photographed in 1880 CE (1298 AH)**

**Fig.5.10**

Source; Hurgronje (1885: Photograph)



**Aerial view of al-Haram of 1885 CE (1303 AH)**

Photograph was likely taken from *Masjid Bilal up Jabal Qubais*

and therefore Muoammad's and Salina Samar's account on the architecture of the Holy Mosque is partially impaired because of its use of Bey's plan, yet Bey's plan is useful in its description of columns and entrances and their various locations at different stages of its construction over historic time.

The first photographs of the Building were taken by Muhammad Sadiq Bey in 1880 CE (1298 AH) (in Badr el-Hagi, 1997 CE / 1418 AH) followed by Hurgronje in 1885 CE (1303 CE) (Figs.5.9, 5.10). Photography has made it possible to achieve a greater accuracy in recording what was there, what was not anymore. Ideally this photography should be supported by detailed drawings. The latter are not readily available.

### **5.3 MONADOLOGY; THE OLD HOLY MASJID**

#### **5.3.1 The Monadology of Shapes and Spaces of the Old Holy Masjid**

In Chapter 1, section 1.1.2, the Theory of Architectural Monadology was explained and linked to Jung and Kerényi's 1954 CE (1374 AH) expansion of theory of Leibniz's Monadology of 1714 CE (1126 AH) in Chapter 2, section.2.2.1. It differs from the Theory of Architectural Monadology that essentially deals with shapes and spaces that embed attachments. To the Old Holy Masjid's spaces and shapes attach the anthropomorphic, the zoomorphic, the botanical, notions, stories, colours and textures either individually or collectively. These configure and correspond with

similar entities. Because of these attachments the Old Holy Masjid's shapes and spaces are monads. Thus, the architecture of the Old Holy Masjid is not only expressible, functionally, structurally, aesthetically, material-wise, but also monadically. The specific shapes and spaces of the Old Holy Masjid are those of the Arab domes, the crenellations, the pinnacles, the medallions, the columns and column patterns. Each of those is an entity by itself carrying attachments. As such they are monads that collectively make for the larger whole that is the Old Holy Masjid itself.

Other attachments possible are for example those of a numerical order based on the expansion of Leibniz's Theory by Jung and Kerénji (1951:24-27). They maintained that three-foldness is four-foldness, and that three is four. This is extendable into a theme of 'three is simultaneously is four is simultaneously one', or vice-versa, a numerical order that applies for example to the Old Holy Masjid's two longer facades that consist of nine bays each. Each bay is an entity consisting of three cylindrical and two octagonal columns. In this entity, two columns may be perceived as three columns and the nine bays simultaneously as one, the one facade. This theme changes when looking at the arched openings. Three cylindrical columns and two octagonal columns read, as five is one. When looking at the arched openings themselves they read 'one is two or three or four. These entities cannot be seen without the other. Putting it differently, the two octagonal columns and the three cylindrical columns form a community that belongs to the larger community of five columns. They are inseparately bonded as a design.

In the past attachments were and have been made to the Old Building's columns' shapes and spaces. These can be removed and substituted with new attachments. The past attachments were zoomorphic and botanical ones. Under Lane's etymology, the column was a 'camel's leg', but new notions are that the column is 'a log belonging to a forest of trees' or the column is an 'unrolling palm tree frond'. Those are not unrealistic notions as the columns appear to be wood grained and their capitals are plant-like. With those attachments the columns as shapes surrounded by space become monads.

Other historic notions that attach to the Old Holy Masjid's shapes and spaces are for example those of the Arab domes. Traditionally, in Byzantine and Ottoman architectures, domes represent 'heaven'. Subsequently, the columns are supports that hold-up that heaven, itself a new notion. Another religious notion of Islam is that mountains hold down the mantle of the earth. This notion can be applied to the Old Holy Masjid's columns; they are additional pegs that hold down the mantle of the earth. According to Lane's etymology, the arch is the woman sitting astride on the camel. This notion transmits to the columns and the dome and vice-versa. The

combined new notions, say that four camel legs or four palm tree trunks support one dome. Or the domed roof of the Old Holy Masjid is held-up by numerous camel legs or that the Building is a *Hajji manazil*. All make the Building into a larger whole and a dominant monad but not as dominant as al-Ka'abah spiritually.

## 5.4 THE OLD HOLY MASJID, A CONSTRUCTED ARTIFACT

### 5.4.1 Construction Chronology of the Old Holy Masjid

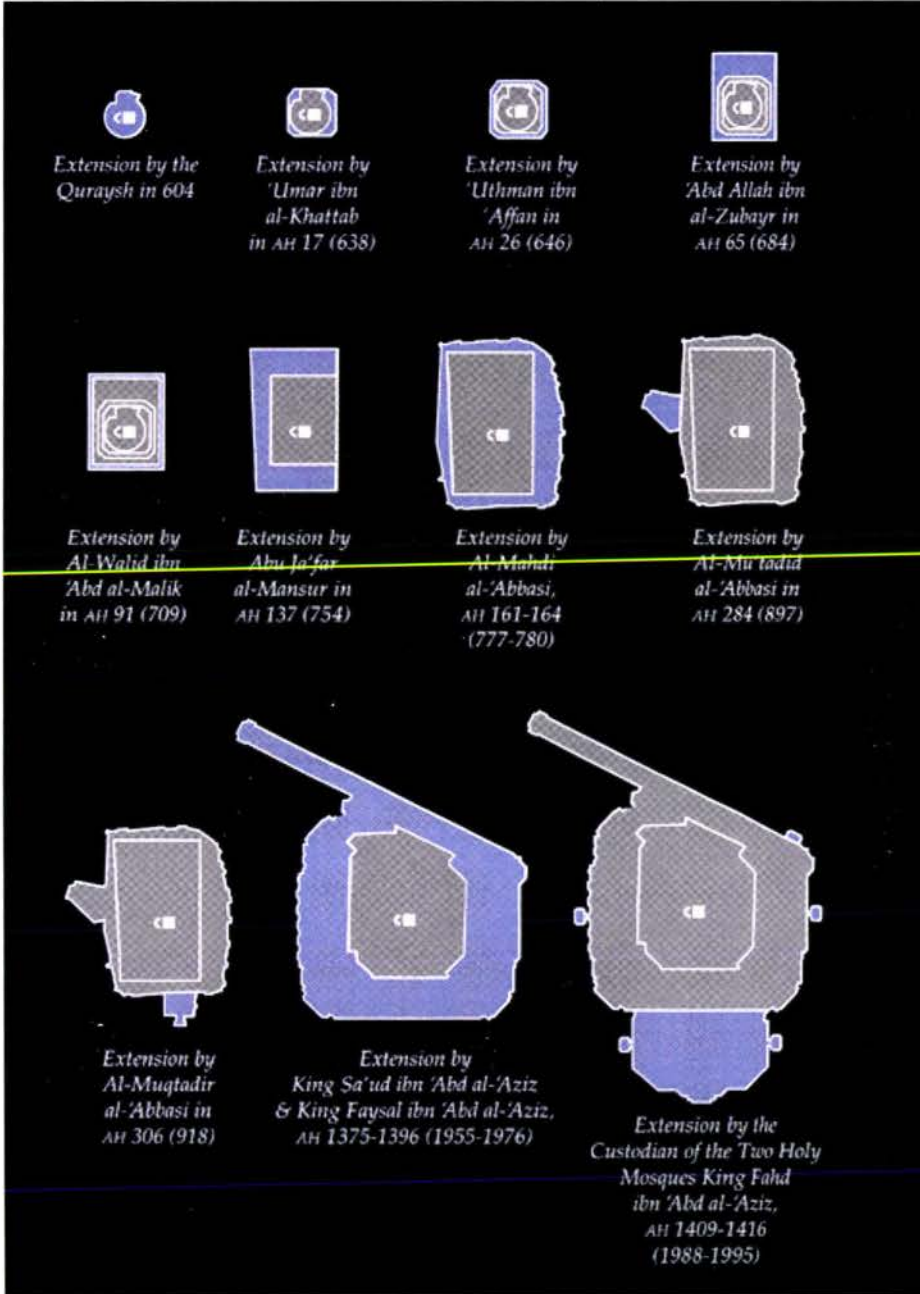
Obviously, the Building is not only a monadic one. It is also a structural one; the columns carry the weight of the roof. To do so successfully they must be strong enough, a function of slenderness, to withstand buckling. The load-bearing surface must be large enough to accommodate the maximum allowable compression. Those things will have had quite some influence on the Building's shape and detail throughout its history of renovations. The Old Holy Masjid has been subject to many renovations and extensions (Table 4). The last renovation was undertaken in 1571-1576 CE (979-984 AH), under the Ottoman Sultans Soleyman Selim II and Murad III, (Esin, 1985: 228). The renovation superseded the 647 CE (26 AH) Othman Ibn Affan design, the 685 CE (66 AH) the Abdullah Ibn az-Zubayr design, the work carried under the Umayyad *Khalif* Abd al-Malik Marwan that consisted of raising of the walls of the Old Holy Masjid in 694 CE (75 AH), covering the ceilings of the az-Zubayr extension with teak and the cladding of the column capitals with gold (Fig.5.11).

Further extensions were carried out in the 709 CE (91 AH), the Umayyad *Khalif* al-Waleed Ibn Abdul Malik the 756 CE (139 AH) Abbasid *Khalif* Abu Ja'far al-Mansour design, the 776 CE (160 AH) Abbasid *Khalifs* Mohammad al-Mahdi and Musa al-Hadi designs, the 897 and 918 CE (284 AH and 306 AH) Abbasid *Khalifs* al-Mu'tadid Billah and al-Mugtadir Billah additions and the 1207 CE (604 AH) Mamluk Sultan al-Nasir Faraj Ibn Bargouf renovations necessary because fire and floods had destroyed the arcades and colonnades on the *Suwq al-Saghir* and *al-Ma'asa* sides. Under the al-Mu'tadid extension *Dar al-Nadwa* became part of the Mosque. Al-Mugtadir added an area to the Mosque, which was located between two houses that belonged to Zubaydah the wife of Harun al-Rashid. It involved the shifting of *Bab Ibraheem*, also known as *Bab Kheyatyn*, outwards and the demolishing of *Bab al-Hazurah* and *Bab Jamah* (Muhammad and Salina Samar, c 1998: 50)

In the above chronology a fundamental difference occurs, that is both the Ministry of Municipal and Rural Affairs (1992: Poster) and Muhammad and Salina Samar (c1998: 44) exclude al-Waleed from any extensions. Muhammad and Salina Samar state that in 709 CE (91 AH) al-Waleed renovated the Old Holy Masjid but not

**Fig.5.11**

Source; Aramco World (1999: 26, based on ACE Engineering c 1989 and al-Shareef, 1990)

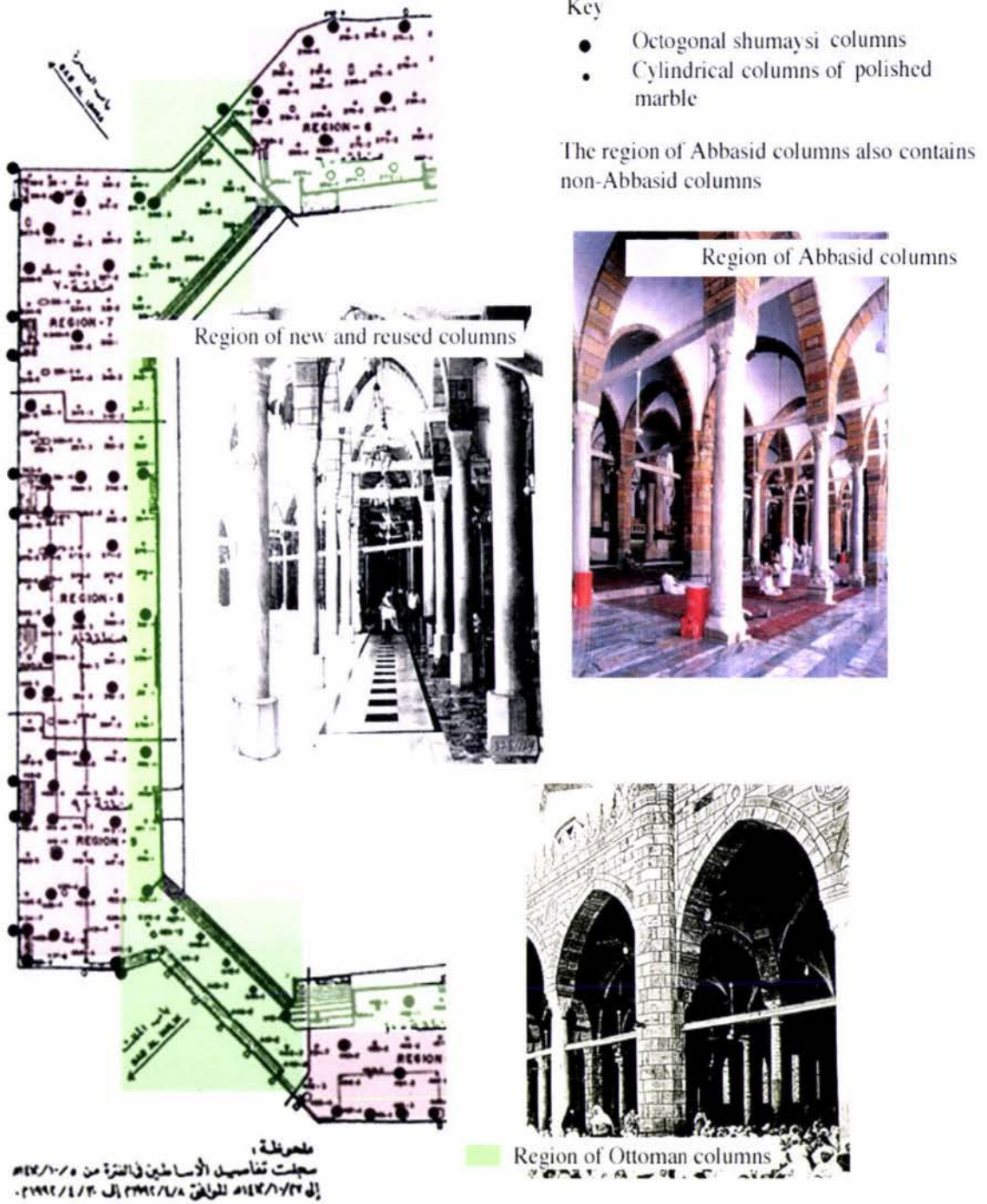


**Chronology of the Old Holy Masjid's construction**

No	Year	Description	No	Year	Description
1	604 AH	<i>al-Fina'</i> extension by the Quraish	6	709 CE (91 AH)	Columns and colonnaded extension by Abbasid <i>Khalif</i> al-Waleed Ibn Abdel Malik
2	638 CE (17 AH)	<i>al-Fina'</i> extension by <i>Khalif</i> Omar Ibn Khattab	7	754 CE (137AH)	Extension by Umayyad <i>Khalif</i> Ja'far al-Mansur. First <i>manaraat</i> ( <i>al-Umrah</i> ) built on the NW corner
3	646 CE (26 AH)	<i>al-Fina'</i> extension by <i>Khalif</i> Osman Ibn Affan  First colonnades and columns introduced	8	777 CE (161 AH) and 780 CE (164 AH)	Colonnaded extension by Umayyad <i>Khalif</i> Mohammad al-Mahdi and Musa al-Hadi Al-Ka'abah once more in the center of the Holy Complex. Three more <i>manaraat</i> added.
4	684 CE (65 AH)	Extension by self appointed <i>Khalif</i> Abdullah azZubair. Colonnades and columns constructed	9	897 CE (284 AH)	Extension under Umayyad <i>Khalif</i> al-Mu'tadid Billah. <i>Dar al-Nadwa</i> becomes Mosque proper.
5	694CE 75AH	Enwalling of az-Zubair's extension by <i>Khalif</i> Malik Marwan	10	918 CE (306 AH)	Extension under Umayyad <i>Khalif</i> al-Mugtadir Billah al- Abassi

**Fig. 5.12**

Eduard Schwarz (2005: Collage based on Kingdom of Saudi Arabia, Ministry of Information, c 1989 plan and Muohammad and Salina Samar



**The different columns, column capitals and column bases of the Old Holy Masjid**

expanded it. Yet a wall picture, observed in 1993, at the Hadj Research Center at the Umm al-Qura University in Makkah refers to an al-Waleed extension. In the Kingdom of Saudi Arabia Ministry of Information (n.d.) *Expansion of al-Haramayn al-Sharifayn*, al-Waleed is not mentioned. A poster by the same Ministry does not mention him either, yet the same Ministry (n.d.: 62), in *At the Services of Allah's Guests*, states that al-Waleed was involved, an extension which occurred in 685 CE (66 AH). Badi (1992: 122) states that al-Waleed did not extend the Old Holy Masjid but demolished the work of his father, Abdullah Ibn Zubayr, contradicted on page 128 where Badi refers to an al-Waleed extension. Aramco (1999: 26) and al-Shareef (1992: Fig 1.10) also refer to an al-Waleed extension.

Referred to in Chapter 1, section 1.5.2 this thesis has incorporated the al-Waleed extension and maintains that the heavy columns of the Old Holy Masjid, rebuilt and relocated under the Ottomans were introduced by al-Waleed. Badi (1992: 49) referring to Mas'ude, the historian who died in 956 CE (346 AH), maintained that the Abbasid *Khalif* al-Mutawakkil, who reigned from 846-862 CE (232-247 AH), introduced a new type of building, that is Abbasid architecture, a continuation of Umayyad architecture, known for its heavy appearance. The first such a building was the Dome of the Rock (*Qubbat as-Sakhrah*) in Jerusalem, constructed under the Umayyad *Khalif* Abd al-Malik Ibn Marwan in 688 CE (69 AH), al-Waleed's father. Al-Waleed thus was familiar with heavy construction previously carried out by his father. Of the al-Waleed and al-Mahdi and al-Hadi designs a number of arcades, colonnades, columns and arches, rather scattered, are still in existence today (Fig.5.12).. Where, and what, is unknown except for those who have access to the Old Holy Masjid's plans. A Karachi engineering firm has recorded them.

More extensions were carried out during the respective regimes of the Umayyad and Abbasid *Khalifs*, and the Ottoman and Mamluk Sultans. However, there are differences in the chronological data on the Building's construction. Thus Muohammad and Salina Samar refer to an 894 CE (281 AH) al-Mu'tadid al-Abassi extension whereas al-Shareef (1989: 31 and Aramco 1999: 26) state that the extension occurred in 897 CE (284 AH) corresponding with Kingdom of Saudi Arabia Ministry of Information, Internal Information (n.d.), in *At the Services of Allah's Guests*. All sources agree on the 918 CE (306 AH) date of al-Mugtadir al-Abassi addition.

The 1571-1576 CE (979-984 AH) renovation under the Ottoman Sultans Soleyman Selim II and Murad III saw the introduction the camel hump type domes, the Arab dome. Muohammad and Salina Samar (1998: 51) state that Mimar Sinan the architect was involved. Esin (1985: 225-242) also refers to Sinan, but as the designer of the Interior Court only. Esin (1963: 179) quotes Mehmed *Thavuz* as the executor of that

design. Yet, in 1963 Esin referred to a Mehmed Aga as the executor of the renovation of the same Interior Court using Sinan's plan. That renovation likely consisted of building a two-tiered oval al-Mataf of green and white marbles with black patches of marble in some places. In that sense Mimar Sinan got involved supported by Goodwin's (1993: 122 and 123) chronology. There is a gap in Goodwin's chronological account of Sinan's work between the years 1569-1576 (979-984 AH). It is possible that a recent trend has developed to link Mimar Sinan to the Old Building, inferring a Building with more status.

The crenellations of the Old Holy Masjid seen today appear to be of al-Mahdi's time, thus of c 850 CE (236 AH) and are made of stone. It is possible they may be of an earlier date. The domes are constructed of brick and plastered externally and internally. The Saudi Arabia Ministry of Information, Information Affairs; Internal Information (n.d.), in *At the Services of Allah's Guests*, states that since *Khalif al-Mu'tadid Billah's* renovations, no change occurred until the 1571 CE (979 AH). This was the reconstruction of Ottoman Sultans Selim II and Murad III that displaced the decorated teak two layered timber roofs (Kingdom of Saudi Arabia, Ministry of Information) with Arab domes, constructed of bricks.

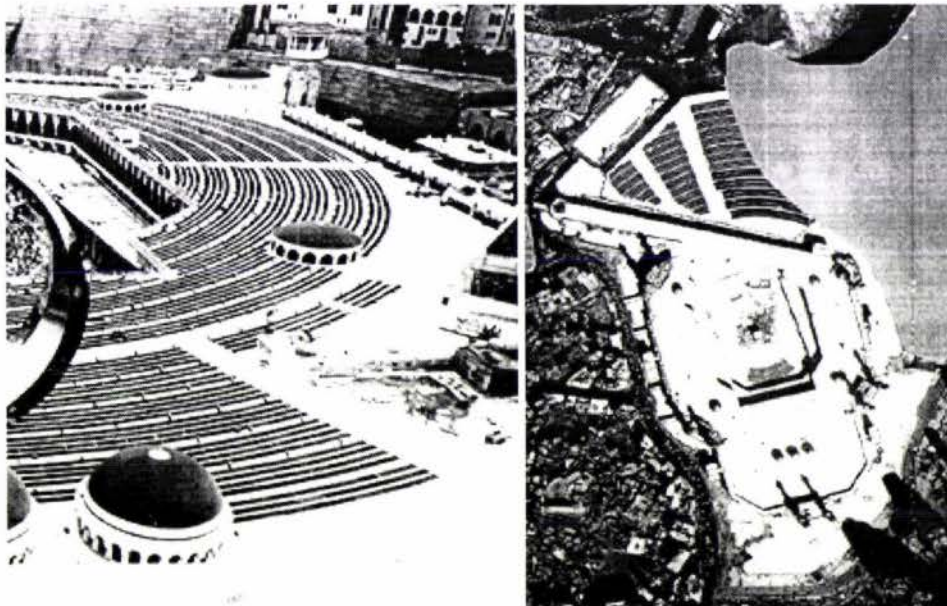
Thus to day we still observe some minor parts of the construction of al-Mahdi and al-Hadi of 781 CE (161 AH) that was upgraded in 1207 CE (604 AH) under the Burji Mamluk Sultan Ibn Bargouf mainly on the *al-Saghir* side. The al-Mahdi and al-Hadi designs followed past construction and architectural style that must have been a mixture of az-Zubayr's, al-Waleed and the al-Mansur's designs with ceilings of decorated teak. The timber roofs and ceilings were replaced with Arab domes. In this historic process the column capitals changed from gold or gilded ones or non-gilded to Ottoman ones. Creswell and Abdul al-Walid al-Azraki (in Badi) also refer to gilded column capitals.

From 1576 CE (984 AH) until 1955 CE (1375 AH) the building with its interior facade of Ottoman architecture remained unchanged. However the heavy octagonal columns are not in harmony with traditional Ottoman architecture but akin to the Mansur and al-Waleed designs. The al-Waleed Old Holy Masjid was started 711 CE (91 AH). The column design is close to those of the Dome of the Rock in Jerusalem. The column shafts are of polished marble, finished with a Corinthian type of capital. The Old Holy Masjid's interior cylindrical columns capitals are similar but of a lesser finish. Likely it was al-Waleed who introduced the Old Holy Masjid's heavy and octagonal columns, a heaviness influenced by the heaviness of exterior of the Dome of the Rock. The octagonal columns constructed of shumaysi stone are not representative of Ottoman architecture. Further, the cylindrical columns of polished

marble of the Old Holy Masjid bear no relationship to the cylindrical Ottoman column capitals that make-up the interior front facade the Old Holy Masjid.<sup>3</sup>

Commenting on the shumaysi columns Esin (1985: 229) says that to every three marble columns a fourth 'ornamental' column was added in the 1571-1576 CE renovations, from stones that had been cut from the solid rock of shumaysi. Esin does not refer to heavy columns. As the Building had already acquired its maximum length and width nothing could be added to it. In fact, Muohammad and Salina Samar (1998: 46, 56) maintain that the 1576 CE (984 AH) extension was somewhat smaller than the previous one. This infers either a replacement of cylindrical columns with shumaysi stone columns, which would have involved a complete, rebuild of most of the Old Holy Masjid. More likely a number of existing Abbasid heavy columns were demolished and their shumaysi stones re-used to build new columns of shumaysi stone in new locations. Some would have been left untouched. Some shumaysi stones would have been quarried to construct new columns and replace damaged stones of the older columns. There is no certainty whether the earlier Abbasid heavy columns were octagonal, although the present ones are.<sup>4</sup> Thus, the Old Holy Masjid then has had a long history of reconstruction. The most drastic one has been the adaptation of the Old Building's exterior perimeter with the New Building's interior perimeter. From personal observation the open space surrounding the Holy Complex was still under construction in 1993 CE (1414 AH) (Fig. 5.13).

**Fig.5.13.** Source; Muohammad and Salina Samar (c1998: 106,107,164)



**The 1994 CE (1415 AH) completed Holy Complex**

The picture on the left depicts the roof of the new Building. The picture on the right depicts the open area at ground level adjacent to the Safa-Marwa corridor. Superimposed on the Holy Complex is a pattern of concentric circles or *sufuuf* (rows) consisting of black marble highlighted by red carpets (dark colour in this photograph).

#### 5.4.2 The Old Holy Masjid: From *al-Fina'* to *al-Sahn*

According to G.R.D King (1986: 24) under Orthodox *Khalif* Uthman Ibn Affan in 646 CE (26 AH) the construction of the Old Holy Masjid started by erecting arcades around *al-Fina'* confirmed by (Badi, 1992: 123, 124). Nothing is known about the type of columns used. Those authors assert that the Old Holy Masjid began by the erection of the Affan colonnade on the *al-Ma'sa* side, contradicting Bloom, (1989: 52) who shows an extension on the *Suwq al-Saghir* side. This Chapter adheres to the view that the extension occurred on the *al-Maa'sa* side.

According to Abdul al-Walid al-Azraki (in Badi, 1992: 123) under the self appointed *Khalif* Abdullah Ibn az-Zubayr in 684 (65 AH) a roof, inferring arcades and columns, was constructed. In 711 (93 AH) under Abbasid *Khalif* al-Waleed arcades were also constructed, inferring the use of columns, (al-Shareef, 1990: Fig.1.10), confirmed by the Bosworth (1991: 147) who refers to galleries built around al-Ka'abah. Their construction or height is unknown. Badi and al-Azraki did not describe what the columns were like, or what they were made off.

The Old Holy Masjid that exists today began with a peristyle of colonnades, or arcades, that in 1955 CE (1375 AH) varied from one to five bays deep, the bays are approximate quadrilaterals. This peristyle created and defined an interior open space that is the Sacred Court or *al-Sahn*. Esin (1985) says that this area was renovated in c1573 CE (c 981 AH). What was renovated, Esin does not state. However, the date, within reason, accords with Lane's (1973:142) account that states that al-Mataf's upper step, a large flat area, was laid-out in marble in 1573 CE (981 AH), The two tiered oval al-Mataf remained in existence up to c 1957 CE (c1377AH) when it was replaced by a flush surface of white marble, the al-Mataf.

The Old Holy Masjid's arcades, peristyles and colonnades have been depicted since the 17th century in a number of floor plans together with its entrances by the different sources and authors mentioned above. When the construction of the Building started, *al-Fina'* was a flat and a 5 meter wide paved area of marble that surrounded al-Ka'abah on its four sides. It was the earliest circumambulation area, or al-Mataf, under Islam. In 647 CE (26 AH) under *Khalif* Osman Ibn Affan *al-Fina'* was enwalled with a low wall of five cubits in height. Houses, according to the 1986 Makkah Development Plan surrounded *al-Fina'*. In between the houses were narrow and winding alleys that gave access to it. Constructed accesses and entrances of the Old Holy Masjid gradually displaced these. What the designs were is not known.

Over time *al-Fina'* became bigger until it reached the stage of an *al-Sahn*, the larger interior court, that one of the Old Holy Masjid. The final extension was brought

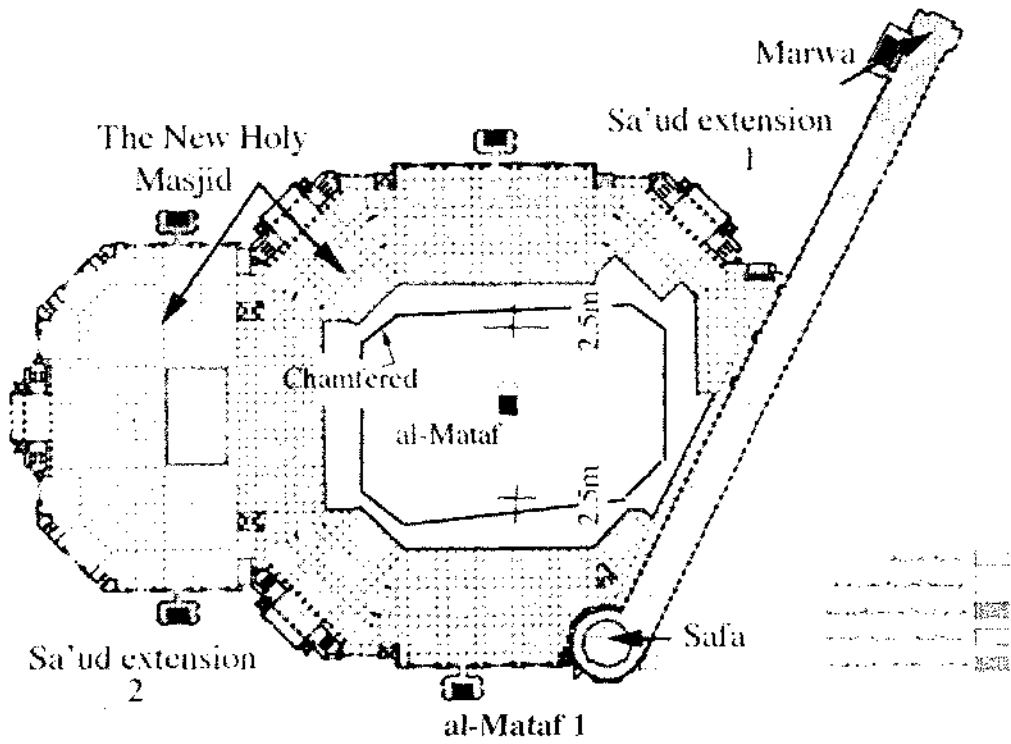
about under Abbasid *Khalifs* Mohammed al-Mahdi and Musa al Hadi between 778- 781 CE (161-164 AH) who extended the Sacred Court on the *Wadi Ibraheem* and the *Dar al-Nadwa* sides, placing al-Ka'abah once more in the center of the extended *al-Fina'* (Badi, 1992: 127). The court became an irregular four-sided polygon in which the crenellated facades defined, and define, the extent of the Sacred Court, creating a Sacred Boundary. The chamfered corners of *al-Sahn* were introduced between 1955 CE (1375 AH) and 1957 CE (1377 AH) (Figs.5.14, 5.15). Almost all of the Sacred Court is taken up by the renewed 1957 CE (1377 AH) al-Mataf that is the circumambulatory area with a diameter of 64.8 meters. The area is skirted by 2.5 meters walkways on the *al-Shamiyyah* and the *wadi Ibraheem* sides (ACE Engineering c1989: 165). Its area inclusive of the walkways is 4154 square meters and it can accommodate 14,000 persons during *al-Hajj*.

Al-Mataf's upper step was laid in marble in 1573 CE (981 AH) (Lane, 1973: 142). The lower step and the area between al-Ka'abah and al-Hatim were laid in marble at an earlier date. Thus al-Mataf was two tiered. Both the lower and raised part were irregular ovals. The new circular Mataf consists of one flush area of white marble made up of a series of concentric circles. It occupies most of the Sacred Court. An expanded concentric circle pattern covers all of the Holy Complex. This was not always so. The extent of the old Mataf has been indicated by Qadr (1965: 98)<sup>5</sup> and by Relandi in a 1717CE (1130 AH) isometric non-dimensioned drawing that also showed a number of smaller buildings.

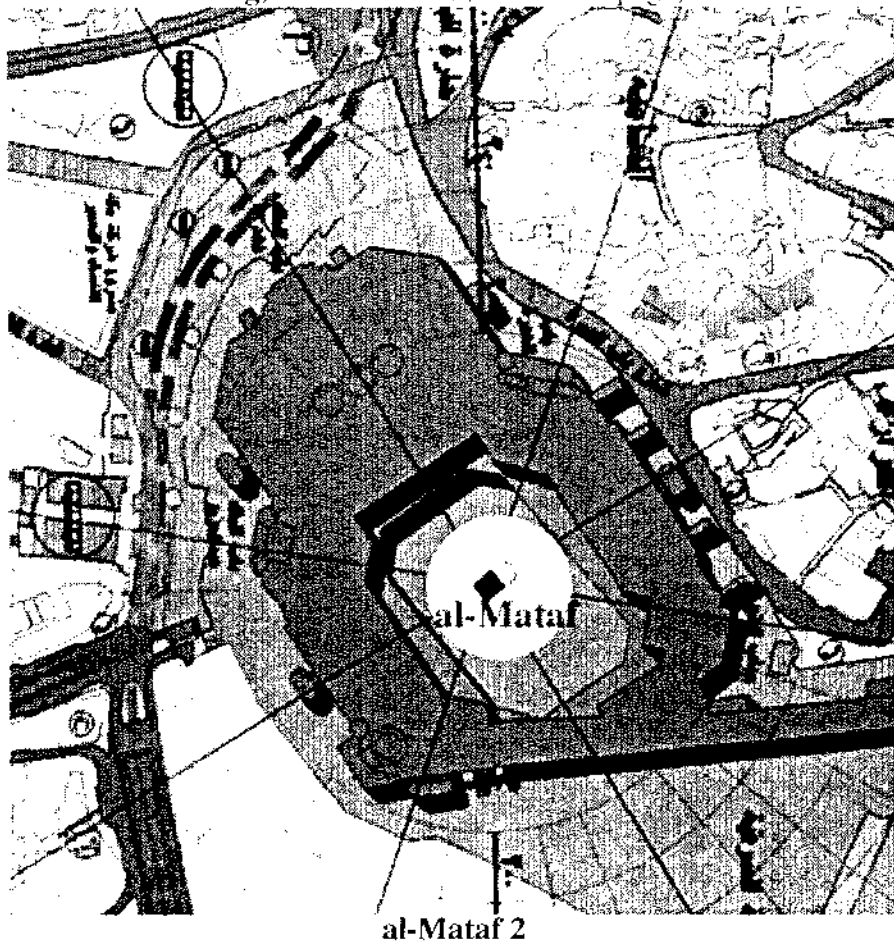
The edge and rim or the upper step of the old Mataf was once occupied by a number of buildings and other fixtures. They were the *Maqaam* of the *Imams* of *Maliki*, *Hanbali*, *Shafa'i* *Hanafi* *Maqaam Ibraheem*, *al-Madjen*, the *Mimbar*, the steps to al-Ka'abah's doors, *Bab Sha'ba*, and the *Zem-Zem* House. Adjacent, but outside this upper step were two domed square buildings, *Qubbat el Abbas* and *Qubbat el Saab* (Relandi, 1717: Drawing). All those structures located inside the Sacred Court.

Outside this court many buildings abutted the Old Building. On the *al-Ma'asa* side was a curved street, *al-Ma'asa*, which dipped in the center. It was displaced by the two storeys Safa-Marwa corridor in 1955 CE (1375 AH). *Al-Ma'asa* itself was a *wadi* that discharged into the larger *Wadi Ibraheem*. As a street it was mostly used by pilgrims undertaking *al-Sa'y*. It was also a shopping street used by pilgrims who bought religious souvenirs, gold and jewellery. By 1814CE (1230 AH), the street was a prestigious one occupied by four to five storey lodging houses accommodating and catering for pilgrims. At ground floor level were the shops. From *al-Ma'asa* narrow lanes (*zugag*) in between pilgrim lodging houses lead to the *Ma'asa* side entrances of the Old Holy Masjid.

**Fig.5.14**  
 Source; Kingdom of Saudi Arabia (1988: n.p.)



**Fig. 5.15** Source: (2004: Webpage)



### 5.4.3 The Old Holy Masjid's Columns

The arched and domed colonnades of the Old Holy Masjid consist of two types of columns: the irregular octagonal and the cylindrical ones. While the former are heavy in appearance, the latter are not; they rest mostly on chamfered square marble bases. Their height inclusive of the capital is 4.85 meters (Kingdom of Saudi Arabia, Ministry of Finance and National Economy, c1989: 169). According to Abdul al-Walid al-Azraki (in Badi, 1992: 132) the column height of the al-Mahdi and al-Hadi design was 5.60 meters. Whether this includes the column capital Badi does not say. The present column height including the column capital is 4.25 meters. If the 5.60-meter dimension is correct, the al-Mahdi and al-Hadi design was higher, a possibility as the building had a double roof constructed of teak timber. Between the roof and the ceiling was approximate space of 1.55 meter. The columns were held together with timber beams laid on top of the arches and in between arches at the same height from floor level. The arches may have been similar to those of the later Ottoman designs of Selim II and Murad III.

Most of the irregular octagonal columns rest on octagonal bases of shumaysi stones and are circa 90 centimeters wide. The height of the facade octagonal columns corresponds with the height of the facade up to the crenellations, approximately 9.80 meters. The height of the interior irregular octagonal columns corresponds with the height of the cylindrical columns thus 4.85 meters. Some irregular octagonal columns measure 2 meters long x 1.20 meters wide, they are irregular polygons, and some of these have also built-in arched openings. Likely these types of columns were once part of the old entrances. Although Bloom and al Azraki refer to square columns al-Azraki did not discuss the al-Mahdi and al-Hadi Old Holy Masjid's columns and their capitals in detail (Badi (1992: 136).

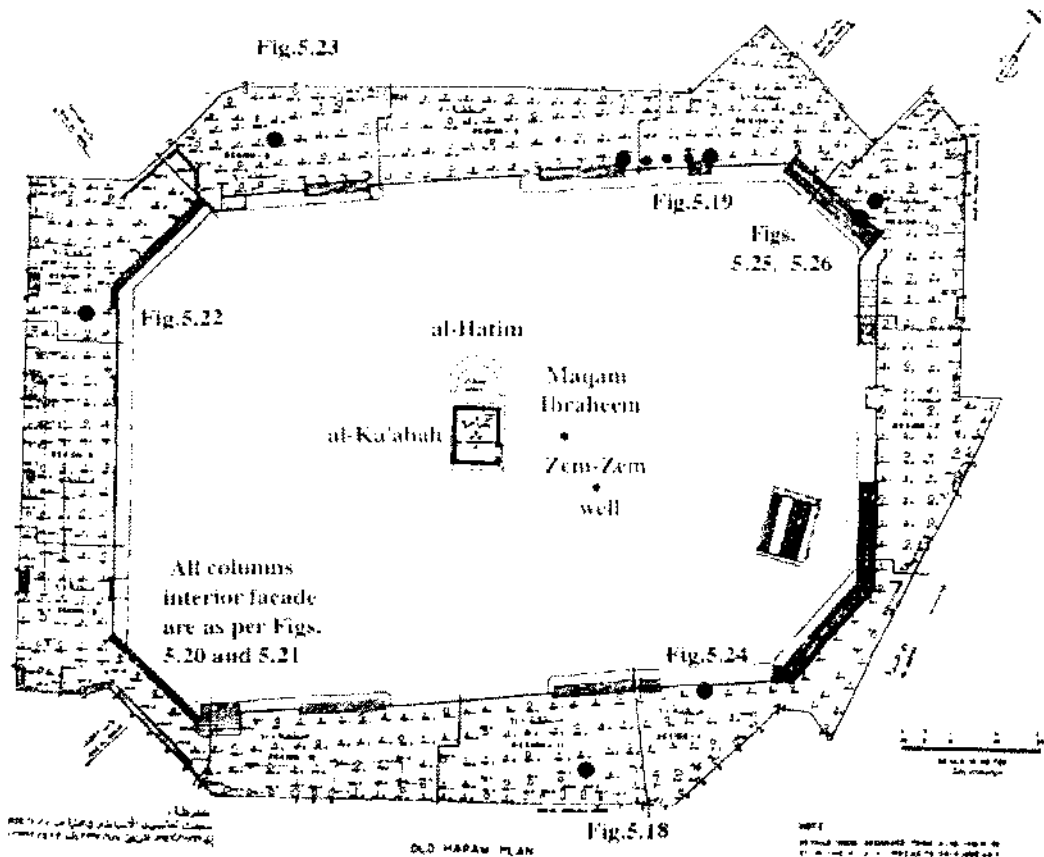
Column capitals and bases and also the locations of the red and black columns are shown in Figs. 5.16--5.26. The columns are close together; they create the impression of a forest. Their closeness conceals the entrances and exits from a direct view. Because of the use of vertically veined marble, most of the Old Holy Masjid's cylindrical columns appear wood grained. The wood grain of some columns is more pronounced than on others. Those columns that do not show that grain are invariably of granite. They stand out because of their whitish, grey-black, black and red colours.

Inherent in the Old Holy Masjid's column patterns are patterns that consist of irregular triangles, rectangles, hexagons and abutting and adjacent kabaat. These embed directions that spread from the center and form radial patterns. The octagonal columns embed eight directions. When linked to heaven nine directions come into

existence, corresponding with the *Shi'i* Islam that knows nine heavens. Sunni Islam knows seven heavens corresponding with the seven layers of the rainbow. Other geometries inherent in the Old Holy Masjid are the irregular four sided polygon Sacred Court, the circle, the square and the octagon inherent in the columns and column bases, the *manaraat*, the sphere of the Arab domes, the circles that decorate the exterior arches as medallions. There is further the horizontal banded pattern over the arches of the court facades and one now demolished exterior wall between *Bab 'Ali* and *Bab Abbas*, both three portal entrances.

**Fig. 5.16.**

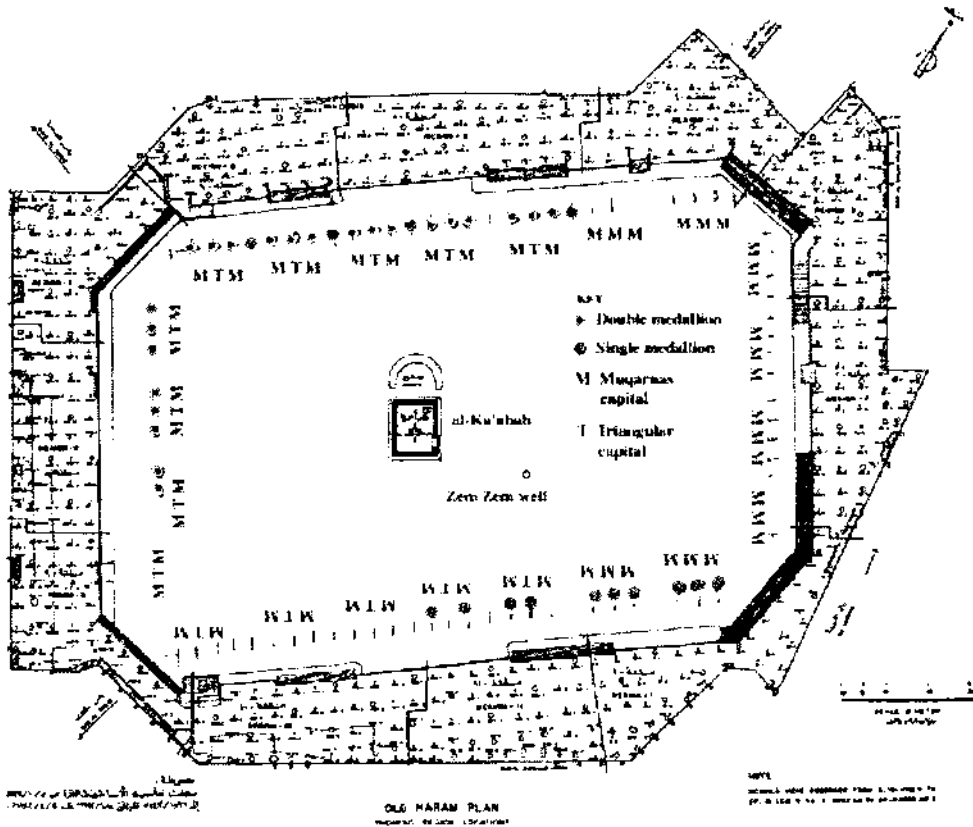
Sources; Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c 1989; no pp.). Column numbering by Eduard Schwarz in 2005.



**The Old Holy Masjid's floor plan as an index for the column figures used below**

This image of the Old Building is one with adjusted exterior perimeters and the new al-Mataf.

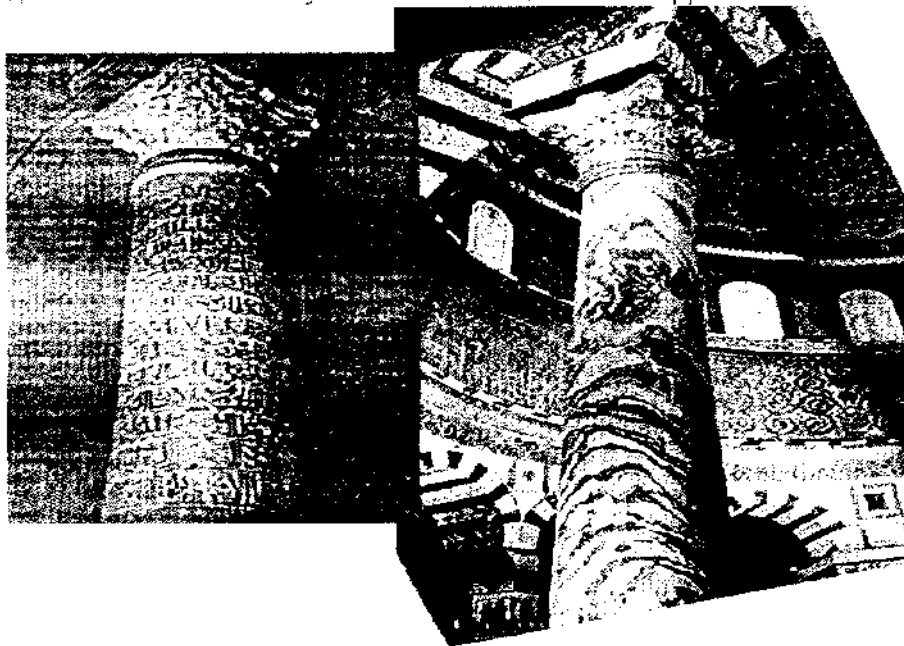
Fig.5.17 Sources; Source; Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c 1989: no pp.). Labeling by Eduard Schwarz



**1993 CE (1414 AH) record of columns, columns capitals and medallions**  
 Using the Kingdom of Saudi Arabia's plan, together with field notes, three types of medallions were observed (they are shown also in Fig.5.19). The facade columns are of two types, the muqarnas one and the triangular one.

Fig.5.18

Sources; Saudi Arabia Ministry of Information (c1989: no pp. and Stierlin, 1996:12)



**An Old Holy Masjid and a Dome of the Rock (*Qubbat as-Sakhrah*) column**  
 On the left is a column of the Old Holy Masjid with a palm frond capital similar to that of the Dome of the Rock.

Fig. 5.19

Source: Mohammad Amin (1967:73)

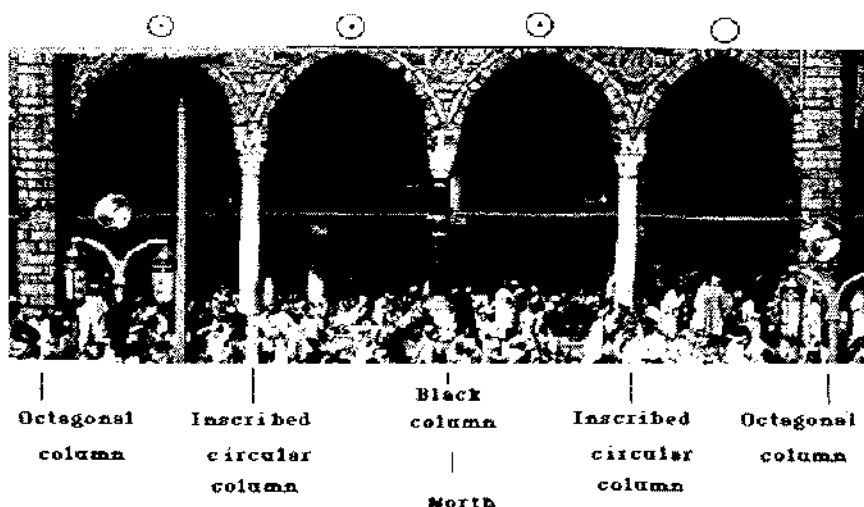
Legend

T=Triangular capital

⊙ Medallion A

M=Mušarressed capital

○ Medallion B



Part of the Old Holy Masjid's facade, *Dar al-Nadwa* side

The *Dar al-Nadwa* side of the Old Holy Masjid. The black column in this figure indicates geographic North. The facade column pattern is one of a triangular (T) capital flanked by two muqarnas (M) columns. From the arches once lamps hung.

Fig. 5.20

Source: Goodwin (1993:221, Plate 212)

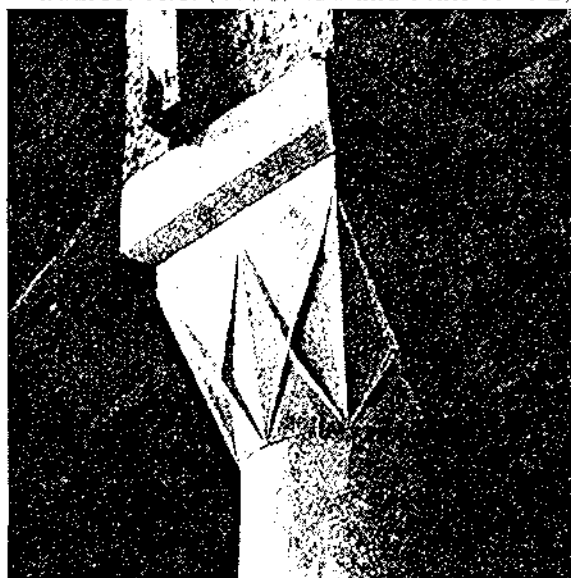


The Süleymaniye *Masjid* in Istanbul, Tabhani courtyard, a muqarnas capital

This Mosque was built in 1551-1558 CE (959-966 AH). The muqarnas capital in this illustration is similar to the Muqarnas capped columns of the Old Holy Masjid's front facade of 1571 CE (979 AH)

Fig. 5.21

Source: Kiel (1990: 438 and Plate XVI 2)



Mustafa Bey Mosque, Serres, Macedonia, a triangle capital

This Mosque was built in 1519 CE (925 AH). The triangular type of column capital in this illustration is similar to the triangular capped columns of the Old Holy Masjid's front facade of 1571 CE (979 AH)



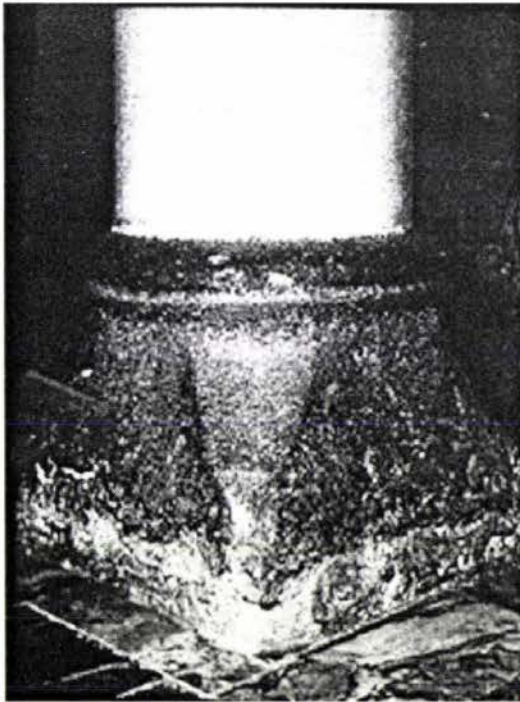
A column base 1, of the Old Holy Masjid



**Fig. 5.22**

Source: Kingdom of Saudi Arabia Ministry of Information, Riyadh, c1989.

In this figure the palm frond capital is used as a column base. It is placed on a typical square and chamfered marble base. The use of what normally is a capital, as a column base is atypical. There are five of such columns located near the Yamani entrance.



A column of the Old Holy Masjid



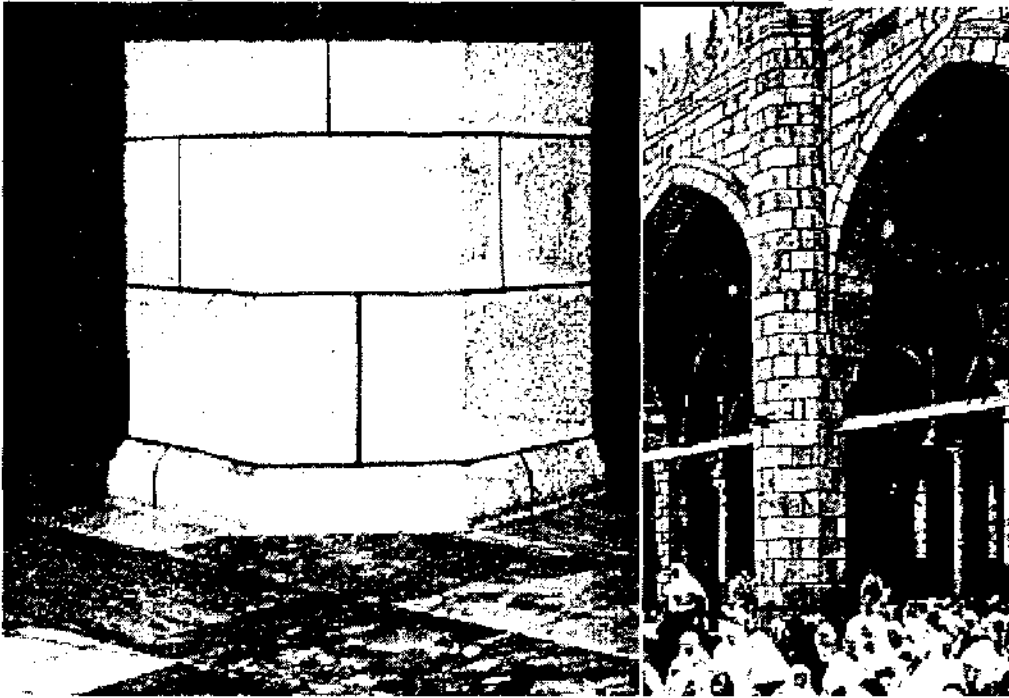
**Fig.5.23**

Source; Kingdom of Saudi Arabia Ministry of Information, Riyadh, c 1989

A typical white marble cylindrical column placed on an atypical black granite base. The surrounding floor is of black and white marble. Previously, the floor was one of basalt cobble stones according to Rutter (1928: Photograph)

**Fig.5.24**

Source: Kingdom of Saudi Arabia Ministry of Information, Riyadh, c1989

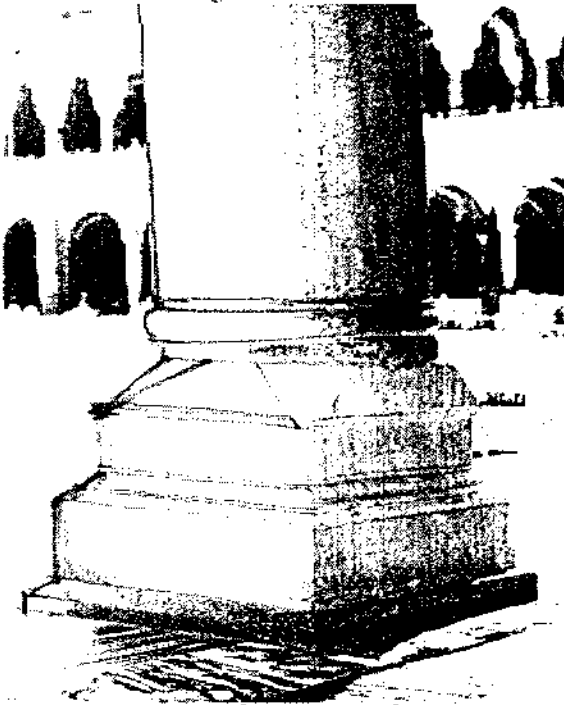


**An octagonal column**

A typical irregular octagonal column of bossed shumaysi stone. The height of each stone is circa 15 centimeters, the joints being of black mortar. According to a photograph by Rutter they were plastered in 1928 CE (1347 AH).

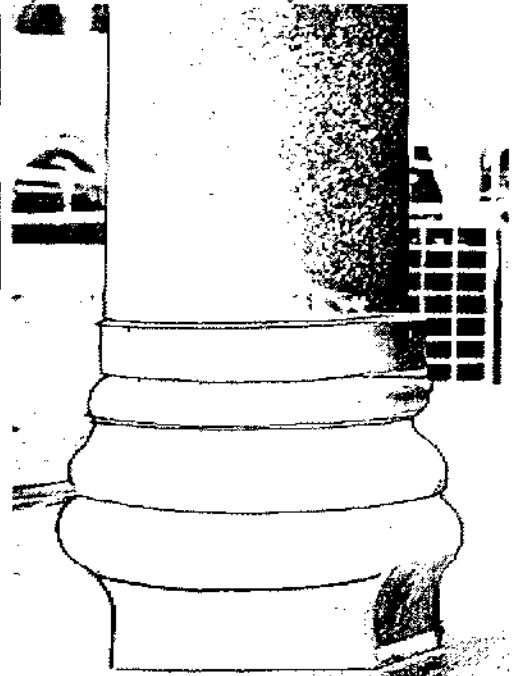
**Fig. 5.25**

Source: Kingdom of Saudi-Arabia Ministry of Information, Riyadh, c 1989



**A column base 2**

**Fig.5.26**



**A column base 3**

There are two types of bases for the cylindrical columns, one is cylindrical, and the other is a chamfered square one. This figure depicts the cylindrical column on a cylindrical base, which transforms into a square as it reaches the black marble floor surface. The strap between the cylindrical part and the chamfered square base is a hinged metal strip connecting the base to the column. The joint between the marble surface and the metal is lead filled.

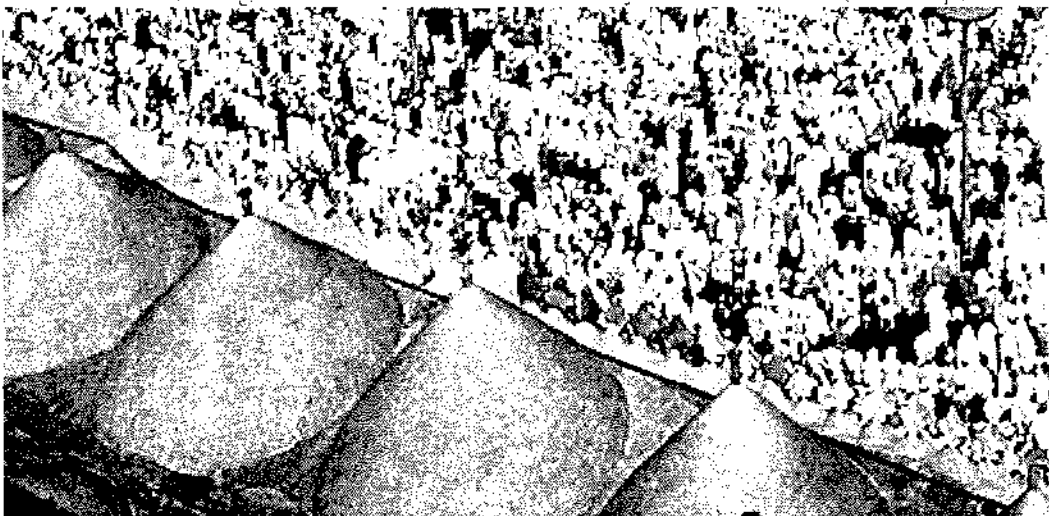
#### 5.4.4 Domes, Crenellations, Colours, Pinnacles and Geometries

The Old Holy Masjid was entirely built under the regime of Islam, whereas al-Ka'abah was not. The Old Holy Masjid has a number of features, which are unrelated to those of al-Ka'abah and which typify the Old Holy Masjid as a Building of Arab Islamic and Muslim architecture connected to Umayyad and Abbasid and Ottoman architectural elements. Those features are the domes, the kabaat patterns that embed in the Old Holy Masjid's floor plan, the irregular geometric patterns created by the octagonal and cylindrical columns, the horizontal banded pattern of the interior facades the slightly pointed arches, crenellations, the pinnacles, medallions and colours (Figs. 5.27--5.33). Al-Ka'abah typifies Arab architecture, which was detailed in Chapter 4.

The domes facing *al-Sahn* are of the Ottoman Sultans Selim II and al-Murad III designs, the Arab domes referred to in Chapter 1, section 1.1.1. At the base they are square with substantial rounded corners and pitched at the top that is finished with a pinnacle. The difference between this dome and the Ottoman one is that the Ottoman dome has either a hexagonal or octagonal base. With some exceptions the domes of all other colonnades in the Old Building are shallow ones, little more than bulges made of brick.

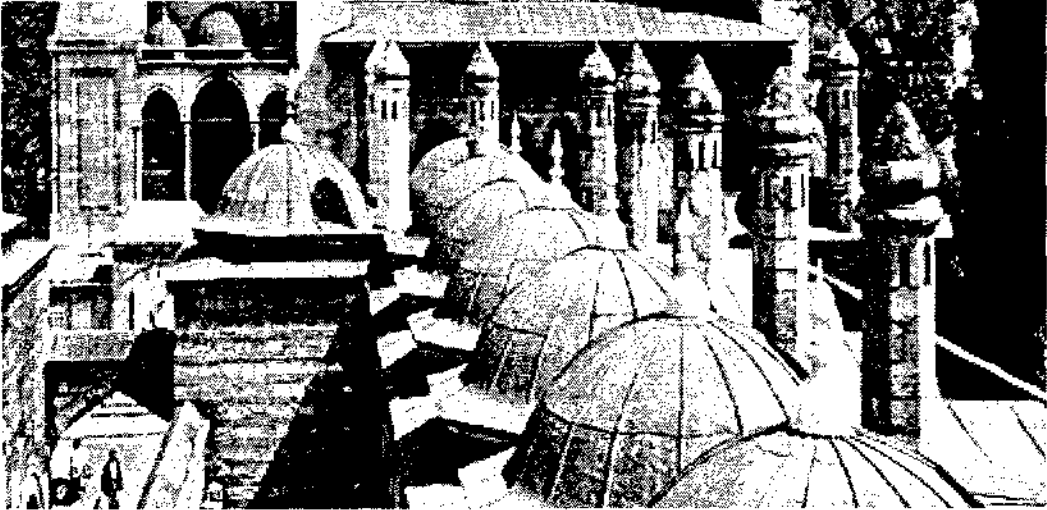
Fig.5.27

Source: Kingdom of Saudi Arabia Ministry of Information (n.d.: n.p)



The Arab dome, which is rounded at its base and has a pitched top, surmounted by a pinnacle

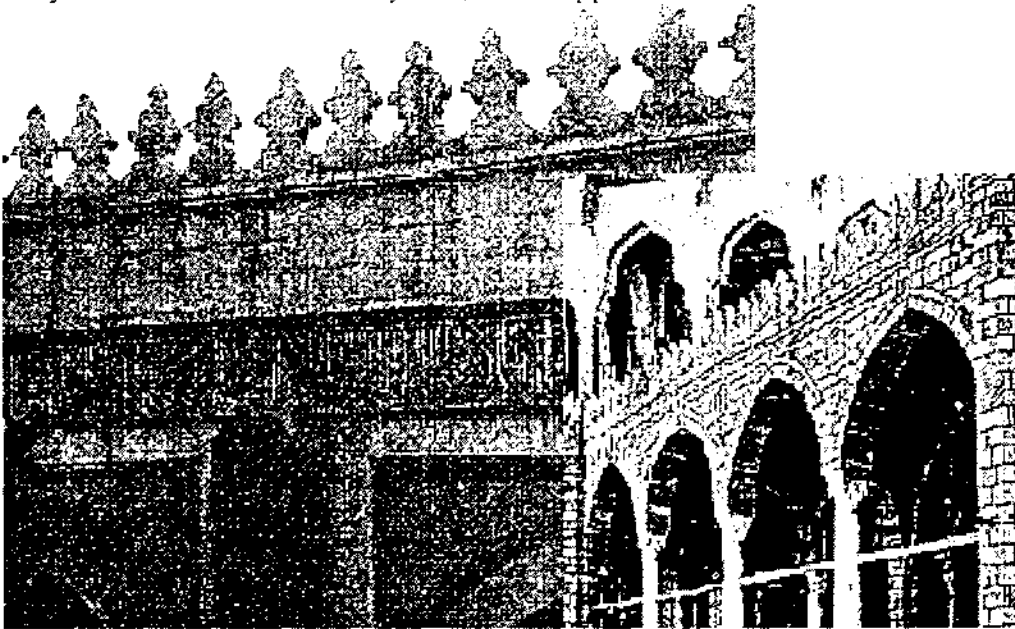
Fig.5.28  
Source: Voght-Göklünl (1966:30)



The Ottoman dome on an octagonal base surmounted by a pinnacle  
Part of the Sultan Suleymaniye complex in Istanbul

Fig.5.29

Sources: left image, Kingdom of Saudi Arabia Ministry of Pilgrimage and Waqaf and Mohammad, Tahir, Abdul Qadr (1965: 311). Right image, Kingdom of Saudi Arabia, Ministry of Information, 1990, Riyadh (n.d.: no pp).

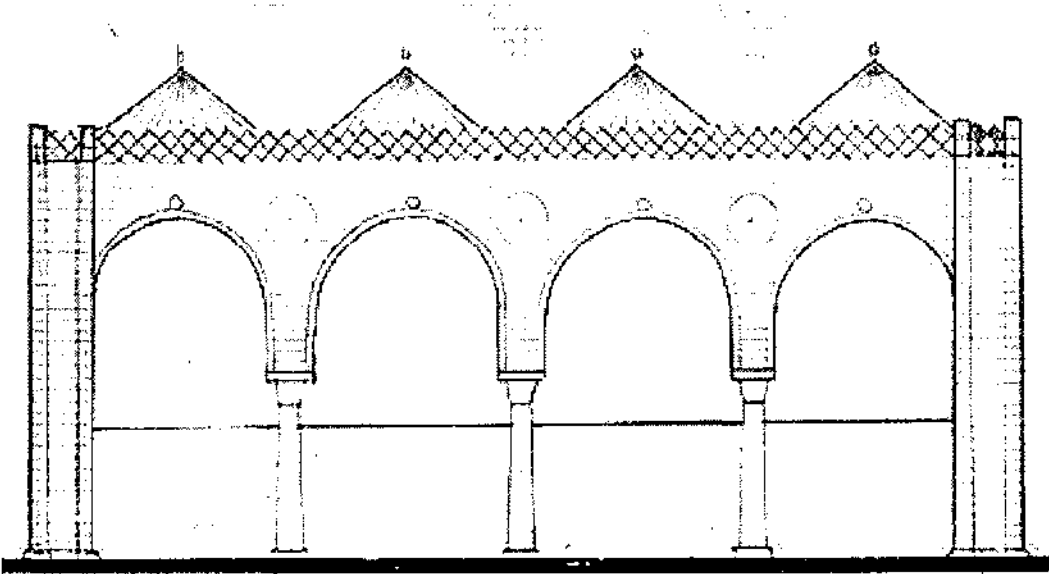


Crenellations; the *Bab al-Baghla* entrance of the Old Holy Masjid  
of circa 1956 CE (1376 AH)

The crenellations became motifs of design for the crenellations of other buildings of Islam

**Fig.5.30**

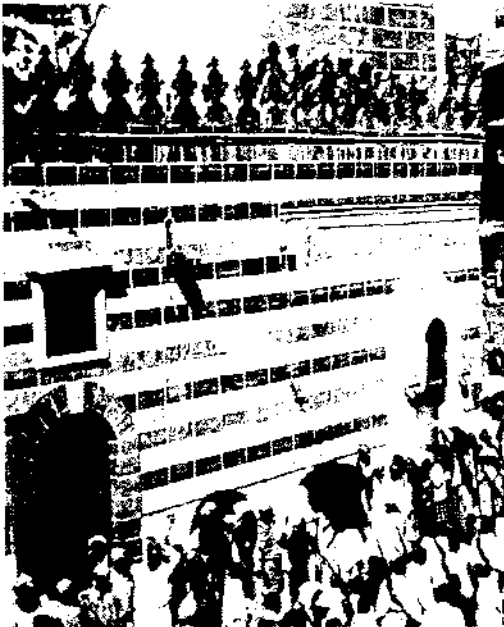
Source; Eduard Schwarz (1996: Drawing based on the Kingdom of Saudi-Arabia Ministry of Information, Riyadh, c 1989)



**Interior court facade; the Arab domes, medallions, crenellations and a horizontal banded pattern of stones**

**Fig. 5.31**

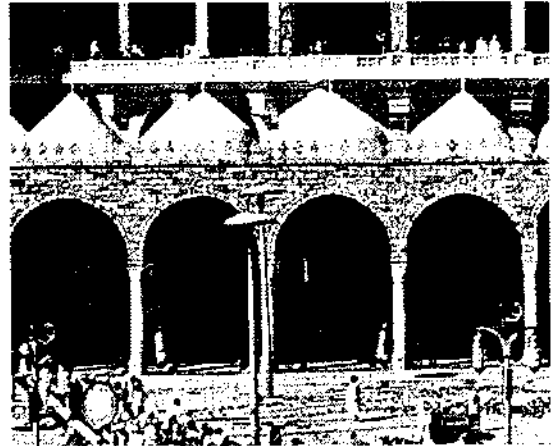
Source: Monfried (1937: 637)



**The banded horizontal pattern of the exterior wall between *Bab 'Ali* and *Bab Abbas* emphasized by the crenellations**

**Fig. 5.32**

Source: Guellouz (1979: Photograph)

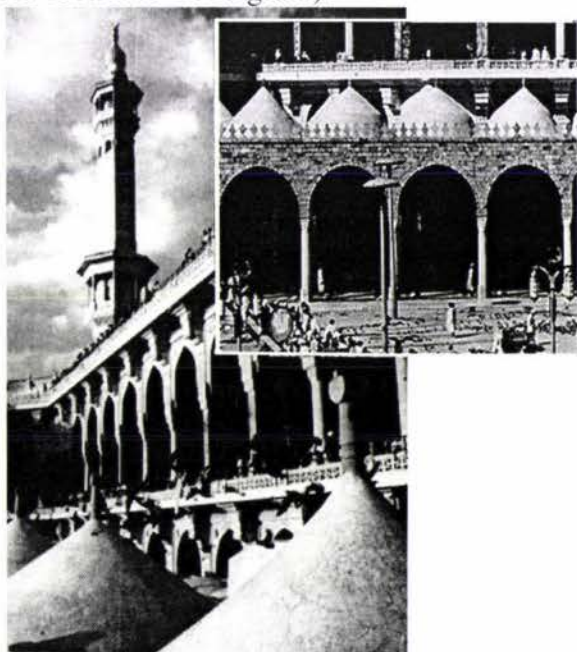


**The banded horizontal pattern of the interior facades, emphasized by crenellations**

The horizontal banded exterior facade between the *Bab 'Ali* and *Bab Abbas* entrances was further emphasized by crenellations. This is less so for the banded horizontal pattern of the interior facades as the arched openings dominate this pattern (Fig. 5.32) off-set by the linearity of the rows of domes and the crenellations. The Building's crenellations resemble those of figurines or vases and have been imitated in many Buildings of Islam such as Masjid Sultan in Singapore and the Quba *Masjid* in Madinah. Mostly the crenellations have no significant colours.

In Arab culture black and white are the dominant colours. All present colours of the Old Holy Masjid are subdued against the dominant black Ka'abah and the dominant white al-Mataf. The interior and exterior of the double-bricked and cement-plastered domes are whitewashed. Previously, the interiors of the domes were decorated with painted flowers typical of Ottoman flower decoration as it occurred in Madinah, Edernie, and Bursa domes. The exteriors and interiors of the Old Holy Masjid's Arab domes are now painted white and are surmounted by new orange-red pinnacles (Fig.5.33).

The shapes of the domes are emphasized by the white washed plaster reflecting the sun's rays. The octagonal columns and the interior facades of the Old Holy Masjid are brown in colour. Although wide use of calligraphy could be expected, calligraphy is barely used and scattered throughout the Building. The cylindrical marble columns range from white to grey-black. The black and red columns consist of textured granite, which is quite different from the veined smooth polished marble columns (which look like wood grain).<sup>7</sup>



**The white Arab domes of the Old Holy Masjid**

< **Fig.5.33**  
Sources; Kingdom of Saudi Arabia Ministry of Information (n.d.), in *Expansion of al-Harameyn al-Sharifeyn Frontispiece and Guellouz, 1979: Photograph*

In Arab culture, particularly etymologically, the dome and hump are synonymous. In this figure the domes are surmounted by male figurines (not all domes are). Arab and Muslim Islamic architecture made use of black, white, and red colours. The domes are white, the pinnacles are orange, and the facade is brown. The last colour is not often used.

#### 5.4.5 The *Manaraat* of the Old Holy Masjid

At one stage the Old Holy Masjid had seven *manaraat*.<sup>8</sup> According to Abdul al-Walid al-Azraki (in Badi, 1992: 124) the first *manarah*<sup>9</sup> was built under the Abbasid *Khalif* Abu Ja'far al-Mansour in the 755 CE (138 AH) extension of the Old Holy Masjid (See Appendix **Five**). Badi states that this was the first time Abdul al-Walid al-Azraki mentioned a *manarah*. He died in 864 CE (254 AH). Al-Azraki and Badi say it was located near *Dar al-Shiba* and *Dar al-Nadwa* and on a corner, but they do not say exactly which corner. The location of *Dar al-Nadwa* is known, it is on the *Dar al-Nadwa side*. According to the al-Haramain Office (1993: 78), the *Bani Shiba* entrance located near *Bab Salam* that is on the corner *Dar al-Nadwa* and the *Ma'asa* sides. Muohammad and Samar (1998: 47) refer to a *Bab dar al-Shiba's* location but do not state its location either on the left or the right side of *Dar al-Nadwa*.

Bloom (1989: 47, 51) says that a single *manarah* stood at the meeting of Abu Ja'far al-Mansur's two new enclosure walls at the point furthest away from al-Ka'abah, presumably the NW corner, the *Suwq al-Saghir* side as Bloom mentions the construction of three other *manaraat*, one near the corner of *Bab Bani Hashim* (*Bab Ali*), which is the SE corner, one on the NE corner and one on the SW corner. Muohammad and Salina Samar and G.R.D. King, (1986: 25 and 1998: 47) report that the first *manarah* was located near *Bab al-Umrah* thus on the NW corner and state it was built in 755 CE (137 AH). It was renovated and repaired respectively in 1524 CE (931 AH) and 1572 CE (980AH) according to Esin (1985: 229, 230). Muohammad and Salina Samar further refer to three other *manaraat* built as part of the al-Mahdi extension, thus between 777 CE (160 AH) and 780 CE (164 AH). Those three *manaraat* were located near *Bab Ali*, *Bab Salam*, and *Bab Wi'da* (Fig.5.34).

According to Rutter (1928: 258), *manarah Salam* was built in 778 (162 AH) and rebuilt in 1407 CE (810 AH) under Burji Mamluk Sultan Faraj Bin Bargouf (Esin, 1985: 230). The School of Oriental Studies (1951: 43) in London refers to an al-'Adil al-Mata' who reigned from 1406-1412 CE (808-815 AH). Muohammad and Samar's account corresponds with Rutter's and Bloom's, but not with Esin as far as the construction of the last *manarah* is concerned, the Sultan Suleyman one of 1565 CE (973 AH). Muohammad and Salina Samar (1998: 51) refer to a 1553 CE (961C AH) date. Later on pp.57 they infer a 1629 CE (1039 AH) date.

The *manaraat* are historically known, starting from the SE corner, the *Wadi Ibraheem* side, then clock-wise as *manarah Ali*, *manarah Salam*, *manarah Wi'da'* and *manarah al-Umrah*. *Manarah Ali* was rebuilt during the 1520-1566 CE (926-974 AH) reign of Suleyman I (Esin 1985: 230). In 1369 CE (771 AH) *manarah Wi'da'*

collapsed. It was rebuilt in 1572 CE (980 AH) as part of the major reconstruction of the Old Holy Masjid under the Ottoman Sultans Selim II and Murad III. Under the Ottomans three more *manaraat* were added. These were each about 35 meters high.

Rutter and Esin (1928: 258 and 1985: 230) state that *manarah Qaytabey* was built in 1475 (880 AH), on the NE that is the *al-Maa'sa* side. This *manarah* was not attached to the Old Holy Masjid. It was part of the Burji Mamluk Sultan Qaytabey *madrassah*, which abutted the Old Holy Masjid and was accessed from *al-Maa'sa*. Muohammad and Salina Samar (1998: 57) refer to the *manarah Ziadah*, which was located near *Bab az-Ziadah*, the entrance to the *Dar al-Nadwa* on the *Dar al-Nadwa* side.

The last *manarah*, the *as-Sulaimaniyya* and the tallest one, was built in 1629 CE (1039 AH) according to Muohammad and Salina Samar (1998: 57) near the *madrassah* Sultan Soleyman, thus under Sultan Murad IV, also on the NW side between the Mu'tadid Billah extension and the Law Court. Esin (1985: 230) reports on a 1565 CE (973 AH) date for this *manarah* thus a *manarah* built during the reign of Ottoman Sultan Suleyman I.

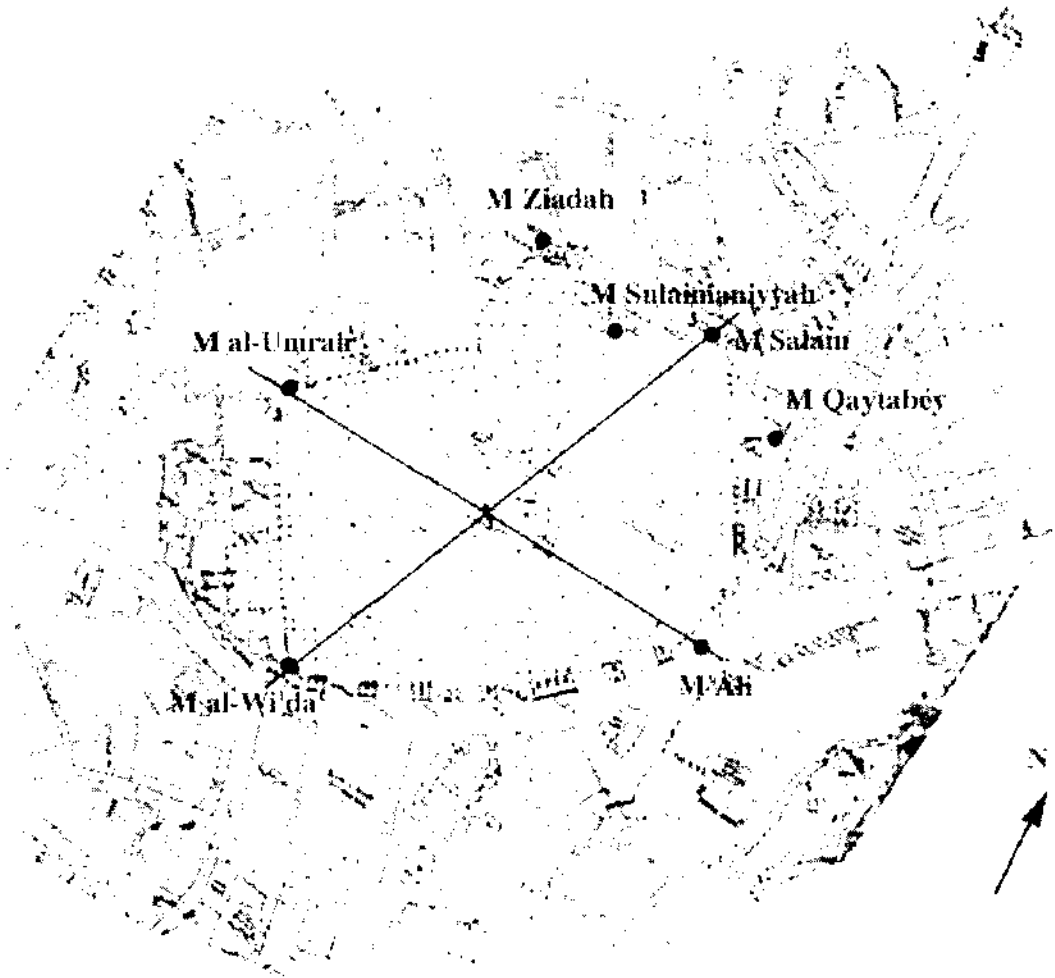
The difference between these dates acquires significance when examining Persian and Turkish miniatures showing seven *manaraat*. They must have been made either after 1565 CE (973 AH) or 1629 CE (1039 AH).

Esin (1985: 230) refers to the 1434 CE (838 AH) construction date for the *manarah Ziadah*. This *manaraat* was a donation of the Burji Mamluk Sultan al-Malik 'ul-Ashrad Barsbay. Imaginary axes connected *manarah Wi'da'* with *manarah Salam* and *manarah Ali* with *manarah al-Umrah*, their axes intersecting (Fig.5.34) at an oblique angle at al-Ka'abah's center post. Pro-active planning must have made this possible.

Up to 1955 CE (1375 AH), the 1576 CE (983 AH) version of the Old Holy Masjid (with some elements of al-Mahdi and al-Hadi design) had remained intact inclusive of the seven *manaraat*, structures which had been remodeled and renovated over centuries. The best known of all of the *manaraat* was, and still is, *manarah 'Ali* and its three-arched entrance *Bab 'Ali*. *Manarah 'Ali* was a typical Ottoman minaret, but not long nor slender. However, *Bab Salam*, the welcome entrance was more important from a religious point of view than *manarah Ali*. *Bab Salam* was used by *al-Hajj* pilgrims coming-in from Arafah and Mina and by pilgrims participating in *al-Umrah*. Both groups carry out the *Tawaf al-Wi'da'*, the farewell circumambulation of al-Ka'abah. But whereas *al-Hajj* pilgrims left the Holy Complex by way of *Bab-al-Wi'da'*, the *al-Umrah* pilgrims left via *Bab al-Umrah*.

Fig. 5.34

Source: Egyptian Survey (Cairo) Plan (c1989) in Kingdom of Saudi Arabia Ministry of Finance and National Economy (c1989: no pp.). Labeling by Eduard Schwarz.



**The location of the Old Holy Masjid's *manaraat***

The seven *manaraat* of the Old Holy Masjid. Four were placed in such a way, their axes intersected obliquely at al-Ka'abah's center.

The Old Holy Masjid was carved out of abutting buildings but also gradually crowded-in by abutting buildings, a process that evolved over centuries. By 1955 CE (1375 AH) little could be seen of the old massive walls of the Old Holy Masjid except that part between *Bab* and *manarah Ali* and *Bab Abbas* consisting of a 7.6 meters high exterior wall (Rutter, 1928: 252). Invariably, all photographs related to that area, that obliquely portrayed the Old Holy Masjid, were taken from the slope of *Jabal Abu Qubays* (372 meters) a mountain on the *Ma'asa* side. From this mountain or from the balcony of the *manarah* itself, *Bab Ali* and *Bab Abbas* area were easily observable. Thus this area and its minaret were more accessible than the other *manaraat* and therefore were drawn, sketched and photographed more often than any other part of the Old Holy Masjid (Fig. 5.35).



<

**Fig. 5.35**

Source: Esin (1963: 208)

**The most photographed part of the Old Holy Masjid near the now demolished Bab Bazan and Bab Ali and manarah Ali**

This has been the most photographed manarah of the Old Holy Masjid. Taking of photographs was possible as this area was not abuted by buildings. In the foreground is *manarah* 'Ali in the background *manarah* Suleyman

#### **5.4.6 Construction of the Old Holy Masjid; Materials Used**

The Old Holy Masjid of al-Mahdi and al-Hadi consisted of rows of colonnades between one to five quadrilaterals deep. The 1955 CE (1375 AH) adjusted Old Holy Masjid had colonnades three to four quadrilaterals deep. All quadrilaterals are domed consisting of interior and exterior plastered bricks constructed in two layers. Only the pitched domes are finished with a pinnacle. The pitched domes are confined to the facade. Four arches that rest on four columns support a pitched or a shallow dome. The Kingdom of Saudi Arabia, Ministry of Finance and National Economy (c1989: 169) states there are at present 432 domes, confirmed by Muohammad and Salina Samar (1998: 117).

Most arches are slightly pointed, in some instances sharply pointed due to irregular spacing of some columns that do not conform to the general spacing between the columns of 4.70-5.00 meters. The arches are constructed of shumaysi stone (Figs. 5.36, 5.37) that rest on 206 irregular shumaysi stone octagonal columns and 432 cylindrical marble columns. There are further 75 columns made of reinforced concrete clad with mosaics, all according to the Kingdom of Saudi Arabia, Ministry of Finance and National Economy (c1989: 169). As the exterior perimeter of the Old Building had to be adjusted to fit the exterior of the New Building, quite a number of old columns were re-used in new locations. New columns were also introduced. The location and relocation of the columns has been recorded. That record cannot be accessed.

#### 5.4.7 The Old Holy Masjid's Entrances

According to both Bey and Sale <sup>10</sup>there were a total of 18 entrances, 19 according to Lane (1973: 157,158) (see again Fig. 5.8 above and Appendix Six). Lane textually split *Bab Bazan* into two separate entrances, those have *Bab az-Zeyt* and *Bab al-Ashra* whereas Bey and Sale refer to *Bab al-Ashra* as one entrance. Sayed Idries Shah in 1957 CE (1375 AH) reported nineteen entrances. Most of the entrances' names mentioned by both authors differ slightly.

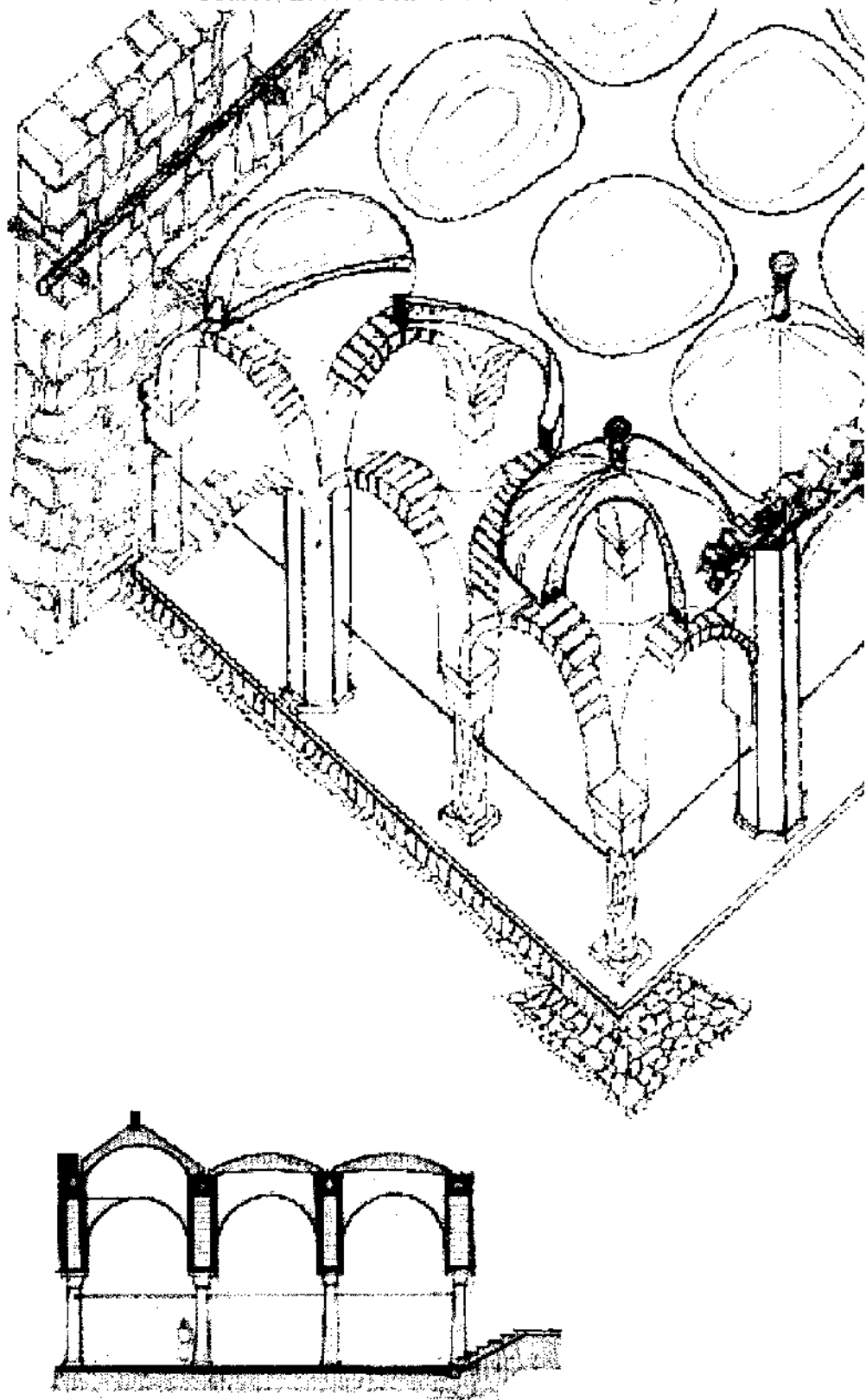
Bey starts numbering the entrances from 20 to 38 (see again Fig. 5.8). Sale from 21 to 39. Thus Sale's numbers are one in advance of Bey: Bey's no. 28 is Sale's no. 29. Bey's plan was used by Sale's publisher in the 1900 CE (1318 AH) memorial edition. Lane went about it differently. He listed the same names but as text only starting from the SE corner (*Bab 'Ali*) and ending at NW corner (*Bab Dereybe*) of the Old Holy Masjid a clock wise movement, following Bey's number pattern which is also a clock-wise one (probably Lane was familiar with Bey's plan). Rutter introduced a number of additional entrances labeled 'two parts' in Appendix Six. It is possible there might be additional ones referred to over and above those of Bey's.

They could have been unimportant ones in the eyes of the different authors or they might have been private entrances. A 1987 CE (1408 AH) difficult to read plan by Abdullah Magmud Bin Isaq that shows twenty-eight entrances points in the direction of importance and non-importance.

In general the names and numbers of entrances and exits have remained more or less constant since 1576 CE (984 AH), the completion date of the renovated Old Holy Masjid. Lane has given some ancient names over and above those of the other authors. Most have relied on Bey's version in 1807 CE (1222 AH), which accords with 17th century Persian material acquired in the 19 and 20th century by western scholars. Bey's plan has remained in authority up until now. Few professional people know about the existence of the 1947 CE (1367 AH) Egyptian Survey Plan.

The 1576 CE (984 AH) entrances of the Old Holy Masjid were of Ottoman architecture and were an integral part of the Old Holy Masjid. Entrances were built in tandem with the expansion of the Old Holy Masjid. There is uncertainty about which entrances were built when. It is likely the al-Mansur extension had a lesser number of entrances than the al-Mahdi and al Hadi one. To go by some 16th and 17th century Persian material, all entrances were in place, which were later described and shown by Bey in 1807 CE (1222 AH).

**Fig. 5.36**  
Source: Eduard Schwarz (1997: Drawings)



An axonometric view and a cross section of a domed colonnade of one module

**Fig.5.37**

Source; Muohammad and Salina Samar (1997: 96)



**The Old Holy Masjid's colonnades**

The columns create the impression of a stand of forest trees or an assemblage of camel legs. That way they form the monadic content of the Old Holy Masjid. Note the differences in the column bases. The columns on the right hand side locate near the *Yamani* entrance. The closeness of the columns has been repeated in a number of modern *Masajied*, for example in the *Abbas Masjid* in *al-Taif*. Columns help to find the way out of the Building or they serve as social meeting points.

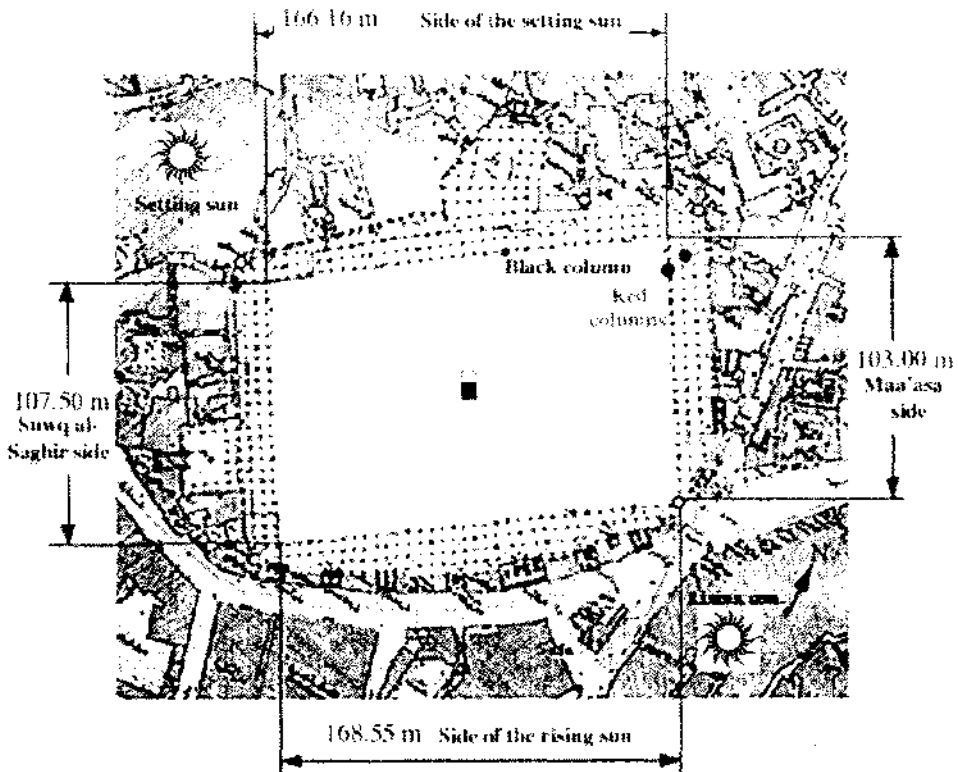
### 5.4.8 Other Aspects of the Old Holy Masjid

Using the Kingdom of Saudi Arabia, Ministry of Finance and National Economy, (c1989: 218) data, the Sacred Court on the side of the setting sun and on the side of the rising sun are respectively 166.16 meters and 168.55 meters long. These sides consist of nine bays each, making for a total of seventy two arched openings for both sides<sup>41</sup> Both shorter sides, the *al-Ma'asa* and the *Suwq al-Saghir* sides are respectively 107.50 meters and 103.00 meters long (Fig.5.38). They consist of six bays each making for a total forty eight arched openings. The columns are linked to each other with flat iron bars that birds cannot rest on (Fig. 5.39). Those of the front facade were removed in c1957 CE (1377 AH).

All structural bays are quadrilaterals or irregular four-sided polygons, which differ in size. The distances between the quadrilaterals differ from 4.74 to 5.00 meters.<sup>42</sup> Clusters of columns, colonnades, arcades, and quadrilaterals surrounding the four sides of *al Sahn* obliquely face al-Ka'abah, resulting in a series of rather oblique geographical directions (these geographical directions are not *Qiblaat*) that spring from the center of the quadrilaterals. They add to the overall system of geographical directions inherent in the Building particularly emphasized by the *manaraat*.

Fig.5.38

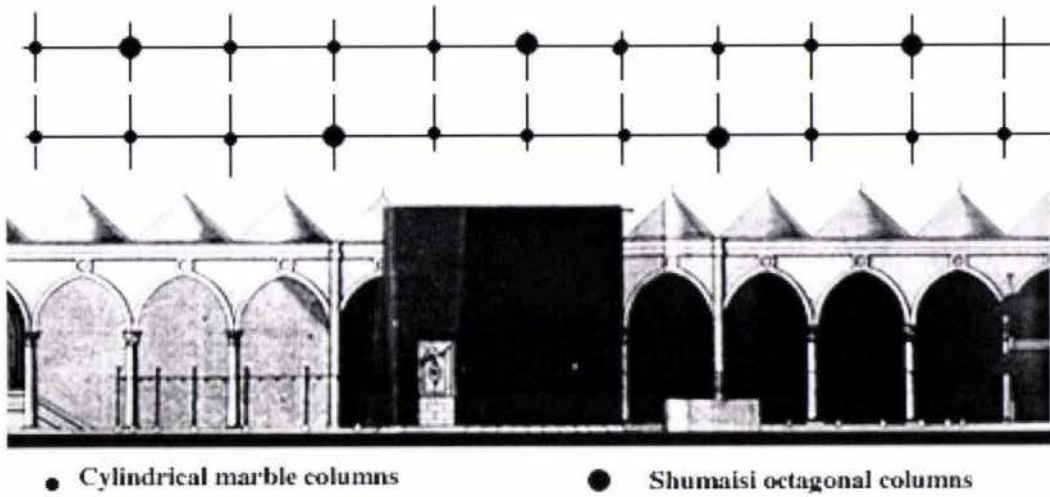
Source: Egyptian Survey (Cairo) Plan (c1947), in *Kingdom of Saudi Arabia in Ministry of Finance and National Economy*, (c1989: no pp.). Labeling by Eduard Schwarz in 2005.



The Old Holy Masjid's dimensions and the Building's relative location

**Fig.5.39**

Source; Ali Bey al-Abassi (1807: Plate)



**Part of the Old Holy Masjid's facade on the *Suwq al-Saghir* side in 1807 CE**

The obliqueness itself adds to the overall irregularity of the Building. Many of the columns the Old Holy Masjid are out of alignment; no two columns are equal in size or height. Similarly for column bases, arches and arch openings.

Looking down from the New Holy Masjid's second floor, and following with the eye the perimeter of the Old Building's roof, the line of crenellations weaves. Superficially, the Old Holy Masjid appears to be one of medieval modular design; yet its construction conforms to and corresponds with Arab culture, one that embeds irregularity, particularly those irregular geometric patterns. Out of a range of these irregular patterns a number of parallelogrammatic and other centered shapes became dominant geometric patterns. Other geometries inherent in the Old Holy Masjid are the irregular parallelogram of the Sacred Court; the circle, square and octagon inherent in the *manaraat*, the sphere of the Arab domes, the square and hexagonal column bases, the circle and the circle decorating the exterior arches.

An interesting characteristic of the Building is that the cylindrical columns are joined to the capitals and bases with wrought iron hinged straps; the joints between the face of each marble column and its wrought iron strap are back filled with lead. Some columns are constructed in three or four drums, suggesting past breaks in the overall length of the column or the columns were intended to be constructed in drum units. Capitals surmount all columns. Two different capital types facing the Sacred Court are alternately ordered with some exceptions, they start with a muqarnas capital, followed by a triangle one, and again a muqarnas one. The capitals of the second and subsequent rows of columns are of the pseudo Corinthian type simultaneously suggesting palm fronds. Some bases are circular others are tapered and others again

are like unrolling palm fronds. These and the tapered ones are also used as column capitals. Some capitals are used as bases. The previous cobble stone pavement (Rutter, 1928: Photograph) was replaced with a black and white marble floor in the 1950's. Floor levels vary; hence some bases appear higher or lower than others as measured from the floor level.

Pinnacles placed in the center of the dome surmount the Arab domes. Each pinnacle faces al-Ka'abah setting-up *Qiblaat*. Orange-red coloured pinnacles surmount these domes. The shapes of the domes are emphasized by their white washed plaster. Calligraphy in gold is sparse and scattered throughout the Building. Those elements recur in illustrations, miniatures and so forth. The Old Holy Masjid and al-Ka'abah have been depicted in an extensive range of drawings, miniatures, textiles, metal and copper work. Those two Buildings served as architectural models and as design motifs for other Buildings of Islam and in the media referred to above. The next Chapter discusses this.

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## Notes, Chapter 5

<sup>1</sup> The Relandi drawing is useful in that it shows the two smaller domed buildings, which were to become the *haram* library and the store for cleaning materials. A Sadiq Bey 1880 CE (1298 AH) photograph shows the same two buildings still standing.

<sup>2</sup> Harlinger produced a drawing in 1804 CE (1219 AH), which is held by the British Museum, emphasizing the Safa and Marwa buildings.

<sup>3</sup> Al-Waleed was responsible for the 712 CE Qusair Amr Mosque, the 715 CE Damascus Mosque, the 725 CE Sarrakah Mosque and the 728 Qasr al-Hair Mosque (Creswell, 1958: 103).

<sup>4</sup> In general the Ottomans did not use heavy octagonal columns, again as a general observation Abbasid, Seljuk and early Ottoman architecture is heavy in appearance, the latter changed under Mimar Sinan.

<sup>5</sup> There is a difference between these dimensions and the ones indicated by ACE Engineering (c1989: 165).

<sup>6</sup> Most plans are drawn as rectangles. The Old Holy Masjid's Sacred Court is an irregular trapezium.

<sup>7</sup> The different coloured columns serve as social meeting place and function as direction finders

<sup>8</sup> A small rectangular building along the Madinah-Makkah road is fitted with a short square chimney-like stack, which serve as ventilation shaft.

<sup>9</sup> Likely the first *manaraat* were short stack ventilation shafts.

<sup>10</sup> Sale's book was published first in 1734 CE (1147 AH), thus before Bey's plan of 1807 CE (1222 AH). It was republished in 1887 CE (1305 AH) and 1900 CE (1318 AH). Bey's plan appeared in the last edition and must have been added on.

<sup>11</sup> Many well known authors have used Bey's plans

<sup>12</sup> European and Arab sources ascribe the Old Holy Masjid's irregularities to land becoming available on an incremental scale. Rather, irregularity is an Arab cultural trait.

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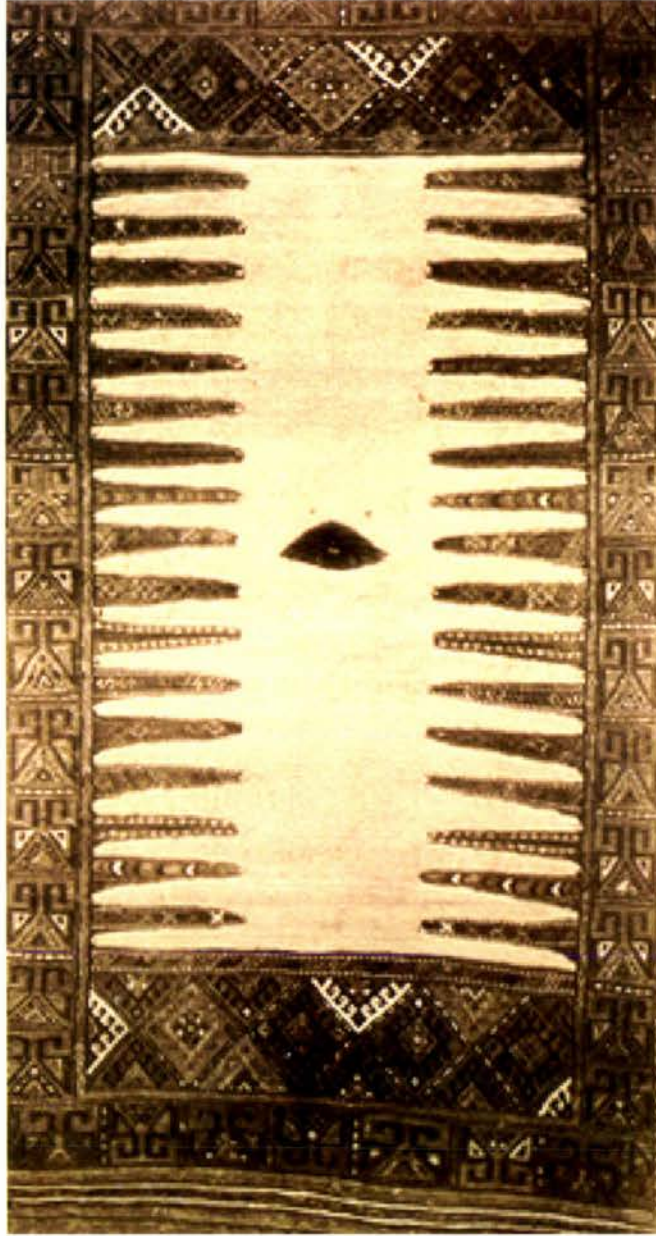
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# Chapter 6

## The Old Holy Masjid and al-Ka'abah's Dissemination Frontispiece Chapter 7

Source; James Opie (1981: Photograph),



al-Ka'abah surrounded by the Old Holy Masjid

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## CHAPTER 6 The Old Holy Masjid's and al-Ka'abah's Dissemination

### 6.1 Introductions and Chapter Focus

In the last Chapter it was shown that architecture is expressible as a series of monads or entities that make for the whole. The whole is the envisaged design or the actual built building. This chapter continues with this monadic theme and applies it to a limited range of arts that portray the Holy Buildings and the Safa-Marwa entrance. That range consists of carpets, prayer rugs, ceramics, metal and copper work. The application of the monadic theme to wood panels of the *rawasheen* and *mashrabiyaat* (screened windows) was shown in Chapter 2, Figs 2.12 and 2.13.

The same Holy Buildings were also depicted in different types of drawings. Those Buildings, besides their stylized physical representation convey also their symbolic and monadic content. In this Chapter, the focus is on the dissemination of the Old Holy Masjid and al-Ka'abah as stylized pictures with monadic content. Although both Buildings are overarched by Sacredness, the symbolic content of the Old Holy Masjid differs from that of al-Ka'abah in numbers of roof supports, and in its anthropomorphic content. For example, the anthropomorphic inheres in the Old Holy Masjid by way of its pinnacles, and its crenellations, and the zoomorphic in the Arab domes.

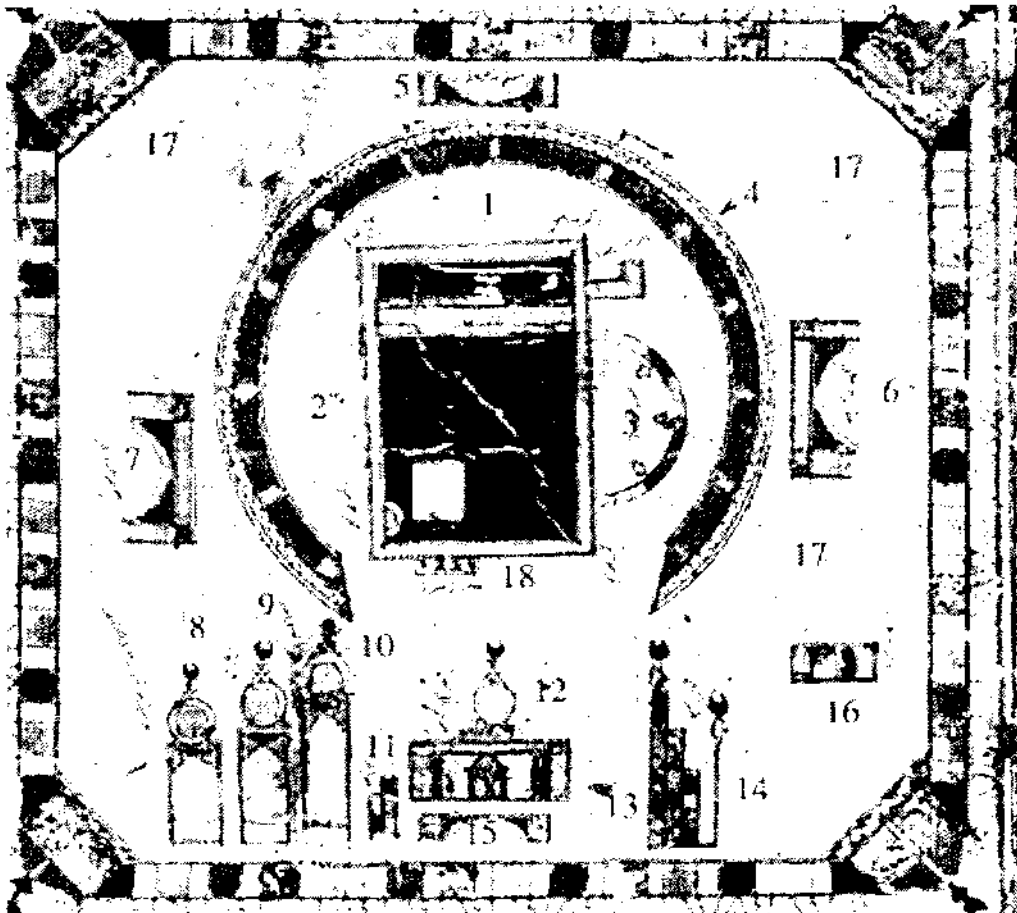
The Old Holy Masjid had between 19 and 29 entrances, of which the Safa one was the largest and the most integral one to the Old Holy Masjid. Bab Safa's architecture is one of Ottoman design. As a design motif, Bab Safa has been quite influential. Consequently, this Chapter discusses this major exit to al-Safa (also an entrance to the Interior Court) and its architecture, particularly its dissemination as an architectural model for other Buildings of Islam and as a design motif of art objects of Islam. In this Chapter the location of the Holy Complex is expressed in *wudjun*, abutting historic buildings, sun directions and names of residential districts.

### 6.2 ART MONADOLOGY

#### 6.2.1 The Old Holy Masjid and al-Ka'abah as Architectural Models and Design Motifs

In this thesis, a finished or an envisaged design of art follows the same rules as discussed in the previous Chapters for architecture, which is a number of monads, make for the whole. The whole here is the Old Holy Masjid and al-Ka'abah as depicted in numerous designs, from souvenirs to pieces of art of considerable merit such as a set of glass-in-lead windows in an al-Madinah hotel that depicts al-Ka'abah. Attached to this portrait is the notion 'Sacredness', but also the anthropomorphic. Those notions make the glass-in-lead design a monad to which additional attachments can be made. Those translate into symbolic content.

Fig.6.1  
Source; 16 or 17th Persian tile



al-Ka'abah surrounded by al-Mataf

A Persian tile showing al-Ka'abah with a number of fixtures that were associated with the Building that were demolished in 1955CE (1375AH) to increase the capacity of al-Mataf.

*Features of al-Harameyn al-Sharifeyn in the 17th Century*

No.	Description	No.	Description
1	al Ka'abah	10	<i>Zem-Zem</i> House
2	Inner step of al-Mataf	11	Stairs to al-Ka'abah
3	al-Hatim	12	<i>Maqam Ibraheem</i>
4	Surround of bronze posts and lamps	13	Mimbar
5	<i>Maqam Maliki</i>	14	Part of the Minbar
6	<i>Maqam Hanafi</i>	15	<i>Bab Sha'ba</i>
7	<i>Maqam Hanbali</i>	16	Movable Steps to al-Ka'abah
8	<i>Qubbat al-Abbas</i>	17	Outer step of al-Mataf
9	<i>Qubbat al Sa'ud</i>	18	<i>al-Madjen</i>

During their trip to and from Makkah, pilgrims would and will have mentally structured, re-structured and modified their symbolic and monadic impression of the Holy Buildings. As monads the pilgrims transferred a mystic-to-them Building, to their hometowns and villages. The result was often a distorted view of the Holy Complex. What was transferred, and unknown to them, was a monadic structure (Fig. 6.1). With it, they created new or partially new architectures, not only in Makkah itself but also architecture outside and well beyond the City of Makkah. Thus the pilgrims' impressions of al-Ka'abah and the Old Holy Masjid and their symbolic and monadic content became quite important in the production of local architecture, but above all important in the production of local ceramic, metal, and textile arts. Specific skills flowing from the mastery of these arts imparted a specific *sous entendu* to the localities where those objects of art were made or manufactured.

### 6.3 THE HOLY BUILDINGS AS ARCHITECTURAL MODELS AND DESIGN MOTIFS

#### 6.3.1 The Dissemination Process

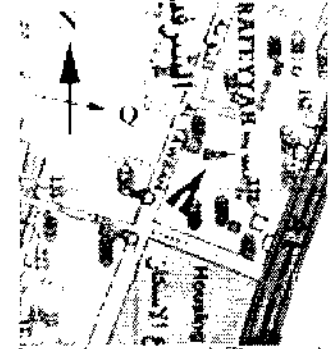
Referred to in Chapter 3, the Arab News of 27 March 2005 reported that more than two million pilgrims, 1.3 million of them from abroad, performed the 2005 CE (1426 AH) *al-Hajj*. Almost all participants would have carried back to their hometowns generalized impressions, wrapped in mystic, of the Holy Complex. Those impressions are stored as fixed knowledge that is on recall. Over a longer period of time the details are not always clearly remembered and a subsequent simplification occurs and has occurred. Those generalized impressions often form the basis of a design of a Mosque in the pilgrims' home-towns.

But a Mosque is not a Mosque unless there is a *Mihrab* or a logo that indicates direction to Makkah thus *al-Qiblah*. Thus, when designing a Mosque, the question needs to be asked what are the Mosque essentials. Those are the *Mihrab* and *al-Qiblah*, together a *mirzam*, and in most instance the wall or walls they are part of (Figs. 6.2). In that integrated form there is numerous designs worldwide but occasionally there are also freestanding ones such as the *Mihrab* in the Umm al-Qura University students' Mosque in, which had a circular floor plan.

*Al-Qiblah* and the *Mihrab* return over and over again in many objects of art as do the Old Holy Masjid and al-Ka'abah themselves. Thus the *Imam's* Prayer rug in Kampong Bata Satu, Kota Tinggi, Johor, Malaysia holds an al-Ka'abah picture and therefore al-Ka'abah's symbolic and monadic content is involved but far away from the point of origin.

**Fig.6.2**

Source; Eduard Schwarz (1989: Photograph and Zaki 1988: Map)



Location near al-Tawmah Road in Jeddah

### **A Mihrab and Mimbar of a Masjid in Jeddah**

The Mimbar in this figure is on the right side of the Mihrab, emphasizing the importance of the right in Arab culture. The Mihrab sets up an invisible axis between the Mihrab and al-Ka'abah, which is al-Qiblah.

### **6.3.2 The Old Holy Masjid as an Architectural Model and as a Design Motif**

Parts of the Old Holy Masjid and al-Ka'abah have been used as models for the physical design of other Buildings of Islam, which automatically involves al-Ka'abah's and the Old Holy Masjid's symbolic and monadic content. The Old Holy Masjid as a physical architectural construct was not acquired in total by other cultures, but some of its components were. For example, the Old Building's close column spacing.

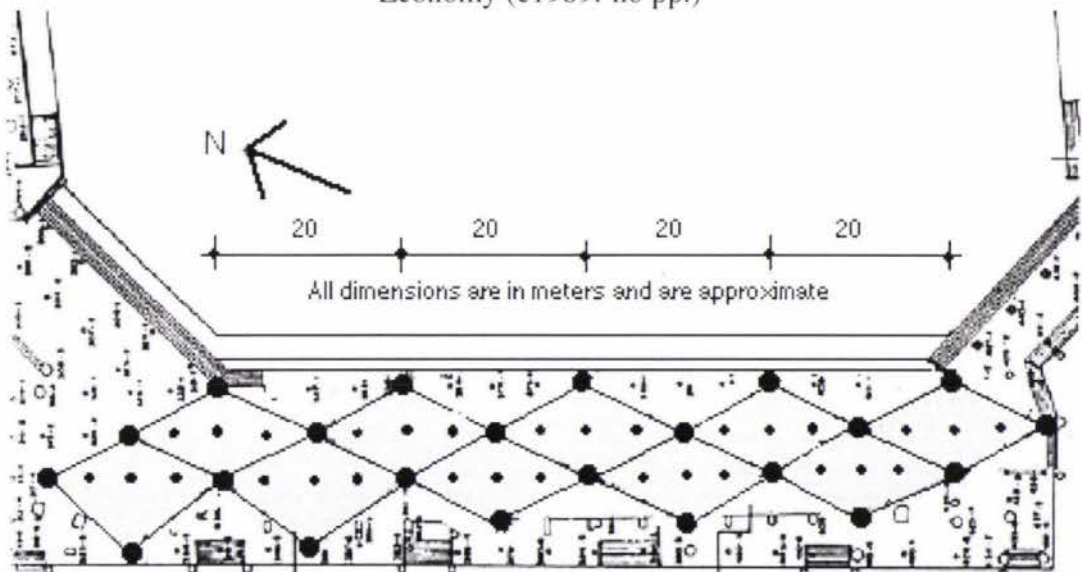
This close spacing is a feature of the Cordoba Mosque in Seville built in 786 CE (170 AH) and in the Alhambra in Granada built in 1309 CE (709 AH). Those are not the only Mosques with columns that are close together. The columns of the Abdullah Ibn Abbas Mosque, a modern Masjid in al-Taif, are also closely spaced, to such an extent they impair the view of the Mihrab and the Mimbar. Thus the Old Building's close spacing of the columns served as an actual model for architectural design of the Abdullah Ibn Abbas Mosque Masjid.

What was acquired from the Holy Complex in Makkah by other architectures were physical architectural elements with symbolic content that are embedded in al-Ka'abah and the Old Holy Masjid. Elements with symbolic content translate into monads. Parts of the Old Holy Masjid were also used as design motifs, particularly for carpets and Prayer rugs. They embed the Building's symbolic content. However, all of the Building appears in a number of drawings such as in the inaccurate Ali Bey drawing, discussed in Chapter 5, section 5.2.1 and the accurate Egyptian Survey Department Plan of 1947.

Thus physical parts (as mental ideograms) of the Old Holy Masjid were acquired by Muslim communities to build their own Mosques. The two Buildings were extensively used as design motifs and al-Ka'abah was more used than the Old Holy Masjid. The physical al-Ka'abah as a repeat pattern of ka'abaat returns in the floor plan of the Old Building. The plan consists of series of abutting and adjacent kabaat modules (Fig.6.3). These modules are also monads as each module carries the notions embedded in al-Ka'abah itself, but also, using the language of the oriental carpet manufacturers and art connoisseurs, the notions, a logenze, a rhombus or a medallion. The logenze, the rhombus or the medallion in reality represent a rhombus shaped al-Ka'abah and, as always, with monadic content. It seems from reading orientalist literature, art historians have not been aware of that.

**Fig.6.3**

Source; Eduard Schwarz based on Kingdom of Saudi Arabia, Ministry of Finance and Economy (c1989: no pp.)

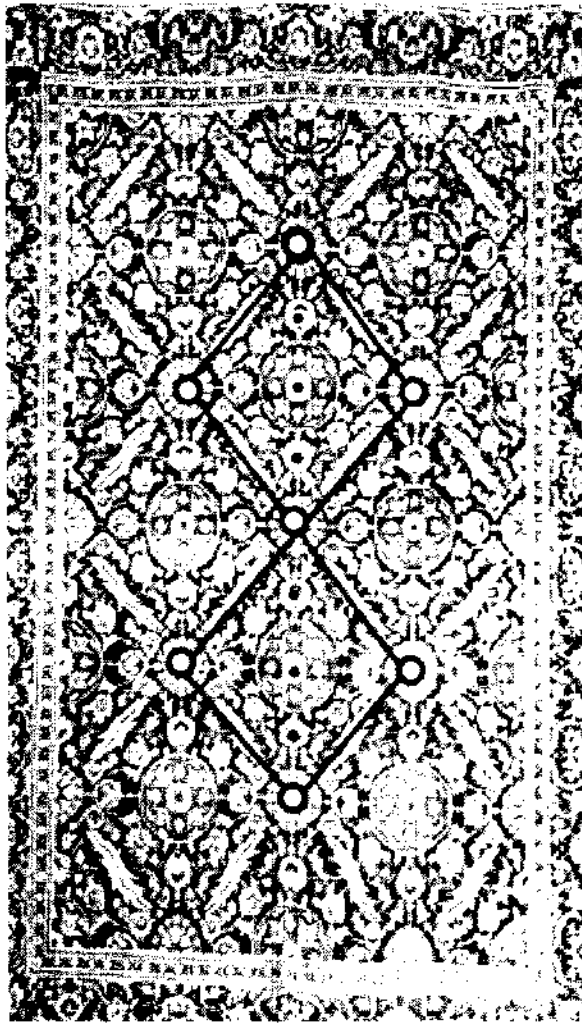


al-Ka'abah and its symbolic content as a floor pattern of the Old Holy Masjid  
The monadic returns in the columns, in that three is simultaneously four

This rhombus shaped al-Ka'abah recurs in discourses on carpet design by Erdmann (1970: Plate 45) and by Curatola (1983:132) (Figs.6.4 and 6.5), without both authors recognizing it as al-Ka'abah. This same al-Ka'abah as a rhombus motif is also present as wall decoration in the Alhambra, on the exterior walls of the New Holy Masjid and on the exterior walls of the King Saudi Masjid in Jeddah. As decoration, this shape is also a monad in that it represents al-Ka'abah with all its symbolic and monadic content.

Reiterating, the floor plan pattern, medallions, Arab domes, crenellations and pinnacles characterize the Old Building as an edifice of Arab Muslim architecture. Except for the columns, pinnacles and the domes, crenellations were extensively copied, often in a modified form, for example decorating the *rawasheen* of houses (see again Chapter 2,

Fig. 2.22), and the Sultan Soleyman Palace or Turkish barracks in Makkah, the Quba *Masjid* near al-Madinah and *Masjid Sultan* in Bugis, Singapore (Figs. 6.6–6.9). Crenellations are more than just decoration: they are also shapes to which notions attach such as a Sacred Boundary defining the Sacred Court, the direction of up-and-down by way of positive and negative images, akin to Vernon's (1966: 44) vases and faces theme used in his discussion on the psychology of perception. The crenellations of the Old Holy *Masjid* as vases and faces are almost identical in shape, and further one shape determines the other (Figs. 6.10–6.12).



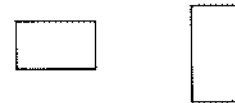
al-Ka'abah as a repeat pattern 1

◀ Fig.6.4

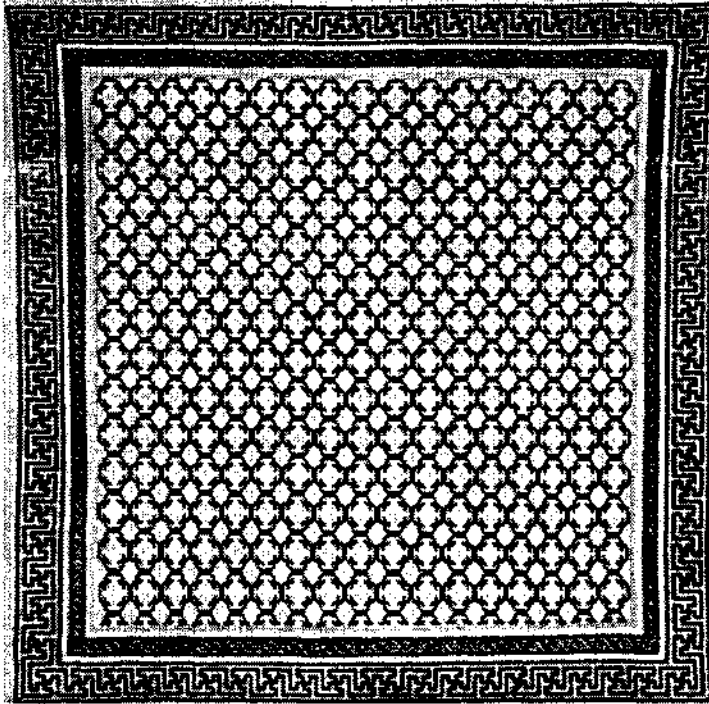
Source: Erdmann (1970: Plate 45) held by the Staatliche Museum, Berlin and graphically emphasized by Eduard Schwarz

al Ka'abah as a repeat pattern together with its three posts, became a motif for design, evidenced in this 19th century carpet.

Previous analyses refer to flower patterns, to composition, and to the decorative qualities generally, but not to al-Ka'abah as a repeat pattern with symbolic content.

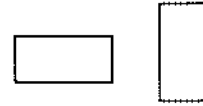


This prayer rug can be used in both directions.

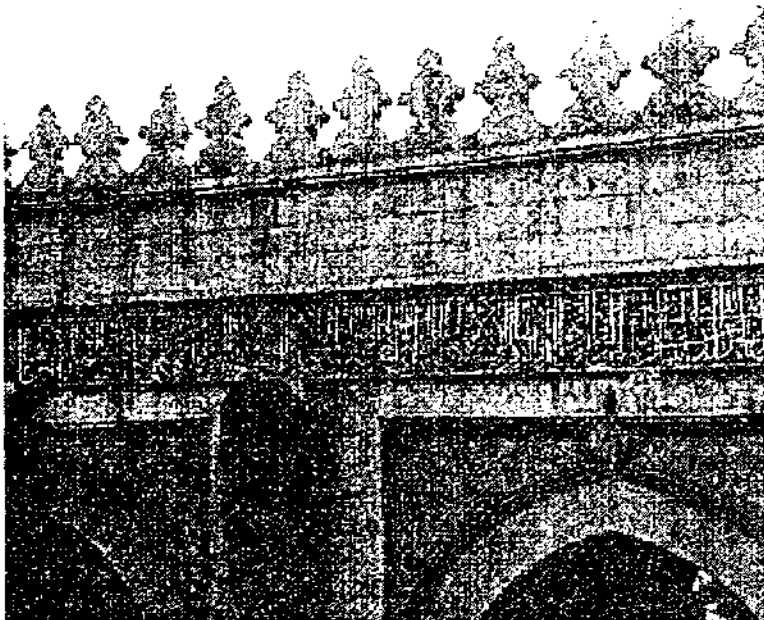


< **Fig. 6.5**  
Source: Curatola (1983:132)

This Prayer rug can be used in both directions



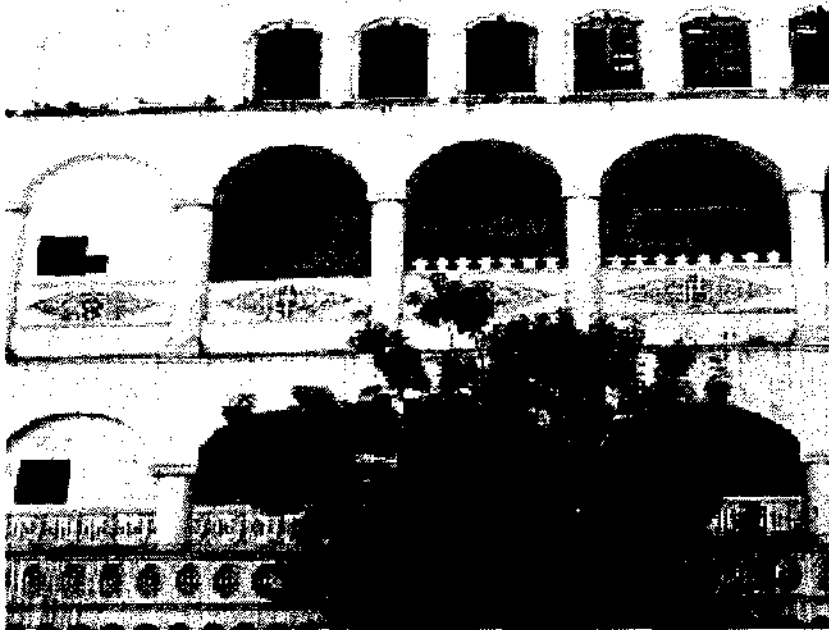
al-Ka'abah as a repeat pattern 2



The Old Holy Masjid, the *Bab al-Baghla* entrance in about 1951CE (1371 AH)

< **Fig.6.6**  
Source: Mohammad Tahir Abdul Qadr and the Kingdom of Saudi Arabia, Ministry of Pilgrimage and Waqaf, Jeddah, 1965

Crenellations on the now non-existing exterior wall. They served as design motifs for other *Masajid*.



**Crenellations of the Sultan Soleyman Palace  
in Makkah**

< **Fig.6.7**

Source: Eduard  
Schwarz  
(1993:  
Photograph)

Crenels like those  
of the Old Holy  
Masjid but now  
decorating a  
palace. This figure  
indicates further  
roots of Arab  
architecture in the  
form of the  
parallelogram and  
oval shapes that  
decorate the  
façade.

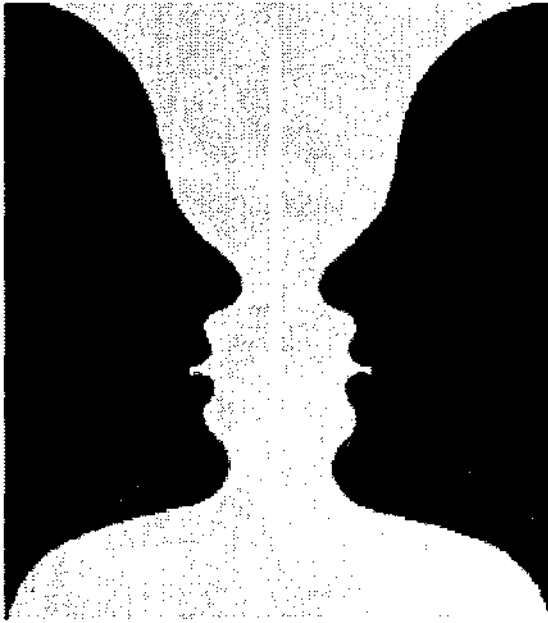
**Fig. 6.8**

Source: Eduard Schwarz (1993: Photograph)



**Crenellations; Masjid Sultan, Singapore**

The Old Holy Masjid's crenellations were imitated beyond Makkah.



<

**Fig.6.9**

Source; Vernon (1966:44)

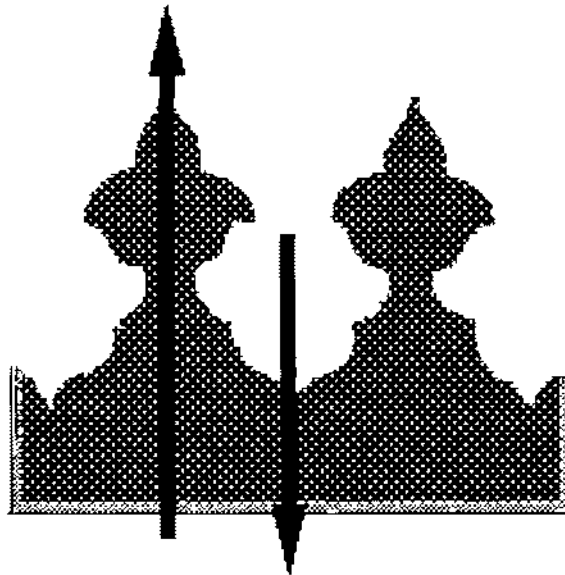
Crenellations embed the direction up and down by way of positive and negative images, akin to Vernon's vases and faces theme, used in his discussion on the psychology of perception.

**Vases and crenellations**

**Fig. 6.10**

Source; Fletcher (1954: 952, enhanced by Eduard Schwarz, in 1997).

**Out/up/heaven**



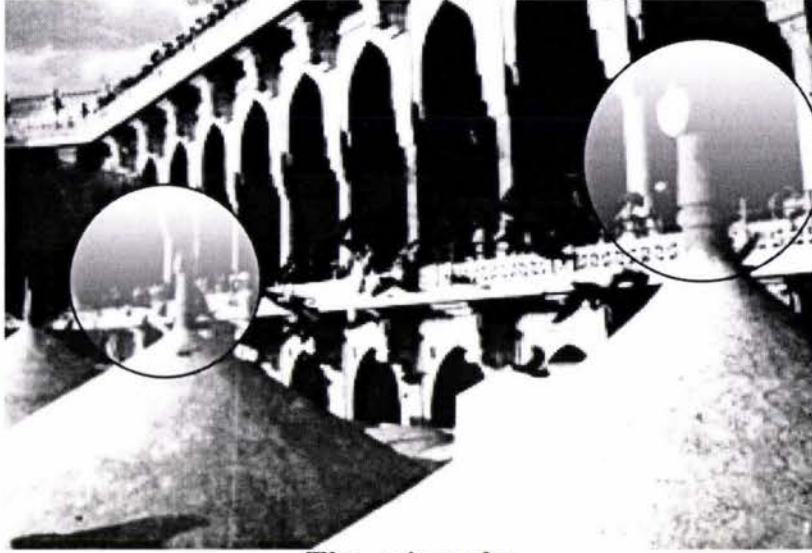
**In/down/earth**

**Crenellations and their directions**

The crenellations point upward and downward. When put horizontally, they become *Qiblaat*.

**Fig. 6.11**

Source; Kingdom of Saudi Arabia Ministry of Information (n.d.), in *Expansion of al-Harameyn al-Sharifeyn*



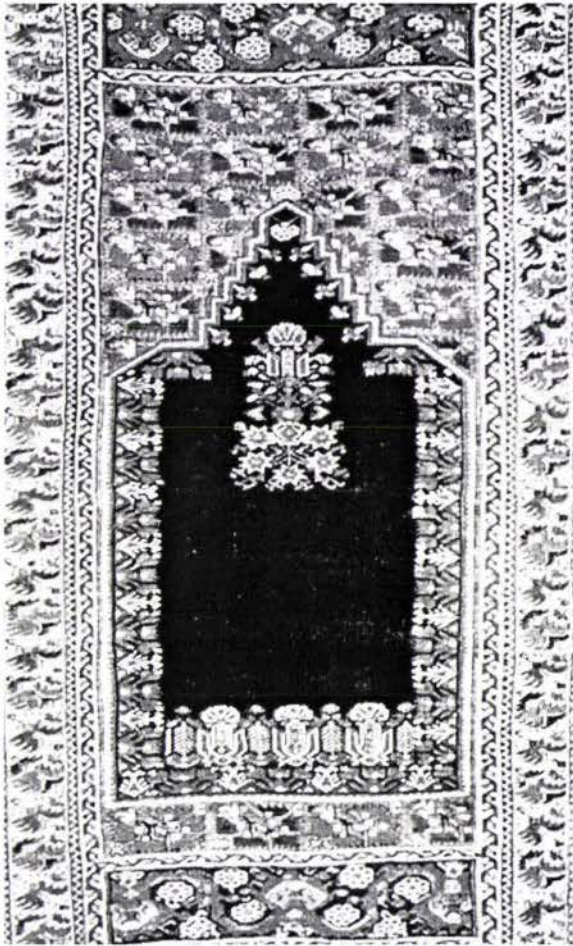
**The pinnacles**

The domes are surmounted by male figurines (not all domes are)

Optically the pattern of light and dark coloured vases can be seen as lamps and incense burners. Esin (1963: 212) remarked that the incense burner as a motif became common in all Seljuk *Mihraab* in Iran and Turkey. This was influenced by Surah XXIV: 35 (codified by A.Yusuf Ali (1982), "...is as if there were a Niche within it the Lamp..." The single lamp's importance is witnessed by a number of Prayer rugs that depict a *Mihrab* with a single lamp hanging from the center of the *Mihrab* arch (Fig. 6.12). Applying this notion to the crenellations the solid crenel is the single lamp, the open crenel the incense burner; one complements the other, a *mirzam* amongst *mirzaam*, or a monad amongst the community of monads.

With these notions the shapes of the crenellations gain significance as monads. Each crenel makes its own contribution to the greater whole not unlike the pinnacles. As with the crenellations the symbolic and the monadic returns in the pinnacles. One pinnacle surmounts each Arab dome of the Old Holy Masjid. They represent male and female figurines not unlike those that are placed on two side-by-side graves in the grounds of the Kuala Lumpur Museum. Placed on one grave is a male figurine on the other a female one.

Also similar male and female pinnacles indicate a number of graves of the Sultan of Johore Maqam in Kampong Maqam in Kota Tinggi, Johor, Malaysia. While the pinnacles of the Old Holy Masjid seen to day are different from those of the late 19th century, nevertheless their shapes remain distinctive. All, except for one, face al-Ka'abah. That way they are thus a part of the *Qiblaat* system. <sup>1</sup> Most of the female



**Textile design; the *Mihrab*  
with the one lamp**

**Fig. 6.12**  
Source: Hopf (1967: Plate, 3A)

The design of this prayer rug of Ghiordes, Iran, represents the Safa entrance and exit, transformed into a *Mihrab* with one lamp at the top and three vases at the bottom. From this stepped muqarnas entrance, a series of lamps are hanging. The built in theme of this figure is one of up and down. The black colour is symbolic of al-Ka'abah. The top of the muqarnassed opening is the direction Makkah when the rug is used for praying, simultaneously establishing geographical direction.

This Prayer rug can be used in one direction only.



pinnacles are located on the side of the Court, where the sun sets, the *Dar al-Nadwa* side, which is also the inauspicious side of the Sacred Court. Other female figurines are located over the area of the two red columns. The pinnacles' dissemination has been small, if any. Nevertheless, as monads they make their contribution to the greater whole of the Old Holy Masjid.

As a design motif, the Old Building has been codified in total in the designs of woven material, in ceramics and in wood carved panels. Details were often missing due to the limitations inherent in the baking, weaving and carving processes and due to the simplistic remembering of the individual Buildings. Media containing the Buildings were mainly manufactured outside Makkah, in Anatolia, Turkey and Iran. Initially the total Building was hidden and subsequently portrayed in a stylized form. These days in the design of prayer rugs and other textiles, the Holy Complex is openly displayed.

A number of authors and art connoisseurs, such as Hopf (1967:104), Gans-Ruedin (1978: 326), Erdmann (1970: Plate 45) and Curatola (1983:132) have written about 'oriental' textile design. Their studies show that al-Mataf and the Old Building are invariably depicted in different colours by way of colourful flower patterns surrounding the central design in black that represents 'al-Ka'abah'. The center of the rug as al-Ka'abah is often depicted in a dark colour, al-Mataf in contrasting and lighter colours. The Old Holy Masjid is often in a darker colour but not as dark as the center.

Occasionally by way of a range of colours and patterns, the Old Building is depicted as the decorated edge of the rug. Those aspects are linkable by way of monadology, in that a number of entities make for the whole. What the lozenges and medallions, and fields of flowers mean needs to be taken into account when viewing old and modern rugs, carpets, miniatures, and other objects of art. Invariably they depict elements of Holy Complex (Figs 6.13, 6.14).

### **6.3.3 Babus Safa Gate as an Architectural Model and as a Design Motif**

When *Babus Safa* was built is not known, but most likely it was part of the 1571-1576 CE (979-984 AH) renovation. The exit, also an entrance, is a Muqarnas one of late Ottoman architecture. It is designed as a *Mihrab* and is similar but not identical to the Mihrimah Mosque entrance in Istanbul, built in 1540 CE (947 AH).

Esin (1963: 132, Plate 76) referring to a Persian *Mihrab* miniature made of tiles of about 1300 CE (700 CE). states that the *Mihrab* design is an old one. Another interesting example of an early *Mihrab* designed entrance is the 1271 CE (670 AH) Gök Madrese in Sivas, a Seljuk design (Göknıl, 1966: 133). An earlier elementary *Mihrab* entrance is the one of the Aladin Çami in Konja, Turkey. It was built between 1116 -1156 CE (510-551 AH) under the Seljukid Sultan Kilcarslan II. This Çami was rebuilt in 1219 CE (616 AH) under Keykvas I (Rice, 1961: 154, 197, 199 and Plate 3). Possibly, that *Mihrab* was built 1219 CE (616 AH). In the al-Mahdi and al-Hadi design an al-Safa exit also existed, but of the design nothing is known, except that the same number of entrances existed on the *Wadi Ibraheem* side as under the 1571-1576 CE (979-984 AH) renovation (Muohammad and Salina Samar, c1998: 47). The Safa exit was thus built well after the first similar designs appeared in Anatolia (Figs. 6.11--6.16).

A pre-1955 CE (1375 AH) photograph by the Kingdom of Saudi-Arabia, Ministry of Information (n. d.), in *Expansion of al-Harameyn al-Sharifeyn*, shows Bab Safa in all its glory amongst crumbling buildings and the Old Holy Masjid. *Babus Safa* discharged into *al-Ma'asa* a curved street fairly close to where it once crossed *Wadi Ibraheem* as a *wadi*. A Royal Decree to demolish *al-Ma'asa* and build the two-storey

Safa-Marwa corridor as part of the Saudi Extension was passed in 1948 CE (1368 AH).<sup>2</sup> The result has been the visual obstruction of the five-arched Safa entrance as the new columns of the New Holy Masjid are about 50 cm away from the face of *Babus Safa*. Nevertheless, the old entrance has been skillfully restored except for the pilasters that were once there on either side of the central opening. They were not included in the renovation. Mohammad Tahir Abdul Qadr has recorded them (Fig.6.17) The Safa exit still remains an important feature in that from al-Safa's covered and domed rock outcrop al-Ka'abah can be observed through the five openings of the Safa entrance.

The arches of the Safa exit are semi-elliptic and constructed of black and white marble stones, three dimensionally interlocked. They create the impression of vases and incense burners, a design motif which has come to the fore in textiles particularly in Prayer rugs. Measured from the exterior open wall surface the Safa entrance is about four meters deep. Its ceiling is flat and corresponds with the height of the adjacent flat roof of the Old Holy Masjid. The muqarnas part of the actual entrance and exit extends well above that near the entrance raised roof.

The muqarnas of the Safa exit finishes step-like on the exterior facade (Fig.6.17). Those steps reoccur in the designs of other Buildings of Islam, and in textile designs such as in some of Gans-Ruedin prayer rugs, in the windows of *Masjid Darul Makmur* in Yishun New Town, Singapore (Fig.6.18) and *Masjid En-Na'eem* in Tampenes also in Singapore. Their *manaraat* windows are also finished step-like.

Although *Babus Safa* was of a later design than the Gök Madrese of 1271CE (670AH) or the Mihrimah Mosque, *Babus Safa* was exited daily by many pilgrims. Millions over centuries exited it, whereas the Seljuk and Ottoman *Mihraab* entrances were not. It is therefore reasonable to assume that *Babus Safa* was more influential as a model on the design of other Buildings of Islam and as a design motif for prayer rugs, carpets and ceramics than the earlier buildings of Seljuk and Ottoman designs.

By far the greatest influence *Babus Safa* had was as a design motif for prayer rugs, carpets, ceramics and woodcarvings. Visually the entrance is a prayer rug designed as a *Mihrab*.<sup>3</sup> It attracted the attention of lay people, graphic artists, weavers and potters alike that used al-Safa as a design motif, often in a stylized form. Al-Safa as a *Mihrab* became a symbol or logo expressive of Islam from the 16th Century onwards. Al-Safa then is loaded with symbolic content, which needs to be taken into account when viewing media that depicts this exit.

The *Babus Safa* exit is made up of a series of entities that make for the greater whole. Those entities are shown on the rug in Fig 6.13, which is the stylized al-Safa exit with its stepped opening from which lamps are hanging. Gans-Ruedin refers to the center of

the rug as a flower shaped polygon linked to arabesque. In fact, the dark field in the center is al-Ka'abah with its four directions. The arrowed part is the *al-Qiblah*. The whole is surrounded by al-Mataf. The lighter area is the Old Holy Masjid. Monadically al-Ka'abah, the entrance, and the lamp are entities that make the whole, the design of the rug. Al-Ka'abah here is a monad amongst a community of monads, but not the dominant monad.

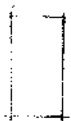
Another example that portrays a stylized al-Safa exit is shown on the rug in Fig 6.14 referred to by Gans-Ruedin as 'an arabesque inside a medallion', with the rest of the field being a field-without-names-flowers. The reality is that the design depicts the Old Holy Masjid in a lighter colour surrounding al- Ka'abah. The Building is shown complete with entrances, lamps, and the direction to Makkah. The stylized Ka'abah with its four directions forms the center of the design, surrounded by al-Mataf. Both are in black. Muqarnas *Babus Safa* is depicted as steps, a feature present on both sides of the design. Thus the prayer rug is two directional. Both, the long and the short sides can be used to face Makkah whilst praying. Monadically al-Ka'abah, the entrance, and the lamp are entities making up the whole of the design.

**Fig. 6.13** Source: Gans-Ruedin (1978:326)

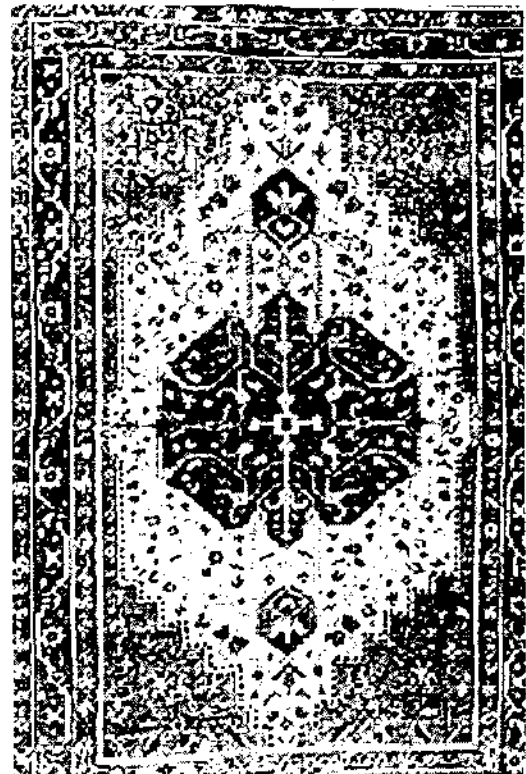


**Al-Ka'abah and the Old Holy Masjid as an imprint 1**

This Prayer rug can be used in one direction only



**Fig.6.14** Source: Gans-Ruedin (1978: 277)



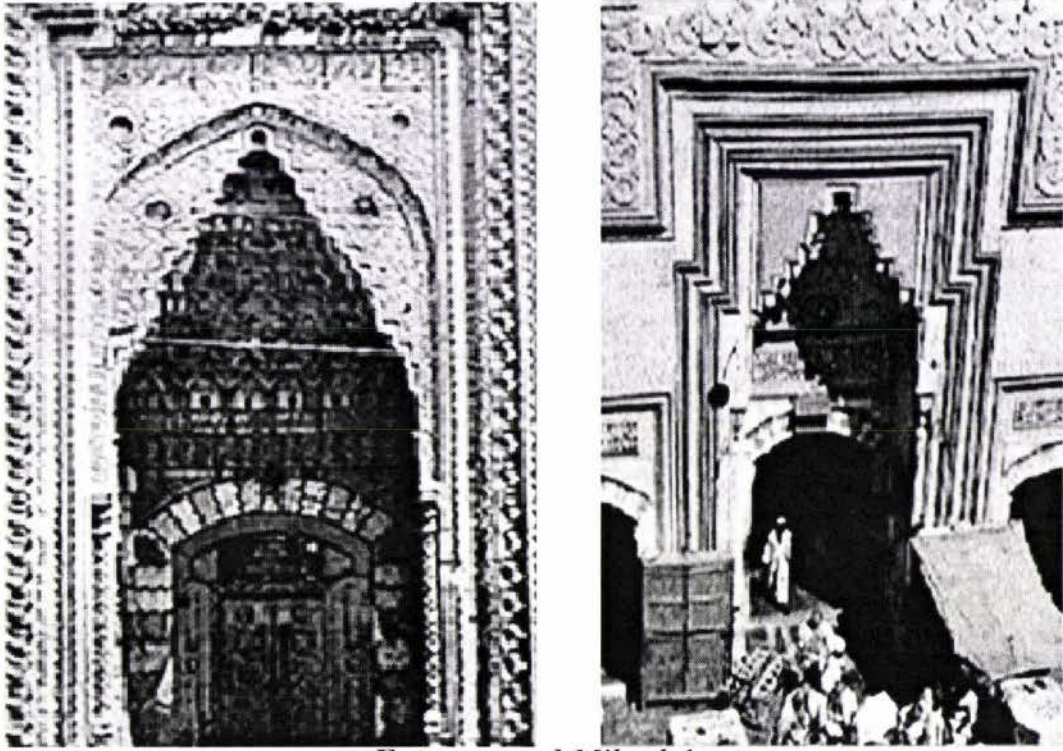
**Al-Ka'abah and the Old Holy Masjid as an imprint 2**

This Prayer rug can be used in two directions



**Fig.6.15**

Sources; Her Makki Mahfuzour (n.d.: Postcard and Abdul Sheik Gafur (1953: 23).

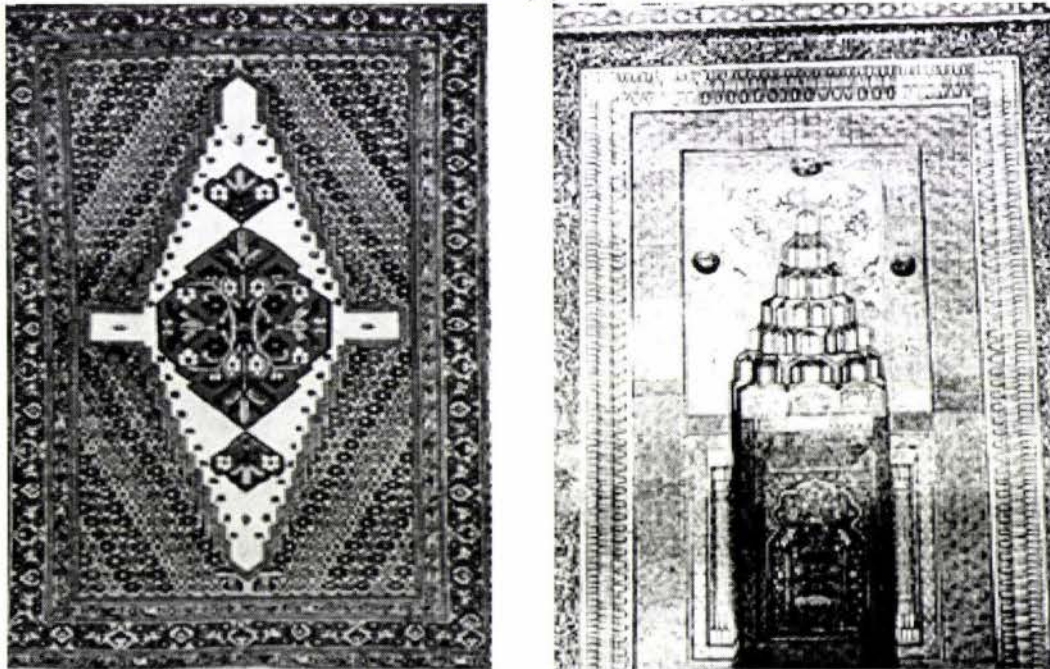


**Entrance and Mihrab 1**

On the left is a Mosque entrance in Sivas. It is designed as a *Mihrab*. It dates from 1279 CE (678 AH) and may have served as a design motif for other carpets. On the right is the Safa entrance and exit. It was particularly influential as a design motif for the designs of Prayer rugs.

**Fig. 6.16**

Sources; Hopf (carpet) (1967:104) and Goodwin (The Green Complex, Mausoleum of Mehmet in Bursa) (1977: Plate 18)

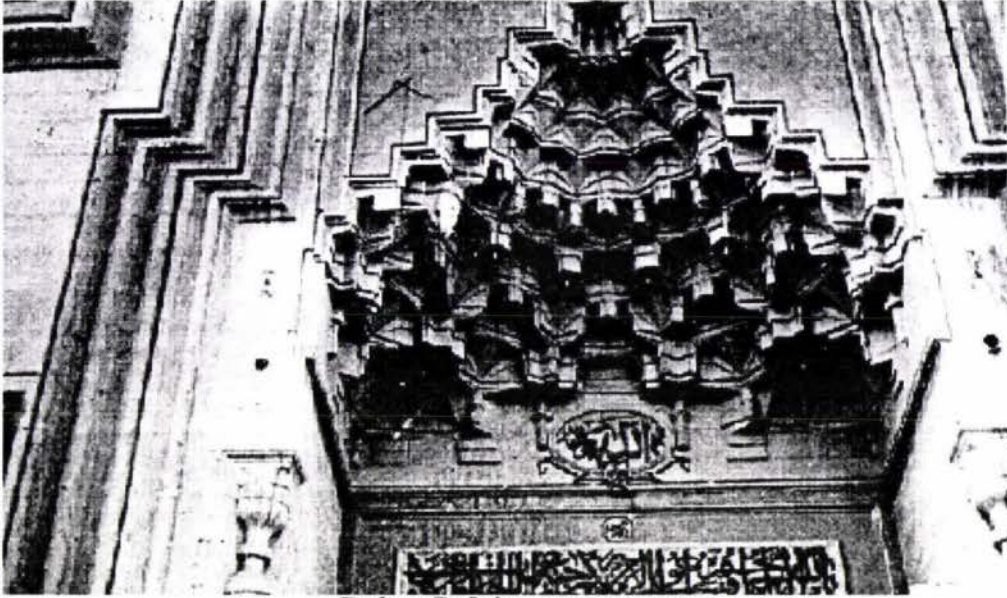


**Entrance and Mihrab 2**

On the left is a carpet influenced by Safa entrance. On the right is the Green Complex or the Mausoleum of Mehmet in Bursa. It dates from 1413 CE (816 AH). The entrance was designed as a *Mihrab*.

**Fig. 6.17**

Source: Qadr (1965: 310)



*Babus Safa's* muqarnas

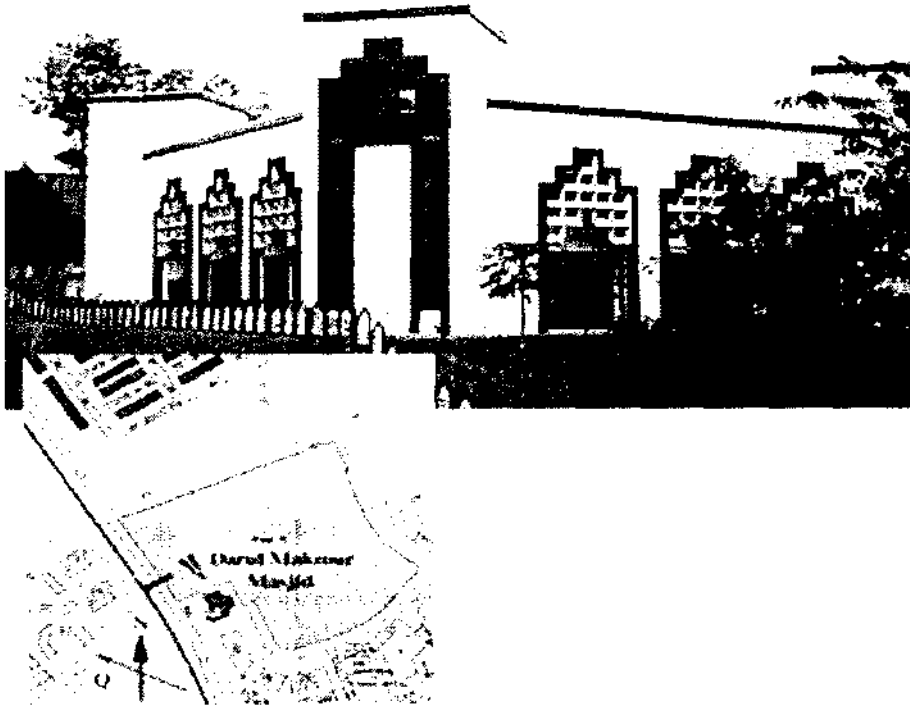
The muqarnas decorating the Safa entrance and exit. The onset of the palm tree fronds in this figure is on either side of the oval.

#### **6.3.4 al-Ka'abah as an Architectural Model and as a Design Motif**

Although not encouraged, limited imitation of the Ka'abah did occur, usually in a hidden form particularly in textile designs. For those who wanted to portray al-Ka'abah, the Building's floor plan was fairly easy to remember namely as a stylized square with four pronounced corners. The latter were represented as small circles. As such, it recurs as motifs of design in woven material and ceramics. However, the Building was also used as a model for designed and built buildings in the Islamic world. A well-known pseudo real imitation is the one in Sana'h (Lewcock, 1983: 78). A simplified design is evident in the floor plans of forts and *birkah* (constructed well) were designed as squares with buttresses and turrets on each corner.

A number of these buildings have been recorded by Knudstad (1977: 41) along the *Darb Zubaydah* (road from Baghdad to Makkah). In the European context, Richards (1966:184) recorded a Moldavian church built as a square with four walls and turrets on each corner. They resemble those of al-Rabadhah. The King Saud Hospital in Makkah is also a square emphasized by four corners not unlike those of the Dar al-Makmur Masjid in Ang Mo Kio, Yishun New Town, Singapore (Figs. 6.18 and 6.19). In this design four entities make for the whole, the design that is a square Prayer area to which symbolic and monadic content attaches (Figs. 6.20 and 6.21). The plan forms of those buildings are remarkably alike to the designs of prayer rugs that show the al-Ka'abah as a square with four emphasized corners.

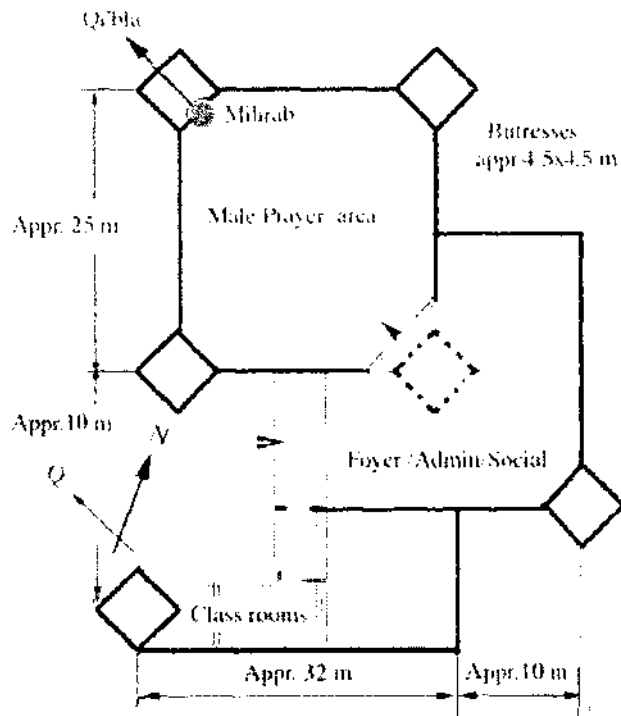
**Fig.6.18**  
Eduard Schwarz (1993:Photograph)



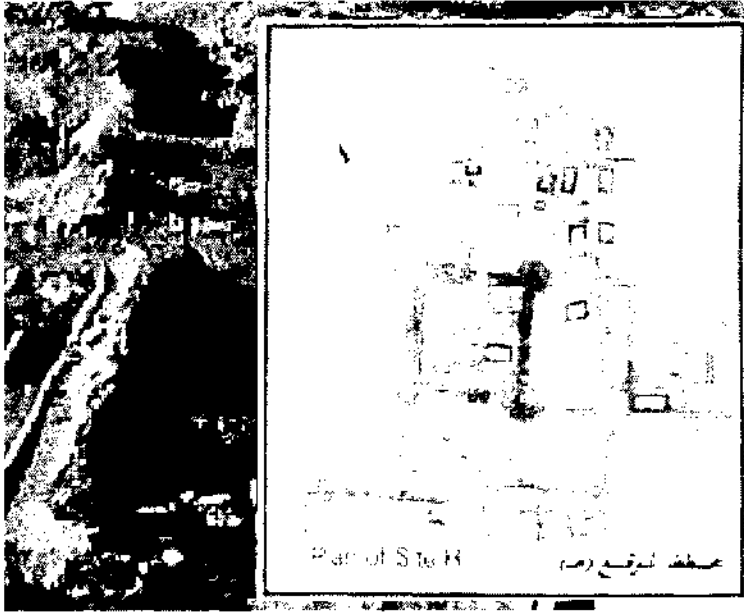
**al-Ka'abah's imprint; the Darul Makmur Masjid in the Ang Mo Kio Yishun New Town, Singapore**

This *Masjid* in Yishun has a shape with its four turrets that is rather similar to al-Rabadhah. The stepped Safa entrance is embodied in the windows.

**Fig. 6.19**  
Source: Eduard Schwarz (2004: Schematic drawing from field notes)



**Schematic layout of the Darul Makmur *Masjid* in Yishun, Singapore**

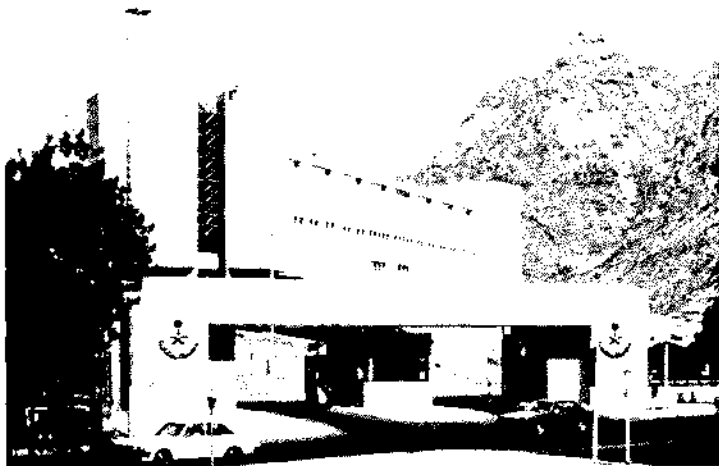


< Fig.6.20

Source: Sa'ad bin 'Abd al-'Aziz al-Rashid, (1984:23,35)

This floor plan shape has stamped on it an imprint of al-Ka'abah's floor plan. Although a fort, it would also have been used as a Prayer area. As a Sacred Area, the four corners support the flat roof of heaven.

al-Ka'abah's imprint; al-Rabadhah, site 4



al-Ka'abah's imprint; King Saud Hospital

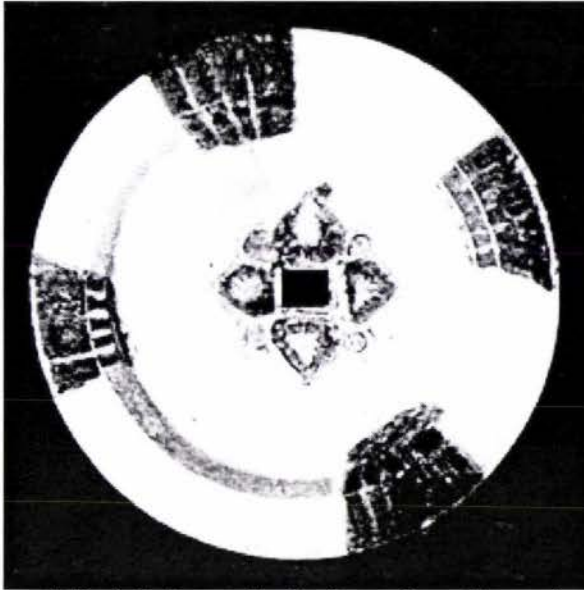
The King Saud Hospital has a shape, not unlike al-Rabadhah. The difference is that the corner turrets are opened up

< Fig.6.21

Sources: E.F.Schwarz (1993:Photograph, and Zaki, 1986:Map)



Location of the King Saud Hospital in Makkah



al-Ka'abah and its four directions 1

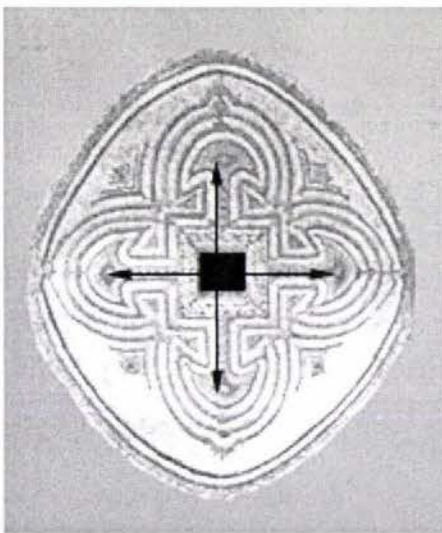


**Fig.6.22**

Source; Féhévári (1973: Plate)

al-Ka'abah emphasized by Eduard Schwarz

The figure in the centre of the dish is al-Ka'abah with its four direction



**Fig.6.23**

Source; Courtney-Clarke (1994: 61)

al-Ka'abah emphasized by Eduard Schwarz

al-Ka'abah on the exterior wall of a house in Oualaba, Mauritania. Courtney-Clarke refers to this figure as an arabesque.

< al-Ka'abah and its four directions 2

As a design motif for prayer rugs, ceramics, and metalwork (Figs. 6.22 and 6.23), al-Ka'abah was depicted in isometric and perspective drawings from the 16th century onwards. In most modern prayer rugs and wall carpets al-Ka'abah occurs as part of the overall Holy Complex or in association with *Masjid Nabi* in al-Madinah. Occasionally the Dome of the Rock in Jerusalem or a *Mihrab* is drawn into the design. In metal work and pottery, Féhévári's work (1973: 36-39 and 1976: Plate 154) stands out. Courtney-Clark (1994:61) has drawn the attention to al-Ka'abah as a motif that is displayed as a figure on the exterior wall of a house in Oualaba, Mauritania. She refers to this figure as an arabesque, although it is al-Ka'abah with its four directions radiating from each corner. Some of the misunderstandings created by art historians and orientalist of the last one hundred and fifty years, will be discussed and in the next Chapter

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## Notes, Chapter 6

<sup>1</sup> The shape of the male pinnacle corresponds with the pommel of the camel saddle, which is invariably stored in the male quarters of the tent.

<sup>2</sup> The Safa-Marwa corridor is 394.5 meters long and 20 meters wide. The height of the first floor is 12 meters. The second floor 10 meters high according to Kingdom of Saudi-Arabia, Ministry of Information (n.d.), in *Expansion of al-Harameyn al-Sharifeyn*, no pp.

<sup>3</sup> The question here is whether the design of the Prayer rug preceded the design of *Mihrab*-like entrances such as the 1271 CE (1311 AH) Gök Madrase.

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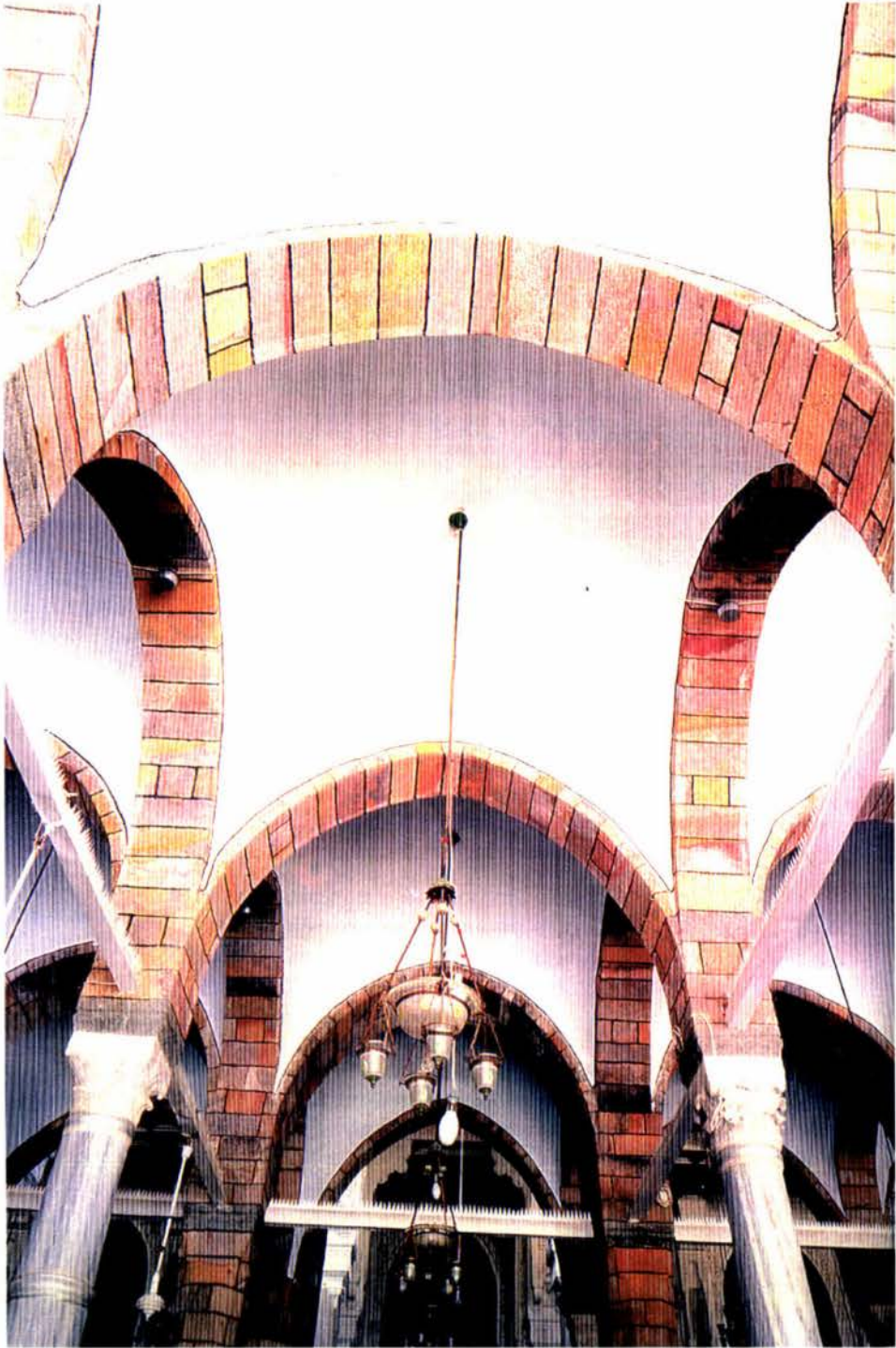
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# Chapter 7 Conclusions

## Frontispiece Chapter 9

Sources; Muohammad / Samar (c1998 : 52)



Shapes and spaces , one is simultaneously the other

**CHAPTER 7** Conclusions

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## CHAPTER 7 Conclusions

### 7.1 Chapter 7 coverage

A major issue that runs throughout the thesis is the lack of understanding and underestimation by western societies about the importance that Muslims hold for their city Makkah and in particular for its al-Ka'abah. The Building is a simple architectural artifact, yet as a transcendental symbol of Muslim belief, its importance is beyond belief to Muslims. As such, and as a monad it is far from simple, quite the opposite! Al-Ka'abah, in one form or another, is everywhere in this world, all hours of the day and night, and in the hearts and minds of some one billion plus Muslims. It is everywhere world wide, in the architecture of Islam, concealed or direct, as *Mihraab*, and as *Qiblaat*, to mention the two most important components of Mosque architecture. This by itself warrants a new approach in the analyses of the architectures of Muslim countries, thus viewing shapes and shapes as monads.

The admiration and adoration of al Ka'abah by Muslims is intense, an intensity that for western people is hard to perceive, let alone to accept with sympathy. Yet, for Muslims the terminal point of *al-Hajj* or *al-Umrah* is, and remains, al-Ka'abah with its Black Stone and its al-Mataf. To reach that terminal point, is a life long ambition for many Muslims and requires quite some effort by the individual, the would-be *Hajji* or *Hajjah*. This intensity of adoration of al-Ka'abah is the outcome of living-up to the demands imposed on any Muslim by *al-Qu'ran* to adhere to the fifth pillar of Islam that indirectly states:

**You shall visit Makkah once in your life time, if you have the means to do so'.**

That the City of Makkah is an old one is also beyond doubt, it is considerably older in continuity as a religious city than Rome or Athens. Makkah, according to Islamic Authorities, associates with *Ibraheem*, thus to an era of c 2000 BC, which roughly coincides with the era of Mesopotamian civilization which was followed later by those of Athens and Rome. Western scholars have extensively and with success examined the architecture of both two cities. Makkah was also intensely studied, yet because of its inaccessibility, a number of western scholars relied on hearsay that had come from adventurers who had visited Makkah. The narrative of adventurers translated into information of/covers centuries.

**Much western knowledge on Makkah recurs as culled western accounts that contain guesswork, sensational and erotic elements. They are not accounts that reflect an academic discipline. These elements, if not rejected, may impair any research on the City and its Buildings yet to be carried out.**

Not surprisingly therefore, different accounts by different authors do not correlate, yet philologically and with the occasional touches of excellent adventure-oriented narrative, they appear on the surface to make sense, even to day. What the different European authors and commentators brought into existence was a climate of laissez-faire or near enough is good enough, in their studies of the Holy Complex and the City of Makkah. That does not mean that this narrative has gone unchallenged. The challenge has come from Edward Said. The different historic and non-historic discourses have been critically reviewed by Said (1978), in his *Orientalism*, to the joy of his students and to the wrath of some of today's orientalists, for example, Bernard Lewis (1956). Said extracted the European bias over non-Europeans from a number of publications they wrote and which he scrutinized. The result was recast in the theme 'Us and Them'.

**Under influence of Said's Orientalism this theme was further developed in this work as the theme the 'Otherness of Others'. This was done by highlighting some cultural traits of Arab culture and its subsequent architecture and *sous entendu* of place.**

On the other hand useful information on the Holy Complex and the City of Makkah has been provided by, and is available from the Semitic Museum at Harvard University and The Saudi Aramco Organization of Houston in Texas. Both Organizations have a large collection of photographs covering the City of Makkah and the Holy Complex. They can be accessed via the web.

Arab scholars and authors of today have also produced academic documents and journal articles but their strength lies more or less in website images of the City and its Holy Complex. Those convey information that was not available before. A good example of practical a document produced by the Kingdom of Saudi Arabia National Economy and Finance (c1989) is , *His Majesty King Abdul Aziz Project for Extension and Construction of The Haram Sharif: Documents, Data, Statements, and Engineering Drawings of the Project, Issued During the Reign of His Majesty King Khalid Bin Abdul Aziz.*

Other useful documents are the 1947 Egyptian Survey Plan and Abdul Malik Bin Abdullah Dehaish (1996 CE / 1417 AH), document on the historic boundaries of Makkah. This new information still stands rather isolated from previous and current European published material on the Orient and from the material held by the Semitic Museum and The Saudi Aramco Organization respectively at

[www.saudiaramcoworld.com/](http://www.saudiaramcoworld.com/) and [www.fas.harvard.edu/~semitic/](http://www.fas.harvard.edu/~semitic/) The non-access provisions to the Holy Area by non-Muslims do not help this isolation.

**An attempt needs to be made by Universities and other Organizations who are engaged in research and teaching related to literature and the architecture of Islam, to integrate the different publications more effectively. This will overcome the access problem.**

## 7.2 The Theory of Monadology

Monads and the monadic figured extensively in this thesis. Under the Theory of Monadology, buildings, architecture and cities are explainable as monads of larger monads of even larger monads. This particular applies to design and the buildings of Islam and objects of art of Islam.

In this thesis the Theory of Architectural Monadology or the Theory of Architectural Entities is <sup>1</sup> used to examine of the architecture of the Buildings of Islam, and in the examination of the impact of the cosmos and landscape on that architecture.

**This is seen as an alternative method of analysis to those used by other western scholars whose work demonstrates inadequate understanding of the connected nature of Muslim architecture.**

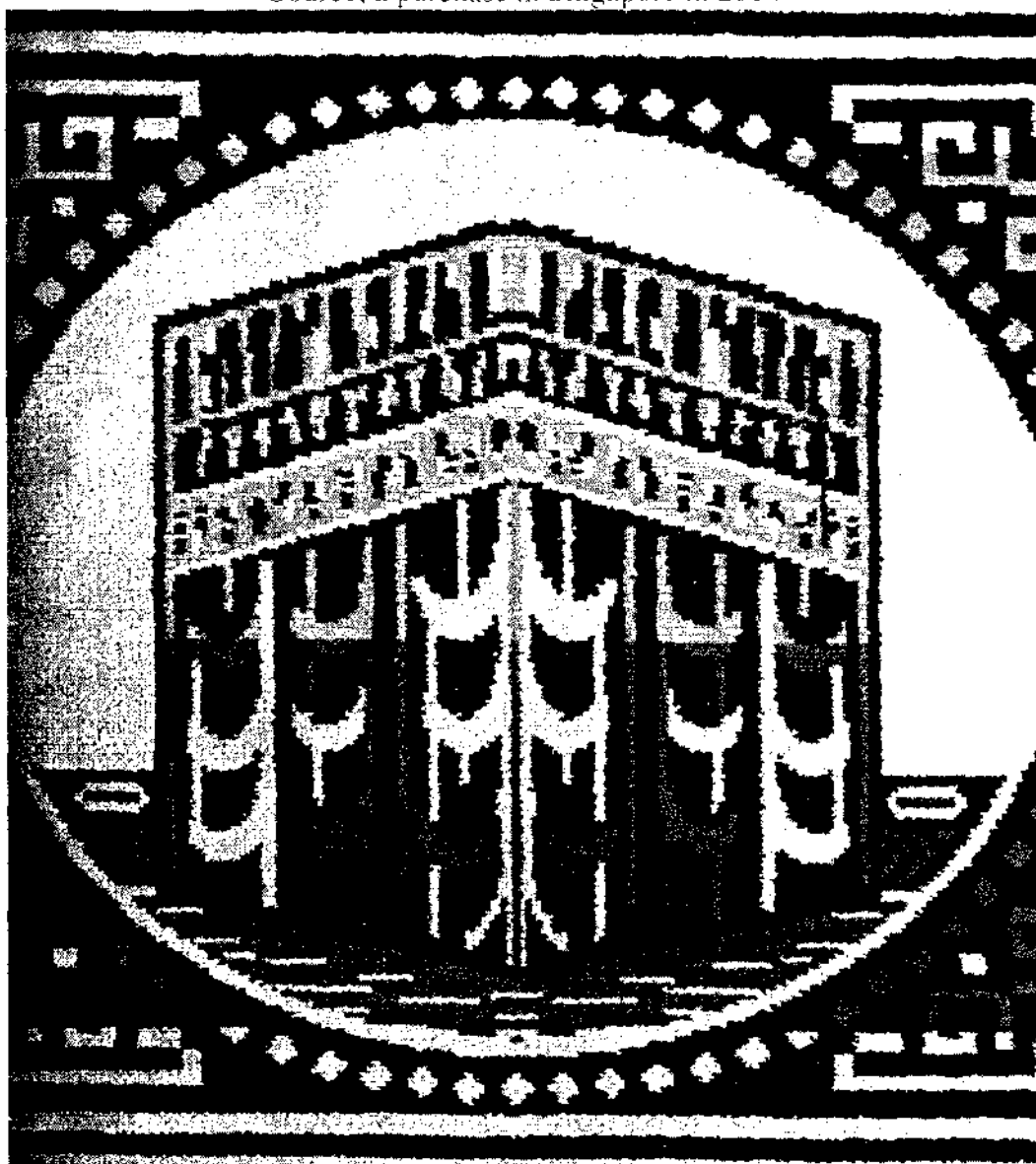
Invariably, the dominant monads al-Ka'abah and the Old Holy Masjid with the landscape surrounding it and the cosmos over it, play a major role in this. They serve as **referents** with specific monadic content for other Buildings of Islam. As the two **dominant** monads they have been very influential. They can be found around the world, in architecture, in souvenirs, in trinkets, in ceramics, in illustrations, and in a wide variety of objects of art (Fig.7.1).

Both the **Dominants'** shapes and spaces are loaded with attachments hence all are monads. Combined, they make for the greater whole, which is also the dominant monad. That dominant monad transfers all, or some of its attachments, to other Buildings of Islam for example the Aya Sophia Mosque in Istanbul. This transfer of monads, an opus operandi of the Theory of Architectural Monadology, is expressible graphically. This was shown in Chapter 1, Fig.1.5. That figure shows the Aya Sophia Mosque as a disassembled whole. In the same way a design of a building, a prayer rug or another object of art or a piece of machinery can be expressed graphically.

The Theory of Architectural Monadology is a theory that stands by it, but not alone. It is used in conjunction with other examinations and analyses of the architecture of Islam in use today. Critically, the Theory of Architectural Monadology involves a series of entities or monads that make for the larger whole. Shapes and spaces become monads once attachments are made to them. Attachments can be many. In this thesis, from the pool of attachments, notions, stories, the anthropomorphic, the zoomorphic, the botanic, the irregular geometric, colours, textures were selected.

Fig. 7.1

Source: a purchase in Singapore in 2004



al-Ka'abah is everywhere

The Buildings of Islam always involve a *Qiblah* and a *Mihrab*. In this work, *al-Qiblah* and *Miraab* were explained as functional units and as monads. They are monads as their contents embed some of al-Ka'abah monadic content. The impetus for the Theory of Architectural Monadology has come from Leibniz's 1840 Theory of Monadology and Jung and Kerénji's (1951: 24-27) extension of it, in which, for example, three-foldness can be seen as four-foldness, or three is simultaneously four.

**Jung and Kerénji's dictum was applied to the Old Holy Masjid's columns of the interior court. It can be applied to all rows of columns of the same Building.**

The Theory of Architectural Monadology embeds the greater whole. Euro centrically the greater whole often is the universe, but in Arab Muslim culture the greater whole is always the Holy Complex that spiritually and transcendently is connected to the universe. The Holy Complex is absolutely dominant of which al-Ka'abah is the most dominant monad. It is always the greatest whole by definition and by Muslim consensus. This greatest whole is always the point of departure of anything that has to do with the design of any Building of Islam or religious art designs involving Islam. To Muslims, the Holy Complex is always greater in spirit than anything else built in this world.<sup>2</sup> Those are attached notions that make for monads that make for the overall architecture of the Holy Complex.

**Of all possible attachments the notion 'Sacredness' is the dominant one. Attachments and attaching involves an individual or individuals (consensus) who select attachments from the stock of attachments that embed in al-Ka'abah and the Old Holy Masjid**

The Old Holy Masjid Building is also the greater monad amongst the community of contributing monads but never greater than al-Ka'abah. The community is the built-in irregular geometries, Arab domes, pinnacles, crenellations, and medallions. Thus the Old Holy Masjid stands by itself as the greater monad of Arab Islamic and Muslim architecture together with the entities and monads of the Safa-Marwa rock outcrops and entrances, the al-Mataf buildings, abutting and adjacent buildings and the architecture of these buildings. Together, and with al-Ka'abah, they make for the Holy Complex or *al-Harameyn al-Sharifeyn*. Al-Ka'abah's simplicity, the materials used to construct it and the manner of construction, but particularly as a monadic referent, is a Building of Arab architecture.

**Al-Ka'abah is Building of Arab architecture, the Old Holy Masjid one of Arab Muslim architecture. The latter embeds architectural elements of al-Ka'abah and with it al-Ka'abah's Arab architecture.**

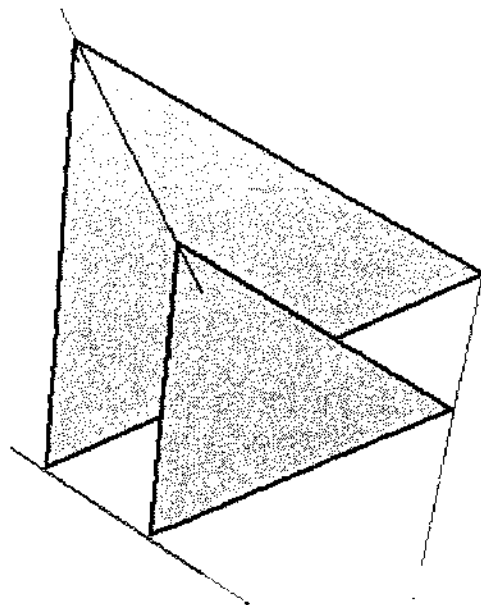
A specialty of the Theory of Architectural Monadology, not covered by Leibniz or Jung and Kerénji's (1951: 24-27), is the **configuring** and **corresponding** of monads and the way they make fits with and to each other when configuring or corresponding. For example the Old Holy Masjid and al-Ka'abah are both the dominant monads consisting of a number of contributing monads. These contributing monads correspond and or configure with other contributing monads nearby or somewhere else in this world (Fig.7.2, 7.3).

The configurations and correspondences of monads with other monads range from perfect (which are usually geometric fits) to imperfect fits (heteromorphic and random fits). Configurations involve the geometric and the irregular geometric. Correspondences occur when the botanical, the anthropomorphic, the zoomorphic, colours, textures, stories and notions are involved<sup>1</sup>.

**Applying the Theory of Architectural Monadology accounts for the specialties 'configurations, correspondences and fits'.**

**Fig.7.2**

Source Eduard Schwarz (2005: Schematic drawing)

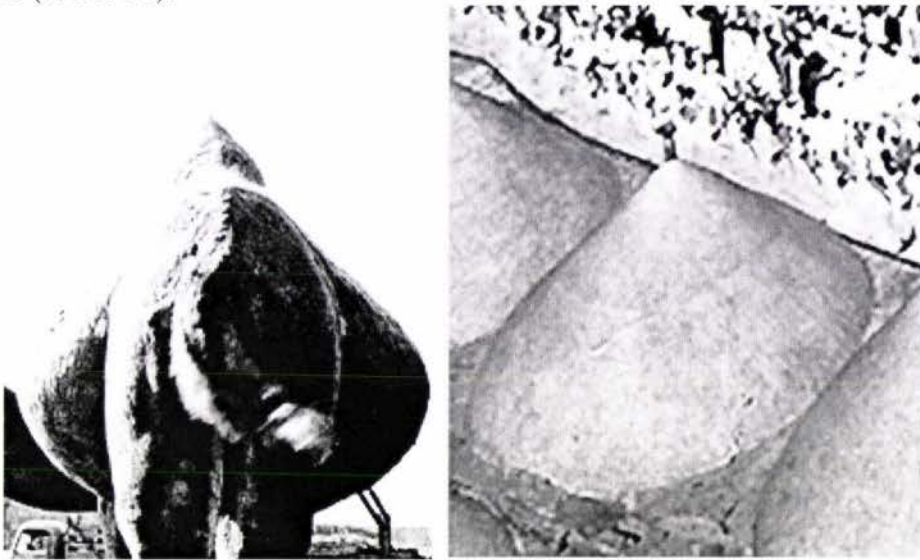


**A configuration between two non-identical monads**

The fit is an imperfect one, as the perimeters of each figure do not match

**Fig.7.3**

Sources; Kingdom of Saudi Arabia Ministry of Information (n.d.: no pp.) and Gauthier (1981: 31).



**A correspondence: the Arab dome (a monad)  
and the camel's hump (a monad)**

The fit is a random one, as the centers and the perimeter of each figure do not match

Attachments make for monads, but the numbers of attachments that can be made are almost infinite, like phenomena, and will lead to the absurd if selection does not take place. In this work from the immense large stock of general knowledge, the stock of architectural knowledge, and to a lesser degree, the stock of social knowledge was selected. From the latter the '*sous entendu* of place' was abstracted and from the former, the geometric and the irregular geometric, the botanical, the anthropomorphic, the zoomorphic, colours, textures, stories and notions, attachments that embed also in al-Ka'abah and the Old Holy Masjid.

**The social phenomenon '*sous entendu* of place', translates into the identity of the Arab place, the genius loci of the Arab place and the character of the Arab place. <sup>4</sup>**

Once attachments are made to spaces they become monads that must abut or be adjacent to shapes that make for the architecture of Islam. As entities, they are also inseparable from its parts. As spaces are synonymous with shapes, it follows that the larger space or the whole, is made-up of contributing spaces that transfer their attachments to the larger space(s). To these whole and contributing spaces new attachments are possible. Thus to Orion's geometric field, the dominant constellation over Makkah, the new notion to Orion's geometric field as a '*wudjun* cum road field' was introduced and attached (Chapter 2, Figs.2.11 and 2.12). That new attachment

co-exists with the existing notions, such as Orion being the central area of the zodiac. From this it follows that the monadic also inheres in the cosmos. The three constellations over Makkah are connected by *al-Majarrah* (the Milky Way) consist of a number of shapes to which old stories attach, for example the *manazil* that was illuminated by a single lamp (the full moon), to become the *Mihrab* of heaven, or that Orion was a wide open field grazed by *Ra*'s sheep, or that Orion was an image of al-Ka'abah. Consequently, Orion embeds al-Ka'abah's attachments. These make Orion into a monad. As a monad its monadic content is enlarged when the story of the mighty giant *al-Jabar* whose blindness was cured by looking into the sun is attached.

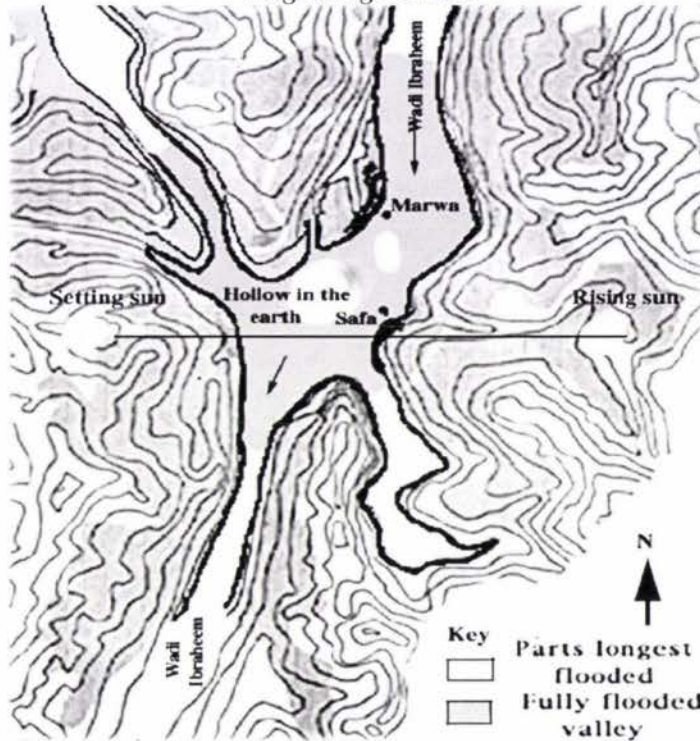
The monadic is not only confined to the architecture of Islam or the cosmos. It also holds for landscape shapes but it is much less dependent on al Ka'abah or the Old Holy Masjid as attachments referents. Nevertheless, it is possible to understand the landscape of Makkah as monads, for example, to each of Makkah's five low-rise grabbo mountains attach a story that makes them into monads. From *Jabal Abu Qubais*, Ibraheem called the people for *al-Hajj*. That by it itself does not excludes restructuring of the monad. New stories, notions or a correspondence such as involving the zoomorphic can be attached. To *Jabal Thabeer* for example, attaches the notion being a camel hump. The attachment of stories is not only confined to mountains. Numerous pilgrim stories attach to the *wudjun*, the pilgrims traverse to get to Makkah, those of hardship for example or those that refer to profits made during the trip to finance the stay in Makkah.

The shapes inherent in the landscape are quite variable. Unlike architectural shapes and spaces, landscape shapes seldom make for heteromorphic fits, even less for geometric ones. By hearsay and maps the most well-known landscape shape to Muslims is the actual Makkah Valley or *Wadi Ibraheem*. Its shape is now almost unrecognizable. It is entirely built over. Yet without this invisible-to-the eye Valley shape with its mystic loaded stories, the other immediate adjacent landscape shapes would be insignificant, in comparison (Figs.7.4).

**The stories attached to the Valley's adjacent mountains complement the center as a religious center and reinforce its spiritual centrality as well as the quality of its architecture. One is the other.**

**Fig.7.4**

Eduard Schwarz (2005: Map, based on Mohammad Sa'id Farsi 's 1986 Map in *Pilgrimage Cities*



**The shape of the ancient Makkah Valley without al-Ka'abah**

### 7.3 The *Sous Entendu* of Place

The *sous entendu* of place is not a simple or a straightforward concept. It involves the character of place, also the genius loci of the place (Norberg-Schulz, 1980: 180 and 1988: 23, 87-126). Those are mystic referents; they involve meanings on which scholarly agreement is not clear, hence the different interpretations such as the 'spirit of place' and 'the feel of the place'. When considering it as a construct, the mystic is reduced. As a construct or an assemblage, it has an infinite number of contributing elements. Simplification must occur to avoid the absurd. Simplified, for Makkah this *sous entendu* construct is the Holy complex, the local landscape and the cosmos overhead.

**This Holy Complex, the local landscape and the locally visible cosmos have been highly influential in the formation of its earliest *sous entendu* without Islam; one that has evolved in today's *sous entendu* of Makkah that transferred in part to other cities of Islam.**

The importance of the Old Holy Complex and its architecture and its contribution to the *sous entendu* has been discussed throughout this work. That importance is beyond doubt, but the Makkah landscape and beyond, are also quite important in the overall context of the Holy Complex and as a significant and major contributor to the *sous entendu*. That landscape is a Sacred One by way of religious rites and contains a number of landscape features that cannot be isolated from overall perception of the Holy Complex. Those are the three Holy Mountains, two in Mina and one in Arafah, respectively *Jabal Nur*, *Jabal Thawr*, *Jabal Rahman*.

**The three Holy Mountains are indispensable to the religion of Islam and prominent culturally and most prominent as contributors to the local *sous entendu*.**

From the very beginning, landscape and cosmos shapes, cosmos objects and specific shapes of the human were very important. They were permanent shapes and physical roots that anchored Arab culture and subsequent Arab and later Arab Muslim architecture. With those roots on hand the first versions of Ka'abah were built. That specific culture had its beginnings some 600.000 years ago. In that environment the important geometric shapes were the circle, derived from the sun and the moon, and the triangle, together with a series of irregular geometric fields derived from patterns of the cosmos. The importance of the land based triangle, formed by the rock outcrops of al-Safa and Marwa and the area now occupied by al-Ka'abah cannot easily be set aside.

**This land-based triangle is a permanent feature that helped to format the geometric component of the Arab cultural construct and that part of its architectures that involves the geometric, recurring as geometric patterns of Islam**

The shapes and spaces embedded in Arab and Arab Muslim culture are terrestrial and cosmic, besides the anthropomorphic and zoomorphic ones. The agents of Arab culture divided the cosmos into *manazils*, and into areas abutting and adjacent to these heavenly mansions. The cosmos functioned as a never failing mirror, it-mirrored life on earth and the specifics of land on earth. Likewise cosmos features return in land features such as names of villages and places. Arab villages with their

elementary stone and mud constructed houses surrounded by land and landscapes were ideograms for an idealized cosmic portrait. The countryside dotted with black tents has the same effect. The cosmos images on land and the geography of land in the cosmos were each other's *mirzam*. The local *sous entendu* on earth became the literary and poetic *sous entendu* of heaven.

***Umm-al-Qura is not simply a geographical name on earth; it is the Mother of all Villages, another name for Makkah along the al-Majarrah, a wide track for Arabs, the Milky Way or the furrow of heaven for Europeans.***

Of the cosmic objects, the first and last phases of the moon with nearby *Zahrah* were of equal importance (*Zahrah* is also a pronoun for females and is in daily use). Very important is the first phase of the moon. That importance is emphasized by the pronoun *al-Hilal*. Together with *Zahrah*, they are a worldwide symbol of Islam, a one-off feature extracted from a system of apparent regularity. *Al-Hilal* is even more important in the calculation of yearly and monthly times. *Al-Hilal*'s rise signals the start of a new Islamic month. It does so twelve times per lunar year.<sup>5</sup> During the month of *Ramadhan* the moon is visually sighted, a worldwide exercise. The first moon shape, like al-Ka'abah, is everywhere as an object of colloquial art in the Muslim world.<sup>6</sup>

Besides the terrestrial, cosmic and landscape shapes, Arab culture used also anthropomorphology and zoomorphology to describe shapes. The anthropomorphic and zoomorphic shapes important in Arab Muslim culture were the oval (representing fertility), and above all the camel's hump. Both are one-off features also extracted from systems of apparent regularity. However, as a mammalian feature the camels hump stands out. Invariably the oval and the hump are monads, attachments to the oval and the hump have been many and varied and keep changing, which means that each monad is inseparable from its parts, the parts are inseparable from the whole.

***Anthropomorphic and zoomorphic shapes by themselves and as monads are contributors to the *sous entendu* of place construct. They permanently maintain the *sous entendu* of place.***

Design and building construction are, have been and remain important contributors to the *sous entendu* of place. For example, the type of foundations used in buildings can be considered as a cultural activity that imparts *sous entendu*. In old Amsterdam the construction of foundations is different from the construction of foundations in old

Wellington (in New Zealand) or old Makkah. In response, different skills are needed. In Makkah the adherents to a polytheistic or a monotheistic religion nevertheless had skills in common that were necessary for the constructing of buildings. The development of skills needs time and depends on what materials are locally available or readily imported. In earliest Makkah, those skills were a response to the materials on hand such as bones, stones and small logs that were used as building materials.

The early-acquired skills went hand in hand with the earliest acquired weaving skills. In the local Arab culture weaving and setting-up of tents was the women's job; the men undertook construction. In the weaving process, the single threads combine into an 'in and out pattern' that correspond within reason with the 'in and out' patterns that come about by laying blocks of stone in single bond. With those skills polytheists and monotheists built a number of kabaat to which both the agents of polytheism and monotheism attached notions, stories, the anthropomorphic, the zoomorphic, the botanic, the irregular geometric, colours and textures, amongst many other attachments, in design and construction. Polytheists and monotheists used similar or the same skills to erect kabaat.

**The early kabaat of the polytheist ultimately lead to an 'al-Ka'abah with symbolic content being everywhere in this world'.**

Al-Ka'abah's polytheistic symbolic content and the symbolic content acquired under Islam were central to both. The Building was the center of daily life; a daily life centered the Building. One was the other. The manner in which it was used and for what purpose made an important contribution to the *sous entendu* of place of Makkah. It anchored and rooted two specific cultures. Thus integral to Arab cultural history and later Muslim religious culture, al-Ka'abah and later the Old Holy Masjid were of utter importance. As artifacts with specific symbolic content they deeply penetrated into some non-Muslim cultures to become Muslim ones in due course. In this process al-Ka'abah and the Old Holy Masjid served as vehicles conveying their monadic content and their share of *sous entendu*.

**This conveyed material led to a modified *sous entendu* for places with a predominant Muslim population, the *sous entendu* for example of Cairo.**

Shapes and spaces, their attachments that make shapes and spaces into monads, and the configurations and correspondences of monads do not stand by themselves. They are for example also contributors to the Makkah's *sous entendu*. They go hand in hand with Arab aesthetics that was derived from human and animal forms, to which

**Only Lane (1874 CE) understood this aspect by way of his etymologically oriented *Arabic-English Lexicon*. Those, who wrote discourses on matters of Islam and on the Buildings of Islam ignored Lane and by doing so failed to recognize the roots of Arab culture and the way these roots anchored that culture.**

According to Lane, Arabs used anthropomorphology to compare areas of good land with the areas enclosed by the arm-axilla, shoulder joint, the shoulders, the buttocks, the forehead, the area between the pubes, and the navel. They used zoomorphology when describing columns. They were seen as the long legs of a camel. The arches make a fit with these long legs. Anthropomorphologically, the arch represented the woman sitting astride on a camel. That Arabs had about seven hundred names for a camel, which is sufficient evidence that the etymological figured large in Arab culture. That architecture was procreation conveys a lucid picture about the importance of fertility in the same culture. Arab culture had on hand, besides the notions attached to shapes and spaces correspondences and associations. These were detailed in Chapter 2, Par. 2.3.5, Arab Specialties: Left and Right and Black and White.

#### **7.4 Chronologies and Inconsistencies**

The penetration of non-Muslim cultures that eventually became Arab Muslim cultures had their own agents who became involved in the construction of al-Ka'abah and the Old Holy Masjid. It was a continuation of kabaat building that had gone before. This is expressible chronologically. Although architectural scholars rather recently have tended to set aside architectural chronologies in favour of the poetic and the hermeneutic, in this work chronologies have been found useful. Within reason, it has been possible to establish which buildings of the Holy Complex were in existence when, and where, and are not there by comparing images, drawings, illustrations and photographs over different time periods. For example, the Relandi drawing of 1717 CE (1130 AH) shows four-domed *maqam* on the upper step of the circumambulatory area. They were still in existence according to Hurgronje's photograph of 1885 CE (1303 AH) and a photograph by The Kingdom of Saudi Arabia in *The Expansion of the al-Haramayn al-Sharifeyn*. In a postcard of about 1958 CE (1378 AH) they are not there. They were removed to make way for a new and larger al-Mataf without steps that had become necessary to accommodate the increased numbers of pilgrims participating in the circumambulation of al-Ka'abah (Figs.7.5 --7.6).

attachment have been made for centuries. Only Lane (1874 CE) understood this aspect by way of his etymologically oriented *Arabic-English Lexicon*. Those, who wrote discourses on matters of Islam and on the Buildings of Islam ignored Lane and by doing so failed to recognize the roots of Arab culture and the way these roots anchored that culture.

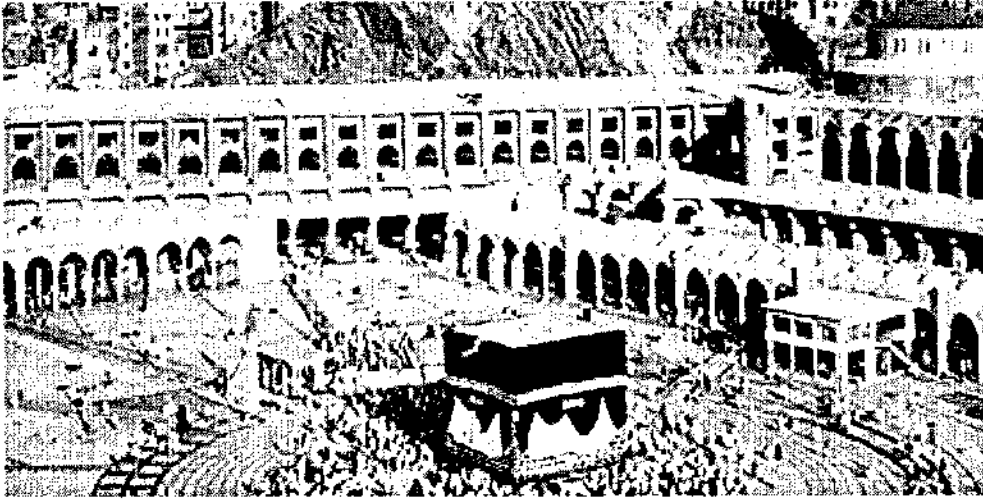
According to Lane, Arabs used anthropomorphology to compare areas of good land with the areas enclosed by the arm-arnpfit, shoulder joint, the shoulders, the buttocks, the forehead, the area between the pubes, and the navel. They used zoo morphology when describing columns. They were seen as the long legs of a camel. The arches make a fit with these long legs. Anthropomorphologically, the arch represented the woman sitting astride on a camel. That Arabs had about seven hundred names for a camel, which is sufficient evidence that the etymological figured large in Arab culture. That architecture was procreation conveys a lucid picture about the importance of fertility in the same culture. Arab culture had on hand, besides the notions attached to shapes and spaces correspondences and associations. These were detailed in Chapter 2, Par. 2.3.5, Arab Specialties: Left and Right and Black and White.

#### 7.4 Chronologies and Inconsistencies

The penetration of non-Muslim cultures that eventually became Arab Muslim cultures had their own agents who became involved in the construction of al-Ka'abah and the Old Holy Masjid. It was a continuation of kabaat building that had gone before. This is expressible chronologically. Although architectural scholars rather recently have tended to set aside architectural chronologies in favour of the poetic and the hermeneutic, in this work chronologies have been found useful. Within reason, it has been possible to establish which buildings of the Holy Complex were in existence when, and where, and are not there by comparing images, drawings, illustrations and photographs over different time periods. For example, the Relandi drawing of 1717 CE (1130 AH) shows four-domed *maqam* on the upper step of the circumambulatory area. They were still in existence according to Hurgronje's photograph of 1885 CE (1303 AH) and a photograph by The Kingdom of Saudi Arabia in *The Expansion of the al-Harameyn al-Sharifeyn*. In a postcard of about 1958 CE (1378 AH) they are not there. They were removed to make way for a new and larger al-Mataf without steps that had become necessary to accommodate the increased numbers of pilgrims participating in the circumambulation of al-Ka'abah (Figs.7.5 --7.6).

Fig.7.5

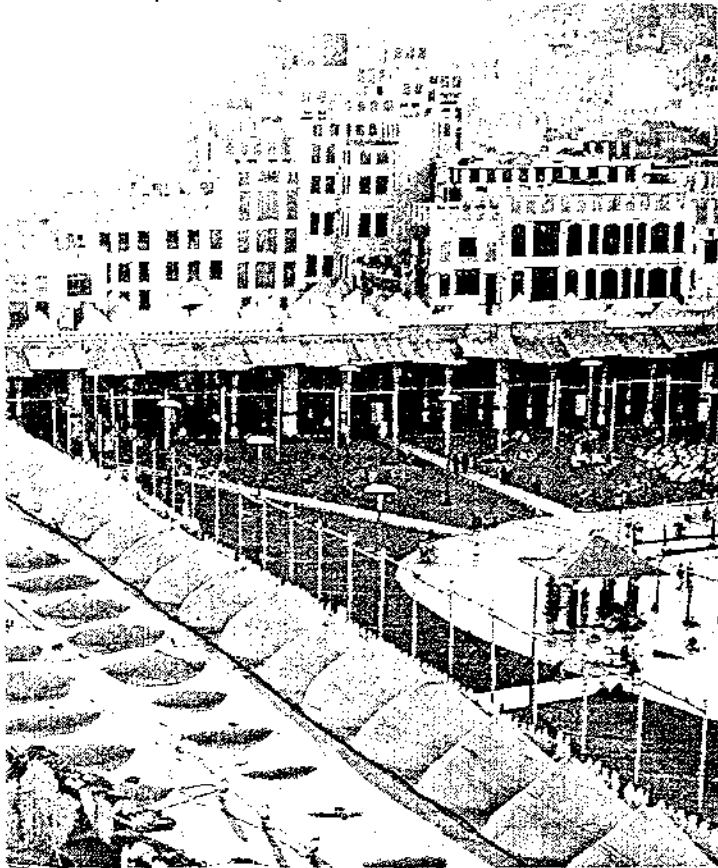
Source: Unknown Arab source (c 1958: Postcard)



*al-Haram* in about 1958 CE (1378 AH)

Except for the *Mimbar*, all the smaller buildings are not there. *Al-Mataf* is now one flush surface and extended area surrounded by the older *hawasi*. The smaller buildings in this postcard are the control building on the right middle and the *Imam's maqam* on the left middle. The tower like structure is the *Mimbar*.

Fig.7.6 Source: The Kingdom of Saudi Arabia (n.d.: no pp.)  
in *The Expansion of the al-Haramayn al-Sharifayn*.



*al-Haram* in about 1955 CE (1375 AH)

In the middle foreground is *Maqam Maliki* standing on the upper level of *al-Mataf*, which is surrounded by *hawasi* consisting of sand and gravel. The lower level of *al-Mataf* is the circumambulatory area.

Comparisons of and between the different media, photographs and drawings, led to an investigation of: construction dates, the dimensions of al-Ka'abah and the Old New Masjid construction phases, and the materials that were used in these constructions and the location of the first four *manaraat*. In that investigation a number of chronological inconsistencies were found in different documents that cover construction itself, construction dates, dimensions, and the persons involved in the design and construction of al-Ka'abah and the Old Holy Masjid, which are in need of remedy.

**Regardless of their appended bibliographies, one root of these inconsistencies has been, and is, the lack of a consultation and subsequent agreement or disagreements between the different authors who wrote treatises, discourses, books and papers on the Holy Complex. In this the acceptance of al-Azraki's historic record needs to be seriously questioned**

### 7.5 Al-Azraki's Legacy

Inconsistencies occur in al-Ka'abah's dimensions. Most of the information available to western scholars on the Holy Buildings has come from the annotated upon annotated account of Abdul al-Walid al-Azraki, further annotated by Wüstenfelt's 1858 CE / 1275 AH).

In this inconsistencies theme Abdul al-Walid al-Azraki governs fairly large, emphasized by number of mid-19th Century onwards-until-to day commentators on the Holy Complex. They all, inclusive the Kingdom of Saudi Arabia, have used al-Azraki's chronological inconsistent account. Al-Azraki died in 850 CE. During his lifetime al-Azraki knew the al-Madhi and al-Hadi Building that was built in 778-781 CE (161-164 AH) and the 693 CE (74 AH) al-Hajjaj Ka'abah that was built before his birth. He described those two Buildings but he also covered previous extensions. These accounts were questioned in Chapters 1 and 5. Most would have come from hearsay, guesses and speculation, but little, if anything, from archaeological finds or epigraphs. As he was an *Imam* (theologian) architectural matters would have escaped him, witnessed by the lack of detail in his descriptions of columns and his flawed drawings of column footings, column spacing, and column pattern of the al-Mahdi and al-Hadi Mosque and al-Ka'abah (see Chapter 4, Fig. 4.20 and Chapter 5, Fig.5.3). Moreover, no original copy of his discourse is in existence.

Thus, al-Azraki's chronological record and the way he depicted the Buildings is impaired. Wüstenfelt translated and abridged an impaired document based on Arab annotated upon annotated copies. Wüstenfelt, although abridged, extended the

annotated manuscript by drawing-in other Arab annotations, those of al-Fasi, al Fahiki and Qutb'Uddin 'Un-Nahravall. This aggregated annotation was again annotated in 1964 CE (1384 AH) by Rushdie Malhas and in its final form accepted as valid chronological record by the Official Authorities of Saudi Arabia.

**The acceptance of al-Azraki's historic account as a valid one has created an excuse for orientalists, Islamists and art historians to continue their laissez-faire interpretation of the most important Buildings of Islam, the Holy Complex in Makkah**

That laissez-faire attitude returns in the inconsistencies that covers al-Ka'abah's dimensions and other inconsistencies of a number of authors that dealt with the Holy Buildings. Thus Ali Bey al-Abassi's 1807 CE (1222 AH) plan of the 1807 CE Holy Complex was used as late as 1984 CE and 1992 CE respectively by Bloom and by Muohammad and Salina Samar, although the 1947 CE Egyptian Survey Department plan was in existence. Matched against that plan, Bey's plan contains a number of inaccuracies that were continued by the same authors in their respective discourses.

**That these inconsistencies continue using the Ali Bey Abassi plan was recognized in this work. They do not need to continue if use is made of the 1947 plan of the Egyptian Survey Department of Cairo.**

However, for the want of anything better Abdul al-Walid Azraki's chronological record of the Old Holy Masjid's construction chronology up and including the al-Mahdi and al-Hadi one, needs to be accepted for the time being until there is agreement amongst to-day's Muslim and non-Muslim scholars on who was involved and when in the construction of the Old Holy Masjid, under whose regimes the Buildings were constructed and or demolished and or renovated. This can be done with the help of the London School of Oriental Studies, the Rijks Universiteit of Leiden, the Topaki Museum in Istanbul and the Authorities that published the report by the Kingdom of Saudi Arabia National Economy and Finance (c1989), *His Majesty King Abdul Aziz Project for Extension and Construction of The Haram Sharif: Documents, Data, Statements, and Engineering Drawings of the Project, Issued During the Reign of His Majesty King Khalid Bin Abdul Aziz.*

The King Abdul Aziz Project documentation, which includes the 1947 Egyptian Survey Plan, on the most Holy Buildings of Islam is reliable. This should be of help in solving inconsistencies in dimensions, in construction dates, in persons involved in the construction of the Holy Buildings and in the correct location of *manaraat*, realizing that the transliteration of Arab and Turkish into English or another western European languages has its own difficulties.

### 7.6 Worldly Aspects of al-Ka'abah and the Old Holy Masjid

Al-Ka'abah and the Old Holy Masjid are edifices with monadic content, but there is also an al-Ka'abah and an old Holy Masjid that is the absolute urban core of Makkah, set in a landscape of pronounced grey-black rocks that are visually sharp to very sharp in outline and glitter in the sun. In between these rocks are the *wudjun* that run towards the center. They emphasize the center as a center. That same center or the urban core, for that matter a Sacred One, consists of five irregular geometric shapes, those of al-Ka'abah, al-Hatim, al-Mataf and the Old Holy and New Masajied.

**What exists is a Sacred Urban Core that is under re-construction to accommodate 13 million pilgrims annually by 2014 CE (1435 CE) (Arab News of 2 June 2004)**

That urban core had its beginnings since circa 2000 / 1700 BC, From than Makkah has grown into, what it is to day a city of about 560,000 inhabitants, augmented temporarily by more than 2,000,000 participants in the 2004 CE (1425 AH) *al-Hajj* (Arab News, 6 January 2004). That temporary increases of the local population by non-permanent residents happens every year but at different times of the year due to the use of the Islamic calendar. Pilgrims stay between two to four weeks in the city. It involves a mass movement, mass accommodation and mass feeding about two million people.

**This scale is an unprecedented one and will be even greater when 13 million pilgrims arrive annually.**

The increase in the number of pilgrims will involve a massive building program to accommodate and transport these numbers. The recently announced re-construction of the *jamaraat* structure in Mina (Hadj & Umrah Magazine via Arab News at [www.arabnews.com](http://www.arabnews.com) of 1 April 2004 has signaled the start of that extended construction and reconstruction program. At this time this proposal is still

disconnected from the development proposals contained in an e-mail web image shown in Chapter 3, Fig.3.19.

**How it will affect traditional architecture of Mina and Makkah is an urgent issue that needs to be investigated. The loss of traditional Makkah architecture has been serious. Controls are necessary to prevent further losses.**

During *al-Hajj*, pilgrims are on the move for three days in both directions between Makkah and Arafah. That mass movement takes place within a symbolic religious environment controlled by the Makkah Emirate and the Makkah City Council. The Makkah Emirate's area is built-on in pockets, but landscape-wise it is not very different from other non-urbanized *wadi* areas inside its territory. This is quite different for Makkah. This City is an agglomerate of low rise grabbo mountains covered by houses that spill over the ridges into the adjacent valleys to rise upwards again to neighbouring ridges and valleys. In some ways it is fortunately that some of the rock areas are too steep to built on yet they create interested visual breaks that extent towards the *wudjun* below. These are wedged-in between the ridges of grabbo rock that surface as low-rise mountains in parallel formations above the *wudjun*. The composition of the *wudjun* themselves is one of firm sand and gravel, certainly not desert sands.

**The visual breaks in the landscapes need preserving. They are 'welcomes' that interrupt an unsightly sea of houses.**

Throughout historic time houses and other buildings were built on these bare grabbo rocks. These rocks have a high load bearing capacity. The houses had foundations that consisted of the same material but as rubble piled on top of other similar rubble. Walls, some four stories, high were built of the same material, held together with small diameter logs in a long and cross-wise like fashion. This type of construction has been displaced by reinforced concrete construction. Houses and the Holy Complex abutted by more houses form a conglomerate of stones and rocks. For Muslims, that conglomerate is the center of their world, which is kept in focus by al-Ka'abah and the Old Holy Masjid. High-rise hotels have been built that overlook the Holy Complex, thereby reducing the importance of the Holy Complex as the central focus. The same high-rise constructed buildings of recent date have displaced large areas of traditional Makkah architecture.

Although Makkah's background is a polytheistic one, beyond the slightest doubt the Makkah *Haram* of now associates with the origins of Islam sustained and emphasized by the one specific rite of the center, the circumambulation of al-Ka'abah or *al-Tawaf*, which does not take place in any other *Haram*. The rites conducted in Mina, Muzdalifah and Arafah are each of quite a different kind.

According to Arab and Muslim scholars that center or the urban core of Makkah commenced by the raising of the foundations of al-Ka'abah on existing ones by *Ibraheem* and *Ishmael*. Those existing foundations were Adam's ones according to the same sources. It follows that the Valley must have been settled before *Ibraheem* and *Ishmael* era. Pre-*Ibraheem* and *Ishmael* settlement must have occurred, but the Valley was found abandoned when *Ibraheem* and his family resettled it. To prove that an earlier settlement was in existence is archaeologically out of the question.

According to Mohammed Sa'id al-Farsi (in al-Shareef 1992: 31) the earliest settlement occurred by the building of houses along the edges of the Valley (see again Chapter 3, Fig.3.5).

**Sa'id al-Farsi contradicts the general belief by Muslim scholars that the first houses were erected in the center of the Valley. They were built along the edges of the Valley.**

Al-Ka'abah has been rebuilt and renovated a number of times more often than generally is realized by Arabs and Europeans alike. Al-Ka'abah of to day has dimensions that correspond with the late *Quraish* one, which are close to *Ibraheem's* and *Ishmael's* al-Ka'abah. Throughout history a number of kabaat were built. What is seen today is a 1957 CE (1377 AH) restored al-Ka'abah of late *Quraish* dimensions that is covered with *al-Kiswah*, fitted with a new ceiling of Burmese teak, strengthened interior walls that are, and the floor clad with marble.

Worldwide, more than a billion Muslims face the Building, during the five daily prayers setting up five billion invisible axes per day over a period of circa 15 hours near the Equator. That period increases, the further the Prayee is from the Equator.<sup>7</sup> During *Fajr* (the morning prayer) and the other four daily prayers, individual's set-up invisible axes, *Qiblaat*, that links the individual to al-Ka'abah. Thus al-Ka'abah itself is kept in focus and centered by way of an invisible very large *Qiblaat* system by worshippers and the *Mihraab* of Mosques worldwide.

**The *Mihraab* worldwide are the permanent terminals of the *Qiblaat* system that encompasses the world. <sup>8</sup>**

What exists today is an al-Ka'abah centered *Qiblah* system that uses Latitudes and Longitudes. The latter two establish the location of any Mosque on the globe. Using Latitudes and Longitudes, The Islamic Finder Organization (<http://www.islamicfinder.org>) runs a web program that covers Latitudes and Longitudes and subsequent Prayer times for six million places. The *Qiblah* system is temporarily but hugely expanded during the compulsory five times per day prayers that are conducted in Mosques, in houses, in work places and on the street.

**Individuals not attending the Mosque form temporarily a lucid *Qiblaat* system during the five daily prayers. Pointing away from al-Ka'abah a *Qiblah* becomes a geographical axis augmenting the sun's radials that can act as geographical axes.**

The very fact that Prayers must face Makkah and al-Ka'abah infers subordination to the center. Makkah and its al-Ka'abah together is the absolute dominant node of a *Qiblaat* system <sup>9</sup> corresponding with a social hierarchical organized local society. As the 'magnet' of the *Qiblaat* system, al-Ka'abah is a functional Building that attracts *Qiblaat*. It is further a functional Building in that the shadows it casts on al-Mataf floor were used, and still can be used, in the determination of day times, particular prayer times.

In Arab culture, the sun, the moon and the stars helped the locals in finding of directions on land and on sea. Direction returns in the form of a *Qiblah* but also as geographic constants. *Al-Qiblah* is particularly evident in Mosques. No matter what, the *Mihrab* of all Mosques must face Makkah, an *al-Qu'ran* requirement. If that is not possible the *sufuf* must. A *sufuf* is a line on the Mosque's floor or is part of the Mosque's carpet or woven into a carpet lines that run parallel with the *Qiblah* wall along which the prayees line-up during prayer.

**Western scholars do not always recognize that the importance of *al-Qiblah* is all-pervasive.**

*Al-Qiblah* is of critical importance in the design of any Mosque. It affects the overall design of the Building. When a number of adjacent Mosques and other Buildings of Islam all-together face Makkah, the street along which those buildings are located will point in the direction of Makkah. In that sense, the street becomes a *Qiblah* radial. The *Qiblah* radial is inherent for example, in the street patterns of Makkah, Cairo,

Baghdad, Riyadh, al-Taif, Basra and Kufa.<sup>10</sup> To the *Qiblah* attaches the notion of a Sacred Direction, which makes it into a monad. The *Qiblaat* system is the dominant monad amongst the community of *al-Qiblah* monads. Moreover, in addition to styles, the poetic the phenomenological or the monadic in architecture, *al-Qiblah* embeds the **architecture of direction**, an epigraph that inheres in all buildings of Islam and is the most obvious feature of all Mosques, epitomized by the *Mihrab* and the *Qiblah* wall, or simply as a directional sign on the ceiling or a prayer rug on the floor pointing towards Makkah and al-Ka'abah.<sup>11</sup>

**Other critical components in the design of a Mosque are separate male and female Prayer areas and separate *Whu'du* and toilet areas.**

### **7.7 Al-Ka'abah and the Old Holy Masjid as Architectural Models and Design Motifs**

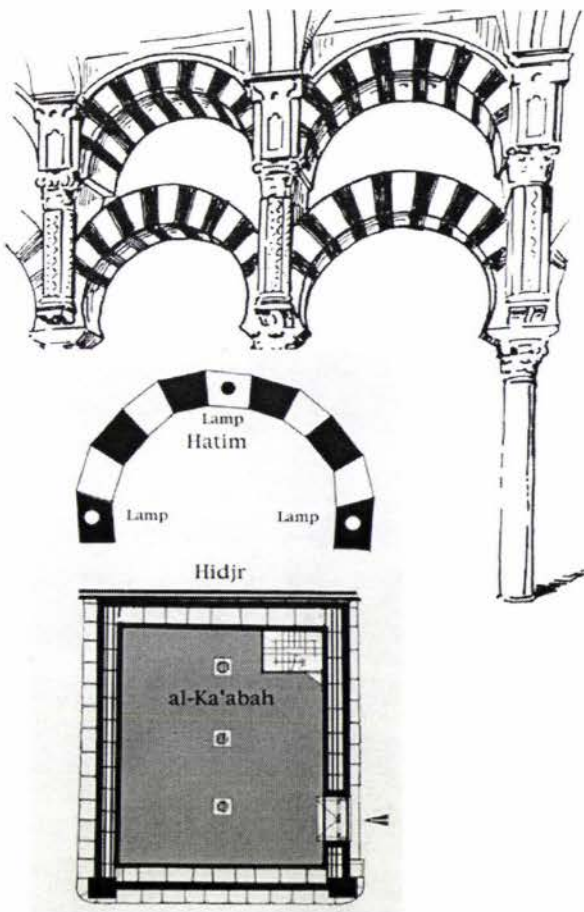
This thesis introduced the theme 'al-Ka'abah is everywhere'. That is not a surprise. Both al-Ka'abah and the Old Holy Masjid served as models in the creation or modification of other architectures and as design motifs for many objects of art. Their use as design motifs in objects of art has been, and still is, very large, their use in architecture less so. Nevertheless architectural elements belonging to the Old Holy Masjid have been used in other architectures specially its crenellations. Al-Ka'abah's use was as modules that return as a series of kabaat modules that make for the floor plan of the Old Holy Masjid. Al-Ka'abah returns in a number of square forts. The corners of al-Ka'abah are the fort's four turrets, one turret on each corner. Two such now demolished forts occupied two hills in Makkah. Hurgronje in 1885 CE (1303AH) recorded them in a drawing. One fort was photographed by Sadiqe Bey in 1880 CE (1278AH) (see again Chapter 5, Fig.5.9).

**Al-Ka'abah's imprint and influence on other buildings of Islam and on textiles has been and is greater than is generally realized.**

Al-Ka'abah's four corners corresponded with four geographical directions, the Egyptian, the Yemen and Iraqi corners. It is quite possible the turrets of the forts in Makkah and along the different routes to Makkah referred to different geographical directions, in which one turret indicated the direction to Makkah, for example, like the circular planned city of al-Mansur near Baghdad that had four gates, one facing Makkah. In that hermeneutic way al-Ka'abah was imitated, as there was structurally

no need for the turrets and they were too small as well in surface area at the top to serve as watchtowers. Possibly one rib of the ribbed domes of many Buildings of Islam faces Makkah. It is possible, subject to research, that one turret of all turrets and one rib of all the ribs of ribbed domes were used as *Qiblaat* or as finders of geographical directions.

This thesis also explored the possibility that the physical al-Ka'abah with al-Hatim joined together were used as models for those Arab arches that Europeans refer to as horseshoes. That the so-called horseshoe is a plan view of al-Ka'abah combined with al-Hatim. It is generally not recognized as such. Together they became an idea, then an ideogram, hence a design motif that lead to the proto-type Arab arch. This now famous Arab arch reappears in the Cordoba Masjid but also in *Masjid Jamek* in Kuala-Lumpur, a Mosque built during the British colonial era, and in a modern *Masjid* along Jeddah's foreshore and many others (Figs.7.7-7.8).



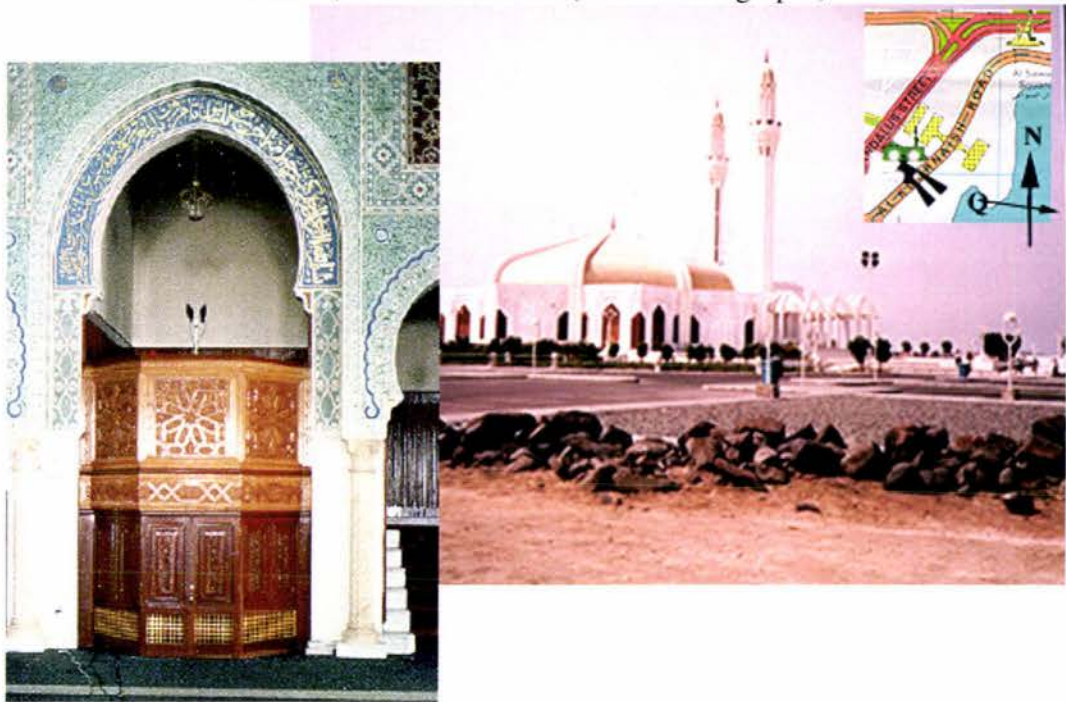
< Fig.7.7  
Sources;  
Eduard Schwarz  
(1993: Drawing and  
Jong-Visscher,  
1948 :207)

**Plan view of  
al-Ka'abah and al-  
Hatim and the  
Cordoba Mosque  
arches**

In reality, the Hatim's top surface is of white marble. The author has introduced the black parts to highlight the influence of the Hatim had on arches generally in the world of Islam. We may refer to it as the Arab arch.

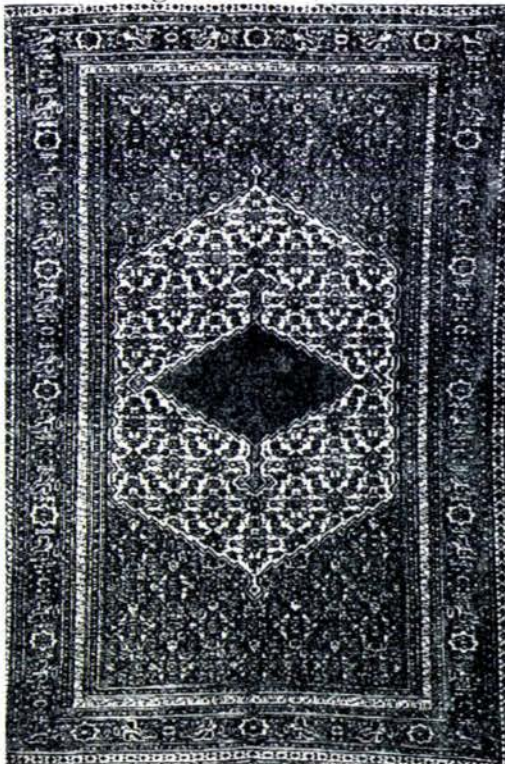
**Fig.7.8**

Source; Eduard Schwarz (1993: Photographs)



The Arab arch return in the *Mihrab* and *Mimbar* of a foreshore Mosque in Jeddah

**Fig.7.9** Source; Unknown



**Fig.7.10** Source; Unknown



al-Ka'abah as a design motif woven into rugs

The statement 'al-Ka'abah is everywhere' is evident from the fact that al-Ka'abah and the Old Holy Masjid were very extensively used as design motifs for textiles (Fig.7.8, 7.9).

That this went unrecognized for so long is almost unbelievable. There are a number of discourses that deal with carpets and prayer rugs, but none of these contain recognition that the designs are portraits of al-Ka'abah with or without the Old Holy Masjid. Usually, in the center of the rug is al-Ka'abah as a design in black or dark colours surrounded by the Old Holy Masjid along the rug's edges, separated by al-Mataf in a lighter colour.

The al-Safa entrance and exit also served as a design motif evident from the number of rugs and carpets that portray the al-Safa and its lamps as a *Mihrab*. This Safa *Mihrab* design woven into carpets or prayer rugs is almost instantly recognizable as a stepped arch from which single lamps hang. The orthodox interpretation of carpets and prayer rugs involve phrases such as 'arabesque' 'Moorish', 'medallions', 'lozenge', followed by a description of colours, the impact of these colours on the overall design, their intensity and hues and descriptions of flower patterns as enhancers of the design and their impact on the overall design. That it is al-Safa's exit and entrance with lamps is not recognized although sometimes the rug's function is, by referring to 'direction'. The *Mihrab* design was also used as an architectural model for entrances to the Buildings of Islam. It was applied in the Gök Madrese in Sivas, and the Aladin Çami in Konja, followed by the actual al-Safa entrance and exit.

**That al-Ka'abah the Old Holy Masjid and its entrance as unrecognized design motifs for a range of textiles is an important finding of this work.**

and

**That the Arab arch is a plan view of al-Ka'abah combined with al-Hatim and not a horseshoe as often are referred to by European sources another important finding**

and

**That *al-Qiblah* emphasizes al-Ka'abah beyond the European conception of al-Ka'abah being a simple building.**

and

**The floor plan of the Old Holy Masjid is not a simple horizontal grid plan. It consists of a series of kabaat modules abutting and adjacent to each other**

## 8 Final Overview

This thesis analyzed the Old Holy Masjid and al-Ka'abah using the Theory of Architectural Monadology. Under its umbrella the conclusion is that the Old Holy Masjid is an architectural construct procured from heaven with anthropomorphic, zoomorphic and botanical content. The Building is also an *imago mundi*, an imaginary world, corresponding with Arab and Muslim views of their world. The local world of Makkah is embedded with a specific *sous entendu*, a religious one, associated with providing accommodation for pilgrims. This is an industry by itself. Further, the Old Holy Masjid and also al-Ka'abah consist of spaces and shapes that embed numerous attachment. Both are monadic referents.

Of all possible attachments and to avoid the absurd, the anthropomorphic, the zoomorphic, the irregular geometric, the botanical, notions, stories, colours, and textures were selected as suitable attachments. No empiricism, epistemology or scientific theories were attached except when examining shapes on their function and strength. A similar approach lies embedded in phenomenology. From the infinite range of phenomena those phenomena are selected that make sense to the hypothesis raised or the proposition advanced. The Theory of Monadology follows a similar path. From the infinite range of attachments those attachment are selected that make a combination of shapes and spaces into a successful architectural or art design, a design that makes sense.

This work has shown that it is possible to assess architecture nomadically, which is akin but not identical to the phenomenological assessment of architecture (Norberg-Schulz, 1980). Nevertheless, the practical side of architecture cannot be set aside, which means that buildings need also to be assessed on their strength and other physical aspects such heating, noise, internal and external movements of people and goods, internal lighting, cleaning, the extent of fire risk, water supply, wastes disposals and electronic communications.

Both al-Ka'abah and the Old Holy Masjid have been repeatedly renovated, added to and partially rebuilt. The addition of 1951-1993 CE (1371-1414 AH) known as the Saudi I and Saudi II extensions has been a major one and incorporated many of today's technologies and technological innovations. Those are extensively covered by Muohammad and Salina Samar (c1998: 191-200).

## 7.9 Avenues for Future Research.

Throughout the thesis a number of direct and indirect references have been made that could lead to fruitful further research. For example, the provision of accommodation for pilgrims and the extensions of al-Mataf have detrimentally affected early Arab and Arab Muslim architecture. A case in point is the architecture of the four now demolished *Maqaam*. They were of Ottoman design. What were the earlier ones? Those and other Ottoman architectural imports would be a worthwhile project to study, as would be the study of one module of the New Holy Masjid, including its column patterns and some of the wall decorations, which associate with that module. In the first instance, this should be a pilot study, followed by a full assessment of all of the Holy Complex, but in particular the Old Building. As the Old Holy Masjid is a historic Building, such an assessment could be used to prepare an enforceable public conservation policy to ensure the Old Holy Masjid's survival. The Old Holy Masjid is a building of the Arab Islamic and Muslim architecture and should be seen as an **endangered species**.<sup>12</sup> This is particularly necessary in view of the ever-increasing number of *al-Hajj* and *Umrah* visitors who will need more circumambulatory space. This will involve an extension of al-Mataf for which there is no space except by demolishing the Old Building; This Building is already seriously affected by the adjacent and abutting new construction. Many columns of the Old Holy Masjid were placed in new locations

A detailed recording of the areas of *Bab Safa*, *Bab Ali*, *Bab Ibraheem*, and *Bab al-Ajjala* is also required. Each of these areas and entrances are an integral in the understanding of the Old Holy Masjid. Further information is required regarding the design advice that was provided by the consulting architects of the New Holy Masjid. Architects from different Muslim countries attached to Universities advised the Kingdom of the Saudi Arabia on the design of it. Some features of the New Holy Masjid resemble the Alhambra in Spain but others do not. It is desirable to know and record what the thinking was behind the design. The design brief and the resulting recommendations are somewhere, and should be made accessible and available. The virtual non-existence of an interloan system from Saudi Arabian libraries has created another barrier.

The cosmos figured large in the 1993 CE (1414 AH) fieldwork, but a new local check is required on the accuracy of the 1993 observations. An assessment of the December-February night sky needs to be made for the Mina and Muzdalifah Valleys and the Arafah plain. Folklore related to the cosmos need to be further assessed and clarified.

## 7.10 Postscript

This thesis was an inquiry into architectural shapes and spaces used in Arab and Arab Islamic and Muslim architectures. The roots of shapes and spaces, their attachments, their differences, their similarities, their correspondences and their configurations were explored under the umbrella of the Theory of Architectural Monadology with the Old Holy Masjid and al-Ka'abah as monadic referents. The following themes run through the work: The 19th century intellectuals created a 20th Century disposition in which the analysis and presentation of the architecture of the Buildings of Islam were pursued and presented in a laissez-faire manner. Under it, the roots of Arab culture and architecture were subdued or not recognized at all. Cultural insensitivity has led to an architectural dominance by western countries over non-western countries, which considerably influenced the architectures of these countries, inclusive of Saudi Arabia. This country rather uncritically welcomed the modern architecture that with some adaptations has evolved into European Islamic architecture that has substantially displaced traditional Arab Makkah architecture of *rawasheen* and *masharabiyaat*. A Symposium on the Arab City highlighted this aspect in 1981 and 1983 that took place in al-Madinah. The conference dealt with a multitude of issues, the dominant one that stressed the havoc caused by the introduction of western architecture and planning philosophies on the traditional architecture of Arab cities and on the built environment of those cities. The consensus body of conference conveyed the message that a conceptually different (no grid iron subdivisions) and a more culturally sensitive approach (no more European Islamic architecture) are needed when designing houses and buildings of Islam and when designing an Islamic built environment (irregular street patterns). This thesis has been supportive of that aim throughout by referring to the destruction of the Makkah's traditional architecture and by drawing the attention by labeling the Old Holy Masjid a **threatened specie** needing worldwide attention to prevent further damage by future extensions of the New Holy Masjid

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## Notes Chapter 7

<sup>1</sup> For its application and operation see Chapter 1, section 1.1.2 and Chapter 2, section 2.2.1.

<sup>2</sup> This by itself is a reversal of the Theory of Architectural Monadology in which the smaller entity makes for the larger whole. That reversals of theories occur is evident for example from the 1st Law of Thermodynamics.

<sup>3</sup> These elements form the nexus enhanced by specialties.

<sup>4</sup> Merleau-Ponty perceived the local world as a perceptual phenomenon of fields, figures, and backgrounds. Merleau-Ponty emphasized fields, figures, and backgrounds as objects of meaning and the impact of that meaning on the 'place', imparting a meaning or a *sous entendu* of place. Fields, figures, and backgrounds readily correspond and configure with shapes and spaces, which are the subject of this thesis. Like attachments that are made to shapes and spaces, attachments can be made to fields, figures, and backgrounds, which subsequently make them also into monads.

<sup>5</sup> The Islamic month is about 29.5 days. The time difference between the lunar and solar year is about 11.3 days. (The Islamic calendar shifts backwards in relation to the Gregorian calendar). For Makkah itself the lunar month consists of 28 visible moon phases and two dark days. This is due to the City's deep seatedness in the Valley and its surrounding by mountains. The rise of *al-Hilal* on the Red Sea's horizon cannot be seen in the Makkah Valley.

<sup>6</sup> This visual sighting has led to confusion, particularly as the moon ecliptic is not constant. The Arab News of 15, April, 2005 recognized this by reporting that Saudi Arabia together with some Islamic countries are working on a pioneering project that will launch a satellite, which will be used for moon sighting to decide accurate dates of religious rituals and festivals in the Islamic calendar.

<sup>7</sup> Singapore is located close to the Equator at Latitude 01° 17' N and Longitude 103° 51' E. For Singapore around 22 June the time span between *Fadjr* (morning prayer) and *Ishah* (evening prayer) is circa 15 hours. On about 22 December it is about 15.5 hours. Wellington in New Zealand locates Latitude 41° 17' S and Longitude 174° 47' E, quite some distance away from the Equator, the time span between *Fadjr* and *Ishah* is about 12.9 hours around 22 June. On about 22 December it is 19.1 hours. Both dates respectively correspond with the winter and summer solstices.

<sup>8</sup> This system preceded the Cartesian and Mercator division of the world.

<sup>9</sup> Once Longitudes and Latitudes are used, a connection comes into existence between the *Qiblah* system and the Mercator grid.

<sup>10</sup> This feature of streets as *Qiblaat* can be used in assessing whether a city is a Muslim one, was once a Muslim one or had a Muslim enclave attached to it, or still has a Muslim enclave.

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<sup>11</sup> The function of the rug is the finding of the direction to Makkah. By the very fact that a textile is a Prayer rug its use and therefore its function is known.

<sup>12</sup> Although a record is available, it is inaccessible. If made available, the research suggested for one module of the Old and New Holy Masjid would be less critical (Drawings 2121 -- 2123 for example).

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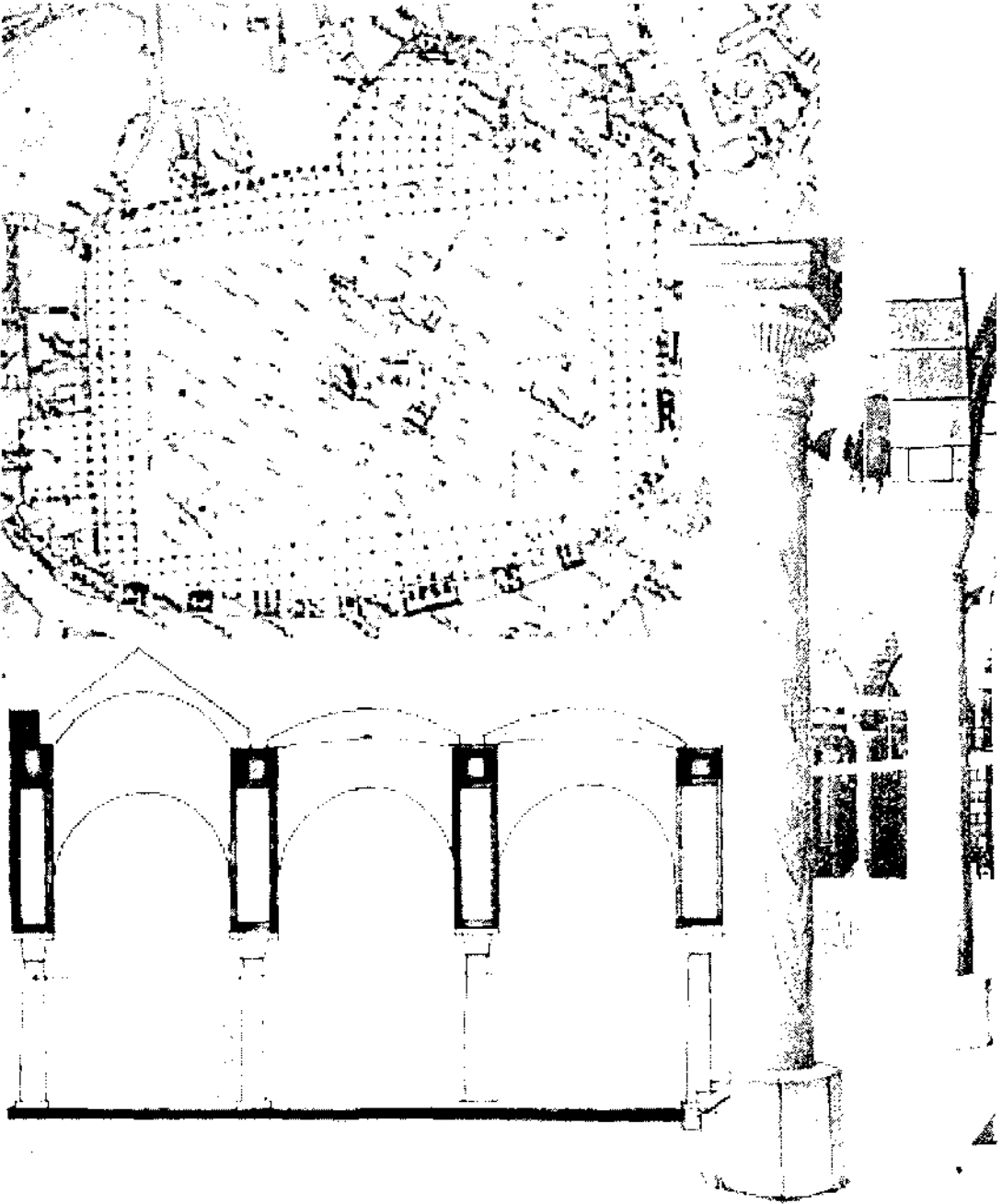
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**The Old Holy Masjid; plan, colonnades and cross-section**

Numerous shapes and spaces make for the whole. Each element is a monad amongst the community of monads

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Notes: Arab authors' names start with their first name, thus Abdul al-Walid is listed as Abdul al-Walid. It comes before al-Dareshshawari. Arab names preceded by 'al-' are European alphabetically ordered. Thus al-Burini is to be found before al-Dareshshawari. A.H. Khair el-Din comes before al-Burini but after al-Dareshshawari. For European names, the surname comes first, then the first names or the initials.

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# Appendices

## Frontispiece Appendices

Source ; Ismael Ibrahim Nawwab (2002: 21)



### **al-Ka'abah and the Old Holy Masjid Photograph by Muhamad Asad of 1927?**

The Ka'abah in the center of the Sacred Court with three facades of the Old Holy Masjid and its two 36 meters high minarets those of *al-Wi'da'* and *al-Ukmrah*. In the foreground are the *Zem-Zem* House and *Bab al-Shaba*. On the right is *Maqam Hanbali*.

# Appendices

Note that all appendices are supplied in good faith. There is however no guarantee that they are correct in all respects. They form an amendable base for others and myself to complete pending future research.

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## APPENDIX ONE

### The CE / AH Conversion Table

Source; Facey (1990: 90). See also Islamic Finder Organization (2005) for CE to AH conversions (<http://www.islamicfinder.org>)

#### Comparative Tables of AH and CE Dates

The Islamic era is based on the Hijrah, the migration of the Prophet Muhammad from Makkah to al-Madinah, which took place on 16 July 622 CE. The Islamic year is lunar, and has 354 days. There are approximately 103 Hijri years to a Gregorian century; AH stands for Anno Hegirae (hegira being the Latinized form of Hijrah), and CE for Christian Era. The Hijri year begins on the day of the month indicated.

AH	CE	AH	CE	AH	CE	AH	CE				
1	622	16 July	600	1203	10 September	1160	1747	13 January	1362	1943	8 January
10	631	9 April	610	1213	23 May	1170	1756	26 September	1363	1943	28 December
20	640	21 December	620	1223	4 February	1180	1766	9 June	1364	1944	17 December
30	650	4 September	630	1232	18 October	1190	1776	21 February	1365	1945	6 December
40	660	17 May	640	1242	1 July	1200	1785	4 November	1366	1946	25 November
50	670	29 January	650	1252	14 March	1210	1795	18 July	1367	1947	15 November
60	679	13 October	660	1261	26 November	1220	1805	1 April	1368	1948	3 November
70	689	25 June	670	1271	9 August	1230	1814	14 December	1369	1949	24 October
80	699	9 March	680	1281	22 April	1240	1824	26 August	1370	1950	13 October
90	708	20 November	690	1291	4 January	1250	1834	10 May	1371	1951	2 October
100	718	3 August	700	1300	16 September	1260	1844	22 January	1372	1952	21 September
110	728	16 April	710	1310	31 May	1270	1853	4 October	1372	1953	10 September
120	737	29 December	720	1320	12 February	1280	1863	18 June	1374	1954	30 August
130	747	11 September	730	1329	25 October	1290	1873	1 March	1375	1955	20 August
140	757	25 May	740	1339	9 July	1300	1882	12 November	1376	1956	8 August
150	767	6 February	750	1349	22 March	1310	1892	26 July	1377	1957	29 July
160	776	19 October	760	1358	3 December	1318	1900	1 May	1378	1958	18 July
170	786	3 July	770	1368	16 August	1319	1901	20 April	1379	1959	7 July
180	796	16 March	780	1378	30 April	1320	1902	10 April	1380	1960	26 June
190	805	27 November	790	1388	11 January	1321	1903	30 March	1381	1961	15 June
200	815	11 August	800	1397	24 September	1322	1904	18 March	1382	1962	4 June
210	825	24 April	810	1407	8 June	1323	1905	8 March	1383	1963	25 May
220	835	5 January	820	1417	18 February	1324	1906	25 February	1384	1964	13 May
230	844	18 September	830	1426	2 November	1325	1907	14 February	1385	1965	2 May
240	854	2 June	840	1436	16 July	1326	1908	4 February	1386	1966	22 April
250	864	13 February	850	1446	29 March	1327	1909	23 January	1387	1967	11 April
260	873	27 October	860	1455	11 December	1328	1910	13 January	1388	1968	31 March
270	883	11 July	870	1465	24 August	1329	1911	2 January	1389	1969	20 March
280	893	23 March	880	1475	7 May	1330	1911	22 December	1390	1970	9 March
290	902	5 December	890	1485	18 January	1331	1912	11 December	1391	1971	27 February
300	912	18 August	900	1494	2 October	1332	1913	30 November	1392	1972	16 February
310	922	1 May	910	1504	14 June	1333	1914	19 November	1393	1973	4 February
320	932	13 January	920	1514	26 February	1334	1915	9 November	1394	1974	25 January
330	941	26 September	930	1523	10 November	1335	1916	28 October	1395	1975	14 January
340	951	9 June	940	1533	23 July	1336	1917	17 October	1396	1976	3 January
350	961	20 February	950	1543	6 April	1337	1918	7 October	1397	1976	23 December
360	970	4 November	960	1552	18 December	1338	1919	26 September	1398	1977	12 December
370	980	17 July	970	1562	31 August	1339	1920	15 September	1399	1978	2 December
380	990	31 March	980	1572	14 May	1340	1921	4 September	1400	1979	21 November
390	999	13 December	990	1582	26 January	1341	1922	24 August	1401	1980	9 November
400	1009	25 August				1342	1923	14 August	1402	1981	30 October
410	1019	9 May			<i>Transfer from Julian to</i>	1343	1924	2 August	1403	1982	19 October
420	1029	20 January			<i>Gregorian calendar</i>	1344	1925	22 July	1404	1983	8 October
430	1038	3 October				1345	1926	12 July	1405	1984	27 September
440	1048	16 June	1000	159	19 October	1348	1927	1 July	1406	1985	16 September
450	1058	28 February	1010	1601	2 July	1347	1928	20 June	1407	1986	6 September
460	1067	11 November	1020	1611	16 March	1348	1929	9 June	1408	1987	26 August
470	1077	25 July	1030	1620	26 November	1349	1930	29 May	1409	1988	14 August
480	1087	8 April	1040	1630	10 August	1350	1931	19 May	1410	1989	4 August
490	1096	19 December	1050	1640	23 April	1351	1932	7 May	1411	1990	24 July
500	1106	2 September	1060	1650	4 January	1352	1933	26 April	1412	1991	13 July
510	1116	16 May	1070	1659	18 September	1353	1934	16 April	1413	1992	2 July
520	1126	27 January	1080	1669	1 June	1354	1935	5 April	1414	1993	21 June
530	1136	11 October	1090	1679	12 February	1355	1936	24 March	1415	1994	10 June
540	1146	24 June	1100	1688	26 October	1356	1937	14 March	1416	1995	31 May
550	1155	7 March	1110	1698	10 July	1357	1938	3 March	1417	1996	19 May
560	1164	18 November	1120	1708	23 March	1358	1939	21 February	1418	1997	9 May
570	1174	2 August	1130	1717	5 December	1359	1940	10 February	1419	1998	28 April
580	1184	14 April	1140	1727	19 August	1360	1941	29 January	1420	1999	17 April
590	1193	27 December	1150	1737	1 May	1361	1942	19 January	1421	2000	6 April

## APPENDIX TWO

### Correspondences between birth and death dates of historians and the dates of construction, renovations of and additions to the Old Holy Masjid and al-Ka'abah

Dates of constructions and reconstructions are based on the Kingdom of Saudi Arabia, Ministry of Finance and National Economy (c1989), Reign dates are based on those of the London School of Oriental Studies (1951: 41-45). References to the Sheriffs of Makkah are those of de Gaury (1951: 289-294). CE stands for Christian era, AH for after Hegira.

No	Year of construction or renovation	<i>Khalifs, Sultans and others during whom's reign the Old Holy Masjid began, was rebuilt and / or renovated or added to</i>	They reigned from--to	Historians who were alive when certain parts of the Old Holy Masjid were constructed	They lived from-to
1	639 CE (17 AH) Aramco 638 CE	<i>al-Fina</i> 'extension by <i>Khalif</i> Omar Ibn Khattab	634-644 CE (13-24 AH)		
2	647 CE (26 AH) Aramco 646 CE	<i>al-Fina</i> ' extension by <i>Khalif</i> Osman Ibn Affan and introduction of colonnades partially surrounding al-Ka'abah  <i>al-Fina</i> ' enwalled	644-656 CE (24-35 AH) 13AH Glassé 26 AH Aramco		
3	685 CE (65 AH)  Aramco 684 CE	Self appointed <i>Khalif</i> az. Zubair extension of <i>al-Fina</i> '  Colonnades surrounding al-Ka'abah built. Colonnades infer columns  The az-Zubair Ka'abah built  No 3 is at variance with the Hadj Research Center plan. This plan show an extension on the NE side only	683-693 CE (64-74 AH)		
4	692 CE (73 AH)	The az- Zubair Ka'abah demolished  The al-Hajjaj Ka'abah and al-Hatim built	692-? CE (73-? AH)		
5	694 CE (75 AH)	Ummayyad <i>Khalif</i> Abd al- Malik Marwan  Exterior enwalling of az- Zubair's extension	684-705 CE (65-86 AH)		

6	709CE (91AH)	Ummayyad <i>Khalif</i> Al-Waleed Ibn Abdel Malik colonnaded extension  Some Kingdom of Saudi Arabia documents does not refer to a al-Waleed extension and is at variance with the Hadj Research Centre that shows an al-Waleed extension  This plan shows an extension on the NE side only	705-715 CE (87-97 AH)		
7	755 CE (137 AH)	Ummayyad <i>Khalif</i> Abu Ga'far al-Mansur extension  Introduction of the first <i>manarah</i> on the NE corner of the extension	754--775 CE (136-158 AH)		
8	778-780 CE (161-164 AH)	Colonnaded extension by Abbasid <i>Khalif</i> Mohamad al--Mahdi / Musa al-Hadi. on the NE, SE and NW sides  Al-Ka'abah once more is located in the center of the Holy Complex. Three more <i>manaraat</i> added  The Mohamad al--Mahdi / Musa al-Hadi Building existed when al-Azraki and al-Fahiki were alive, but it was built before both were born	775-785 CE (158-169 AH)	al-Azraki wrote <i>Akhbar Makkah</i> in c 850 CE (236 AH)  The <i>Zem-Zem</i> House was re-roofed during al-Azraki's time  al-Fahiki wrote <i>Akhbar Makkah</i> in 885 CE (272 AH)	Died in (860 CE (246 AH)
9	897 CE (284 AH)	Extension under Abbasid <i>Khalif</i> al-Mu'ta did Billah  <i>Dar al-Nadwa</i> added to the Mohammad al-Mahdi / Musa al-Hadi extension on the NE side the -al-Shamiyyah side-- becoming part of the Mosque proper  The buildings in this column existed when az-Tabari 1 was alive	892-902 CE (279-290 AH)	at-Tabari wrote <i>Jami al-Bayan Fi Tafsir al-Qu'ran</i> Republished in 1983 CE (1404 AH)	839-923 CE (224-311 AH)
10	918 CE (306 AH)	Extension under Abbasid <i>Khalif</i> al-Mugtadir Billah  The open area on the SW side and <i>Bab Ibraheem</i> become Mosque proper  The building in this column existed when al-Khuza'I was alive	908-932 CE (295-320 AH)		al-Khuza'I 992 CE (382 AH)

11	1399 CE (802 AH)	<p>The Mamluk Sultan Ibn al-Bargouf renovation and a small extension on the NW side added to the al-Mahdi / al-Hadi design</p> <p>Sheriff of Makkah Hassan Ibn Ajilan</p> <p>The buildings in this column were built when al Fasi, az-Zarkashi, at-Tabari 3, Ibn Hisham, and al-Ferozabadi were alive</p>	<p>1382-1399 CE (784-801 AH)</p> <p>1394-1425 CE (794-829 AH)</p>	<p>al-Fasi</p> <p>az-Zarkashi</p> <p>Ibn Hisham</p> <p>al-Ferozabadi</p>	<p>1373-1429 CE (775-832 AH)</p> <p>1344-1392 CE (745-794 AH)</p> <p>?-1359 CE (761AH)</p> <p>1413 CE (816 AH)</p>
12	1571-1576 CE (979-984 AH)	<p>Renovation by Ottoman Sultans Selim II and Murad III.</p> <p>Introduction of the domed facade</p> <p>Restoration of the Sacred Court by Mehmed Aga (Esin, 1963: 180) or Mehmed Tchavush (Esin 1985: 226)</p> <p>Sheriff of Makkah Muhammad Abu Nomay</p>	<p>Selim II 1566-1574 CE (974-98)</p> <p>Murad III 1574-1595CE (982-1003AH)</p> <p>1524-1584 CE (981-992 AH)</p>	<p>Wüstenfelt Abridged translation in German of al-Azraki, al-Fasi, al-Fahiki and other Arab writers in 1858 / 1964 CE Esin / Topaki Museum, Istanbul. Account written in 1963 CE (1383 AH) and 1983 CE (1404 AH)</p>	<p>German orientalist and historian 1808-1899 CE (1223-1317 AH)</p> <p>Ottoman historian CE (AH)?</p>
12		<p>The Buildings and Court in this column all existed when Wüstenfelt, Sabri, Esin, were alive. Esin visited Makkah in 1955 CE (1375 AH).</p>		<p>Eyyub Sabri. He wrote <i>Mir'at al-Haramein</i>, in 1883 CE (1301 AH)</p>	<p>Ottoman historian CE (AH)?</p>
13	1955 CE (1357AH)	<p>Commencement of Stage 1 of the New Holy Masjid 1955 CE (1375 AH)</p> <p>Renovation of Selim II and Murad III partially changed</p> <p>Commencement of Stage 1 of the New Holy Masjid 1955 CE (1375 AH)</p>	<p>Custodians of the Holy Complex</p>	<p>Badi Yusuf al-Abed Abridged translation of al-Azraki in English and Dutch 1992 CE (1413 AH)</p>	<p>Turk and Arab historians still alive</p>

13		Stage I and the renovation of Selim II and Murad III Building commenced when Esin, Badi and Muohammad and Salina Samar, Turk and Arab historians still alive / were alive		Kingdom of Saudi Arabia, Ministries A series of publications during the construction period 1955-1993 CE (1375-1414 CE)	
14		The Saudi extension I and II were built and completed when Esin, Badi and Muohammad and Salina Samar were alive		Muohammad and Salina Samar Elementary account on the completed Holy Complex	Arab historians and architects

**The chronological development of the Old Holy Masjid up 1576 CE (984 AH)**

No.s 1-8 is covered by Arab sources. The Ottomans historians acquired their material when Makkah came under their control. Some of this material is held by the Topaki Museum in Istanbul. No 9 is covered by Esin (1985: 225-232) from material held by the same museum. The design of Mosques is covered by az-Zarkashi, 1344-1392 CE (745-794 AH) , according to Badi (1992: 93).

Wüstenfeld's account is of 1858 CE (1275 AH). Accounts of Arab historians / lexicologists are of a earlier date, such as Ibn Hisham, 1359 CE (761AH) and al-Ferozabadi, 1413 CE (816 AH). Likely these historians were familiar with the smaller buildings. There were further the Ottoman historians, such as Eyyub Sabri who covered the history of Makkah during late Ottoman times.

### APPENDIX THREE

#### Chronology of the Construction and Renovations of al-Ka'abah

Dates of constructions / reconstructions are based on Kingdom of Saudi Arabia, Ministry of Finance and National Economy, Kingdom of Saudi Arabia (c1989), *His Majesty King Abdul Aziz Project for Extension and Construction of The Haram Sharif: Documents, Data, Statements, and Engineering Drawings of the Project, Issued During the Reign of His Majesty King Khalid Bin Abdul Aziz*, Makkah and Karachi. CE stands for Christian era, AH for after Hegira. Reign dates are based on those of the School of Oriental Studies (1951: 41-45). References to the Sheriff of Makkah are those of de Gaury (1951: 289-294).

No	Khalifs, Sultans and others involved in the design of the Old Holy Masjid Reigned from--to	al-Ka'abah Year built / renova - tion / recon struction	Sources	Notes
1	In heaven	?	al-Azraki (in Badi, 1992: 92-94 )	The first Ka'abah was built in heaven as a Throne around which the angels circumambulated  Akkach / al-Arabi / (1990: 305, 307) advanced a similar theme.
2	Adam	?	al-Azraki (in Badi, 1992:92 )	A tent of ruby. al-Azraki states that al-Ka'abah's height was 28 cubits which is 13.48 metres based on the forearm <i>dhira</i>
3	Adam's sun, Seth	?	al-Azraki (in Badi, 1992: 93)  Glassé (1989: 214)	<i>Dar</i> al-Ka'abah built of mud and stones, washed away by a flood.
4	Makkah Valley settled	?	?	Makkah Valley settled
5	Settlement abandoned	?	?	Settlement abandoned
6	<i>Hazret Ibraheem</i> c 2000-1600 BC	c 2000-1600 BC according to Werblowsky, R. J. Zwi and Wigoder, (1997: 5,6)	Qu'ran / Ali (Surah II :125). al-Azraki states this was the eighth construction of al-Ka'abah, the fourth according to at -Tabari in Badi (1992: 93, 94). The first according to Official Saudi Arabia Authorities	The Official Saudi Arabia Authorities adhere to <i>Hazret Ibraheem</i> and his sun <i>Ishmael</i> al-Ka'abah that was built on existing foundations (which were larger than the <i>Quraish</i> Ka'abah). Height 9 cubits. Esin (1963 :180) states that the foundations could be of greenstone. Al-Ka'abah is located in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?

7	<i>Bani al-Amaliqa</i> descendants of Noah	?	al-Azraki (in Badi, 1992: 92- 94 ) Glassé (1989: 214)	al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?
8	<i>Bani Jurham</i> descendants of Noah	?	al-Azraki (in Badi, 1992: 92-94 ) Glassé (1989: 214)  Lane (1973: 163)	<i>Dar</i> al-Ka'abah thoroughly repaired; al- Ka'abah 9 cubits high. Al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?
9	Makkah statesmen and Qu'say Ibn Kilab	?	al-Azraki (in Badi, 1992: 98)  Lane (1973:163)	<i>Dar</i> al-Ka'abah rebuilt. Houses in existence around al-Ka'abah. Al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six / three posts?
10	<i>Bani Quraish</i> (pre-Islamic and Islamic)	604 CE (-14 AH)  Glassé (1989:454) and Creswell (1969: 1), refer to 608 CE (-15AH)	al-Azraki (in Badi, 1992: 101)  al-Shareef (1990: 32)  The Saudi Arabia Ministry of Information in <i>His Majesty King Abdul Aziz Project</i> (c 1989 : 28).	Pre-Islamic <i>Dar</i> al- Ka'abah (the Qusay one). Height 9 cubits with an <i>al-Fina'</i> of unknown extent around it. The Black Stone put back into its present position by the Prophet (pbuh). Al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?  Al-Ka'abah in the service of Islam. After a fire al-Ka'abah demolished and rebuilt. Height increased from 9 cubits to 18 cubits. Floor plan dimensions are those of <i>Hazret Ibraheem</i> . Al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?
11	<i>Khalif 'Umar Ibn al-Khattab</i> 634-643 CE (13-23AH)	638 CE (17 AH)	Kingdom of Saudi Arabia, Ministry of Information in <i>At the Service of Allah's Guests</i> , (1990: 62) and in <i>His Majesty King Abdul Aziz Project</i> (c1989: 96).  al-Shareef (1990: 32)	Al-Ka'abah (18 cubits) with a low wall of 5 cubits around <i>al-Fina'</i> . Al-Ka'abah in the center of <i>al-Fina'</i> . Al-Ka'abah has six posts?

12	<p><i>Khalif</i> Uthman (Osman) Ibn Affan (643-655 CE (23-35 AH)</p>	<p>647 CE (26 AH)</p> <p>King, G.D.R. (1986: 23) refers to 643 CE (23 AH)</p>	<p>Kingdom of Saudi Arabia, Ministry of Information 1990: Poster</p> <p>al-Shareef, 1990: 32)</p>	<p>Small extension and rebuilding of the walls on four sides of <i>al-Fina'</i>. First colonnades (covered portico, Glassé, 1989: 214) erected but type of columns, column capitals and bases unknown. This construction signals the first stage of development of the Old Holy Masjid. Al-Ka'abah in the center of <i>al-Fina'</i>. Al-Ka'abah's roof supported by six posts?</p>
13	<p>Self appointed <i>Khalif</i> Abd 'Allah Ibn az-Zubair Killed in 692 CE (73 AH)</p>	<p>684 CE (64 AH)</p> <p>Steward (1980: 162 refers to c 683 CE)</p>	<p>Creswell (1989: 4)</p> <p>Glassé (1989: 214, 457)</p> <p>Lane (1973: 167)</p> <p>Esin (1963 :135)</p> <p>Muhammad and Salina Samar (1998: 43)</p>	<p>Fire; the Black Stone broken into three pieces. Al-Ka'abah demolished. Extension to <i>al-Fina'</i> on the <i>al-Maa-la</i> side. War damage to al-Ka'abah, Building subsequently rebuilt. Al-Hatim incorporated into al-Ka'abah proper. Height increased from 18 to 27 cubits. Al-Ka'abah in the center of <i>al-Fina'</i>. Additional colonnades erected. Type of columns, column capitals and bases unknown. Black Stone repaired. Pavement of <i>al-qussah</i> stone laid around al-Ka'abah for the conduction of <i>al-Tawaf</i>. Ceiling clad with al-Balaq marble from San'a. Ka'abahs roof supported by three posts?</p>
14	<p>General al-Hajjaj Ibn Yusuf of <i>bani Thaqeet</i>.</p> <p>Self appointed 692 CE (73 AH)</p>	<p>693 CE (74 AH)</p>	<p>Badi (1992: 92-94)</p> <p>Rutter (1928: 220)</p>	<p>Al-Ka'abah restored to the dimensions of the late <i>Quraish</i> Ka'abah, except for the height which increased to 27 cubits from 18 cubits. Second door in the SW wall, <i>al-Misfalah</i> side, closed off. The main door on NE side--the <i>Maa'la</i> side--raised to 1.97 metres above Mataf level. Extension on the NE side,<i>al-Maa'la</i> side, puts al-Ka'abah off-center. The Building remained off center until the 2sd stage of the al-Mahdi extension thus from 693 CE (74 AH) to 778 CE(161AH). Al-Ka'abah's roof supported by three posts. (observed by al-Azraki in c 850 CE (236 AH). Three posts have remained until to-day.</p>

15	Abbasid <i>Khalif</i> Muhammad al-Mahdi al-Abbassi 775-785 CE (158-169 AH)	778 CE (161AH)  Lane (1973: 166) refers to AH 163	Kingdom of Saudi Arabia Ministry of Information (1990: 62, 63), in <i>At the Service of Allah's Guests</i> .  Muhammad and Salina Samar (1998: 53)	Extension of the al-Mansur plan carried out in two stages. Extensions on the <i>Wadi Ibraheem</i> and on al- <i>Maa'la</i> side. Stage two places once again al-Ka'abah in the center of the Holy Complex.  Al-Ka'abah's floor consisting of thirty-six tiles of white, red and green marble of which one red tile was used for praying by Prophet Muhammad (Esin 1963:??).
16	Abbasid <i>Khalif</i> al-Mutawakkil 847-861 CE (232-247 AH)	855 CE (241 AH)	Lane (1874 / 1973: 139, 166)	Space between <i>al-Hijr</i> and al-Hatim paved with marble.  Graves of <i>Ishmael</i> and <i>Hagar</i> marked by two slabs of verdeantico.
17	The Qarmatians	930 CE (317 AH)	Glassé (1983:76, 460) Rutter (1928: 221) Steward (1980: 162)	The Black Stone removed and taken to al-Hasa or Bahrayn.  The Black Stone split into two parts.
18	The Qarmatians	950 CE (339 AH)  Steward (1981 : 162) refers to 951 CE	Lane ( 1973: 167)  Glassé (1983: 76)	The Black Stone returned to Makkah in two pieces set in a silver boss.
19	Abbasid <i>Khalif</i> al-Qa'dir 991-1031 CE (381-422 AH)  Lane refers to Hakim b'Amr Illah	1022 CE (413 AH)	Lane (1874: 1973: 168)	Attempt to destroy the Black Stone. Three pieces knocked off. Pieces grounded to dust and mixed with gypsum plaster. With this mixture the damaged parts were filled.
20	Abbasid <i>Khalif</i> al-Qa'im 1031-1075 CE (422-467 AH)	1031 CE (422 AH)	Esin (1963: 166)  Muhammad and Salina Samar (1998: 47)	Ka'abah lit by four alabaster entablatures placed close to the ceiling. Esin states the alabaster was replaced by glass.. They are shown in Fig.4.7

21	Ottoman Sultan Orghan 1325-1360 CE (725-762AH)  and  Emir of Makkah Ajilan Ibn Rumaitha, 1344-1375 CE (745-777 AH)	1355 CE (757 AH)	Saudi Arabia Ministry of Information (1990: 62, 63), in <i>At the Service of Allah's Guests</i> .  de Gaury (1951: 288)	Al-Ka'abah renovated.
22	Ottoman Sultan Murad II  and  Emir of Makkah Hasan Ibn Ajlan 1394 --1425 CE (796--829 AH)	1422 CE (826 AH)	in <i>al-Haramein Office Special Issue</i> (1993: 78)  de Gaury (1951: 289)	The interior of al-Ka'abah refitted with white marble.
23	Ottoman Sultan Murad II  and  Emir of Makkah Hasan Ibn Ajlan 1394 --1425 CE (796--829 AH)	1423 CE (826 AH)	Lane (1973:138)  de Gaury (1951: 289)	Pavement below the <i>Mizab</i> laid. Uncertain whether this new pavement replaced the marble pavement of 855 CE (241 AH) or Lane may be incorrect.
24	Al-Ashrof Nasir 1363-1376 CE (764-778 AH)  and  Emir of Makkah Ahmad Ibn Ajlan 1360-1386 CE 762-788 AH)	1365 CE (767 AH)	Ministry of Information in <i>His Majesty King Abdul Aziz Project</i> (c 1989 : 96)  de Gaury (1951: 289)	Flood waters reached the door sill of al-Ka'abah. Extent of damage not known.
25	Burji Mamluk Sultan al-Ashrof Qunsuh al-Ghuri 1500-1516 CE (906-922 AH)	1511 CE (917 AH)	Lane (1973: 140)	Walls of al-Hatim decorated.

25	and Emir of Makkah Barakat II 1495-1524 CE (901-931 AH)		de Gaury (1951: 289)	
26	Ottoman Sultan Suleyman I 1520-1566 CE (926-974 AH)  and Emir of Makkah Muhammad 'Abu Nomay II 1524-1584CE (931-992 AH)	1524 CE (931 AH)	in <i>al-Haramain Office Special Issue</i> (1993: 78)  de Gaury (1951: 289)	Crack found and repaired in al- Ka'abah's ceiling.
27	Ottoman Sultan Suleyman I 1520-1566 CE (926-974 AH)  and Emir of Makkah See no.26 above	1552 CE (960 AH)	Lane (1973: 169)  de Gaury (1951: 289)	Cracks in al-Ka'abah's roof . Roof and ceiling repaired.  Esin (1963:179) states that once the roof was covered with green marble, but no date is given.
28	Ottoman Sultan Murad III 1574-1595 CE (982-1003 AH)  and Emir of Makkah See no. 26 above	1575 CE 983 AH	Esin (1985: 229)  de Gaury (1951: 289)	Al-Ka'abah flooded. This date is not mentioned by Ministry of Information in <i>His Majesty King Abdul Aziz Project</i> , (c 1989 : 96).
29	Ottoman Sultan Murad III 1574-1595 AH (982-1003 AH) and Emir of Makkah Hassan Ibn Abi Nomay The al-Haramain Office refers to Sultan Suleyman Khan	1583 CE (991 AH)	Al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 289)	Al-Ka'abah's doors covered with gold plated silver sheets fixed to the doors with silver nails.

30	Ottoman Sultan Ahmed I (Khan) 1603-1617 CE (1012-1036 AH) and Emir of Makkah Idris Ibn Hassan 1601-1624 CE (1010-1034 AH)	1611 CE (1020 AH)	Al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 290)	Cracks found in Eastern and Western walls; cracks and repaired.
31	Ottoman Sultan Murad IV 1623-1640 CE (1032-1049 AH)  Emir of Makkah Ahmad Ibn Talib al-Hassan 1628-1630 CE (1038-1040 AH)	1629 CE (1039 AH)  Lane (1973: 169) refers to 1626 CE (1036 AH)  Gazanfar Ali Khan (1905:167) refers to 1627 CE. (1037 AH)	Kingdom of Saudi Arabia, Ministry of Information (c 1989: 96 ) in <i>His Majesty King Abdul Aziz Project</i> and in <i>al-Haramain Office Special Issue</i> (1993: 78).  de Gaury (1951: 290)	Flood; three walls of al-Ka'abah fell down. Building demolished and rebuilt to <i>bani Quraish</i> dimensions.  According to the Kingdom of Saudi Arabia (nd), <i>The Two Holy Mosques in the Reign of the Custodian of the Two Holy Mosques King Fahad Bin AbdulAziz</i> , p.65 the last comprehensive restoration of al-Ka'abah occurred in 1630 CE (1040 AH).
32	Ottoman Sultan Murad IV 1623-1640 CE (1032-1049 AH) and Emir of Makkah Ahmad Ibn Talib al-Hassan 1628-1630 CE (1038-1040 AH)	1629 CE (1039 AH)	Al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 290)	Cracks found and repaired in al-Ka'abah's ceiling.
33	Ottoman Sultan Murad IV 1623-1640 CE (1032-1049 AH) and Emir of Makkah Zaid Ibn Mushin 1631-1666 CE (1041-1077 AH)	1634 CE (1044 AH)	al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 290)	Sultan Murad Khan, Governor of Egypt ordered a new door for al-Ka'abah.
34	Ottoman Sultan Murad IV and Emir of Makkah Zaid Ibn Mushin 1631-1666 CE (1041-1075 AH)	1635 CE (1045 AH)	al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 290)	Cracks of 1629 CE (1039 AH) repaired

35	Ottoman Sultan Mohammad IV 1648-1687 CE (1058-1099 AH) and Emir of Makkah Zaid Ibn Mushin 1631-1666 CE (1041-1077 AH)	1661 CE (1072 AH)	al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 290)	Renovation of al-Ka'abah. Door renewed. Post broken, ceiling completely revamped and covered with marble.
36	Ottoman Sultan Mustafa II 1695-1703 CE (1107-1115 AH) and Emir of Makkah Said Ibn Sa'ad 1687-1716 CE (1099-1129 AH)	1697 CE (1109 AH)	al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 291)	Completion of al-Ka'abah door.
37	Ottoman Sultan 'Abd al-Hamid I 1773-1789 CE (1187-1203 AH)  and  Emir of Makkah Sarur Ibn Masaad 1773-1789 AH (1187-1203 AH) al-Haramain Office refers to Ottoman Sultan Abdulhamid	1787 CE (1202 AH)	al-Haramain Office, in <i>Special Issue</i> (1993: 78)  de Gaury (1951: 292)	Al-Ka'bah's three pillars covered with gold or silver. Al-Ka'abah's floor retiled
38	Ottoman Sultan Mahmud II 1808-1839 CE (1223-1255 AH)  and  Emir of Makkah Yahya Ibn Sahur 1813-1827 CE (1229-1243 AH)	1816 CE (1232 AH)	Lane (1973: 170)  de Gaury (1951: 292)	Damage caused by the Wahabis repaired. Extent of damage not known.

39	<p>Ottoman Sultan 'Abd al-Masjid I 1839-1861 CE (1255-1278 AH)</p> <p>and</p> <p>Emir of Makkah Abdul Muttalib Ibn Ghalib 1852-1856 CE (1271-1273 AH)</p>	<p>1853 CE (1270 AH)</p> <p>Rutter refers to 'Abd al- Masjid I being Sultan Abdul Masjeed Khan</p>	<p>Rutter (1928:220)</p> <p>de Gaury (1951: 292)</p>	<p>The Sultan gifts the golden <i>Mizab (ar-Rahma)</i>.</p>
40	<p>Ottoman Sultan 'Abd al- Masjid I 1839-1861 CE (1255-1278 AH)</p> <p>and</p> <p>Emir of Makkah See no.39 above</p>	<p>1854 CE (1271 AH)</p> <p>al-Haramain Office refers to Ottoman Sultan 'Abd al- Masjid I being Sultan Abdul Masjeed Khan.</p>	<p>al-Haramain Office, in <i>Special Issue</i> (1993: 78)</p> <p>de Gaury (1951: 292)</p>	<p>The Sultan gifts a decorated gold surround for the Black Stone.</p>
41	<p>Ottoman Sultan 'Abd al-Masjid I 1839-1861 CE (1255-1278 AH)</p> <p>and</p> <p>Emir of Makkah Muhammad Ibn Abdul Muin Ibn Aun 1856-1858 CE (1273-1275 AH)</p>	<p>1858 CE (1275 AH)</p> <p>al-Haramain Office refers to Ottoman Sultan 'Abd al- Masjid I being Sultan Abdul Masjeed Khan.</p>	<p>al-Haramain Office, in <i>Special Issue</i> (1993: 78)</p> <p>de Gaury (1951: 292)</p>	<p>Al-Ka'bah's inside and ceiling covered with marble.</p>
42	<p>Ottoman Sultan 'Abd 'Aziz Khan 1861-1876 CE (1277-1293 AH)</p> <p>and</p> <p>Emir of Makkah Abdullah Ibn Muhammad Ibn Aun 1858-1877 CE (1275-1294 AH)</p>	<p>1864 CE (1281 AH)</p>	<p>al-Haramain Office in <i>Special Issue</i>, (1993: 78)</p> <p>de Gaury (1951: 292)</p>	<p>Sultan Abdulaziz Khan gifts a silver surround for the Black Stone.</p>



47	Ottoman Sultan Mohammed Rashad 1909-1917 CE (1327-1336 AH) and Emir of Makkah Hussein Ibn Ali 1908-1924 CE (1326-1343 AH)	1913 CE (1332 AH)	al-Haramein Office in <i>Special Issue</i> , (1993: 78)  de Gaury (1951: 292)	Wooden posts inside al-Ka'abah repaired.
48	Sa'ud Ibn Abdul Aziz 1953-1964 CE (1372-1384 AH)	1953 CE (1372 AH)	Kingdom of Saudi Arabia, Ministry of Information, in <i>the Extension of al-Haram al-Sharifein</i> , n.d. / no pp.	Cracks discovered in the ceiling of al-Ka'abah. Royal Decree issued for its repairs.
49	Sa'ud Ibn Abdul Aziz 1953-1964 CE (1372-1384 AH)	1955 CE (1375 AH)  Glassé (1989: 215 ) states the cracks were found in 1957 CE (1377 AH)	Kingdom of Saudi Arabia, Ministry of Information, in <i>At the Service of Allah's Guests</i> pp. 67  and in <i>the Extension of al- Harameyn al-Sharifein</i> , no pp.  and al-Haramein Office, in <i>Special Issue</i> , (1993 :78)	Cracks in the ceiling of al-Ka'ab repaired. Timber beams removed. New reinforced concrete roof installed. Internal walls re-cladded with white marble. Inside stairs to the roof repaired. Replacement of al-Ka'abah's wooden hangers with steel ones (To hold <i>al-Kiswah</i> on the inside of the parapet wall).  Painting and renovation of the inside of al-Ka'abah
50	House of Sa'ud Custodians of the Holy Complex 1925 CE-? (1344 AH-?)	1957 CE (1377 AH)	Kingdom of Saudi Arabia, Ministry of Information, in <i>At the Service of Allah's Guests</i> , pp. 68	Renovation and restoration of al-Ka'abah. Existing white marble floor of al-Ka'abah upgraded. Marble slabs placed on a layer of lead. Ceiling timbers and the marble slabs on top of the roof timbers of al-Ka'abah replaced with a reinforced concrete slab finished with white marble slabs.
51	House of Sa'ud Custodians of the Holy Complex 1925 CE-? (1344 AH-?)	1976 CE (1397 AH)	Kingdom of Saudi Arabia, Ministry of Information (1992: Poster)	A Royal Degree authorising a new sheathed with gold al-Ka'abah door and authorizing a new door to al-Ka'abah's interior stairs.

52	House of Sa'ud Custodians of the Holy Complex 1925 CE-? (1344 AH-?)	1976 CE (1397 AH)	Kingdom of Saudi Arabia Ministry of Information, in <i>At the Service of Allah's Guests</i> (1990: 74)	Doors to al-Ka'abah renewed.
53	House of Sa'ud Custodians of the Holy Complex 1925 CE-? (1344 AH-?)	1997 CE (1418 AH)		Part of the Ka'abah roof restored.

#### APPENDIX FOUR

*Qiblaat* for different cities See also Islamic Finder Organization (2005)  
(<http://www.islamicfinder.org>) for *Qiblaat* of 6 million other cities

Place	Latitude in decimals of degrees	Longitude In decimals of degrees	Qiblah from true North at Location	Magnetic declination at location
Bagdad	33.350	44.417	200.00	3.54
Basra	30.483	47.817	220.2	2.97
Cairo	30.005	31.035	136.2	2.70
Cordoba	37.883	-4.767	100.3	-2.96
Granada	37.167	-3.583	100.3	-2.96
Istanbul	41.033	28.950	151.6	3.63
Jeddah	21.500	39.167	97.2	2.50
al-Kufah	32.017	44.383	220.2	2.97
al-Madinah	24.500-	39.583	175.8	2.70
Riyadh	24.650	46.767	244.4	2.35
Sevilla	37.400	-5.983	99.0	-3.36
al-Taif	21.267	40.417	285.8	2.46
Tunis	36.833	10.217	112.7	0.79
Wellington	41.857	174.127	256.4	22.00

The Islamic Finder Organization operates a system that covers a number of Long and Latitudes for the same city

**APPENDIX FIVE**  
**Construction Chronology of the *Manaraat***

R / stands for renovation, r / for rebuilt. CE stands for Christian Era. Reign dates are based on those of the School of Oriental Studies (1951: 41-45), London. References to the Emir of Makkah are those of de Gaury (1951: 292-294).

No	Name	Location	Year built	During the reign of	Reference
1	<i>Manarah 'Umrah</i>	NW corner <i>al-Shamiyyah</i> side / <i>Bab Ibraheem</i>	755 CE (138AH)  r / 1524 CE (931 AH)	Abbasid <i>Khalif</i> Ja'far al-Mansur 754--775 CE (136-158 AH)  Emir of Makkah ?  Ottoman Sultan Suleyman I 1520-1566 CE (926-974 AH)  Emir of Makkah Muhammad 'Abu Nomay II 1524 -1584 CE ( 931-992 AH)	Bloom (1989 : 47, 51 ) Badi (1992 : 124 ) Esin, 1985: 229, 230  King, G.R.D. 1986: 25  de Gaury (1951: 290)
2	<i>Manarah Salam</i>	NE corner <i>Suwaiqa</i> lane / <i>al-Maa'sa</i>	Between 777-785 CE (161-164 AH)	Abbasid <i>Khalif</i> Mohammad al-Mahdi 775-785 CE (158-169 AH) and Emir of Makkah ?	Muhammad / Salina Samar (1998: 47)  (Esin 1985: 230)
3	<i>Manarah 'Ali</i>	SE corner / <i>wadi Ibraheem</i> / <i>al-Maa'sa</i> side	Between 777 CE (161 AH) and 780 CE (164 AH)  r / 1520-1566 CE (927-974 AH)	Abbasid <i>Khalifs</i> Mohammad al-Mahdi / Musa al-Hadi 775-785 CE (158-169 AH)  Emir of Makkah ?  Ottoman Sultan Suleyman I 1512-1520 CE 926--974 AH	Muhammad / Salina Samar (1998: 47) Esin (1985: 230)

				Emir of Makkah Barakat II 1495-1524 CE (901-931 AH)	de Gaury (1951: 290)
4	<i>Manarah Wi'da'</i>  Collapsed in 1369 CE (771 AH)  Rebuilt in 1572 CE (980 AH)	SW corner <i>wadi Ibraheem / Bab Ibraheem</i> side	Between 777 CE (161 AH) and 780 CE (164 AH)  R / 1572 CE (980 AH)	Abbasid <i>Khalif</i> Mohammad al- Mahdi 775-785 CE (158-169 AH and Emir of Makkah ?  Ottoman Sultan Selim II 1566-1574 CE (974-98 AH)  or  Ottoman Sultan Murad III 1574-1595 CE (982-1003 AH)  Emir of Makkah Muhammad Abu Nomay 1524-1584 CE (931-992 AH)	Muhammad / Salina Samar (1998: 47)  Esin (1985: 230)  de Gaury (1951: 290)
5	<i>Manarah Ziada</i>	On the <i>al- Shamiyyah</i> side Attached to the Mu'tadid Billah extension near <i>Bab as Ziada</i>	1434 CE (838 AH)	Mamluk Sultan al- Malik 'ul-Ashrad Barsbay 1422-1438 CE (825-842 AH)	Esin (1985 : 230)  reference to location by Muhammad / Samar (1998: 57)
6	<i>Manarah Qaytabey</i>	On <i>al-Maa'sa</i> side as part of <i>madrassah</i> Qaytabey	1475 CE (880 AH)	Mamluk Sultan Qaytabey 1468-1495 CE (873 901 AH)	Rutter (1928: 258) and Esin (1985: 230)

7	<i>Manarah Sulaimaniyya</i>	On <i>al-Shamiyyah</i> side near Sultan Sulaimaniyya <i>madrassah</i> and <i>Dar al-Nadwa</i>	1565 CE (973 AH) 1553 CE (961 AH) 1629 CE (1039 AH) Who's error ?	Ottoman Sultan Suleyman I 1520-1566 CE (926-974 AH) Ottoman Sultan Selim II 1566-1574 CE (974-998 AH) Ottoman Sultan Murad IV 1623-1640 CE (1032-1049 AH)	Esin (1985: 230) An error in dates  Muhammad / Samar (1998: 51) An error in dates  Muhammad / Samar (1998: 57)
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## APPENDIX SIX

### Entrances of the Old Holy Masjid according to a number of authors

Spelling used is the spelling used by the different authors

No	Bey-1807 19 entrances 39 gates Bey spelling	No	Sale 1900 19 entrances 39 gates Sale spelling	No	Lane-1873 19 entrances / 39 gates Lane spelling	No	Rutter-1928 23 entrances No. of gates not stated Rutter spelling
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20	<i>Beb es Selem</i>	21	<i>Bab el Salam</i>		<i>Bab es'-Salam</i>		<i>B. es Salam</i>
21	<i>Beb en Nabi</i>	22	<i>Bab el Nabi</i>		<i>Bab el Neby</i>		<i>B. en Nabi</i>
22	<i>Beb el Abbassi</i>	23	<i>Bab el Abbas</i>		<i>Bab el Abbas</i>		<i>B. el Abbas</i>
23	<i>Beb Aali</i>	24	<i>Bab Ali / Bani Hashem</i>		<i>Bab Ali</i>		<i>B. Ali</i>
24	<i>Beb Litoun</i>	25	<i>Bab el Zayat / el Asharah</i>		<i>Bab el-Zeyt / Bab Bazan</i>		<i>Bab Bazan</i>
				Two parts	<i>Bab el Ashra / Bab Bazan</i>		
25	<i>Beb el Bagala</i>	26	<i>Bab el Bughlah</i>		<i>Bab el Baghle</i>		<i>B.el Baghla</i>
26	<i>Beb Saffa</i>	27	<i>Bab el Safa</i>		<i>Bab el Szafa</i>		<i>Bab es Safa</i>
27	<i>Beb Arrahama</i>	28	<i>Bab el Rahama</i>		<i>Bab Sharif</i>		<i>B.er Rahma</i>
28	<i>Beb Modjahet</i>	29	<i>Bab el Jiyad</i>		<i>Bab Medjahed</i>		<i>B.Jiyad</i>
29	<i>Beb Zeliha</i>	30	<i>Bab I'jlan / el Sheriff</i>		<i>Bab Zoleykha</i>		<i>B.Ajlan</i>
30	<i>Beb Omhani</i>	31	<i>Bab l'Umm Hani</i>		<i>Bab Om Hany</i>		<i>B Umm Hani</i>
31	<i>Beb el Oudaa</i>	32	<i>Bab H'idan</i>		<i>Bab Wodaa</i>		<i>B.al Wida</i>
32	<i>Beb Ibrahim</i>	33	<i>Bab Ibraheem / the tailor</i>		<i>Bab Ibrahim</i>		<i>Bab Ibrahim</i>
						additio- n-al	<i>B.ed Dadiyah</i>
33	<i>Beb el Aamara</i>	34	<i>Bab Beni Saham / el Omrah</i>				<i>B.al Omrah</i>
34	<i>Beb el Aatik</i>	35	<i>Bab el Atik</i>		<i>Bab Ateek</i>		<i>B.Amr ibn el Aas</i>
						addi- tional	<i>B.ez Zamamiyah</i>
						addi- tional	<i>B.el Bastida (old name; new gate entrance</i>

35	<i>Beb Bastia</i>	36	<i>Bab Ajlah / el Basiriyah</i>		<i>Bab Bastye</i>		—
36	<i>Beb Koutoubia</i>	37	<i>Bab Kutubi</i>		<i>Bab Kotaby</i>		<i>B.el Qutbi</i>
37	<i>Beb Ziada</i>	38	<i>Bab el Ziyadah / el Nadwa</i>		<i>Bab Ziyade</i>		<i>B. ez Ziyada</i>
						<b>additional</b>	<i>B.el Mahkama</i>
38	<i>Beb Douriba</i>	39	<i>Bab Paraybah</i>		<i>Bab Dereybe</i>		<i>B.ed Duryba</i>

In general the names and numbers of entrances / exits have remained within reason constant since 1576 CE (984 AH), the completion date of the renovated Old Holy Masjid. Lane has given some ancient names over and above those of the other authors. Most have relied on what Bey conveyed in 1807 CE (1222 AH), confirmed by 17th century Persian material acquired in the 19 / 20th century by western society. Bey's plan has remained in vogue up until now. Few professional people know about the existence of the 1947 CE (1367AH) Egyptian Survey Plan. Further as a follow-up of the Egyptian plan a firm of engineers has recorded all columns and entrances and their location before part of the Old Holy Masjid was demolished to make way for the new Building. The old columns, which were affected in the realignment of the exterior edge of the Old Holy Masjid, were re-used along the abutting edges of the new Building. Their new locations were also recorded. To-day accurate plans are available but are not readily accessible.

1	5 meter wide pavement of al- qussah stone laid around al-Ka'abah	684 CE. (64 AH)	Self appointed <i>Khalif</i> 'Abd 'Allah Ibn az-Zubayr reigned between 883-893 CE (270-280 AH) according to Stierlin (1996: 230)	Muhammad and Salina Samar (1998:43)
	Area east of al-Ka'abah and steps into the Court laid out in polychrome marble	r 837 CE (222 AH)	Umayyad <i>Khalif</i> 'Abd ar-Rahman III 822-852 CE (206-238 AH)	Esin (1963: 150)
2	Area surrounding al-Ka'abah laid out in marble	r 855 CE (241 AH)	Umayyad <i>Khalif</i> Muhammad I 852-886CE (238 -273 AH)	Lane (1973)
3	The area below al- <i>Mizab</i> renewed	r 1426 CE (830 AH)	Ottoman Sultan Murad II 1421-1451CE (824-855 AH)	Lane (1973)
4	Pavement renewed	r 1451 CE (855 AH)	Ottoman Sultan Muhammad II 1451-1481 CE (855-886 AH)	Lane (1973: 166)
5	Restoration of the Sacred Court under Ahmed Beg according to a plan prepared by Mimar Sinan earlier.	r 1571CE (979 AH)	Ottoman Sultan Selim II 1565-1574 CE (974-982 AH)	Esin (1985: 226) refers to Ahmed Beg  Esin (1963: 180) refers to Mehmed Agi  Restoration of the Court corresponds with Lane below
6	Upper step of al-Mataf re-laid in marble. Uncertain on what was there before, perhaps it was part of the <i>Hasawi</i>	r 1573 CE (981 AH)	Ottoman Sultan Selim II 1703-1730 CE (1115-1143 AH)	Lane (1973: 142) Corresponds with Esin above
7	A two tiered al-Mataf with a <i>sufuf</i> pattern in existence	r 1717CE (1130 AH)	Ottoman Sultan Ahmad III	Relandi (1717: Isometric drawing)
8	A two tiered al-Mataf with <i>sufuf</i> pattern in existence	r 1807 CE (1222 AH)	Ottoman Sultan Mustafa IV 1807-1808 CE (1222-1223 AH)	Ali Bey (1807: Drawing / Plate and pp.74, Vol. II)

9	A two tiered al-Mataf with <i>sufuf</i> pattern in existence	r 1857 CE (1274 AH) 1879 CE (1299 AH) 1893 CE (1311 AH) It is possible the drawing only occurred in the last edition	Ottoman Sultan 'Abd al-Masjid I 1839-1861 CE (1255-1277 AH)  and Ottoman Sultan Abd al-Hamid II 1876-1909 CE (129-1307 AH)	Burton (1893: Drawing) Drawing divides and labels al-Mataf upper and lower step.
10	A two tiered al-Mataf with <i>sufuuf</i> pattern in existence	1925 CE (1344 AH)	Ibn Saud al-Aziz of al-Nadj takes control of Makkah from the Hashemite 1925 CE-??	De Gaury (1951:276)
11	A two tiered al-Mataf with <i>sufuf</i> pattern in existence	1955 CE	House of Sa'ud Custodians of the Holy Complex 1925 CE-??	Kingdom of Saudi Arabia, Ministry of Information (n. d.: no pp. / Photograph), in <i>Extension of al-Haramayn al-Sharifein</i> .
12 1	The two tiered al-Mataf demolished, a new al-Mataf constructed with <i>sufuf</i>	R 1955-1957 CE (1375-1377 AH)	House of Sa'ud Custodians of the Holy Complex 1925 CE-??	Kingdom of Saudi Arabia, Ministry of Information and Umm al-Qura University.  Photograph obtained in 1993.
13	<i>Sufuf</i> pattern change	r 1986 CE (AH)	House of Sa'ud Custodian of the Holy Complex 1925 CE-??	Kingdom of Saudi Arabia, Ministry of Information and Umm al-Qura University.  Photograph obtained in 1993.

**APPENDIX EIGHT**  
**Construction Chronology of the *Maqaam***

R / stands for rebuilt. r / stands for renovation. CE stands for Christian era, AH for after Hegira. Reign dates are based on those of the School of Oriental Studies (1951: 41-45). Names of and Emirs / Sheriffs of Makkah came from de Gaury 1951 (289-294).

No	<i>Maqaam</i>	Year built / reconstruction	During the reign of	Sources / References
1	<i>Maqaam Ibraheem</i> domed	1407 CE (810 AH)	Ottoman Sultan Sulaiman I 1402-1410 CE (805-813AH)	See further Appendix <b>Ten</b>
2	Four Turkish kiosks ( <i>Maqaam</i> ) built An inconsistency between 2 and 3	1426 CE (830 AH)	Ottoman Sultan Murad II 1421-1451 CE (814-844 AH)	Esin (1963: 180)
3	Four <i>Maqaam</i> built An inconsistency between numbers 2 and 3	1434 CE (838 AH)	Ottoman Sultan Murad II 1421-1451 CE (814-844 AH)	Esin, (1985: 230)
4	<i>Maqaam Hanafi</i> built This should be a rebuilt	1517 CE (923 AH)	Selim I 1512-1574 CE (918-982AH)	Lane (1973: 142) Esin (1963: 166)
5	<i>Maqaam Hanafi</i> rebuilt There is a difference in dates between Esin and Lane	1540 CE (947 AH)	Selim I 1512-1574 CE (918-982AH)	Lane (1973: 142)
6	Four Turkish kiosks ( <i>Maqaam</i> ) built An inconsistency in dates when the kiosks were built. See no.7. It is possible they were rebuilt	1586 CE (994 AH)	Murad III 1574-1595 CE (982-1003 AH)	Esin (1963: 180)
7	<i>Maqaam Hanafi</i> and the other three jurist's <i>maqaam</i> built anew	1663 CE (1074 AH)		Lane, (1973: 142, 169)
8	Four Turkish kiosks ( <i>Maqaam</i> ) in existence <i>Maqaam Hanbali</i> locates close to the <i>Zem-Zem</i> House	1807 CE (1222 AH)	Mustafa IV 1807-1808 CE (1222-1223 AH)	Bey (1807 CE / 1222: AH drawing)
9	Four Turkish kiosks ( <i>Maqaam</i> ) in existence but <i>Maqaam Hanbali</i> relocated opposite <i>Maqaam Hanafi</i>	1880 CE (1298 AH)		Sadiqe Bey (1880 : Photograph)

<b>10</b>	Four Turkish kiosks ( <i>Maqaam</i> ) in existence. <i>Maqam Hanbali</i> still opposite <i>Maqam Hanafi</i>	1885 CE (1303 AH)		Hurgronje (1885: Photograph)
<b>11</b>	Four Turkish kiosks ( <i>Maqaam</i> ) in existence. <i>Maqam Hanbali</i> still opposite <i>Maqam Hanafi</i>	1955 CE (1375 AH)	Custodians of the Holy Masjid	Kingdom of Saudi Arabia, Ministry of Information (c1989: Photograph)
<b>12</b>	All <i>Maqaam</i> demolished. <i>Maqam Ibraheem</i> re-built in the same location in quite a different shape	1955 CE (1375 AH)	Custodians of the Holy Masjid	Kingdom of Saudi Arabia, Ministry of Information (c1989: Photograph)

## APPENDIX NINE

### Construction Chronology of the *Zem-Zem* House

R / stands for rebuilt. r / stands for renovation. CE stands for Christian era, AH for after Hegira. Reign dates are based on those of the School of Oriental Studies (1951: 41-45).

No	<i>Zem-Zem</i> House	Year built / reconstruction	During the reign of	Sources / References
1	<i>Zem-Zem</i> well	?	?	A Paleolithic well
2	<i>Zem-Zem</i> House roofed over	841 CE (227 AH) The House was reroofed when al-Azraki was alive	Abbasid <i>Khalif</i> al-Wasiq 841-847 CE (227-233 AH)	Lane ( 1973: 166)
3	Dome added	Between 1170-1180 CE (566-575 AH).	Abbasid <i>Khalif</i> al-Mustahdi 1170-1180 CE (566 - 576 AH).	Muhammad / Salina Samar (1998: 50)
4	<i>Zem - Zem</i> House a square domed building	1717 CE (1130 AH)	Ottoman Sultan Ahmad III 1703-1730 CE (1115-1143 AH)	Relandi (1717 Drawing)
5	A rectangular addition to the <i>Zem-Zem</i> House	1758 CE (1172 AH)	Ottoman Sultan Mustafa III 1757-1773 CE (1171-1187 AH)	Lane (1874 / 1973: 169).
6	No change. <i>Kobbateyn</i> in existence	1807 CE (1222AH)	Ottoman Sultan Mustafa IV 1807-1808 CE (1222-1223 AH)	Bey (1807: Plate LVII)
7	No change. <i>Kobbateyn</i> still in existence	1880 CE ( 1298 AH)	Ottoman Sultan 'Abd al-Hamid II 1876-1909 CE (1293-1327 AH)	Sadiq Pasha (1880: photograph)
8	No change, but no <i>Kobbateyn</i>	1889 CE (1307 AH)	Ottoman Sultan 'Abd al-Hamid II 1876-1909 CE (1293-1327 AH)	Hurgronje (1889: Plate II)
9	Semi circular extension added to the rectangular part	?	House of Sa'ud Custodians of the Holy Masjid	Kingdom of Saudi Arabia, Ministry of Information (c1989: Photograph)

**APPENDIX TEN**  
**Construction chronology of *Maqam Ibraheem* and the**  
***Qobbateyn al-Abbas* and *al-Sa'ad***

No	<i>Maqam Ibraheem</i> and the <i>Qobbateyn al-Abbas</i> and <i>al-Sa'ad</i>	Year built / reconstruction	During the reign of	Sources / References
1	Initially a two step stone, later <i>Maqam Ibraheem</i>	c 2000-1700 BC		Werblowski / Wigoder (1997: 5, 6)
2	<i>Maqam Ibraheem</i> swept away in a flood	Between 632-634 CE (11-13 AH)	Orthodox <i>Khalif</i> Omar Ibn Khattab 634-644 CE (13-28 AH)	Muhammad and Salina Samar (1998: 42)
	<i>Maqam Ibraheem</i> located where it is today	638 CE (17 AH)	Khalif 'Umar Ibn al-Khattab 634-643 CE (13-23 AH)	KSA Engineering Report, (c1989: 174)
3	<i>Maqam Ibraheem</i> embellished with gold	Between 775-785 CE (159 -169 AH)	Abbasid <i>Khalif</i> Mohammad al-Mahdi 775-785 CE (159 -169 AH)	Muhammad and Salina Samar (1998: 48)
4	<i>Maqam Ibraheem</i> redecorated	795 CE (179 AH)		Muhammad and Salina Samar (c1998: 48)
	<i>Maqam Ibraheem</i> placed in a permanent roofed over chamber	810 CE (195 AH)		KSA in <i>al-Harimeyn al-Sharifein</i> (n.d. no pp.
5	<i>Ibraheem</i> 's stone gilded and placed under a wooden copula	837 CE (222 AH)		Esin (1963: 150)
6	The two step stone on a lead clad chair likely under the copula			
7	<i>Maqam Ibraheem</i> redecorated	850 CE (236 AH)		Muhammad and Salina Samar (c1998: 48)
8	The lead surround of <i>Ibraheem</i> 's foot stone replaced by a silver one	855 CE (241 AH)	Abbasid <i>Khalif</i> al-Mutawakkil	
	<i>Maqam Ibraheem</i> 's ornamentation removed	869 CE (256 AH)		Muhammad and Salina Samar (c1998: 48)
9	A domed <i>Maqam Ibraheem</i> built	1407 CE (810 AH)		Kingdom of Saudi Arabia, Ministry of Information in <i>Expansion of al-Harameyn al-Sharifein</i> , n. d. / no pp.

10	<i>Maqam Ibraheem</i> 's ceiling and dome renovated	1494 CE (900 AH)		Kingdom of Saudi Arabia, Ministry of Information in <i>Expansion of al-Harameyn al-Sharifein</i> , n. d. / no pp.
11	<i>Qobbateyn al-Abbas</i> and <i>al- -Sa'ad</i> built	1540 CE (947 AH)		(Lane 1973: 145).
12	<i>Maqam Ibraheem</i> renovated	1740 CE (1153 AH)		Esin?
	<i>Ibraheem</i> 's foot stone made observable	1810 (CE (1225 AH)		KSA in <i>al-Harimein al-Sharifein</i> , ,n.d. no pp.
13	<i>Maqam Ibraheem</i> 's dome raised	1862 CE (1279 AH)		Kingdom of Saudi Arabia, Ministry of Information in <i>Expansion of al-Harameyn al-Sharifein</i> , n. d. / no pp.
14	<i>Maqam Ibraheem</i> demolished relocated and rebuilt. The two stone step put under glass and in a golden enclosure	1964 CE (1384 AH)		Kingdom of Saudi Arabia, Ministry of Information in <i>Expansion of al-Harameyn al-Sharifein</i> , n. d. / no pp
15	<i>Maqam Ibraheem</i> unveiled	1967 CE? (1387 AH?)		Kingdom of Saudi Arabia, Ministry of Information (1991: 74)

# GLOSSARY

## Frontispiece Glossary

Source; Bronze Okaz Newspaper, Jeddah, photographed in 1993



**A bronze depicting the names of Allah and Mohammad**

## Glossary

Notes: Arabic used for place names are those used by Zaki; Arabic used for star names are those used by Abandah; Arabic used for religious terms are those used by Faruqi. Arab names preceded by 'al-' are European alphabetically ordered.

Description	Transliteration	Notes
<i>al-Abtah</i>	الأطاح	A newly urbanised area of Makkah. Part of the old pilgrim route to Mina and Muzdalifah
<i>Azhan</i>	ازان	Call for prayer. The call precedes every compulsory prayer
<i>ʿAin</i>	عين	Eye. A well; a good spot (in the desert). <i>ʿAin</i> is also known as a tarof.
<i>Ajiad</i>	أجيار	An inner residential area or <i>ḥawḥ</i> . A narrow and small peninsular consisting of grabbo. It protrudes into the Makkah Valley towards al-Ka'abah and is an extension of the Misfalah ridge. Sometimes it is referred to as the camel's tongue. The peninsular was occupied by an Ottoman castle, now demolished
<i>al-Alameyn</i>	الامين	A narrow road between Arafah and Muzdalifah, now a highway
<b>Appertition</b>		Latin. The property being a part that belongs to the whole
<i>al-Arabiyy</i>	العربي	The Arabian Continent
<i>Arafah*</i>	عرفة	A plain about 16 km East of Makkah. Significant in Islam as the 'Place of Standing' during <i>al-Hajj</i> . The standing occurs near and on <i>al-Bal al-Rahman</i>
<i>al-Arnab</i>	الارنب	The rabbit; the constellation of Lepus
<i>al-Asad</i>	الاسر	The constellation of the Lion; also an ancient Arab tribe
<i>Asatin</i>	اساطين	Columns of polished marble
<i>al-'Asr</i>	صرالع	The late afternoon prayer occurs when the shadow of al-Ka'abah cast on al-Mataf is equal or twice al-Ka'abah's height.

<i>al-Aziziyyah</i>	العزيزية	A modern residential area of Makkah running parallel with the Mina valley. A <i>ṣaḥī</i> route that by-passes Mina
<i>al-Bab</i>	الباب	A door or an entrance. A threshold
<i>Bab al-'Abbas</i>	باب العَبَّص	An entrance named after Abbas, a member of the <i>Ṣahābah</i>
<i>Bab Ali</i>	باب علي	An entrance on the SE corner of the Old Holy Masjid, named after <i>ḤuṣṢ Ali</i>
<i>Bab al-Ashra</i>	باب الاشارة	An entrance referred to by Lane (1874: 157)
<i>Bab al-Baghla</i>	باب الباغلة	Entrance no. 25 of Bey's plan
<i>Bab Bazan</i>	باب بزان	Referred to by Rutter (1928: Floor plan OHM). No. 24 of Bey's plan
<i>Bab dar al-Shiba'</i>	بلبدار الشباع	Possibly <i>Bab Sakaw</i>
<i>Bab Dereybe</i>	باب دريبة	An entrance referred to by Lane (1874: 157). Entrance no. 38 of Bey's plan
<i>Bab Djama'iz</i>	باب ذامعذ	Another name for the entrance of <i>Bab Nabi</i>
<i>Bab al-Hazurah</i>	باب الحازرة	An old entrance to the Old Holy Masjid replaced by <i>Bab Ibraheem</i>
<i>Bab Hashim</i>	باب حاشيم	Another name for the entrance of <i>Bab 'Ali</i>
<i>Bab Ibraheem</i>	باب إبراهيم	Entrance no. 32 of Bey's plan
<i>Bab Jamah</i>	باب جامعة	An entrance of the al-Mahdi / al-Hadi design. Displaced possibly by <i>Bab al-ḤḤida'</i>
<i>Bab al-Ka'bah</i>	باب الكعبة	The doors to al-Ka'abah
<i>Bab Kheyatyn</i>	باب غياطين	Another name for the entrance of <i>Bab Ibraheem</i>

<i>Bab Nabi</i>	باب نبي	A SE side or the <i>Mā'āna</i> side, entrance of the Old Holy Masjid named after Prophet Muhammad
<i>Bab Qa'qa'ian</i>	باب قعيان	<i>Bab Zindab</i> of Bey's plan. The entrance to <i>Dar al-Nadwa</i> . No. 34 of Bey's plan
<i>Bab Safa</i>	باب الصفا	The five gate exit / entrance to the rock outcrop of al-Safa on the <i>Mā'āna</i> / <i>Thubeew</i> side
<i>Babus Safa</i>	بابس صافا	Another name for <i>Bab Safa</i>
<i>Bab al-Salam</i>	باب السلام	The welcome entrance for <i>al-Hajj</i> and <i>al-Ululab</i> pilgrims on the NE corner of the Old Holy Masjid, the <i>Mā'āna</i> side
<i>Bab Sha'ba</i>	بابشاعا	Entrance to the circumambulatory area
<i>Bab Suwy al-Lail</i>	باب سوق الليل	The entrance for the inhabitants of <i>Suwy al-Lail</i> on the <i>Suwy Saḡhā'</i> side
<i>Bab al-Umrah</i>	باب العُمرة	An exit of the Old Holy Masjid on the NW corner for <i>al-Ululab</i> visitors on the <i>Suwy Saḡhā'</i> side
<i>Bab-al-Wi'da'</i>	باب الويعداع	An exit / entrance on the SW corner of the Old Holy Masjid; the farewell exit for <i>al-Hajj</i> pilgrims on the <i>Mā'āna</i> / <i>Thubeew</i> side
<i>Bab al-Zeyt</i>	باب الزيت	An entrance referred to by Lane (1874: 157). Entrance no. 24 of Bey's plan
<i>Bab az-Ziada</i>	باب زيازة	The entrance to the Mu'tadid Billah extension on the <i>Dar al-Nadwa</i> side
<i>Bani</i>	باني	A tribe, sometimes referred to as banu
<i>Bani al-Amaliqa</i>	بان العمالق	A pre-Islamic tribe of Makkah
<i>Bani Hashim</i>	بان حاشيم	A pre-Islamic tribe of Makkah
<i>Bani Jurham</i>	بان يرحام	A pre-Islamic tribe of Makkah
<i>Bani Quraish</i>	بان قريش	A pre and post Islamic tribe of Makkah

<i>Bani Qu'say</i>	بَانِ قُوسِي	A pre-Islamic tribe of Makkah
<i>Bani Thakeet</i>	بَانِ ثَاكَيْت	A pre-Islamic tribe of Makkah
<i>Beyt Allah</i>	بَيْتِ اللّٰه	House of Allah, which is al-Ka'abah
<i>Beyt Ma'mur</i>	بَيْتِ مَءْمُر	Al-Ka'abah in heaven around which the angels circumambulated
<i>Bi'r</i>	بَيْعِر	See <i>hukab</i>
<i>Birkah</i>	بَرْكَة	A watering place. A large constructed basin in the desert which holds drinking water for the watering of animals and humans, usually of circular or rectangular shape
<i>al-Burqa</i>	الْبُرْقَة	The woman's head veil. See also <i>hijab</i>
<i>al-Burquu</i>	الْبُرْقُع	The black and gold woven cover over al-Ka'abah's doors; it is separately attached to <i>al-Kiswah</i>
<i>Dar</i>	دَار	The home of an organisation or the home of a business home
<i>Dar al-Nadwa</i>	دَارِ النَّدْوَة	Home of the <i>Ummah</i>
<i>Dar Shi'ba</i>	دَارِ شَيْبَة	A now demolished house on the <i>Dar al-Nadwa</i> side of the Old Holy Masjid
<i>Darb Zubaydah</i>	دَارِبِ زُبَيْدَة	A pilgrim route from Damascus to Basra and Kufa
<i>al-Dawl</i>	الدَّوَال	The constellation of Pegaseus, the Arab bucket
<i>Dihra / dhiraat</i>	دِهْرَة	An unit of measurement consisting of an iron rod, which is 56.5 cm long. <i>Dhiraat</i> is the plural of <i>Dhira</i>
<i>Dhu'l-al-Hijjah</i>	نَوْعِ الْحَجَّةِ	<i>Dhu'l-al-Hijjah</i> is the last lunar month of the Islamic year. The 9th, 10th and 11th of <i>dhu'l-al-Hijjah</i> are the three days of <i>al-Hajj</i> . <i>Dhu'l-al-Hijjah</i> is followed by Muharram, the first month of the Islamic year

<i>Driba / dribaat</i>		A private access way to a number of dwellings. <i>Dribaat</i> is the plural for <i>driba</i>
<i>Eid</i>	عيد	A festival
<i>Eid al-Adha</i>	عيد الأضحي	Festival of Sacrifice which occurs after the completion of <i>al-Hajj</i>
<i>Eid al-Fitr</i>	عيد الفطر	Festival after the conclusion of <i>Rahmadan</i>
<i>Eid Mosque</i>	مسجد عيد	A Mosque where all the local Muslim will meet during the celebration of the two <i>Eids</i> . This may involve hundreds of people
<i>Entelchie</i>		Greek. An entity which can be changed by God. A unit with a soul according to Leibniz
<i>Fajr</i>	فجر	Morning Prayer. In Malaysia it is known as Subuh
<i>al-Faisaliyyah</i>	الفيسالية	A modern residential area of Makkah
<i>Fakar al-Jauzah</i>	فاكار الجوزة	The vertebrae of <i>al-Jauzah</i>
<i>Fanah al-Thana</i>	فانية احنة	A narrow <i>sadi</i> entering the Makkah Valley ( <i>Fanah al-Thana</i> ) from the Jeddah side
<i>al-Fina'</i>	الفنة	The ancient open area surrounding al-Ka'abah
<i>Frawsiyyah</i>	فروسيّة	Chivalry
<i>al-Ghazziah</i>	الغازه	An inner residential district ( <i>Ghaz</i> ) of Makkah.
<i>Gomeisha</i>	غميثنه	Arab name for Procyon, the brightest star of Canis Minor.
<i>Greater Haram</i>	الحرمام	The area defined by the outer <i>Miqat</i>
<i>Hadith</i>	حديث	Statements, not revelations, by Prophet Mohammad
<i>Hadjar Aswad</i>	حجار أسود	The Black Stone set in the SE corner of al-Ka'abah. It faces the rising sun

<i>Hadjar Yamani</i>	حجر يمني	A stone set in the SW corner of al-Ka'abah indicating the assembly area for pilgrims coming in from Southern Arabia, particular from the Yemen
<i>Hagar</i>	هاجر	The mother of <i>Ishmael</i>
<i>al-Hajj</i>	الحجّ	The pilgrimage to Makkah
<i>Hajji</i>	حجّي	A male pilgrim
<i>Hajjah</i>	حجّة	A female pilgrim
<i>Hajji manazil</i>	منازل حجّي	Colloquial, the Old Holy Masjid is a <i>Hajji Manazil</i> .
<i>Hamadiyyah</i>	حامديّة	A now demolished Government building at the Marwa end of the Old Holy Masjid
<i>Hara / haraat</i>	حرة / ات	A residential district(s). <i>Haraat</i> is plural of <i>hara</i>
<i>Hara Misfalah</i>	حرة المسفلة	A residential district that locates in the lower part of Makkah
<i>Hara al-Qararah</i>	حرة القرارة	An inner residential district immediate North of the Old Holy Masjid
<i>Hara al-Qa'qa'ian.</i>	حارة قعيقان	An inner residential district immediate West of the Old Holy Masji on the side where the sun sets
<i>Hara al-Shamiyyah</i>	حرة الشامية	An inner residential district immediate West of the Old Holy Masjid where the sun sets
<i>Hara Suwq al-Lail</i>	حارة سوق الليل	An inner residential district immediate North of the Old Holy Masji
<i>Haramlik</i>	حرمليك	The female area of the tent or the house
<i>al-Haram / Haram</i>	الحرم / ام	Sacred Territory. <i>Haram</i> is the plural for <i>Haram</i>
<i>Haram pillars</i>	عركام حرم	Pillars which define the extent of a <i>Haram</i> area.

<i>al-Haram(eyn)</i> <i>Sharif(eyn)</i>	الحرم الشريف	The Holy Complex
<i>Harat al-Bab</i>	حارات الباب	Residential district on the Jeddah side of Makkah. Once a City gate to Makkah.
<i>al-Hatim</i>	الحطيم	The 'horse-shoe' shaped wall on the North-West side of al-Ka'abah. It is 1.60 metres high by 1.60 metres thick. It is finished of white marble. The shape is one of an Arab arch
<i>Hawasi</i>	حاواصي	Areas of gravel surrounding al-Mataf, divided by eleven paths
<i>Hazrat Ibraheem</i>	حزرات إبراهيم	The Patriarch <i>Ibraheem</i> (Abraham)
<i>Hejaz</i>	حِجَاز	A mountain range East of Makkah. <i>Al-Taif</i> is a place which is located in the <i>Hejaz</i>
<i>Hijab</i>	حيتب	A woman's veil
<i>al-Hijr</i>	الحجر	The boundary between al-Ka'abah and al-Hatim areas
<i>al-Hilal</i>	الهِلال	The first moon phase signalling the start of a new Islamic month
<i>Hil</i>	حِل	Non-sacred land adjacent to sacred land
<i>Hira</i>	حِرا	The cave on top of <i>As-Sa'Nu'</i> . The cave where prophet Mohammad received the revelations
<i>Hujan</i>	حويون	A low rise mountain and a residential area near the <i>Mas'ud</i> cemetery
<i>Ibraheem</i>	إبراهيم	The Patriarch <i>Ibraheem</i> (Abraham) and father of <i>Ismael</i> , both laid the foundations of al-Ka'abah, Muslim scholars maintain
<i>Ihgram</i>	إِحْرام	Special clothing male pilgrims wear during <i>al-Hajj</i>
<i>Imago mundi</i>		Latin. An imaginary world

<i>Imam</i>	إِمَام	A religious leader
<i>Ishmael</i>	إِسْمَائِيل	The son of Patriarch <i>Ishaaq</i>
<i>Jabal / Jabalaat</i>	جبل / ات	A mountain. <i>Jabalaat</i> is the plural for <i>Jabal</i>
<i>Jabal Abu Qubays</i>	جبل أب قبيس	A mountain on the Eastern side of Makkah , formerly occupied by <i>Masjid Fikal</i>
<i>Jabal Ajjad</i>	جبل أجياد	A substantial rock outcrop protruding into the Makkah Valley / NE side, once occupied by a castle of Ottoman architecture
<i>Jabal Hindi</i>	جبل هندي	An older name for <i>Jabal al-Qa'ya'ian</i>
<i>Jabal Hujun</i>	جبل الحجون	A mountain on the North eastern side of the Makkah Valley
<i>Jabal al-Ka'abah</i>	جبل الكعبة	A low mountain near the access to the <i>Kha-lid Ibn al-Walid</i> Street, an old pilgrim route still in use
<i>Jabal al-Nur</i>	جبل النور	The mountain near Mina with the cave of <i>Hira</i> near the summit.
<i>Jabal Omar</i>	جبل عمر	A mountain on the Western side of the Makkah Valley in <i>Bayt al-Shubaykab</i> named after <i>Khalif</i> Omar Ibn Khattab
<i>Jabal al-Qa'ya'ian</i>	جبل القعيقان	Elevated part of the inner residential area of <i>al-Shawiyyah</i>
<i>Jabal al-Rahman</i>	جبل الرحمان	A holy mountain in the plain of Arafah
<i>Jabal Thabeer</i>	جبل ثابر	A camel hump-like mountain enclosing the <i>Maa'ak</i> vista
<i>al-Jabar</i>	الجابر	The Arabic name for Orion
<i>Jamarah/ jamarat</i>	جمارة / ات	One of the three pillars in Mina representing the devil. <i>Jamarat</i> is the plural for <i>Jamarah</i>
<i>Janazah</i>	جانزة	A prayer for the dead

<i>al-Jauzah</i>	الجوزة	Arabic name for Betelgeuze, sometimes referred to as the armpit of <i>al-Auzab</i> . The armpit is a pivot, pivoting the cosmos
<i>Jaz'a</i>	جازعه	Black marble laced with white veins.
<i>Jeddah</i>	جدة	A disembarking place for pilgrims on the Red Sea.
<i>al-Ka'abah*</i>	ال كاعبة	Al-Ka'abah is Islam's most significant Building. A pre-Islamic building where the sun and the moon god Hubal were once worshipped; an ancient shrine for worship of relics. Since 830 CE ( 215 AH) a small <i>Masjid</i> which is located in the centre of the Makkah Valley.
<i>al-Ka'abah Musfarrah</i>	ال كاعبة مُسْفَرَّة	See al-Ka'abah above
<i>al-Kalb al-Akbar</i>	الكاب ال اكبار	The biggest dog; the Arab name for the constellation Canis Major
<i>al-Kalb al-Asghar</i>	الكاب ال اسغار	The smallest dog; the Arab name for the star constellation of Canis Minor
<i>Karam</i>	كريم	Generosity
<i>Karama</i>	كَرَمًا	Nobility
<i>Karamah</i>	كَرَمَة	Dignity
<i>Khalid Ibn al-Walid street</i>	شارع خالد بن الواليد	An ancient narrow entrance to the Makkah Valley; a route where the traditional architecture of Makkah has been displaced by modern architecture.
<i>Khalif</i>	غاليف	An Umayyad, Abbasid, or Ottoman ruler, preceded by the three orthodox <i>Khalifs</i> Muslim scholars recognise as the right guided ones

<i>Khalifah</i>	خليفة	The institution of Government of which the <i>Khalif</i> is the head.
<i>Khandamarsat</i>		A mountain range on the Eastern side of the Makkah Valley
<i>Khjah</i>	خجاة	Deliverance
<i>al-Kiswah</i>	الكسوة	Al-Ka'abah's gold embroidered cover which is renewed every year at the conclusion of <i>Ramadhawat</i> at a cost of SR 10 million (1990)
<i>al-Kursi</i>	الكرسي	The footstool in heaven
<i>al-Lat</i>	اللات	A pre-Islamic goddess; one of the three worshipped daughters of the pre-Islam Allah at <i>Nakbat</i> near <i>Tauf</i>
<i>Ma'abtah</i>	الماعبدة	An open area near the old road to Mina used in the past as a camping area for caravans
<i>al-Maa'la</i>	المعلا	An urbanised area immediate adjacent to <i>al-Haraw al-Masjid</i> road, North of <i>al-Haraw</i> . A tentcamp for the Syrian caravan
<i>al-Maa'sa</i>	الماءصا	A curved street displaced by the modern Safa-Marwa corridor
<i>al-Madjen</i>	المدجن	The through at the foot of al-Ka'bah near the doors where the mortar was made for the building of al-Ka'abah
<i>Madrasah</i>	مدراسة	A religious school where Islam and <i>al-Qur'an</i> are taught.
<i>al-Madinah*</i>	المدينة	The second most important pilgrim place in Saudi Arabia for Muslims. It was known as <i>Yatrib</i> in pre-Islamic times; an important trade centre along the major North-South trade route of <i>Asabiy</i>
<i>al-Majarrah</i>	المجاردة	The Milky Way
<b>Makkah</b>	مكة	The centre of the world for Muslims. Note 'ma' stands for water. Mekka or Mecca for Europeans. Meccae in Latin.
<b>Makkah al-Mukarramah</b>	مكة المكarrامة	Makkah, the blessed city

<i>Manarah / manaraat</i>	منارة / ات	Minaret. Plural for <i>manarah</i> is <i>manaraat</i>
<i>Manarah 'Ali</i>	منارة علي	The now demolished <i>manarah</i> of the tribe of 'Ali on the SE side, the <i>al-Mas'ra</i> side of the Old Holy Masjid
<i>Manarah Qaytabey</i>	منارة قيتابي	A <i>manarah</i> attached to the <i>madrasah</i> Qaytabey on the <i>Mas'ra</i> side
<i>Manarah Salam</i>	منارة سلام	The now demolished minaret on the NE side, the <i>Mas'ra</i> side, of the Old Holy Masjid
<i>Manarah as-Sulaimaniyya</i>	منارة از سُلَيْمَانِيًّا	A minaret attached to the Old Holy Masjid that once was the al-Mu'tadid extension, the <i>Dar al-Nadwa</i> side
<i>Manarah Umrah</i>	منارة عُمرة	A now demolished <i>manarah</i> which on the NW corner of the Old Holy Masjid
<i>Manarah al-Wi'da'</i>	منارة الوعزاع	A now demolished <i>manarah</i> on the SE side of the Old Holy Masjid on the <i>Sury al-Saghir</i> side
<i>Manarah Zaidah</i>	منارة زيدة	A <i>manarah</i> attached to the al-Muta'did extension on the <i>Dar al-Nadwa</i> side
<i>Manat</i>	مانت	A goddess and one of the three worshipped daughters of the pre-Islamic Allah, at <i>Ukaz</i> , South-East of Makkah
<i>Magam / Magaat</i>	مقام / ات	A small permanent area for those held in high regard. Thus <i>Magam Maliki</i> was the permanent preaching area of <i>Imam</i> Malik Bin Anas, one of the four Islamic jurists
<i>Magam Hanafi</i>	مقام حانفي	The once permanent area of <i>Imam Hanafi</i> inside the Sacred Court on the <i>Madi Ibraheem</i> side
<i>Magam Hanbali</i>	مقام جنبلي	The once permanent area of <i>Imam Hanbali</i> inside the Sacred Court on the <i>Dar al-Nadwa</i> side
<i>Magam Ibraheem</i>	مقام إبراهيم	The <i>Magam</i> which holds <i>Ibraheem's</i> foot steps set in stone. They are encased in a stand with a golden screen. This <i>Magam</i> is located inside the Sacred Court

<i>Maqam Maliki</i>	ماقم ماليكي	The once permanent area of <i>Luxaw Maliki</i> inside the Sacred Court, now demolished on the <i>Suryy al-Nughayr</i> side
<i>Maqam Shafa'i</i>	ماقم شافاعي	The permanent area of <i>Luxaw Shafa'i</i> inside the Sacred Court
<i>Manasik</i>	ماناسيك	An area were a range of rules govern conduct and behaviour, now demolished
<i>Manazil</i>	منازيل	An irregular geometric star pattern Metaphoically, a mansion or <i>manazil</i> , visited at regular intervals by the moon as the lamp of heaven
al-Marwa*	المروة	A rock oucrop held sacred, North of the Old Holy Masjid, now part of the Safa-Marwa corridor
<i>Mashrabiya</i> / <i>Mashrabiyaat</i>	ماشرابيت/ ات	A screened window set flush with the wall surface (Madji, 1988:44). <i>Mashrabiyyaat</i> is the plural for <i>mashrabiyyah</i>
<i>Masjid / Masajid</i>	مسجيد/ مساييد	Mosque / Mosques
<i>Masjid Bilal</i>	مسجيد نيلال	A Mosque on demolished Jabal Qubays,
<i>Masjid al-Haram</i>	مسجيد الحرم	The Holy Complex
<i>Masjid Nabi</i>	مسجيد نبي	The Prophet's Mosque in <i>al-Madīnah</i>
al-Mataf*	المطاف	The once oval now circular platform surrounding al-Ka'abah on which <i>al-Tawaf</i> (circumambulation) is conducted.
<i>Mater</i>		Latin. An imaginary Mother
<i>Mater imaginaria</i>		Latin. An imaginary Mother
<i>al-Mazameyn</i>	المزامين	A narrow road between Arafah and Muzdalifah, now a highway

<b>Mina*</b>	مِني	A place 5 km East of Makkah. Significant in Islam as a place where the <i>ḥajj</i> are stoned during <i>al-Ḥajj</i>
<b>Mimbar</b>	مِيمبار	The pulpit in a Mosque. A platform from which the <i>Imam</i> delivers the Friday <i>ḡuṭba</i> (sermon).
<b>Mintaka</b>	مِنتاكا	One of the three stars of Orion's center field
<b>Miqat / Miqaat</b>	مِيقَات / مِيقَات	A place where the would-be <i>Ḥajjī</i> changes his worldly garment to <i>ihyām</i> . There are nine such stations around Makkah located on the edges of the inner and outer <i>ḥaram</i> . Access to the Greater <i>Ḥaram</i> is via the <i>Miqaat</i> . The latter is the plural for <i>Miqat</i>
<b>Miqat Dhat-Iry</b>	مِيقَات ذَاتِ عِرْق	Entry <i>miqat</i> to the Greater <i>Ḥaram</i> . An outer <i>miqat</i>
<b>Miqat Dhu'l al-Hulayfah</b>	مِيقَات ذُلُّ الْحُلَيْفَةِ	Entry <i>miqat</i> to the Greater <i>Ḥaram</i> near Madinah most pilgrims will visit before visiting Makkah
<b>Miqat al-Hada</b>	مِيقَات الْهَدْيِي	Entry <i>miqat</i> to the Greater <i>Ḥaram</i> . An outer <i>Miqaat</i> also known as <i>Qum al-Manazil</i>
<b>Miqat Ja'ranah</b>	مِيقَات جَعْرَانَةَ	Entry <i>miqat</i> to the Greater <i>Ḥaram</i> for pilgrims of Iran and Northern India
<b>Miqat al-Juhfa</b>	مِيقَات الْجُهْفَةَ	An unofficial <i>Miqat</i> 15 km South of <i>Miqat Rabigh</i> on the Red Sea for pilgrims of Northern Arabia, Syria, Palestine and Egypt
<b>Miqat Qum al-Manazil</b>	مِيقَات قُمِّ الْمَنَاذِلِ	A <i>miqat</i> station for pilgrims entering the Greater <i>Ḥaram</i> from Eastern and Central Arabia. <i>Qum al-Manazil</i> is also referred to as <i>Qam al-Manazil</i> or <i>Umm al-Manazil</i>
<b>Miqat Rabigh</b>	مِيقَات رَابِيع	An unofficial entry <i>miqat</i> used by seaborne pilgrims from North-Africa and Egypt to Greater <i>Ḥaram</i> . It is located on the Red Sea, North of Jeddah
<b>Miqat Sayl al-Kabire</b>	مِيقَات سَيْلِ الْكَبِيرِ	Also known as <i>Miqat Qum al-Manazil</i> . See above. <i>Miqat</i> for pilgrims entering the Greater <i>Ḥaram</i> from Eastern Central Arabia, Iraq and Iran

<i>Miqat As-Shumaisih</i>	مقات اسشميسه	An outer <i>miqat</i> for pilgrims entering the Greater <i>Haram</i> from <i>Jeddah</i>
<i>Miqat al-Taneem</i>	مقات التنعيم	An inner <i>miqat</i> on the Northern boundary of Makkah. The station is used to change into <i>Ihram</i> by the permanent inhabitants of Makkah and by long stay visitors intending to perform the minor <i>Hajj</i> , which is <i>al-Umrah</i>
<i>Miqat wadi Ararah</i>	مقات وادي ارانة	An inner modern <i>miqat</i> near <i>Masjid Nawawi</i> on the Western side of the <i>Arafah</i> plain for pilgrims of Western Arabia
<i>Miqat wadi Mihrim</i>	مقات وادي مهوم	An unofficial outer <i>miqat</i> towards <i>al-Taif</i> to the Greater <i>Haram</i> for pilgrims of Eastern Arabia
<i>Miqat Yamyamlam</i>	مقات يامياملام	The entry <i>miqat</i> to the Greater <i>Haram</i> for pilgrims of Southern Arabia
<i>Mizam</i>	مرزام	A non-identical adult twin. Al-Ka'abah and al-Hatim are a <i>mizam</i>
<i>Misfalah</i>	مسفالة	A residential area at the lower end of Makkah
<i>Mizab</i>	ميزاب	The golden rain spout draining the roof of al-Ka'abah on the NW wall. The <i>Mizab</i> points towards precessed North
<i>Muttalzam</i>	مُتَّازِم	The wall area on the left of al-Ka'abah's doors
<i>Muzdalifah*</i>	مُزْدَلِفَة	A place East of Makkah where pebbles are gathered to stone the <i>Jamarat</i> in Mina
<i>Nahr</i>	ناهر	A cosmic river. Constellation of Eridanus
<i>Naklah</i>	ناكلة	A valley of the goddess <i>al-Lat</i> near <i>al-Taif</i>

<b>New Holy Masjid*</b>	لحرم الشريف	The new Building surrounding the Old Holy Masjid and al-Ka'abah
<i>al-Nilam</i>	النِّلام	The centre star of Orion's belt according to Norton (1969:52) but not according to Abandah (1985: 89) who says that <i>al-Nitak</i> is the central star of Orion's belt.
<i>al-Nitak</i>	النِطِق	One of three centre stars of Orion's belt. See <i>al-Nikaw</i> It is also spelled as Alnitak.
<i>Okaz</i>	عكاظ	The valley of the pre-Islamic goddess Uzza
<b>Old Holy Masjid*</b>	لحرم الشريف	The Building surrounding al-Ka'abah
<i>al-Qalb</i>	القباب	The heart; name for Antares, or Scorpionis. Antares was the mulatto warrior hero of one of the golden mu'allakat a famous poem which was allegedly displayed in al-Ka'abah.
<i>al-Qamar</i>	القامر	The moon
<i>al-Qiblah / Qiblaat</i>	قِيَابَح	Direction to al-Ka'abah in <i>Makkah</i> (Mecca). <i>Qiblaatis</i> the plural for <i>Qiblah</i>
<i>Qu'ba</i>	قُعبا	A camel's hump expressed as a dome
<i>Qu'bah</i>	قُعبَة	A dome
<i>Qubbateyn</i>	قُبْتَيْن	Domed small buildings
<i>Qubbat al-Abbas</i>	قُبَّت العَبَس	The domed building of al-Abba, deomlised between 1880 and 1885
<i>Qubbat al-Sa'ab</i>	قُبَّت الساعِب	The domed building of al-Sa'ab, deomlised between 1880 and 1885
<i>Qubbat as Sakrah</i>	قُبَّت الز ساكرة	Dome of the Rock in Jerusalem

<i>al-Qu'ran</i>	القرآن	The Holy Book of Islam
<i>Qutba</i>	قُتْبَا	Friday's sermon delivered by the <i>Imam</i>
<i>Ramadhan</i>	رمضان	The Holy Month of fasting. The last lunar month of the Islamic calendar
<i>Ra'is al-Juz'at</i>	رَأُ الْجُوزَةِ	Folklore Orion
<i>Rijl</i>	رِجْل	Rigel of Orion. Orion's leg and foot
<i>Riyadh</i>	الرياض	The capital of the Kingdom of Saudi Arabia
<i>Rowshan/ Rawasheen</i>	روشان/ راواشين	A screened window protruding beyond the exterior wall surface and supported by corbels. <i>Rawasheen</i> the plural for <i>Rowshan</i>
al-Safa*	الصفا	A rock outcrop held sacred, South of the Old Holy Masjid, now part of the Safa-Marwa corridor
<i>al-Sahn</i>	السان	A Sacred Court or ancient temenos
<i>Saiph</i>	سيف	A star (the sword) of the constellation Orion
<i>Salamlik</i>	سالاميك	The male area of the house or the tent
<i>Sayl</i>	صيل	A flood.
<i>al-Sa'y</i>	السعي	A rite consisting of going seven times up and seven times down between al-Safa and al-Marwa. The rite starts at Safa
<i>Shahabah</i>	شحابة	The Prophet's companions
<i>al-Shams</i>	الشمس	The sun, Syria, the North
<i>al-Shamiyyah</i>	الشمامية	An old inner residential area on the slopes of <i>Jabal Hindi</i> . This mountain is located in the <i>al-Shamiyyah</i> district
<i>Shari'i</i>	شارع	A road

<i>Shar'i Suwq Beyad</i>	شارع سوق بياد	Once a market street on the SW side, the <i>Wadi Fudayeen</i> , side of the Old Holy Masjid
<i>al-Shiba stream</i>	الشِبة	An ancient narrow stream cascading from the rocks of <i>Abdal Qa'iq'au</i> when it rains
<i>Shi'a</i>	شِعا	A Muslim sect particularly prevalent in Iran
<i>Shi'b 'Ali</i>	شعب علي	An inner residential area on the eastern side Makkah up the hill. <i>Shi'b</i> stands for a narrow mountain path
<i>Shi'b 'Amir</i>	شعب عامر	An inner residential area on the Eastern hill side of Makkah. <i>Shi'b</i> stands for a narrow mountain path
<i>al-Shubeikah</i>	الشُبَيْكة	An inner residential area of Makkah
<i>Sudjud</i>	صودجود	A praying position
<i>Sous entendu</i>		French. Something implied or understood but not expressed, a hidden meaning. The feel o the place
<i>Sufa / Sufuf</i>	صرف / صوفوف	A line along which prayees line-up during pray, in the same time facing Makkah. <i>Sufuf</i> is the plural for <i>Sufu</i>
<i>Subeil</i>	سُحيل	Sirius
<i>Subeil Hadar</i>	سُحيل حادر	The cosmic grounds of Sirius and or Canopus
<i>al-Sulaymaniyyah</i>	السُلَيْمانيَّة	An older residential area of Makkah
<i>Surah</i>	سُورَة	A <i>Qur'an</i> verse or ayer
<i>Suwaigah</i>	سُوَيْقة	An ancient narrow stream cascading from the rock face of <i>Abdal Qa'iq'au</i> when it rains
<i>Suwq</i>	سوق	A market

<i>Suwy Bayad</i>	سُوقُ بِيَاذ	A market alongside <i>Wadi Furubeeu</i> and opposite the South wall of the Old Holy Masjid
<i>Suwy al-Lail</i>	سُوقُ اللَّيْلِ	The night market and a <i>suw</i>
<i>Suwy al-Saghir</i>	سُوقُ السَّاعِرِ	A non-existing small market on the SW side of the Old Holy Masjid
al-Taif*	الطَّائِفُ	A place in the highlands of the <i>Hejaz</i> , East of Makkah
<i>al-Tawaf</i>	التَّوَافُ	The circumambulation of al-Ka'abah
<i>Tawaf al-W'i'da'</i>	تَوَافُ الْوِدَاعِ	The fare well circumambulation
<i>al-Thawr</i>	الثَّوْرُ	The constellation of Taurus
<i>Ukaz</i>	عُكْزُ	A pre-Islamic sanctuary of the goddess <i>al-Uzza</i> South-East of Makkah
<i>Umm</i>	أُمُّ	Mother. This word recurs in geographical names of villages and in <i>umamah</i> a governing body of Muslims
<i>Ummah</i>	أُمَّةٌ	The governing body of the place
<i>Umm al-Qura</i>	أُمُّ الْقُرَيْةِ	A name for Makkah; the Mother of all Villages; the name of the <i>Umm al-Qura</i> University which is located in the modern residential area of <i>al-Aziziyyah</i>
<i>al-Umrah</i>	الْعُمْرَةُ	The minor pilgrimage to Makkah
<i>al-Uzza</i>	الْعُزَّى	A goddess, and a one of the three daughters of the pre-Islamic Allah. The goddess' location was at <i>Ukaz</i>
<i>Yamaniyyah</i>	جَامَانِيَّةٌ	The Yemen
<i>Wadi</i>	وَادِي	A dry river bed
<i>Wadi al-Aziziyyah</i>	وَادِي الزِّيْجَةِ	An urbanised <i>wadi</i> that runs from <i>al-Asab</i> to Muzdalifah. A <i>wadi</i> that runs parallel to the <i>Mina</i> Valley
<i>Wadi Ararah</i>	وَادِي عَرْنَةَ	The main <i>wadi</i> of the Arafah plain

<i>Wadi Fanah al-Thana</i>	وادي فانا/ الثانا	The western access (to Jeddah) to the Makkah Valley
<i>Wadi Fatimah</i>	وادي فطيمة	A <i>wadi</i> that connects <i>Jeddah</i> and <i>al-Madina</i> with Makkah and of the three major <i>wadis</i> that drains the Makkah Region
<i>Wadi Hawarrak</i>	وادي حواراة	One of the tree major <i>wadis</i> that drains the Makkah Region
<i>Wadi Ibrahim</i>	وادي إبراهيم	The actual Makkah Valley
<i>Wadi Ma'ala</i>	وادي ماعلا	The <i>wadi</i> entering the Makkah Valley from Mina
<i>Wadi Misfahah</i>	وادي مسفاهة	The <i>wadi</i> leaving the Makkah Valley towards the direction of <i>Ujrat Fankunkun</i>
<i>Wadi Yamaniyyah</i>	وادي جامانيجة	One of the tree major <i>wadis</i> that drains the Makkah Region
<i>Wahabi</i>	واهابي	A 19th Century religious sect which accepted <i>al-Qur'an</i> and the authentic <i>hadiths</i> only as the basis of Islam, thereby rejecting sufism
<i>Waqaf</i>	واقاف	A religious gift
<i>Wahu'du</i>	وحد	A compulsory wash before any prayer.
<i>Wudjun</i>	وُجُن	Plural for <i>wadi</i>
<i>al-Yad al-Yumna</i>	اليد اليمني	The right hand (of Orion)
al-Yeman	الجمان	The Yemen; a derivative of <i>al-Yumna</i> , the right (hand); South
<i>Zahrah</i>	زاهرة	Arab name for Venus. Also a name for a pseudo modern inner residential area

*Zem-Zem well*

زَمْزَم

The well in the centre of the Makkah Valley. Esin states it means humming (of the well)

*Zohor*

زُهْر

The noon prayer

*Zubaydah*

زُبَيْدَة

The wife of Harun al-Rashid who instigated the construction of an aqueduct which supplied water to the different *biḥārat* of Makkah. It commences at Arafah at the foot of the *Ḥejaḥ* hills

*Zugag al-Attarin*

زُقَاقِ  
الْعَتْرِينِ

A narrow paved lane with the name al-Attarin



## DECLARATION

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