

**VERNACULAR TRADITION
AND
THE ISLAMIC ARCHITECTURE OF BOSRA**

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PREFACE

Context and purpose of study:

The research material presented in this dissertation has been prepared in Syria during a period of six years from 1984 to 1990. During this time I have been working part-time with the German Archaeological Institute in Damascus, participating in a cooperation project with the Syrian Antiquities Department. Centered on the excavation and subsequent restoration of a Mamluk bath complex, the research extended to include a study of all Islamic monuments in the ancient city of Bosra as well as in the neighbouring region of the Hauran.

The project's objectives were to expose the Islamic history of the town through a thorough study of the historic buildings and to assist the Syrian Antiquities Department in the preservation of the cultural heritage as an integrated part of modern development. This thesis is presenting the architectural surveys, which were accomplished during the project period, in a catalogue of Islamic monuments that also deals with relevant building archaeological observations and historic research.

In the cause of time, working on the Islamic architecture in Bosra, I became interested in the study of the vernacular tradition that existed in the Hauran before the conquest of Islam in 13 A.H./634 A.D. The eras of Roman and Byzantine superiority have left an imposing number of classical monuments, representing the importance of the Hauran during these periods in particular. The monumental buildings have been extraordinarily well preserved due to the hard basalt stone. Also the number of extant vernacular structures dating from Roman and early Christian times are quite astonishing, far exceeding what can be found in other areas, where building materials are less durable. On this background it was interesting to search for characteristic features of the pre-Islamic building tradition, which have kept integrity in spite of new architectural styles and fashion in periods of changing polities.

The recent domestic structures, representing a timeless way of building, are interesting in their own right as examples of the rural, pre-industrial habitation, which is about to disappear. The main interest of this dissertation, however, is centered on the pre-Islamic vernacular architecture, which are well preserved in a much better condition in the Hauran due to the hard and durable basalt stone. The investigation endeavours to show the rich potential of the vernacular building tradition of Hauran as a means to understand the development of Umayyad architecture during the formative years of Islam. Appreciation

of this type of vernacular architecture is even more important, because the rapidly changing rural economy imposes a severe threat to the preservation of ancient town quarters throughout the Hauran.

Contents of study:

The thesis is dealing with two main topics: the vernacular building tradition of Hauran and the Islamic architecture of Bosra. The contents is organized into three parts:

(I) The first part provides a general introduction to the physical and historical setting of Islamic Bosra. On this background is the Islamic townscape and buildings treated in a historic context that is based to a large extend on the more specific details contained in the catalogue of Islamic monuments.

(II) The second part of the thesis provides a description of the vernacular architecture of the Hauran. Based on the survey of anonymous buildings in Umm az-Zetun, il-Mu'arribeh, Djemmerin and Inkhil, the characteristic features and construction methods of pre-Islamic housing are discussed.

(III) The third part contains a catalogue of the Islamic monuments in Bosra, - altogether nine monuments, originating from three medieval periods: the Seljuk period of the early 6th/12th century, the Ayyubid period of the first half of the 7th/13th century, and the Mamluk period of the 8th/14th century, when Bosra obviously prospered during a period of Islamic renaissance.

Objectives:

The study of historical buildings and ruins is multi-disciplinary, involving many skills which contribute to a balanced conclusion. As an architect-restorer by profession this thesis concentrates on the physical appearance of the monuments, but does also treat them in the context of the society, which originally has shaped and used them. Without the proper historic context the architectural, symbolic and cultural values cannot be fully understood. Generally architectural monuments associate with grandious design or heigh architectural quality and performance. This perception is of limited consequence in relation to the Islamic monuments in Bosra, ranging from the most grandious scale of the citadel to the rather squalid appearance of a small ruinous *masjid*. Neither of them represents very delicate and sophisticated design and yet they have a unique historic interest. In the

forming of a presentation policy for the cultural heritage these values must be respected and it is in the hope of contributing towards this aim, that the present work should be evaluated.

Originally measured and drawn directly on the spot in scale 1:50, the survey drawings are a means of achieving an intimate knowledge of the building history. The drawings are indispensable for the visual presentation of the buildings and without such drawings historical analysis are difficult. The many modifications and alterations, which most often take place through the lifetime of a building, often become evident during the work process and presented in neat and accurate line drawings, may become obvious to every body. All the Islamic monuments are presented by plan and sections through the most significant parts of the building so as to show the construction and to reveal the most prominent architectural features. Elevations of the facades are less frequent, as the external appearance of the buildings to some extent can be appreciated from photographs. Phased building development plans and reconstructions are prepared, as well as isometric drawings, to render an intelligible presentation of the buildings. But the main emphasis has been put on the accurate survey drawings, providing an authentic documentation of the monuments that may last, also as a source of future study.

Previous research

The historic monuments of Syria became subject to the first scientific research by the middle of the last century, when Guillaume Rey in 1860 and M. De Vogüe in 1865-77 published the results of their study that included a rich and evocative visual illustration of the historic environment. These volumes were followed at the turn of last century by two comprehensive scientific publications that still remain the major reference books on ancient architecture in Syria. R.E.Brünnow and A.von Domaszewski published *Die Provincia Arabia* in 1904-09. Subsequently H.C.Butler published *Ancient architecture in Syria*, containing the results of the Princeton University Archaeological Expeditions to Syria in 1904-05 and 1909. The Arabic inscriptions have been treated in particular by Enno Littmann, Jean Sauvaget, Max van Berchem and more recently by Solange Ory.

Many more romantic travellers, archaeologists, architects and art-historians have followed, producing a rich and varied corpus of historical material on ancient Syria, which constitute the background of all research into the ancient architecture of the Hauran.

The renowned Getrude Bell is one of these travellers, who was drawn by the exotic historic environment of the Middle East. Based on extensive travels through the then Ottoman provinces of Lebanon, Syria and Palestine, she provides a delightful presentation of folklore, history and architecture in the Hauran to the south of Syria around the turn of the century. Without pretending to give a scientific description of the history and architecture in the region but in this respect referring to the relevant, contemporary literature, she submits a narrative account on the journey providing a captivating picture of the country before the rapid technical development of our time radically changed the rural society in the Hauran. Certain passages from her book, *The desert and the sown*, may conveniently be quoted here as an introduction to the subject:

'.....The stony foot of the Jebel Hauran is strewn with villages deserted since the Mohammedan invasion in the seventh century. I visited two that lay not far from my path, Shabha and Shabhiyyeh, and found them to be both of the same character as Umm al-Jimal. From afar they look like well-built towns with square towers rising above streets of three-storied houses. Where the walls have fallen they lie as they fell, and no hand has troubled to clear away the ruins. Monsieur de Vogüé was the first to describe the architecture of the Hauran; his splendid volumes are still the principal source of information. The dwelling-houses are built around a court in which there is usually an outer stair leading to the upper story. There is no wood used in their construction, even the doors are of solid stone, turning on stone hinges, and the windows of stone slabs pierced with open-work patterns. Sometimes there are traces of a colonnaded portico, or the walls are broken by a double window, the arches of which are supported by a small column and a rough plain capital; frequently the lintels of the doors are adorned with a cross or a Christian monogram, but otherwise there is little decoration. The chambers are roofed with stone slabs resting on the back of transverse arches. So far as can be said with any certainty, Nabatean inscriptions and tombs are the oldest monuments that have been discovered in the district; they are followed by many important remains of pagan Rome, but the really flourishing period seems to have been the Christian. After the Mohammedan invasion, which put an end to the prosperity of the Hauran uplands, few of the villages were reinhabited, and when the Druzes came about a hundred and fifty years ago, they found no settled population. They made the Mountains their own, rebuilt and thereby destroyed the ancient towns, and extended their lordship over the plains to the south, though they have not established themselves in the villages of that debatable land which remains a happy hunting ground for the archaeologist' (1).

(1) Gertrude Bell, *The desert and the sown*, (1907), London 1985, pp.76-77.

Acknowledgements

The cooperation project between the Bosra Directorate of Antiquities and the German Archaeological Institute in Damascus, started in 1981 under the late director, Sulaiman 'Abd Allah al-Mouqdad, the project continued after 1983 up to its completion in 1990 under joint direction by Riyad Sulaiman al-Mouqdad and dr. Michael Meinecke, since 1988 Director of the Museum of Islamic Art, Berlin. During the three annual seasons from 1981 to 1983 Philipp Speiser, Munich, was assisting with the initial identification of buildings and the very first clearance of the Hammam Manjak and he also shortly joined in the 6th season of work in autumn 1986. I was involved in the project from 1984 onwards, and the research presented in this dissertation has to a large extent been accomplished under the auspices of the German Archaeological Institute.

I am glad to have the opportunity to express my sincere thanks to dr. Michael Meinecke, then director of the institute, who entrusted me with the responsibility to survey and investigate the Islamic monuments and to assist the Syrian counterparts of the Directorate of Antiquities in the task of restoring the Hammam Manjak. Without his encouragement this dissertation would not have been possible. The results of the archaeological excavations and the historic research, primarily conducted by Michael Meinecke, will be treated with considerable more detail in the final project publication, scheduled to appear as a monograph of the *Damaszener Forschungen*. Working together on the project, we have been sharing in many observations. In particular I have generated much biographical and historic information from the discussions to which I am much obliged. I also gratefully acknowledge the many opportunities to go on several excursions in Syria and Jordan to see the Hauran architecture in its proper historic perspective and to experience other aspects of the unique cultural heritage of Syria.

Neither would the survey of buildings have been possible singlehanded. Students of architecture from the School of Architecture in Copenhagen have participated at various stages in the work programme. Vanja Hellborg assisted in the survey of the al-Mibrak Mosque and the ad-Dabbagha Madrasa; Eeva-Liisa Rauthalati and Chalotte Haas took part in the survey of the citadel together with Thomas Kampmann, who also helped with the survey of al-Umari Mosque. All four of them contributed with an enjoyable and competent co-operation. I should also like to extend my acknowledgements to Anne and Jørn Ørum-Nielsen as well as to Birthe and Thorkel Dahl. Thirty years ago - at that time likewise students of architecture in Copenhagen - they made the survey of the Roman theatre. Their excellent drawings now reappear incorporated as an integrated part of the documentation on the Islamic citadel, totally encasing the Roman theatre. I also appreciate with gratitude the aid of

Norbert Hagen, Berlin, who made the levelling of the citadel. Beate Knuth Federspiel assisted by reading through the text with a critical eye. And not least, I should like to extend my appreciations to the Syrian co-operation partners, - especially Mrs. Wafa 'Audad, Riyadh Sulaiman al-Muqdad and the work foreman Hasan Hummayyir, who helped to make the numerous stays in Bosra most enjoyable by offerereng their support and much hospitality.

Flemming Aalund.

Unless credited otherwise all drawings, maps and photographs are by the author.

Head piece: Sketch drawing of commemorative stone slab and decoration on the northern facade of the citadel, tower no. 11.

Vignettes are depicting Islamic floor patterns from the Al-Umari Mosque as well as decorative features from the buildings concerned.

Tail piece: Elevation of the *muqarnas* pendentives in the Hammam Manjak.

PART I: THE PHYSICAL AND HISTORICAL SETTING

The geographical setting

The Hauran region to the south of Syria is extending about 100 kilometres from north to south and 75 kilometres from east to west forming a large, slightly undulating landscape that has been shaped mainly from volcanic activities. The volcanic origin is directly visible to the north of the area, where several cone-shaped summits of extinct volcanoes rise above the large basalt plateau of the Laja, the ancient landscape of Trachonitis. The central area of the lava lands is formed by the wide, fertile plain of the Nuqra, the former Batanea, where overlaying reddish soil provides excellent arable land. This landscape extends southwest to Umm al-Jimal across the border to Jordan and southeast to the oasis of Azraq, thereafter continuing into steppe and desert.

To the east the Nuqra plains are sheltered by the volcanic massif of the Jabal Hauran, the Aurantis of Antiquity, with several peaks reaching heights of about 1800 meters above sea level. The mountaneous area is often named Jabel Druze, or the Druze mountains referring to the present dominant habitation by the Druze people. During antiquity, the western slopes of the mountains were the site of the most prosperous settlements and prestigious sanctuaries taking the best advantage of the attractive and spectacular landscape, - just as the modern city of Suweida is doing today. On the west the region borders on the mountains of the Jaulan and the terrains of the Golan.

Bosra stands in the middle of the Nuqra plains slightly above the surrounding land at an elevation of 850 meters above sea level. This particular siting has been mainly determined by three factors: (i) the surrounding fertile landscape making Bosra the natural local centre of the many sedentary settlements that are located throughout the Nuqra plains, (ii) the perennial spring and the nearby watercourses provide sufficient supply of water to cover the needs throughout the year, and finally (iii) the ancient caravan transport routes were converging on Bosra.

Provided that the precipitation and waterresources are sufficient, two annual harvests of mainly cereal crops can be secured, but also figs, wine and vegetables are important crops today as they were in antiquity. The siting close to the Wadi az-Zaidi about 3 kilometres to the north of Bosra eminently secure the seasonal runoff from the snowcapped mountains of the Jabal Hauran. Already in antiquity huge pools were

constructed to collect the surplus water for storage awaiting the dry seasons. Two of these open cisterns are still in use today serving the modern city of Bosra. The southernmost cistern, known by the current name Birket al-Hajj (fig.2, no. 10), still alludes to the supply of drinking water for the Muslim pilgrim caravans using Bosra as the main halting place on the Darb al-Hajj. The existence of a perennial spring (fig. 2, no. 17) to the northwest of the ancient town furthermore constitute one of the major preconditions for a continual supply of the most vital sweet water during periods of severe drought.

The system of roads converging on Bosra, formulated in antiquity, remains till today one of the basis features of the region. The most ambitious road building project was the Via Nova Traiane accomplished over the years 111-115 A.D. (1). Throughout antiquity this north-south 'highway' served as the major line of communication extending southward from Bosra as far as Aqaba at the Red Sea. The new Arabian frontier between Bosra and Ma'an to the south of Amman in Jordan was fortified by a double line system of Roman forts. One following the Via Nova and another auxiliary line extending along the edge of the desert steppe further to the east. Both were traced by roads with interconnecting crossroads linking the two north-south lines (2).

The two bridges spanning the Wadi az-Zaidi about 3 kilometres to the north of Bosra demonstrate the continued importance of the road network throughout the Middle Ages. The bridge at Djemmerin, for instance, dated by inscription to about 568/1173 of the Ayyubid dynasty, marks the route passing northward along the eastern fringes of the Laja to Damascus. Another bridge on Wadi az-Zaidi further to the west near al-Kharaba, dated by inscription to 623/1226 is part of the western road system to Damascus, passing Ezra, as-Sanamain and al-Kiswa (3) (cf. map of the Hauran area, fig. 1).

After the Muslim conquest Bosra gained importance as a caravan stop on the Darb al-Hajj, leading from Damascus via Bosra further south to the Holy Cities of Mecca and Medina. Bosra itself became a place of pilgrimage due to the several legends reaching back into the formative years of Islam associated with the al-Mibrak Mosque (cf. description of the monument in the catalogue of buildings). A vivid first-hand account on the pilgrimage dating to the year 726/1326, is provided by the famous traveller Ibn Battuta:

'... the Hijaz caravan went out to the outskirts of Damascus and encamped at the village called al-Kiswa...We marched from Al-Kiswa to a village called 'al-Sanamain, a big place, and marched on from there to the township of Zur'a, a small place

in the district of the Hawran. After a halt in its vicinity we travelled on to the town of Bosra; it [too] is a small place. It is the usual practise of the caravan to stop there for four nights so that any who have remained behind at Damascus to finish off their business may make up on them. It was at Bosra that the Apostle of God (God bless and give him peace) came before his mission, while engaged in trading on Khadija's account, and in the town [there is shown] the place where his she-camel couched, over which a great mosque has been erected. The inhabitants of Hawran flock to this town [with their produce] and the pilgrims supply themselves here with provisions for the journey..' (4).

By the 8th/14th century the preferential Hajj route was possibly going via al-Muzairib and Dera'a as testified by the new Mamluk travel facilities constructed in al-Muzairib and the enlargement of the Great Mosques in Dera'a and Ezra (5). But the general depopulation of the region and the dangers caused by the marauding nomads during the 11th/17th century, resulted in a definite shift of the Hajj route away from Bosra in favour of the western route (6).

These outline topographical and economic features of the Hauran explain the important strategic position of Bosra. First the site was chosen as the northern capital of the Nabateans under Rabbel II (70-106 AD). Subsequently Bosra became the capital of the Roman *Provincia Arabia*, the seat of the governor and the headquarters of the legion III Cyrenaica (7). During Byzantine times it remained the only city of the Hauran to be the seat of a bishopric under the patriarch of Antioch. Followed by an interlude of about five centuries Bosra regained prime strategic importance in the Middle Ages by the construction of the Ayyubid citadel in the 7th/13th century, designed to ensure the safety of agriculture and commerce in the region.

Notes and references

(1) Doris S. Miller, 'Bosra in Arabia, Nabatean and Roman City of the Near East', *British Archaeological Report, International Series*, Oxford, 1983, pp. 110-127.

(2) The double limes-system was thoroughly surveyed by Brünnow and Domaszewski, *Die Provincia Arabia*, Strassburg, 1905, vol. I, P. 470 ff.; vol. II, pp.221-227. Subsequently treated by A. Poidebard, *La trace de Rome dans le désert de Syrie. Limes de Trajan. Le limes de Trajan à la conquête arabe. Recherches aériennes (1925-1932)*, *Bibliothèque archéologique et historique* vol. XII, Paris, 1934, p. 27 ff. Also S.T.Parker, *The Historical development of the Limes Arabicus*, (unpubl. Ph.D. thesis), University of California, Los Angeles, 1979.

- (3) Enno Littmann, pp. 60-61.
- (4) Ibn Battuta, *The Travels of Ibn Battuta A.D. 1325-1354*, (trans. H.A.R. Gibb), Cambridge 1958, vol.I, pp. 158-59.
- (5) Michael Meinecke, 'The Great Mosques of the Hauran', International Colloquium on the History and Archaeology of the Suwaida Mohafazat, October 1990, *Les Annales Archéologiques Arabes Syriennes* [1991].
- (6) Maurice Sartre, *Bostra, des origines à l'Islam*, *Bibliothèque archéologique et Historique*, vol. CXVII, Paris, 1985, p.41.
- (7) G.W. Bowersock, 'A report on Arabia Provincia', *Journal of Roman studies*, vol.LXI, 1971, pp.219-242.

Outline development of historic townscape and buildings.

Initiated by the Nabateans, the significant architectural development of Bosra is dating back to the 1th. cent. A.D. The most conspicuous vestiges of the architectural quality and exquisite craftsmanship from this period is the Nabatean gate and the one standing column next to it. Otherwise very little has been preserved testifying to this flourishing period during the first centuries A.D., when Bosra became the new capital of the Nabatean kingdom. With the passage of time about 2-3 metres of deposits have accumulated above the original street level as it can be seen at the Nabatean gate situated in the eastern part of the old town area (1). Among other preserved monuments the so-called 'Palace of Trajan' is possibly dating from the 2nd cent. A.D., constructed as the royal residence of Rabbel II (70-106 A.D.), who gave Bosra preference over Petra as the capital of the Nabatean kingdom (2). If this early dating will be confirmed from archaeological evidence, the 'Palace of Rabbel' is among the oldest extant building in Bosra providing interesting clues to the architectural development and the local building tradition in the region as discussed in the following chapter.

There is reason to suppose that the Nabatean urban settlement occupied the eastern parts of the ancient town area and it would be tempting to suppose that the existing arch originally marked the western boundary of the Nabatean town. The change of direction of the street pattern to each side of the gate may corroborate this hypothesis, providing a close parallel to the Nabatean plan of Damascus (3). If the Nabatean town was

extending further to the west, these parts have been destroyed anyhow by the subsequent Roman expansion. Today the Nabatean gate is a landmark defining the eastern end of the main street, oriented in east-west direction and forming the backbone of the Roman city.

The Roman urbanization was triggered off by the annexation of the Nabatean kingdom after the death of Rabel II in 106 A.D. and the consequent consolidation of the Roman *Provincia Arabia*. The large number of monumental buildings, colonnaded streets and a distinct town plan testify to the importance of Bosra as the seat of the Roman colonial headquarters (4). Especially the Roman main theatre has been remarkably well preserved within the later, formidable Arab fortress. The true picture of the excellence of the Roman town may be difficult to visualize due to the later destructions and much still remain to be systematically and scientifically uncovered.

The difference in level between the built-up areas and the surrounding cultivated land in all probability outline the full extent of the Roman city, firmly secured behind strong fortifications defining the boundary of the city. The Roman wall no longer stands, however, having been dismantled and possibly used for the construction of the Islamic citadel leaving only masses of stone from the inner core to be seen along the western and northwestern precincts. Furthermore, the foundation of the minaret adjacent to the al-Mibrak Mosque constructed of bossed, cyclopean masonry may be part of the original Roman fortifications, thus marking the extent of the classical town towards the north-east (5). The military encampment of the 3rd Legion of Cyrenaica was situated outside the fortification, immediately to the north of the civilian town. A single domed structure, originally forming part of the North Baths is the only remaining structure, but many stamped tiles relating to the legion have been discovered by surface surveys at the site (6). Towards the east and the south-east where the difference in level is less discernible, some uncertainty still relates to the boundary of the ancient town.

The schism of the Roman Empire and the subsequent Byzantine dominance of Syria may not have caused any major changes to the Hauran. What really mattered in terms of buildings was the emergence of Christianity and the launching out into ambitious building schemes of churches, monasteries and related structures, mainly dating from between mid IVth century and the early VIIth century. Relying on epigraphic sources and taking the building activity as a reflection of the general prosperity, the peak was reached in the VIth century at which time Bosra had two large Christian cathedrals. Both crowned by central domes and relating to the size of the ground plan, they have numbered with the most conspicuous edifices of the Byzantine empire (7). The plan of the Cathedral of Saints Sergius, Bacchus and Leontius (512-13 A.D.) measures 49 by 37

meters, rivalling the largest of the great Christian martyria churches. It has even been suggested that the Bosra cathedral was a model for the Dome of the Rock in Jerusalem, one of the most celebrated and most remarkable monuments of early Islam (8). The excavation of the second cathedral, started in 1989 by the French archaeological mission, so far indicate that the plan reaches an even bigger size (9).

The ecclesiastical group of buildings including the northern Cathedral, the so-called Basilica of Bahira and the bishops palace, formed the Christian center of the ancient city, whereas the newly discovered cathedral is situated further to the south, near the 'palace' and the Nabatean Gate. Sited without any obvious relationship to the great colonnaded avenues articulating the image of the classical city, the erection of these large Christian edifices obviously started to blur the orthogonal plan of the Roman city.

In short, such was the scenario at the time of the Arab conquest of the Hauran that took place, according to an inscription that reads: '..in the year 24 (/645 of the Emperor Heraclius)..the Caliph 'Umar ..captured the city Bostra and many other cities, even as far as Gabitha'(10). The swift Arab conquest of Syria and Egypt was possibly facilitated by the previous war between Persia and Byzantium in the early 7th century, at which time Syria and Palestine were held by the Persians for about 15 years (11). In any case, the exodus of the Christian communities and the gradual transformation of the society under the impact of Islam was decisive of the subsequent development in the Hauran. Churches continued to be built elsewhere in the Hauran for a limited period of time, but it may be symptomatic of the diminishing Christian population that the last Christian building activity is recorded in the year 668 A.D. and at some undetermined date before the middle of last century, the apse of the large northern cathedral was modified in the local style of construction possibly serving a much decimated Christian community (12).

It is beyond the scope of this paper to elaborate upon the historic circumstances leading to this crucial event. The short outline of the background centred on the architectural achievements suffice as a background to a better understanding of the build environment at the time of the Arab conquest.

The historic development of the Islamic town (13)

The role of Bosra during the succeeding period of Umayyad rule (41/661-132/750) can only be conjectured on the basis of meager archaeological evidence. Domestic life does not seem to have been affected all of a sudden according to a new 'Arab' or 'Muslim' taste. There is good reason to believe that the fertile land and the network of interrelated farming settlements have been capable of supporting a continued urban life independent of the major political changes.

In Bosra the only structure known so far, originating from the formative years of Islam, has been excavated recently at the Northwest Tell, near the perennial spring of al-Jahir to the NW of the town. According to the pottery and the numismatic evidence the building can be dated to the late Umayyad period. The plan opening on an open courtyard exposes a linear arrangement of rooms and a construction of walls and door frames quite similar to current housing in Bosra, providing ample evidence of a persistent vernacular building tradition in the Hauran. The excavation also reveals continued human activity up to about the middle of 2nd/8th century, when the habitation was interrupted, possibly as a result of an earthquake in 129/747, and life was not resumed in that part of the town until modern times (14).

Recent stratigraphical investigations at the Roman South Bath, sustain this hypothesis (15). The large domed structure has been used continuously since Umayyad time, serving as workshops, living quarters and most recently for storing of animal fodder. The eastern part of the structure obviously served domestic functions, at least up to the 2nd/8th century. Thereafter, possibly in consequence of the same earthquake it was abandoned only to be occupied again during the Ayyubid and Mamluk period. This view is also corroborated by archaeological research in other parts of the Hauran, confirming that occupation continued at least until the fall of the Umayyad Caliphate in 132/750, whereupon many sites in the Hauran seem to have been deserted (16).

The absence of monumental buildings dating from the Umayyad and the following centuries of Abbasid rule, may be indicative of an economic decline that was further exacerbated by the Abbasid revolution and the transfer of political power from Damascus to Mesopotamia, where the newly founded capital of Baghdad outshone all the ancient cities of Syria (17). The turbulent political changes of the society would not, however, need to be imply a total depopulation of the Hauran. Obviously, Bosra became a centre of pilgrimage to the new faithful Muslims by virtue of the previous visits of the Prophet and the arrival of the very first copy of the Holy Koran, which was brought to Bosra (18). Commemorating these events, the first Muslim

sanctuary of unknown date was sited outside the precinct of the classical city and incorporated, at some later time as part of the al-Mibrak Mosque (fig. 55).

The most tangible achievements of the Arab Umayyads are located in the steppe and desert lands of eastern Syria and Jordan, where a number of large country estates were constructed during the 1th/7th and 2nd/8th cent., relying on settlements and irrigation systems that existed before the conquest. At least to the north of Syria, the rich agrarian settlements of the Byzantine period (19) had been depending on external markets for their products outside the Muslim world. Under Umayyad rule, the economy could not be maintained to the same level as before and a similar regression can be assumed to have influenced the economy of the Hauran. The dynastic changes that came about by the fall of the Umayyads may be given several interpretations of political and economic character. Of specific interest to this study, I take note of the theory put forward by Oleg Grabar (20) that the Umayyads were relying on the infrastructure already existing in the area, but without a solid economic basis, it declined and eventually only a few places survived after the fall of the dynasty.

Relating to the ancient town of Umm al-Jimal, now located to the north of Jordan, the irregular street pattern and lack of formal town planning is remarkable and yet, the elaborate design and high quality of craftsmanship resembles houses generally ascribed to the Roman and Byzantine periods. The recent archaeological excavations give reason to a later dating of these buildings than usually assumed, and there is evidence of an unbroken period of habitation continuing also during Umayyad time. Furthermore, the numerous gravestones indicate that the residents were local Arabs nomads, who settled and possibly built the houses of Umm al-Jimal under the security of *Pax Romana* provided by the Roman Empire (21). It is confirmed from inscriptions in the Christian period elsewhere in the Hauran that the inhabitants were already Arabs before Islam and the many instances in the Hauran of buildings which are well-constructed in the style found in Byzantine times and the proximity to deposits of Ayyubid or Mamluk wares could argue for a later Islamic date (22).

Looking further back in time, buildings of Nabatean origin in the desert of Negev, - especially as demonstrated at the excavations of Mampsis to the north of Petra (23), have so many features in common with domestic houses of the Hauran that the resemblance cannot be accidental. These observations are interesting and allows for a much more liberal interpretation of the chronology than previously considered mainly relating to the influence of the Roman and Byzantine architecture on the vernacular way of building.

The Islamic renaissance of Bosra.

Bosra regained a new importance in the Middle Ages, obviously reflecting the continued significance of the city as a place of high strategic importance for the control of southern Syria, alongside the neighbouring Salkad (24). The major part of Islamic buildings, erected during a period of Islamic renaissance owe their form and architectural detailing to the influence exerted by the ruling classes. Most of the existing Islamic monuments date from the Seljuk period (late 5th/11th-6th/12th cent.) and especially from the Ayyubid period, when Bosra served as the residence of several members of the royal family, most notable of as-Salih Isma'il, who was in possession of the city from 615/1218 until 644/1246. Despite the destruction caused by the Mongol occupation in 658/1260 the city prospered well into the late 8th/14th century. Altogether nine monuments have been preserved testifying to the regained prosperity of the city that culminated in the first half of the 7/13th cent.

The citadel is remaining the most conspicuous building complex occupying a commanding and dominating position in the town. Apart from the initial fortification of the Roman theatre in 481/1088 showing local features, all succeeding building schemes bear an obvious stamp of imperial design, mainly characterized by the introduction of cross vaults and tunnel vaults. When the large scale building scheme of the citadel was launched in 599/1202 in response to the growing threat of the crusaders, columns and stones were pillaged from the classical monuments to be re-used for the construction. During half a century the citadel was enlarged to become one of the chief military monuments of the Muslim world and still remains till today an authentic monument of fortification and military strategy during the Middle Ages.

The Great Mosque (*al-Jami*) was built according to the new peristyle plan concept, introduced in Syria by the construction of the Great Umayyad Mosque of Damascus by the time of al-Walid (96/714-15) and subsequently enlarged to meet the requirements of the expanding Muslim community. The Islamic city furthermore boasts two *madrasas*, both early examples of this type of religious institution in Syria, anticipating the development of the four-iwan plan that became synonymous with this type of religious structure in Islam, especially in Mamluk Egypt. The small, local mosques (*al-masjid*) of which there might have been a total number of about 36 (25), followed the typical local style of construction used for housing. The al-Khidr Mosque and the al-Fatima Mosque are both representatives of these modest buildings, mainly discernible from the outside due to the free standing minaret, which became the new landmark of Islam from the 7th/13th century.

Considering the great design of the Roman and Byzantine town complete with public buildings, triumphal arches, colonnaded streets and town walls, it is hardly possible to imagine the contemporary life of Bosra during the Ayyubid and Mamluk Ages in the middle of a decomposing townscape. Apart from the buildings serving religious purposes Islamic Bosra displays a puzzling absence of commercial structures such as caravanserailles or a suq, which are otherwise characteristic features of a thriving Islamic town. The great influx of pilgrims on their yearly hajj to the sacred cities of Mecca and Medina secured some income from the trade in necessary provisions for the journey. The hajj caravans camped only temporarily for about 4 to 10 days outside the precincts of the town, and the commerce generated from this annual event could hardly have secured the citizens a steady income.

Strategic considerations alone would have caused the Ayyubid and Mamluk governors to build the citadel of Bosra and Salkhad leaving the surrounding settlements stripped of outer fortifications. Otherwise, it is difficult to explain the demolition of the townwalls in favour of a citadel leaving the inhabitants devoid of communal defence, which for certain would imply destruction of domestic quarters in advance of any attack on the citadel.

Another theory on the destruction of the city walls might be possible on the basis of a statement by al-Makrizi referring to the restoration of the citadel 'outside the walls' in consequence of the Mongol invasion of 659/1260 (26). This chain of events would imply that materials for the citadel were originating mainly from the nearby Roman hippodrome and the second Roman theatre eventually deferring the demolition of the town walls to a later date. The ultimate restoration of the citadel by order of the Mamluk sultan az-Zahir Baibars (658/1260 - 676/1278) did not include works on the town itself (27), and it is uncertain to which extent the housing quarters were damaged by the Mongol incursion.

The last documented construction works relate to the erection of the minaret adjoint to the Fatima mosque in 705/1306 and the construction of the Mamluk bath complex in 775/1373-74. This building stands out as a unique and isolated example of a secular building. The main features and methods of construction immediately suggest a different architecture closely related to contemporary Mamluk achievements in Damascus, and thereby indicating the continued attention, which the governors of Syria was paying to Bosra well into the later part of the 8th/14th century.

The regional importance of Bosra received a final blow in the

13th century when the pilgrim caravan routing was diverted via Deraa 50 kilometres to the west of Bosra, where the village of al-Muzairib developed into a major caravan halt on the journey. The subsequent annexation of Syria into the expanding Ottoman Empire in 922/1516 relegated the Hauran to the position of a neglected province. Single, individual monuments, such as the al-Azem Palace at Damascus, give evidence of high architectural achievements in this period, but obviously no significant development took place outside Damascus. The Hauran had an inferior position providing grassland for tribes of nomadic Arabs marauding the isolated settlements. Bosra did not even maintain strategic importance. Only a small Turk garrison (28) was stationed in the citadel, which had anyhow lost importance due to the common use of gun powder and long range artillery.

The ruined settlements and scattered monuments were sparsely occupied when the European travellers reported from the area at the end of the last century. The very first photographs show a maze of narrow alleys between haphazard structures, many of which were built on and into remnants of ancient buildings, using the abandoned structures as a quarry for basalt blocks (29). Many sites in the Hauran were obviously abandoned altogether by the early 19th century allowing of renewed habitation by the Druze, who took a preference of the Djebel Hauran. At the turn of the century, the population of Bosra hardly exceeded five hundred inhabitants. But eventually, the potential wealth of the fertile Nuqra plains attracted new interests resulting in the steady growth of the population during this century rising to some 14.300 inhabitants for Bosra in 1982 according to the official census (30). The less fertile region to the south of the Hauran has remained partly deserted. The ancient town of Umm al-Jimal for example, unaffected of later developments, remains as a vestige of the medieval settlement providing a rich assemblage of pre-Islamic and early Islamic housing and civic structures.

The revival of Bosra in the cause of this century has put a pressure on housing which resulted in continued destruction of ancient ruins and monuments. Today, Bosra is a thriving provincial town serving as the centre of the fertile wheat fields of the Nuqra. The new development takes place mainly to the south and southwest of the ancient town. Additionally, the cultural tourism is recognized as a resource of high economic potential, eventually rivalling the other classical centres of Jordan and Syria such as Petra, Jerash, Palmyra and Apamea in archaeological importance. This ambition has triggered off the clearance and exposure of the antique town plan and ancient buildings. The resettlement policy of the Department of Antiquity has caused a shift in housing as most families have moved to new houses outside the precincts of the old town. In this process of transition, once again the old town is abandoned, ultimately to be turned into a dead city revitalized

as an open air museum.

Notes and references

- (1) Jean-Marie. Dentzer, *Sondages près de l'arc Nabatéen a Bosra, Berytus*, vol. XXXII, Beirut 1984, pp. 163-174. Also by Denzer, 'Les sondages de l'arc Nabatéen et l'urbanisme de Bosra', *Académie des Inscriptions et Belles-lettres*, Jan-Mars, Paris, 1986, pp. 63-87.
- (2) Maurice Sartre, *Bostra, des origines à l'Islam*, Bibliothèque archéologique et Historique, vol. CXVII, Paris, 1985, p. 94. For a review of the volume in English confer Henry Innes Macadam, 'Bostra Gloriosa', *Berytus*, vol. XXXIV, Beirut, 1986, pp. 169-185.
- (3) For a possible comparable development of the Nabatean-Roman town development in Damascus, cf.: Jean Sauvaget, 'Le plan antique de Damas', *Syria*, vol. 26, 1949, pp.344-45. See also F.E.Peters, 'City planning in Greco-Roman Syria', *Damaszener Mitteilungen*, vol. I, 1981, pp 269-277.
- (4) Doris S. Miller, *Bosra in Arabia, Nabatean and Roman city of the Near East*, *British Archaeological Report*, 1983, p.113. For an overall historic account confer G.W.Bowersock, *Roman Arabia*, London 1983.
- (5) PPUAES, Div.II,sec.A, part 4, p. 294.
- (6) Raymond Brulet, 'Estampilles de la IIIe Légion Cyrénaique a Bostra', *Berytus*, vol. XXXII, Beirut 1984, pp. 175-179.
- (7) Sartre, *op.cit.*, p. 134 ff.; for a comparative study of the plan form of the large cathedrals see Michel Écochard, *Filiation de monuments Grecs, Byzantins et Islamiques*, Paris, 1977.
- (8) H.I. Macadam, *op.cit.*, p. 178; i.a. Oleg Grabar, *The formation of Islamic Art*, Yale University, 1987; p. 46.
- (9) Concerning the actual excavation of the 'new cathedral', cf. preliminary report by Jean-Marie Dentzer, 'Fouilles Franco-Syriennes à l'est de l'arc nabatéen (1985-1987): une nouvelle cathédral à Bosra?', International colloquium: *La Siria araba da Roma a Bisanzio*, Ravenna, March 1988.
- (10) Macadam, *op. cit.*, p. 178.
- (11) *The Cambridge Economic History of Europe*, vol.I, Cambridge, 1952, p. 136; see also *The Cambridge Medieval History*, vol.IV, part I, Cambridge 1966, pp.29-30.
- (12) Sartre, *op.cit.*, p. 138. The structure fitted into the apse of the cathedral is shown in plan by de Vogüé, vol. II, pl. 22. See also Raffaella Farioli, 'Gli Scavi della chiesa dei SS. Sergio, Baccho e Leonzio a Bostra', *Berytus*, vol. XXXIII, 1985, pp. 61-74.

(13) Additional to the literature noted below the following chapters on the historic development of the Islamic town and the Islamic renaissance of Bosra is a condensed account of the material treated in part III containing a catalogue of the Muslim monuments in Bosra; see also the treatment of the subject in Flemming Aalund - Michael Meinecke - Riyadh Sulaiman al-Muqdad, *Islamic Bosra: a brief guide* (German Archaeological Institute), Damascus, 1990.

(14) Helga Seeden and Jim Wilson, 'Busra in the Hauran, AUB's ethnoarchaeological project 1980-85', *Berytus*, vol. XXXII, 1984, pp. 19-24. Refer likewise: Jim Wilson and Maria Sa'd, The domestic material culture of Nabataean to Umayyad Period Busra, *Berytus*, vol. XXXII, 1984, pp. 35-147.

K.A. Creswell, *Early Muslim Architecture*, vol. I, Oxford, 1932, p. 124, refers to two major earthquakes in the 8th cent., one lasting for days at Damascus, Tabor, Tiberias and Moab in 727 A.D. and subsequently in the same area of Palestine and Transjordanania in 129/747.

(15) Sophie Berthier, 'Sondage dans le secteur des Thermes Sud á Busra (Syrie) 1985', *Berytus*, vol XXXIII, Beirut, 1985, pp. 5-46.

(16) Geoffrey R.D.King, 'Two Byzantine churches in Northern Jordan and their re-use in the Islamic Period', *Damaszener Mitteilungen*, band 1, 1983, pp. 111-136; *idem.*, 'Some Churches of the Byzantine Period in the Jordanian Hawran', *Damaszener Mitteilungen*, band 3, 1988, pp. 35-75.

(17) *Islamic Bosra*, p.11; cf. also Jan-Christoph Heusch - Michael Meinecke, 'Grabung im 'abbasidischen Palastareal von ar-Raqqa/ar-Rafiqa 1982-83', *Damaszener Mitteilungen*, vol. 2, 1985, pp.85-86.

(18) Ibn Batuta, *op.cit.*, pp. 158-59; Sartre, *op.cit.*, p.136.

(19) George Tchalenko, *Villages Antiques de la Syrie du Nord*, Paris, vol. 1-II, 1953, vol. III, 1958.

(20) Oleg Grabar, 'Umayyad 'Palace' and the Abbasid 'revolution'', *Studia Islamica*, vol. 18, Paris, 1963, pp. 5-18.

(21) B.De Vries, 'Research at Umm el-Jimal, Jordan, 1972-1977', *Biblical Archeologist*, 1979, pp. 49-55.

(22) G.R.D.King, *op. cit.*, 1983, p.135; 1988, pp. 50-51 .

(23) Avraham Negev, ' House and city planning in the Ancient Negev and the Provincia Arabia', *Housing in arid lands*, (G. Golany ed.), London, 1980, pp.3-30. See also *idem.*, *Nabatean archaeology Today*, (Hagop Kevorkian Series on Near Eastern Art and Civilization), New York, 1986.

(24) Michael Meinecke, 'La ville de Salkhad pendant le moyen-age islamique', *Le Djebel al-Arab: histoire et patrimoine au Musée de Suweida* (Jean-Marie Dentzer ed.), [Paris, 1991].

(25) Sliman Mouqdad and Solange Ory, 'Bosra, cité Islamique', *Archéologia*, vol. 148, 1980, pp. 22-32.

- (26) Al-Makrizi, *Histoire des Sultans Mamlouks de l'Egypte*, (M. Quatremère trans. from Arabic), vol. I, Paris, 1837, p. 141.
- (27) A. Abel, Bosra, in *The Encyclopaedia of Islam*, New edition, Leiden and London, 1954.
- (28) Burckhardt describes that the castle was garrisoned by only seven 'Moggrebyns' and only twelve or fifteen families were living in the ruins by the time of his visit in 1811. John Lewis Burckhardt, *Travels in Syria and the Holy Land*, London, 1822, pp. 235-36.
- (29) The early photographic documentation of townscape and buildings is contained at the *Byzantine Collection*, Dumbarton Oaks, Trustees of Harvard University, Washington DC. A few prints are published by Seeden *et al. op. cit.*
- (30) For a study of the transition of current housing confer Ghada Azar, Giovanni Chimienti, Haytham Haddad and Helga Seeden, *Busra: Housing in tradition, Berytus*, 1985, pp 103-142.

PART II: THE VERNACULAR BUILDING TRADITION.

Introduction

The previous chapter has provided a broad historic outline of the urban development of Bosra. Under the Roman colonial influence, the concern for aesthetics and feeling for the monumental had produced a planned city with a distinct network of colonnaded streets. The Byzantine period had less regard for the linear lay-out of the street pattern. The large churches were sited away from the main streets of the Roman town, considerably influencing the character and appearance of the townscape. After the Islamic conquest, during a period of recession, the previous ambitious buildings could no longer be maintained. Nomades coming from the countryside eventually occupied the houses left empty by fleeing Christians or possibly took shelter in abandoned Roman and Byzantine structures. The cathedral was modified at some undefined date to accomodate a much smaller christian community, unable to maintain and repair the large edifices and over time, the Christian structures gradually fell into ruin and eventually collapsed.

During the period of Umayyad rule, no monumental building activity has been recorded in Bosra, but occupation continued as confirmed by archaeological evidence. In Bosra only one structure, dating from this period, has been excavated and extant buildings are difficult to verify, simply because later building programmes have eradicated or altered much of the early fabric. But smaller towns in the Hauran - Umm al-Jimal in particular, still provide valuable possibilities for the study of the vernacular tradition, possibly influencing the early Muslim architecture.

Whereas the classical Roman and Byzantine impact on the architecture often becomes immediately visible at the facades or from the architectural decoration, the plan and construction often remain concealed architectural features in need of a more detailed investigation and surveys. These structural and functional features may be rooted in a local and regional architecture that has continued to determine local way of building quite independent of architectural styles and fashions of different historic period. As a point of departure I would like to quote K.A.C.Creswell, referring to the so-called Roman palace at Bosra: '..the palace of the Roman governor, a monument, which has been completely ignored in all discussion on the origin of the Umayyad palace and its bayts' (1). It seems even more surprising that the vernacular tradition has been left out of consideration in this discussion. Well knowing that I am drawing upon a limited reference material, I then

endeavour to show the rich potential of the vernacular tradition of the Hauran as a means to understand the monumental architecture of the Umayyads.

The chapter will deal with the main features of the vernacular building tradition of the Hauran, emphasizing on materials, building techniques and architectural details considered to be of special importance for the development of the early Islamic architecture. Firstly, as a case study and as examples of the local vernacular tradition, four structures located at (a) Umm az-Zetun, (b) Mu'arribeh, (c) Djemmerin and (d) Inkhil are treated in some detail, figuring as a reference for the following discussion. Each of the four buildings feature special aspects of the vernacular tradition representative of the ancient housing in the Hauran, which will subsequently be discussed in more general terms under the following headings: (i) the walling, (ii) the roofing, (iii) the plan and structural form. The relevant survey drawings are placed at the end of the chapter and the respective plates at the end of the thesis.

(1) K.A.C. Creswell, *Early Muslim Architecture*, (reprint), New York, 1979, vol. I, part II, pp. 214-15. The monument is published by H.C. Butler, who dates the building from the early Roman period, see *PPUAES*, Div. II, A, pp. 255-260; the reconstruction ill. 229, does not include the staircase in the north-eastern corner of the building; this structure is similar to early Nabatean examples at Mampsis (modern Kurnub) possibly corroborating Sartres view, that the building may be attributed to the nabatean period of Rabbel II; cf. Maurice Sartre, *Bostra, des origines à l'islam*, *Bibliothèque archéologique et Historique*, vol. CXVII, Paris, 1985, p.94.

Case-studies of the vernacular tradition

A: Umm az-Zetun.

The small village of Umm az-Zetun is situated at the eastern boundary of the Ladja, about 10 kilometres to the north of Shahba. The ancient town quarters still preserve a few antique houses featuring highly finished front walls, ornamented door lintels, shaded window hoods and similar architectural details seemingly of Byzantine date.

The building surveyed and included as a case-study (fig.8), represents one of the very few ancient structures with a colonnade still standing intact to the full height of two stories in front of the facade. Of the Doric order, with the upper architrave moulded in a right-lined profile, this colonnade represents a perfect piece of classical architecture executed in conjunction with the traditional use of girder arch and stone slab roofing that otherwise form the characteristic features of the local architecture. Appearing without any architectural decoration only limited clues can help to establish a possible date of this structure.

In early antiquity, the use of colonnaded front arcades seems to have been common practise, but the vulnerable construction would tend to be the first part of the building to deteriorate and eventually collapse. The so-called 'palace' at Bosra may have been one of the most elaborate examples of a colonnaded courtyard, and in quite a number of cases, Butler is relating to fragmented columns laying among the debris in front of antique houses, f. ex. the Inkhil mansion (2). Ordinary houses of a more simple design, however, only have a string course to mark the horizontal floor division, and access to the upper floors is provided by external stairs of cantilevered stone planks extending from the wall and executed in a most daring construction. This building may then serve as a rare example of an extant classical colonnade that appear in combination with a traditional plan and construction.

(1) *PPUAES*, Div.II, sec. A, part 5, pp. 361-362.

(2) *Ibid.*, part 4, p.255 ff.

B: Mu'arribeh.

The small town of Mu'arribeh, situated about eight kilometers to the west of Bosra, near the road leading to Dera'a, displays four antique structures of exceptional quality. The one farmstead surveyed (1), illustrates several characteristic features of the truly lithic architecture, employing basalt stone for all parts of the construction, including doors, window shutters and stairs. One such two-winged stonedoor is preserved *in situ* as a vestige of the lithic details together with the broken stonesteps of stairs projecting from the walls (plates 9-10).

The preserved parts of the complex is made up of two wings, each containing one *bayt* (fig. 15). The one unit may have served as living quarters, while another was used as stabels. The partition walls are pierced to give room for the mangers, while the adjoining space is intended for the livestock. The L-shaped structure forms the one corner of an open courtyard, which originally may have been enclosed by additional structures to all four sides.

Looking through the complete survey of domestic structures in the Hauran as presented by Butler, it appears that the same uniform planning and construction has been used for all purposes, as it is also the case in this example at Mu'arribeh. Each single *bayt* consists of one large hall in the middle with the secondary rooms in two stories adjoint to each side. Structurally, the compartment is one self-contained unit in which the two lateral parts counterbalance the outward thrust of the big arch spanning the central hall and functionally, the *bayt* serves as a flexible, multipurpose and additive unit that can be combined and attached next to each other, in a variety of different ways. This structure may then figure as an example of the general use of the '*bayt*', serving all needs in domestic architecture.

(1) PPUAES, Div.II, sec.A, part 4, pp. 305-307.

C: Djemmerin.

The village of Djemmerin, located about three kilometres to the north of Bosra, where the ancient road leading towards the Ladja is crossing the Wadi az-Zaidi, boasts an excellent example of an antique 'villa' (1).

The front of the antique mansion is preserved to the height of two stories, displaying a perfect symmetry on either side of the middle axis (fig. 11-13). The living compartment consists of a large central space and several separate rooms composing the traditional Arab *bayt*. The one single arch of the hall has originally reached to a height of about 9 meters creating one large space with a total floor area of 9.50 metres square. At some undefined date, the room has been modified allowing for one more story to be added as indicated on the ideal reconstruction proposed by Butler. Whether the building originally had a pitched roof with a timber construction likewise proposed by Butler, remains a moot point. The proposal can possibly be grounded on the large span reaching to about four metres and far exceeding the length that was feasible to span with ceiling slabs of basalt stone. The rafter and purlin construction would not, however, have occurred simultaneously with the second floor, as it would have been inserted in connection with the alternative arch, reducing the free span to 2.50 metres and allowing the traditional use of ceiling slabs.

The one separate room to the right of the hall appear with an excellent quality of stone masonry and a highly articulated interior finish (fig. 13, plate 13). Divided into two parts, the front area is ceiled with slabs carried upon deep overhanging mouldings with a carved floral design at the corners. The rear portion of the room is covered by a barrel vault composed of basalt slabs, forming an *iwan* of exquisite workmanship. A similar arrangement though less sophisticated, can be traced at the first floor. To a bigger scale this feature can be found at Inkhil in the large stone vault of the main hall.

Originally serving as a farmstead, the stables are located at the eastern part of the building, being partly ruined however, the full extend of the structure can only be determined by archaeological excavation. On the basis of the architectural detailing and the excellent stone work, Butler dates the building to the 2nd. cent. A.D. (2), but in my opinion the construction details may just as well relate the building to the Byzantine period. Taking one example, the relieving lintel above the middle doorway features a delicate interlocking stonework that resembles a similar feature at the facade of the 'bishop's palace' at Bosra contemporary with the Cathedral of Sergius, Bacchus and Leontius at Bosra (512-13 A.D.). But also the vertical 'sun hood' above the windows is a common feature.

(1) PPUAES, Div.II, sec.A, part B, pp. 300-303.

The term 'villa' is used by H.C.Butler, *ibid.*. However, the wording alludes to a Roman country estate, I therefore prefer to use the term 'mansion' meaning any large and stately house.

(2) *Ibid.*, p. 303.

D: Inkhil.

The town of Inkhil is located south of as-Sanamain, about five kilometres to the west of the mainroad between Damascus and Deraa. The ancient quarters of the town include several well preserved mansions of which the so-called 'palace' is especially interesting (1).

The mansion, still partly inhabited, is divided into three compartments (*bayts*), each composed of a central hall with secondary rooms in one or two stories adjoint to one or both sides and together forming terraced houses (fig.8-10, plates 15-24). Only the northern wing is preserved, but the original complex may have included more wings surrounding a large courtyard with access at the south-east corner, where now the fragments of the portal is laying on the ground. Presently, the ancient town center is endangered by demolitions and several antique houses in the neighbourhood have already been knocked down in favour of new road constructions.

The central *bayt* is of impressive proportions, featuring a large hall in the middle and most astonishing, the vault of stone slabs with a slight ovoid shape is rising to a height of about seven metres measured from floor to ceiling (plate 24). The central and the eastern *bayt* have one of the separate rooms decorated with an elaborated cornice featuring carved floral motives and facial portraits in the style of the Palmyrene commemorative funeral reliefs (plates 21-22).

Relating to the classical traits in the ornamental decorations, Butler dated the building to the 2nd cent. A.D. (2). Dentzer-Feydy, discussing the chronology of classical ornament in the Hauran proposes a later dating, possibly 4th or 5th cent., arguing that the use of Greco-Roman ornaments ceased by the beginning of the 6th cent.(3). Certain construction details corroborate this dating. For example, the interlocking courses to be seen in the large central hall and the sun hood above the tripartite window arrangement are typical features of the Byzantine architecture in the area. Anyhow, the shell-niches put up at the interior seem to be re-used fragments, whereas the niches at the exterior facade in a much more convincingly way are incorporated into the masonry bond scheme.

In general, the Inkhil mansion has many features in common with the Djemmerin 'villa', but the front facade do not display a similar perfect symmetry and the extended second-hand use of architectural fragments for the construction, has not previously been noted. For example, the string course on the main facade shows remains of a bead-and-reel moulding, the

brackets above the interior doorways feature re-used basalt blocks with egg-and-dart mouldings and the composite character of the rich architectural decoration give reason to a well founded suspicion as to the authenticity of the structure.

Whatever date may be confirmed by proper archaeological stratifications, the ambiguity of plan and decoration is puzzling indeed. The planning follows the lay-out of domestic architecture related to the area and even more, the slightly ovoid form of the stonevault points to an eastern origin of the architectural vocabulary. In spite of the classical traits and motives, the free composition of the facade and the rich architectural decoration differs, however, from the traditional housing. On these grounds I am tempted to suggest that the free eclectic use of the various stylistic elements dates the building from the Umayyad period.

(1) PPUAES, Div.II, section A, part B, pp. 312-315.

(2) *ibid.*, p. 315.

(3) Jacqueline Dentzer-Feydy, 'Decor architectural et développement du Hauran dans l'antiquité', *Hauran I*, Paris, 1986, pp. 261-309.

The vernacular building tradition: General features.

The building form has been determined essentially by two factors. Firstly by the use of basalt as the sole building material forming a truly lithic architecture and secondly, by the extensive use of the semi-circular girder arch as a means to span any larger space, implying that basalt planks can be used for roofing. By and large the planning is determined by the uniform *bayt* made up by one large space in the middle, adjoined by secondary rooms to each side. A brief treatment of the various features of construction, determining the plan- and sectional form in the local architecture follows for discussion under the following headings: (i) the walling, (ii) the roofing, (iii) the plan and structural form, (iv) the *iwan*, and (v) the *bayt*.

(i) The walling: construction and materials

The basalt stone is everywhere locally available in the region. The hard and durable stone has been used as building material during all historic periods quite independent of the type and function of the building. The solid and heavy stone is forming a mass construction in which apertures and niches become the principal motive of the architectural vocabulary.

The double walls reach an average thickness of 70-90 centimeters with the front and rear facing of a different quality. The ashlar masonry of the front facade is generally distinguished by the degree of surface dressing varying from neatly picked given by the mason in contrast to the natural or crudely hammered surface used by the waller. Doorways and window openings are often accentuated by way of a specially refined surface treatment. Generally, the quality of the ashlar work is in keeping with the prominence of the building, and the buildings presented, display a superior quality of finish.

It remains a moot point to which extent the external facades have been rendered. The upper part of the minaret of al-Umari Mosque as well as the front facade of the al-Khidr Mosque in Bosra still bear patches of a hard, durable limeplaster. In the southern Hauran, Butler found ample evidence of a general use of plaster upon surfaces of all kinds in the architecture and even relates that a hard, thin coating was found covering highly finished architectural details (1). Looking to the domestic housing of to-day, it can be noted that the interior of courtyards generally are whitewashed and sometimes even plastered. In lack of economic means, mudplaster mixed with straw is commonly used on both internal and external surfaces. It might therefore be concluded that many more buildings have been plastered during more prosperous periods in history,

giving a more finished appearance of buildings and townscapes than the otherwise rather gloomy and dark basalt stonewalls can show.

The internal surface is always made for rendering. When the plaster has gone, the stone work shows a very crude finish apart from significant features and mouldings, which were intended for exposure.

For reasons of stability header stones were placed as cross joints perpendicular to the face of the wall at regular intervals providing more coherent strength to the double walls. In some cases the vertical stone courses have been strengthened by interlocking, horizontal joints, which may be a characteristic feature of the Byzantine building construction; this device is for example found in the wall construction of the Cathedral of Saints Sergius, Bacchus and Leontius in Bosra dated to the late VIth cent. It also appears at the St. George church in Ezra, as well as in the interior walling of the ancient house in Inkhil (fig. 8, longitudinal section).

Once quarried the stones have been used time and again for building purposes. Existing buildings have been pillaged and especially decorative and precious features have become the hall mark of other buildings, or the stones have been re-moulded to fill a new purpose making any dating of buildings a very tricky affair. Even for the construction of such a prestigious edifice as the Cathedral of Bosra, building stones with carvings dating from the 2nd.cent.A.D. have been re-used. Another prominent and recent example can be demonstrated by the transfer of the door-and window lintels from the Hammam Manjak to a private house belonging to the local sheikh family (confer catalog of Islamic buildings). In this particular case, the stones were easily identified due to the foundation text and the exceptional carvings of Mamluk origin. In most cases, however, the building stones remain anonymous.

(ii) The roofing.

The restrictions imposed by the bearing capacity of the basalt stone has determined the roofing shape. Most common is the flat roof obtained by spanning stoneplanks between corbel supports on top of the walls or stone-built arches. Above the corbels, the walls were carried up to about one metre or less, to weight the corbels and to hold them in place. Alternatively, double-ended corbelstones were frequently used for the slabs on either side of the partition wall to counterbalance each other.

The girder arches are spaced at regular intervals of about 2.5 to 3.3 metres and hardly exceeding 4 metres. Due to the maximum span of the basalt stone slabs, the load-bearing walls and

arches are placed at regular intervals creating an almost modular design. In exceptional cases double rows of corbels, one above the other have been used to span larger spaces. The width of the rooms is determined by the span of the arch, while the length depends on the number of girder arches used for the construction. This uniform construction method has been a characteristic feature of the Hauran architecture during all known historic periods up to about the 1950's, when Portland cement made reinforced concrete the supreme medium of construction radically changing the building style.

The use of girder arches is recorded in early Nabathean architecture of the Negev dating to the first centuries A.D. (3). The Parthian architects of northern Persia were using the same method of roofing with the only difference that they were building in lime stone requiring more sturdy dimensions, providing evidence that the building principle was employed within the whole of the Middle East at least from the 2nd cent. B.C. onwards (4). During the Byzantine period, lime stone was likewise used for girder arch constructions in combination with stone floor slabs to the north of Syria, as can be discovered f.ex. at Qalat Seman.

The extent to which wood was used for structural purposes is not fully documented. The large Roman civic buildings were generally roofed by vaults constructed of light volcanic scoria firmly set in Roman cement as can be seen at the partly preserved vaults of the bath buildings at Bosra. Vaults and domes were likewise constructed by use of cut stones as demonstrated in the most elaborate fashion in the Roman theatre (5). However, the large number of tile-stamps with the seal of the III Cyrenaica Legion identified in a surface survey immediately to the north of the ancient town, indicate extensive use of burned bricks and roof tiles, possibly used in combination with timber pitched roofs (6). But all of these examples relate to formally planned buildings, which do not represent the local building tradition.

The limestone buildings of northern Syria, and probably also the large Christian buildings of the Byzantine period to the South of Syria, had single and double rafter roofs in combination with floor slabs of stone as depicted very illustratively by M. de Vogüé (fig. 5). Many buildings in northern Syria are still standing to such a height that the gables are preserved intact showing the holes for the purlins. The farmstead at Djemmerin (fig. 11 and 12) and the so-called Praetorium at Umm al-Jimal may have had a similar roofing only to mention a few examples. But it is evident that timber for building purposes became rare and expensive leading to the dependence of stone as the only building material. The pediment in stone at the entrance porches of the Brâd convent and the Batuta chapel to the north of Syria, illustrate this process of transformation very clearly (fig. 7). The relief of the pediments are depicting a

wooden truss complete with rafters, tie-beam, king post and struts. The use of such motifs can only be interpreted as a reminiscence of an earlier construction method, depicting roof constructions previously prevailing in the area.

The Christians were forced to restrict the use of timber out of sheer necessity. After all, the cost of transport would increase proportionally to the distance from the mountains of Lebanon and timber would be applied only for the construction of very prestigious buildings. Strabo in *Geographica* (7) says directly that the houses of Babylonia and Sassania were all vaulted because of the lack of wood fit for roofing.

The ecclesiastical importance and spiritual meaning of the dome continued to influence the architecture of the great religious edifices no matter whether they were Christian or Muslim buildings. The cathedrals of Bosra were originally roofed by central domes constructed of timber (8). This tradition was carried on as exemplified by the construction of the dome of the madrasa at al-Mibrak Mosque (530/1136), indicating that timber would be available and continued to be used in exceptional cases (for a reconstruction see fig. 53). The transition from the square to the circle was provided by blocks of stone set across the angles. This primitive dome-setting was used in the Hauran already in Roman time as exemplified at the so-called Kalybé buildings at Shahba and Umm az-Zetun (9).

(iii) The plan and structural form.

Totally depending upon the basalt stone, the plan and the structural form of buildings are closely interrelated in the Hauran leading to a restricted architectural vocabulary. The semi-circular arch of equal, centripetal stones without a keystone is the form generally used for the traditional architecture. Every single stone of the arch is cut to the same curve giving a direct interdependence between the span and the rise of the arch and consequently, a large floor area would result in a similar higher floor-to-ceiling height. These structural implications can possibly explain the indiscriminate use of the large central space for different functions. For example, the one central room of the farmstead at Mu'arribeh served as a stable, while another of equal size where used as living quarters (fig. 15). This arrangement is common to many historic buildings of the Hauran and similar features can be found in Nabatean houses excavated in Mampsis dating from the first centuries A.D. (10).

Structurally it is an advantage to keep the springing of the arch low in order to reduce the outward thrust and to diminish the subsequent pressure on the external walls. The statical problem can be solved in various ways as exemplified by the ad-

Dabbagha Madrasa (fig. 59), where the walls of the adjoining rooms or the side-iwans are counterbalancing the outward thrust of the transverse arches. Alternatively, the combination of secondary rooms of lesser size in two stories positioned at both flanks of central hall with double floor-to-ceiling height, provide for the required counterbalance, possibly explaining the widespread use of the 'bayt' as the universal plan form. But generally the low springing of the arches remain a thoroughly local feature of construction (see f.ex. al-Fatima Mosque, fig. 46).

(iv) The sectional form: The iwan.

The lofty, open *iwan* was an integrated feature of the Parthian and Sasanian housing of Persia. The ruins of the main palace at Hatra for example, features the open porch in combination with a girder-and stoneslab roofing construction quite similar to the construction of vernacular houses in the Hauran. The most striking and impressive example is that of Ctesiphon, the main palace at the capital of the Sasanian kingdom in Iraq and Persia, where the great, open vault is spanning 23 metres. The climatic conditions may be the main reason for the common use of this feature as an integrated part of the architecture in the hot, arid areas. This feature has become almost synonymous with Islamic architecture, forming an integrated part of the architectural vocabulary and used as a metaphor to denote the essentials of the Islamic culture. Ibn Khaldun, the keenest observer of the medieval society writes (with reference to Cairo): '..She is the Mother of the World, the *Iwan* of Islam...'(11).

Using the Arab wording, the great *iwan* at Ctesiphon could very well be considered to be 'the Mother of *Iwans*', which played such an important role in the formation of medieval architectural concepts and continued to evoke admiration throughout the Islamic world. For example, the Egyptian historian Maqrizi refers to the grandious design of the central *iwan* at Ctesiphon as a source of inspiration, when he praises the Madrasa of Sultan Hasan ibn Muhammed al-Nasir (757-64/1356-62): 'It was built on the grandest scale in the finest harmony and stateliest form; no temple of the Muslims in all their lands is its equal... it is said to be greater by five cubits than the *iwan* of Kisra at Ctesiphon...'(12).

The spacious central hall of the Inkhil mansion, having the innermost bay spanned by a large stone vault (plate 24), is not an open *iwan* according to the general interpretation of the form vocabulary. However, there is good reasons to believe that the vault with a slight ovoid form, relates to the porch that can be found in the Sasanian architecture, indicating the continued eastern influence on the architecture in the Hauran.

(v) The plan form: The Bayt.

The Inkhil mansion is composed of three separate compartments, each with one big central room and several, secondary rooms adjoint. Obviously the size and decoration of the doorway accentuates different functions or the relative importance of the various units. It might have been built as terraced houses, possibly used for habitation by an extended family of several individual households, but it is difficult to suggest a definite function of the individual spaces, as long as the social organization and contemporary way of living is so little known.

The elaborate plans of the Umayyad palaces of Qasr al-Hayr and Mshatta (first half of 8th cent. A.D.) and the Abbasid palace of Ukhaydir (second half of the 8th cent. A.D.) may be considered an assemblage of similar smaller uniform housing units, joined together within a fortified complex of a formal design. Each of the individual units are typically composed of one central room or hall adjoint by smaller rooms on each side. The self-contained compartments are generally referred to as 'bayts', using the Arabic term for 'house' or 'dwelling', whether it might be the tent of the nomads or the house of sedentary people.

The plan arrangement also shows great resemblance to Parthian and Sasanian architecture of Persia and a reference to the main palace of Hatra falls near at hand (fig. 4). This formal structure of grand design is composed originally of two *iwans*. At a later time the palace was extended by adding two more in succession. Each of the *iwans* have secondary rooms in two stories connected with them. Apart from the scale and the open front of the *iwans*, the similarity of planning to the terraced houses at Inkhil is very striking indeed and hardly accidental.

Textual sources related to Umayyad ceremonies indicate that next to the formal *majlis* used for receptions, there was also a *majlis al lahwah* intended for entertainments and pleasure (13).

This description can give a plausible explanation to the plan form of the Inkhil mansion. The prodigious space of the central bayt with double floor to ceiling height would then be assigned to ceremonial functions serving as a reception room, or alternatively as an all-purpose room providing access to the secondary rooms, mostly without natural light and possibly serving as sleeping rooms. The same feature of construction can be found throughout the Hauran for the planning of domestic architecture.

The impressive barrel vault of dressed basalt stones spanning the inner-most bay of the Inkhil mansion (plate 24) accentuates the perception of a space intended for ceremonial functions and

cannot but give associations to the great vaults of the Umayyad and Abbasid palaces at for example Mshatta and Ukhadir, if not relating to the Partian main palace of Hatra or to the great royal Sasanian palace of Taq-i-Kisra at Ctesiphon. The vaults of Hauran may then be considered as a more modest reflection of the grandiose design or as a prototype depending on the relative age of construction, but it seems quite obvious that the planning are forming part of the same architectural vocabulary, irrespective of the building materials. The building tradition of Hauran has always been entirely depending on basalt stone requiring certain modifications compared to buildings constructed of bricks, but the principal features prevail, still available for study in simple house architecture in the Hauran due to the durability of the basaltstone.

The relationship between early Western Islamic architecture of the Umayyads and the Sasanian tradition has previously been indicated (14), but taking the ancient Inkhil mansion as an example, there is a Syrian vernacular tradition, which form a link between the Parthian and Sasanian architecture and the later Umayyad style. This relationship is pointing towards a pervasive eastern influence at the plan and form of building manifested quite independently of religious faith and changing politics.

On this background it is perhaps an underestimation of the Umayyads to relate to the desert 'palaces' with their spacious rooms as 'barely organized shelters to which a still partly nomadic population brought rugs, pots and bundles' (15).

Conclusion:

Centering on the classical Roman and Byzantine architecture of the Near East, monuments have often been dated too early. Even today much doubt exists whether the ruins at Anjar in Lebanon are Umayyad or earlier and due to the many classical traits, Qasr al-Hayr East in Syria was considered for a long time to be a Roman fort or city in spite of its fairly well preserved mosque (16). It might be sensible to assume that these new, highly sophisticated desert settlements were closely related and depending on an agrarian community, which persisted in the Hauran. Assuming that the desert settlements are reflecting a contemporary building tradition firmly established in the more fertile parts of the Hauran, it would then be obvious to conclude that they were part of the same cultural establishment, which continued to exist within the Hauran also after the Islamic conquest of 13/634 A.D.

The elaborate facade of the terraced houses at Inkhil is presenting a puzzling example of re-use as outlined in the presentation of the building. Supposing that the stones and

architectural detailing originate from a highly sophisticated building dating from the Roman or Byzantine period, it would be logical to grant it a reasonable span of life before demolition and the new structure may be considerably later than the IV - Vth cent. A.D., possibly being erected well into the Umayyad period (17).

There is no doubt that a good deal of imitation took place throughout the Hauran, as it is always the case in architectural development. Especially in a period of instability with a still undetermined future, the local craftsmen may have resorted to the use of the previous skills and traditions, picking up whatever available materials were at hand and combining the various fragments according to local taste and likings. In such cases a considerable timelack has to be reckoned and the arbitrary adaptations of local as well as imported architectural fashion easily leads to an eclectic architecture, which cannot alone be dated on basis of a unique architectural style of a specific historic period.

Very well aware of the limited reference material, but many more examples can be drawn from the list of buildings published by Butler, I endeavour to conclude that the *bayt* was the basic housing unit in the Syrian vernacular architecture of the Hauran. The plan and construction can be traced to an eastern influence of Partian and Sasanian architecture, but only few monumental buildings are known from these historic periods; not to speak of the vernacular housing, which have all gone due to the fragile building materials of bricks. In Syria these anonymous structures are preserved in a fairly good condition up to the present day because of the hard and durable basalt stone, providing a unique possibility to study examples of a regional architecture that was used in Umayyad and well into the Abbasid period. What eventually will happen with these vestiges of the vernacular tradition in consequence of the current rapid town development is quite another story.

Notes and references

- (1) PPUAES, Div.II, sec.A, part 2, p.69.
- (2) PPUAES, *op. cit.*, p. 312
- (3) Avraham Negev, House and city planning in the Ancient Negev and the Provincia Arabia, *Housing in Arid lands*, (G. Golany ed.), London, 1980, pp. 3-32.
- (4) Oscar Reuter, 'Partian private houses and palaces', *A survey of Persian Art* (A. Upham Pope, ed.), vol.I, London, 1939, pp. 426 ff.
- (5) Helge Finsen, *Le levé du Theatre Romain, Anelecta Romana Instituti Danici VI*, Supplementum, Copenhagen, 1972.

- (6) Raymond Brulet, *Estampillers de la IIIe légion Cyrénaique à Bostra, Berytus*, vol. 32, 1984, pp. 175-179. See also Henry Macadam, *Bostra Gloriosa, Berytus*, vol. 33, 1986, p. 176.
- (7) Strabo, *Geographica*, (1472), book XVI, chapter i.5; as referred by Oscar Reuther, *op.cit.*, p. 427.
- (8) Herzfeld, 1943, vol. III, p.67.
- (9) M.de Vogüe, vol. I, pl. 6. The Kalybé at Umm az-Zetun is also discussed by K.A.Creswell, *Early Muslim Architecture*, vol.I, Oxford, 1932, p. 308.
- (10) A. Negev, *op. cit.*, p. 3-32.
- (11) John Alden Williams, 'Urbanization and Monument constructions in Mamluk Cairo', *Muqarnas, An Annual on Islamic Art and Architecture* (O. Grabar, ed.), vol. 2, Yale University Press, 1984, p. 33.
- (12) Makrizi, *Khitat*, quoted by John Alden Williams, *ibid.* p. 45.
- (13) Oleg Grabar, *The formation of Islamic Art*, Yale University Press, 1987, p.148.
- (14) The subject is especially treated by:
- Franz Oelmann, *Hilani und Liwan haus, Bonner Jahrbücher*, vol. 127, 1922, pp. 189-236.
 - K.A.C. Creswell, *Early Muslim Architecture*, (reprint), New York, 1979, vol. I, part II, pp. 515-518.

It may be relevant also to compare with the local building tradition of Khorassan, in present day Afghanistan, showing a quite similar plan and structural form of buildings quite independent of material testifying to a widespread use of the *bayt* as the typical housing unit within the Near East and Central Asia throughout all historic periods.

- (15) O. Grabar, *op. cit.*, p. 143.
- (16) *ibid.*, p.168-70.
- (17) For a more detailed analysis of the architectural decoration in the Roman and Byzantine Hauran confer J. Dentzer-Feydy, 'Décor Architectural et Développement du Hauran dans l'Antiquité', *Bibliothèque archéologique et historique*, vol. 124, Hauran I, (J.-M.Dentzer, ed.), Paris, 1985, pp. 261-309.

PART III: THE MUSLIM MONUMENTS OF BOSRA.

Introduction

The previous chapters provide a broad outline of the history of Bosra and the architectural development in the Hauran, centering on the vernacular tradition in the pre-Islamic period. The proliferation of historic ruins throughout the gently sloping countryside of the Hauran and the hilly parts of the Jabal Hauran give evidence of the rich and varied cultural influences that shaped the building form and style. The number of monuments are quite astonishing, considering that the well-cut stone blocks have been taken from existing buildings to be used time and again for new constructions. For this reason the extant buildings do not provide a reliable picture of any specific historic period. Furthermore, the frequent re-use of building stones in combination with the durability of the basaltstone, makes it difficult to establish an exact chronological reference to the building development in the region.

Obviously, the plan and sectional form of domestic houses did not undergo any substantial changes from the Nabatean and well into the Umayyad period. Only very few vestiges of building activities in the Abbasid period are recorded and the subsequent development of the vernacular architecture is difficult to trace in lack of archaeological evidence, and anonymous domestic housing can only be verified from authentic archaeological stratifications, which are still few in the area. The devastating effect on the entire urban situation that was caused by several earthquakes in the 2nd/8th cent., may be one reason to the complete lack of monumental buildings from this period in the Hauran. But also the shift of the capital from Damascus to Bagdhad transferred the dynamic development within Islam further eastwards. This situation, however, would not necessarily lead to a total depopulation of the Hauran.

Generally the Muslim monuments are dated by foundation inscriptions. The first inscriptions dating from the formative years of Islam possibly relate to the construction of the al-Umari Mosque, but the provenance of the inscription stones being uncertain, the first affirmative Islamic construction can be assigned to the year 481/1088, when the initial fortification of the Roman theatre took place. During the following three centuries a series of major construction schemes were accomplished in Bosra testifying to a new revitalization of the city during the Ayyubid and Mamluk periods. Each of these monuments will be treated in following chapter arranged as a catalogue of buildings.

The Bosra citadel (481/1088 - 649/1251-52) .

Introduction.

The Ayyubid citadel encircling the Roman theatre is the mightiest and most conspicuous structure of Bosra. Whereas most of the antique buildings have been pillaged in the course of time, the Roman theatre of the early 2nd century A.D. ranks together with the Aspendus (Greek: Aspendos) theatre in Antalya province in Turkey, among the best preserved buildings of the kind within the entire Roman world.

The preservation is mainly due to the fact that the theatre came to serve a new function, justifying its continued existence: At first the two staircase towers situated at the flanks of the *scaena* of the theatre were altered for defence purposes in 481/1088. Subsequently all the numerous entrances from the outside were closed off and in a short time, the Roman theatre was turned into a stronghold. Gradually, during a period of about 150 years the outer facade of the theatre became surrounded and strengthened by the construction of a subsidiary outer line of defence consisting of altogether nine towers and intermediate curtain walls. To the inside the *cavea* was encapsulated by the construction of a cistern with two vaulted stories above serving as magazines and arsenal of the garrison. The final form, with eight massive towers projecting from the defensive perimeter of the citadel was finally reached in about 649/1251-52.

To-day the building displays a remarkable example of medieval fortification, warfare and military strategy testifying to the important position of Bosra as a stronghold, especially to the Ayyubid empire under the threath of the crusaders and the Mongols. From an historic and architectural point of view, the design and methods of construction display a remarkable development, allowing for the study of ten centuries of building history within the same edifice.

Previous studies of the edifice.

Due to the complex origin of the structure any description of the citadel has to take its point of departure in the original Roman structure. The very first sketchy survey was prepared by Guillaume Rey in 1858 (1). Subsequently M. de Vogüe treated the citadel and presented a drawing in the monumental volumes on Syrian monumental architecture (2) (fig.18). In 1897-1898

Brünnow and von Domaszewski (3) made a more comprehensive survey, which was subsequently used as a basis for the publication by H.C. Butler in 1914 (4).

In connection with the restoration efforts by the Directorate of Antiquities, lasting from 1946 to 1970 various attempts have been made to accomplish a detailed and correct documentation of the intriguing and very complex structure. A set of sketch plans in the approximate scale of 1:500 were completed during the French mandate period indicating a project of electric installations. A more thorough study was initiated in the 1950's under the then Director General of Antiquities Dja'far al Hassani and dr. Selim Abdulhak (5) and the results were published in 1956 by A. Abel (6), providing a general presentation of the chronological building development based on the Arabic inscriptions translated by Enno Littmann (7).

In the 1960's, under the general direction of the late Sulaiman 'Abd Allah al Mouqdad, a comprehensive archaeological campaign for Bosra was undertaken with the assistance of Unesco (8). As part of the international assistance, a detailed survey of the Roman theatre was completed under the direction of Helge Finsen documenting the accessible parts in an excellent set of measured drawings in scale 1:100 and related details (9). At the time of survey, the Ayyubid magazines and arsenal had been cleared away aiming at the exposure of the Roman *cavea* and *scaena* front. Simultaneously a french architect, L.Bayrou, working for the 'Groups des Travaux Archaeologiques de Bosra' in 1975 and 1976 started to measure the individual towers.

The building survey.

The actual survey of the citadel was accomplished in 1987 aiming at a complete and intelligible presentation of the Roman theatre and the Islamic Citadel as one building complex.

The plans of the citadel are not easy to comprehend and the survey is complicated to carry out due to the maze of dark corridors, ramps, staircases, interrelated rooms and open plateaus located at different levels. For example, the main access corridor connecting the north-western and the north-eastern bastion running along the northern flank of the *proscenium* forms a ramp with a difference in level of about 6.50 meters. For this reason the plans are not drawn on a level, but follow the sloping floors with the horizontal section cut about one meter above the actual level of the individual space. A shift of level has been required only in a few cases, otherwise the plans provide a visual presentation of the circulation pattern throughout the complex. In addition to the main floor plans, inserted floors are added in the appropriate context.

Altogether four plans are drawn:

- **Level 0:** showing the moat and interrelated rooms below the main entrance level of the drawbridge, including the water reservoir inside the *cavea* of the Roman theatre (fig. 19 and 24).
- **Level 1:** showing the entrance level of the drawbridge, main access ramp and adjacent rooms, including the vaulted spaces that surround the theatre providing access to the individual towers and the magazines inside the *cavea* of the Roman theatre (fig. 20 and 25).
- **Level 2:** presenting the open plateau from where the towers rise as individual structures connected by crenellated curtainwalls. At this level the former arsenal is incorporated into the *cavea* of the Roman theatre (fig. 21 and 26).
- **level 3:** showing the roof plan of the entire citadel and theatre (fig. 22 and 27).

Additionally, two main sections give an understanding of the construction and the means of communication between the various levels.

Essentially the survey provides a documentation of the present situation. The Roman structure is reproduced from the original Finsen survey from 1972 as indicated by a dotted marking in all sections. The two lateral porticoes and staircase towers of Roman origin have been included in the present survey as well as other details not previously accessible. In the main, the authenticity of the Roman structure has been preserved remarkably well and only in a few places makeshift masonry of a later date have disfigured the excellence of the Roman craftsmanship.

Another set of drawings includes the magazines and arsenal inside the *cavea* presenting a reconstruction of the medieval appearance on the basis of a set of sketch drawings of the arsenal prepared before the demolition.

The chronological building development.

A : The Seljuk fortification (481/1088 - 541/1147-48).

The initial fortification of the Roman theatre dates from the year 481/1089 according to an inscription disclosed on a stone found at the base of the eastern staircase tower during

restoration in 1948 (10). The text relates to the construction carried out under the orders of the military commander, 'Abd al Malik for the Turkish general Shams ad-Daula Abu Mansur Kumushtakin. This dating means that the first construction works took place shortly after the arrival of the Seljuks in Syria in 468/1067-68. A subsequent commander with the same name of Kumushtakin (11) initiated comprehensive schemes for the revival of Bosra during the first half of the 5th/12th cent., including works on the al-Umari Mosque, the al-Khidr Mosque and most notably the erection of the *madrassa* attached to the al-Mibrak Mosque was initiated.

A. Abel considers the two flanking staircase towers to the result of this first Seljuk fortification efforts (12), but obviously makes the judgement on basis of the upper parts only and fails to acknowledge the Roman origin. Obviously, the flight of steps has been reorganized at a certain time, possibly as a result of restoration works by which parts of the outer facing has been changed, especially on the eastern staircase (tower no.2, see schematic plan fig.16). This restoration may actually relate to works carried out by order of the Seljuk commander Abu Mansur Kumustakin. However, a close investigation reveals how well these two symmetrical towers are incorporated in the original Roman design. Protruding from the curved external facade of the *cavea*, both of the staircase towers form an integrated part of the structures surrounding the eastern and western portico. Originally there would have been access from the outside directly into the porticos from the south, but these entrances to the theatre have been blocked up (see plan fig. 19). The masonry also binds well into the courses of the outer facade of the theatre up to a height of three courses above the roof terrace of the staircase towers. This height corresponds to the height of a parapet, whereas no sign of bonds appears in the masonry at a higher level.

Obviously, the initial Seljuk fortifications have implied the addition of the upper parts of the staircase towers only. The better preserved western staircase tower (no.1) have two stories added on top of the Roman tower constructed in the typical Hauran fashion with the floors of stoneslabs carried on transverse arches (see section, fig. 23). The floor is no longer existing, but the crenelated parapet wall is preserved to its original height including several embrasures. The flight of steps in the eastern staircase tower (no.2) has been altered and the bossed masonry at the base of the tower appears as the result of a later rebuilding at some undefined period. At the top, only remnants of the Roman parapet have been preserved with traces of a beveled embrasure.

According to an inscription, the tower leaning against the perimeter wall of the Roman theatre to the south-west was built

in 542/1147-48 (tower no.3) (13). Ordered by the ruler of Damascus Abu Sai'id Abaq only sixty years after the initial fortification of the theatre, the continued efforts were possibly speeded up in fear of an attack by the Crusaders. By simply blocking all openings to the outside, the whole building very quickly was turned into a stronghold from where the archers could shoot in all directions. The first unsuccessful attack was launched the very same year by Boudin III and four years later, another assault was attempted by the crusaders in 545/1151 (14).

The Seljuk tower displays the same method of construction as can be seen at the upper part of the western staircase tower with a simple and rather crude stone masonry. Niches in the wall with a flat lintel give room for the archer and the narrow arrowslid with the sides bevelled provides protection and flexibility at the same time (fig. 33). The horizontal floor divisions are constructed according to the local tradition by use of girder arches, stone corbels and stone slabs. The topmost part facing the theatre is built upon the curved perimeter wall of the theatre with Roman corbel stones for the seating of timber masts still *in situ*.

Brünnow and Domaszewski put forward the opinion that the theatre originally was surrounded by an outer colonnade, as commonly found elsewhere on Roman theaters (15). The argument is based mainly on the fact that the recess on the external semicircular facade of the theatre could provide the support of an outer arcade. The proposed reconstruction does not, however, consider the existence of the pierced corbel stones with holes for the support of wooden poles along the perimeter wall. The towering masts would originally give hold to the ropes extending to support the front of a wooden sloping suspended above the stage. R. Amy is proposing an outer arcade of lesser height that possibly can exist in combination with seating of the timber masts (16), but still a hypothetical suggestion only an archaeological excavation can give a definite answer. However, it is not logical that an outer arcade had to be demolished altogether, before the fortification could be started and it seems more sensible that the recess running around the external *cavea* facade of the theatre has been supporting a decorative frieze or inscription carved in limestone or mable, which has been pillaged at a later time.

A. Abel also suggests that the small square openings measuring about 40 by 40 centimetres in the northern exterior *postscaena* facade are made for defense purposes by the Arab archers (17). However, the holes are positioned on level with the floor division of the corridor behind. The holes in question are more likely beam holes supporting a portico or an arcade, which originally extended along the northern front facade of the theatre. The full extent of the arcade cannot be confirmed as most parts of the facade is concealed behind the later Islamic

structures. It seems logical, however, that the main facade of the theatre originally had a colonnade to give emphasis to the main entrances for actors and prominent guests arriving from the town via the two colonnaded streets (18).

It can be assumed that the first entrance to the Islamic stronghold was situated to the north-east, where one of the original Roman portals leading into the portico has been modified and made higher by a pointed arch. At a later time, this entrance-way has been closed off by the construction of the north-western tower, probably using an older bastion as a solid base for the new and enlarged tower towards the north-east (tower no. 10, see fig. 19).

During the following period between 542/1147 and 599/1202 no building activity is recorded. Judging from the complex and composite character of the structure, construction works may have continued during the intermediate time anticipating a more formalized design. As suggested by A. Abel, it may be assumed that an outer defence system was encircling the whole of the theatre and reaching to a height of about one storey only. An advanced position forming a lower plateau as compared to the theatre could possibly have improved the capability of defense and this assumption would anyhow give an explanation to the many apparently haphazard design solutions that appears especially at the north-eastern part of the complex.

B : The Ayyubid period (599/1202 - 649/1251-51).

From 599/1202 to 649/1251 the chronological building sequence can be followed with great accuracy due to the commemorative inscription slabs and frizes at all towers, providing epigraphic evidence of the year of completion and name of the governing ruler. The immense achievement of consolidating and expanding the citadel was triggered off by the continued threat exerted by the crusaders and the consequent demand of a standing army stationed in Bosra to maintain control of the Hauran. Within a period of only half a century additional eight towers were erected in an advanced position of the previous structure to leave room for a complex of interior corridors and defence installations. Additionally, the required space for magazines and arsenal was provided by the construction of a vaulted structure inside the Roman theatre. The major part of this monumental building programme can be credited to the Ayyubid ruler of Damascus al-Adil Abu Bakr (592/1196-615/1218), who commissioned the construction of similar fortifications at the most strategic places throughout Syria and Egypt (20).

The character of the masonry and the architectural form and detailing of the individual structures indicate two distinct

building periods and the chronological building sequence is furthermore corroborated by epigraphic inscriptions dating the completion of the individual towers.

The first Ayyubid constructions.

The construction of the north-western bastion (no. 4), named the 'Tower of Founded Victory', made a start on the new building scheme in 599/1202-3. As stated by the inscription on the eastern facade, it was built by the mastermason Ibrahim ibn 'Ali ibn Fuhaid under the supervision of the governor of Bosra, Sunkur at-Tughrultakini (21). Though considerably altered in the Ottoman period, the lower storey still demonstrates the use of barrel vaulting for the floor construction, which is not previously recognized in the region since the Roman period. Assuming that defense structures were already existing to the north-east of the theatre, the two succeeding towers dating from 608/1211-12 and 610/1213 respectively (tower no.10 and no.9) are partly constructed on top of the previous structures with remains of the earlier works incorporated in the fabric. The cross vaulting used for the construction was for the first time used in Bosra testifying to the influence of an imperial design concept transplanted from Damascus (22).

The surrounding moat is then likewise part of the new defence system that was launched in 509/1202. Consequently, access to the citadel could take place only by way of the access bridge spanning the ditch. The drawbridges formerly placed at both ends of the bridge furthermore helped to repel an attack. This defensive arrangement necessitated an elevated entrance level, as compared to the original entrance level of the theatre, explaining the requirements of the long ramp connecting the lowest level of the theatre with the new elevated entrance level. The long sloping corridor running all along the *scaena* of the Roman theatre, forms part of the main circulation pattern designed for easy transport of heavy ordnance and high mobility of men-at-arms and horses within the citadel.

The tower positioned immediately to the south of the main entrance (tower no. 9), was terminated within a period of only eight months in 610/1213 according to the building inscription (23). By this time, form and function of the Ayyubid fortification was firmly established. The plan of the individual tower is characterized by one central space that allows easy replacement of the bowmen and the possibility of shooting in all three out-turned directions according to instant needs. Obviously, the quality of the masonry has improved in the course of construction, so far reaching to the highest quality of stone cutting in the construction of the two entrance towers guarding the bridge. Especially noteworthy is

the elaborate use of squared Roman columns for the quoins (fig.29). The two lower floors of tower no. 8 and tower no. 6, facing towards south-east and due south respectively, originate from the same building period, but they were both enlarged and the masonry solidified by the middle of the century.

The second Ayyubid construction period.

By the construction in 612/1215 of the big central donjon (24) facing due north (tower no. 11), a new design was introduced emphasizing symmetry. The space conception is of compelling grandeur introducing the four-iwan plan for the lay-out of the large reception room at the upper floor, obviously intended as the residence of the military commander and the governor of Bosra, who then had the large place of parade situated immediately in front of the tower. The largest lateral iwans are separated from the central space by a tripartite partition wall, quite similar to the *madrassa* attached to the al-Mibrak Mosque in 530/1136. This feature, otherwise completely alien to the general method of construction in Bosra and the Hauran, is likewise characteristic of the south-western tower constructed in 615/1218 (tower no. 5) (25) reaching to the highest perfection of Ayyubid military architecture.

These two towers are almost identical in every single detail. For example, the one of the secondary rooms next to the main reception hall have a chimney-like open shaft above, running through two stories, possibly providing for improved ventilation of a latrine. Built of cyclopean and bossed masonry, the size reaches the same dimensions of 20 by 25 metres to the exterior. Both of them make use of Roman columns to span above corridors and stairways, and the doorways to each side of the towers, previously connected to wallwalks at the top of the adjoining curtain walls, indicate how men-at-arms were able to patrol the entire citadel at roof level.

Displaying similar features, though lesser in size, the tower facing towards southeast (no. 7) is probably contemporary. But strangely, there is no building inscription to confirm the dating. The subsequent enlargement of tower no. 6 in 647/1249 and tower no. 8 in 649/1251 (26) was required to match the approximate proportions of all eight towers. The wall construction makes use of Roman columns as headers, possibly in lack of a genuine bonding with the backing, again indicating the extensive re-use of building material pillaged from the classical buildings. This final completion of the exterior fortifications, commissioned by the last Ayyubid ruler of Damascus, an-Nasir Yusuf II (648/1250-658/1260) (27), brought the citadel to its ultimate imposing appearance.

The arsenal and magazines (620/1223-24 - 629/1231-32).

The mosque inside the theatre was completed in 620/1223 according to inscriptions (28). Built on top of the *proscenium* the mosque takes advantage of the most prominent position within the theatre using the *porta regia* as the main entrance. The construction must have required demolition of parts of the colonaded *frons scaenae* and noteworthy, the time of construction is contemporary with the restoration of the great Friday Mosque using limestone columns and capitals from the Roman theatre. The circumstances speak in favour of a co-ordinated building activity that was initiated by the Ayyubid prince as-Salih Isma'il during the first years of governorship when he held the fief of Bosra (615/1218 - 644/1246) and for most of the time was residing in the Citadel (29). It may then be supposed that he likewise commissioned the construction of the bath installed in the eastern portico of the theatre.

The survey drawings prepared by the 'Groups des Travaux Archéologiques de Bosra' include only a sketch plan of the bath (30). As only this incomplete plan is existing, the position inside the eastern portico of the Roman theatre is conjectured showing no details of related service rooms and water installations (fig. 19). Following the demolition of the bath in the 1960's, the water basin was transferred to the exhibition hall of the ethnographic collection in the south-western tower (tower no. 5, fig. 21). Placed in a new environment, however, the elaborate marble facing and polychrome mosaics, depicting fish and water birds provide some impression of luxury within the otherwise grim military complex.

Inside the *orchestra* - and extending to cover the tier of seats of the *cavea*, a vaulted structure in three stories was erected to serve as magazines and arsenal. The ground floor was closed off and functioned as a water reservoir in case of a siege. The water was piped in from the nearby open cistern, Birkat al-Hajj located to the south-east of the ancient town. The two upper floors were completed in 625/1227 and 629/1231 respectively (31). Photographs dating from around the turn of the century show the flat roof of the structure, extending as far as the upper level of the *cavea* provided direct access to an inferior structure erected in replacement of the arcade at the western part of the *cavea*. Furthermore, at roof level direct access was provided to the roof plateau of the south-western tower (no.5). The vaults previously spanning between the donjon and the theatre have disappeared, but the springers of the reinforcing ribs are still visible in the masonry .

All the structures inside the *cavea*, are now cleared away in order to expose again essential parts of the Roman theatre and

to make new use of it for public performances.
Construction details.

The construction of the citadel developed over time in quality and sophistication. For example, the first embrasures in the walls of the Seljuk tower dating from 542/1147-48 (tower no. 3), are worked out very simple, forming a wall niche covered by a horizontal stone lintel (fig. 33). At a later time, the shooting niches are spanned by a rough stone segmental arch with tapered mortar joints as it can be observed in the northern curtain wall (fig. 34), probably constructed around 612/1215-16. And finally, during the later periods of construction, the embrasures were built with pointed arches of well-jointed voussoirs (fig. 35), as it can be seen at the south-western tower (tower no. 8) .

A similar refinement in the quality of the external masonry can be observed. In the description of the initial modifications of the Roman theatre and the construction of the Seljuk tower (nr. 3), it has already been noted that the construction followed the local building tradition and the masonry of irregular coursing still appear rather casual. Likewise, the subsequent erection of the north-western and north-east bastion (tower no. 4 and 10 respectively) make use of relatively small blocks of stone that vary in size, while the entrance tower (no. 9) have stone work of even coursing throughout.

Whereas the masonry of inferior quality at the upper part of the north-western tower is due to later rebuilding in Ottoman times, all three towers have the quoins in common, using long and partly squared Roman columns as cornerstones (fig. 29). Additionally, there is no bond between the glacis and the wall behind, indicating a later date of this particular feature of fortification. The succeeding two towers (no. 5 and no.11) and the northern curtain wall are built of cyclopean masonry with large bosses (fig. 30). The north-eastern tower (tower no.7) has stonework of a similar type, whereas the facing of tower no. 6 and no. 8 is built with Roman column shafts as headers (fig. 31). Logically, this special feature of construction can be explained by the need of creating a stronger and more cohesive masonry of the outer facing, which have no bond to the former tower behind. Interestingly, the same technique had been used 25 years earlier for the northern extension of the Great Mosque in 618/1221-22, possibly indicating a relationship between these two building schemes.

Defence measures.

The citadel displays all the characteristic defence measures invented during the Middle Ages to frustrate an attack. The single entrance is defensible at the gate by ditch and draw

bridge. The access is well overlooked and controlled from the two flanking towers commanding the bridge. The oblique entrance makes the use of a battering ram almost impossible. Moreover, a trapdoor can provide extra protection in combination with *meurtrière* holes located in the roof above and eventually, in the worst of cases a second gateway situated inside the main access corridor would trap the intruding enemy.

In general, each tower and sector of the citadel would be individually defensible. The towers would be accessible by stairs, having doors at each level to isolate one or more floors or sections of the tower. Likewise, the spacious gun-platforms at the roof of the towers were fortified only to the outside prohibiting possible intruders launching further attack from individual towers on the rest of the citadel. It also appears that the size of stones used for the external masonry of the towers is larger than the size generally used for the facades turned towards the inside.

Maximum command of the curtain walls was secured by the construction of overhanging crenellations as it can still be seen at the northern flank of the citadel. Projecting box *machicoulis* were situated high on the towers above all corners, where the curtain walls and towers join each other (fig. 32). From these secure positions the soldiers could drop molten lead, boiling oil or projectiles on the attackers. Wallwalks, well protected by embrasures gave access directly to doors that are now located high on the walls to each side of the towers. These doorways and the related flight of stairs are now mainly blocked and the wallwalks have been demolished. Originally providing direct access to the gun platforms of each tower, these internal connections facilitated patrol at roof level of all parts of the citadel and eased the shift of ordnance supply.

However, the passive defence behind the stout walls was rendered quite deceptive as a consequence of changes and improvements in weaponry and siege methods. The long range artillery, especially the counterweight trebuchet, brought about a revolution in siegecraft throughout the Mediterranean region in the middle of the 12th century (32). During this period of armed conflicts many well-fortified cities were taken with ease. As a retaliatory measure it became necessary to formulate a new defensive system preventing the enemy to come at close range of the citadel with their weapons. The subsequent change of military tactics from defensive to mainly offensive strategies required large artillery emplacements on top of the towers to accommodate and support these trebuchets. Likewise, it could be essential to make a sally out against the besiegers explaining the position of the doorways opening directly onto the ditch (see plan of lower level, fig 19).

The new citadel, - how mighty it may still appear, did not

maintain military importance for very long. The repeated onslaughts on the citadel by the Crusaders was abortive, but it did not withstand the attack of the Mongol army in 658/1260. Afterwards, major repair was organized by the Mamluk army of sultan az-Zahir Baibars (33), and that effort remains the last to ensure the continued military use of citadel. At the later part of the Middle Ages the cannon necessitated yet a different defence system and the citadel of Bosra became a vestige only of medieval warfare.

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- (2) M.de Vogüe, vol.I, pl. 5
- (3). Brünnow and Domaszewski, vol. III, pp. 44-84.
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- (7). Enno Littmann, pp.41-59.
- (8) R. Amy, *Mise en valeur de Bosra-Cham*, UNESCO, Paris 1969.
- (9) Helge Finsen, 'Le levé du Theatre Romain', *Analecta Romana Instituti Danici VI*, supplementum, Copenhagen 1972. The survey and drawings were completed by Anne and Jørn Ørum-Nielsen and Birthe and Thorkel Dahl, Copenhagen.
- (10) A.Abel, *op. cit.*, p. 101.
- (11) Kumushtakin (died 541/1146-47) held the fiefs of Bosra and Salkhad as official (*atabek*) of the Burids (497/1103-549/1154), cf. Enno Littmann, p. 24.
- (12) A.Abel, *op.cit.*, p, 101-102.
- (13) *Islamic Bosra*, p.18
- (14) A.Abel, *op.cit.*, p. 104.
- (15) Brünnow and Domaszewski, vol. III, planche LI, p.64. Also published by PPUAES, II A, plate XV.
- (16) Sulaiman A. Mougdad, *Bosra, Historical and archaeological guide*,

Damascus, 1978, p.

- (17) A.Abel, *op.cit.*, p. 115-116.
- (18) Starting at the Central Arch the western colonnaded street has already been excavated, while a matching parallel street starting from the Nymphaeum and the Kalybé, possibly appears from excavations to the east of the South Baths presently under excavation by the French Archæological Mission, cf. preliminary report: Sophie Berthier, 'Sondage dans le secteur des Thermes Sud à Busra', *Berytus*, vol XXXIII, Beirut, 1985, pp. 5-46.
- (19) A.Abel, *op.cit.*, p. 122.
- (20) P.E.Chevedden, *The citadel of Damascus and al-Adil's new system of defensive planning*, 2. vol., (unpublished Ph.D. diss., University of California), L.A., 1986.
- (21) Enno Littmann, p. 41.
- (22) Concerning the imperial design concept cf. Michael Meinecke, 'Der Hammam Mangak und die Islamische architectur von Busra', *Berytus*, vol. 32, 1984, p. 188.
- (23) Enno Littmann, pp. 42-43.
- (24) *ibid.*, pp. 43-44.
- (25) *ibid.*, pp. 44-45.
- (26) *ibid.*, pp. 46-47
- (27) A.Abel, *op.cit.*, p. 114, for specific biographical datas, cf. *Islamic Bosra*, p.22.
- (28) Brünnow und Domaszewski, vol. III, p.214.
- (29) *Islamic Bosra*, p. 21. Roman columns originating from the *frons scaenae* and used for the construction of the al-Umari Mosque, cf. K.S. Freyberger, 'Zur datierung des Theaters in Bosra', *Damaszener Mitteilungen*, vol. 3, 1988, pp. 17-26.
- (30) R.Amy, *op.cit.*, 'plan du bain du XIIIe S.', fig. without number.
- (31) A.Abel, *op.cit.*, p.112; Enno Littmann, pp.45-46.
- (32) P.E.Chevedden, *op.cit.*, p. 51 ff.
- (33) Makrizi, *Histoire des Sultans Mamlouks de l'Egypte*, vol I-II (M. Quatremère, trans. from Arabic), vol. I, Paris, 1837, p. 141: 'Bibars fit rebâtir toutes les forteresses de Syrie, celle de.... Bosrâ, de Balbek, etc. ..toutes furent reconstruites en entier'. (Makrizi 766/1364-845/1441).

**Al-Umari Mosque (112/720-21 (?) - 506/1112-13 - enlargement
618/1221-22 - and 'hauranization' 773/1372 (?).**

Introduction

The Great Mosque of Bosra is situated at the very centre of the ancient city along the Roman street leading towards the North Gate and the former encampment of the Roman legio III Cyrenaica. Branching off from the Roman *Via Sacra* at the junction marked by the Nymphaeum and the Kalybé and passing along the Central Bath, the street originally formed a distinctive feature of the Roman city. But so far there is no indication of the use of the site during the Roman era.

The mosque is of the congregational type, characterized by a central courtyard surrounded on all four sides by arcades. The planning comes very close to the other great mosques of the Hauran, e.g. the great mosques in Dera'a and Ezra. The contemporary Great Mosque of Salkad (630/1232-33) has been demolished leaving only the minaret as a solitary tower in the middle of the townsquare. The great Umayyad mosque in Damascus (87/706 - 96/714-15) may have served as a model for the design of these early hypostyle mosques in the Hauran dating mainly from the Ayyubid period.

The actual appearance of the mosque is resulting from of numerous alterations and modifications to the original plan. Furthermore, the puzzling building history is complicated by the extensive re-use of columns and building materials pillaged from older buildings. The first cursory description dating from the 1920s is due to Buckingham: '.. a large building entirely constructed out of the ruins of more ancient edifices. In some parts of this were columns of white marble in one solid shaft; in others, pillars of black basalt, formed out of several distinct pieces, and curious capitals of different ages, orders, and materials.....Some of the stucco work on the wall was extremely rich, while the paintings on the same surface were the most miserable performances. The pavement was formed of large flat stones laid in diagonal squares, and other parts were entirely neglected; so that throughout the whole there was a mixture of antiquity and freshness, of wealth and poverty, of skill and ignorance, of care and neglect, which rendered it more puzzling to decide on its original purpose and intention, than any other building I had yet seen'(1).

In the intermediate time various studies have been dealing with the puzzling history of the al-Umari Mosque (2). With these studies as a point of departure and supplemented by direct observation, four major building phases can be identified. In the main each phase can be verified and dated by commemorative

inscriptions. The following description gives an outline of the chronological development with reference to the survey drawings and suggested reconstructions of the building (fig. 36-43).

The initial mosque: 506/1112-13 and before.

The al-Umari Mosque in Bosra is attributed by local tradition to the formative years of Islam in the time of the second caliph Umar ibn al-Khattab relating the foundation of the building to the first half of the 7th century A.D. There is no clear evidence, however, for this popular assumption. The earliest inscription was detected in the fill during restoration in 1938/39, mentioning a certain al-Harith and the year 102/720-21. Another inscription once engraved on a pillar in the eastern middle colonnade adjoining the marble column of the *qibla* colonnade. The text runs: 'In the name of God etc. This is among what was ordered by Emir Othman ibn al Hakam - may God render illustrious his victory'. On another stone the inscription gives the year 128/745-46. Consequently it was assumed that the present mosque was of an early Umayyad origin (3), but the provenance of these inscriptions cannot be verified and the actual date of construction still remains obscure.

Another inscription dated to the year 506/1112-13 was formerly incorporated in the masonry partly blocking the window above the east entrance. The text, written in an elaborate Kufic script relates to a restoration of the structure by the officer ad-Din Abu Mansur Kumushtakin (4). It may then be assumed that the first mosque is earlier than this date, possibly built as a hypostyle mosque with two aisles to the south facing onto a rectangular open courtyard (fig. 39).

Building phase II: The rebuilding of 506/1112-13.

The restoration in 506/1112-13 was commissioned by the same Governor Abu Mansur Kumushtakin, who was responsible for the erection of the madrasa attached to the al-Mibrak Mosque (530/1136) as well as the restoration of the al-Khidr Mosque (528/1134). The restoration has probably involved the construction of the courtyard arcades within the confines of the already existing plan as well as the subsequent erection of the external portico in front of the east facade (fig. 39-40). The argument for this assumption is based partly on two observations:

(i) From the early photographs by Butler showing the ruinous condition of the mosque (fig. 38, above), it appears

that the southern aisle facing the courtyard has a more elaborate, profiled cornice as compared to the simple cornice of the courtyard arcades that may indicate two different building phases. Likewise, the columns of the side arcades are set up against the main aisle in a rather crude fashion speaking in favour of a later addition.

(ii) The inscription relating to a restoration in 506/1112-13 was blocking the lower parts of the window above the eastern main entrance and as the external arcade has been attached against the existing wall, the construction is likely to have necessitated the blocking of the lower part of the window. In any case, the arcade extends only as far as the shift in masonry that can be observed near the minaret, affirming that the construction predates the subsequent enlargement of 618/1221-22 (fig. 41).

It may then be assumed that the mosque had a rectangular plan measuring about 36 by 29 metres to the outside. The 16 columns and the numerous Corinthian capitals in the prayerhall appear to be carried off from the *proscenium* of the Roman theatre and re-used for the new purpose (6). On the *qibla* axis the spacing of columns is changed and the larger span is supported by pillars incorporating the columns. The transverse nave thus produced by the large, slightly pointed arches, emphasizes the importance of the *mihrab* on the courtyard.

Most probably, the two aisles of the prayer hall had timber gable roofs in the fashion of the great mosque in Damascus, still having preserved the large timber constructions. The width of the southern aisles is 4.80 meters exceeding the span of the basalt stone 'planks' normally used for the traditional Hauran roof constructions. As an example, the best preserved traditional roofing can be seen at the madrasa Kumushtakin with a span of 3.80 meters, which is hardly exceeded elsewhere (fig. 50-51). In al-Umari Mosque no traces give a direct indication that the original roofs were carried on a large timber construction, but as long as the rich timber resources of the Lebanon mountains had not yet been exhausted, the monumental, antique buildings were nearly always covered by pitched roofs.

The rectangular courtyard measuring about 10 x 16 meters was surrounded by double arcades to the east and west. To judge from the smaller width of the side arcades, they were probably roofed in the style of the traditional Hauran architecture right from the outset, whereas the northern arcade may have had one single range only covered by a gable roof (see proposal for reconstruction, fig. 40).

The symmetrical plan of the building was emphasized in two directions: to the interior the dividing line is the north-south axis corresponding to the *qibla* direction, whereas the

east-west dividing line was emphasized to the outside by the window openings equally spaced and centered around the main entrances. Likewise the external portico along the eastern facade contributed to the symmetry by the even distribution of four arches to each side of the main entrance.

Building phase III: The Ayyubid extension (618/1221-22).

The massive northern wall reaches a thickness of about 2.40 metres incorporating antique Roman column shafts as headers in the masonry. The square minaret stands firmly on the solid foundation at the north-eastern corner of the building forming an integrated part of the masonry bond scheme. The minaret is then contemporary with the extension of the mosque dated to the year 618/1221-22 (7). The building inscription still *in situ* to the left side of the middle entrance of the north facade, commemorates the renewal and restoration of the courtyard (*sahn*) by the pilgrim Yahya ibn 'Ali ibn Hind(?) but strangely, the text omits the name of the Ayyubid ruler, prince as-Salih Isma'il, in possession of the city between 615/1218 and 644/1246 (8).

The extension shows clearly from the missing bond in line with the termination of the arcade in front of the eastern facade (fig. 41), whereas the corresponding change of masonry in the western facade is no longer visible due to restorations of the north-western corner of the mosque in 1949-50. One more aisle was added by the extension, possibly in replacement of another aisle which was demolished enlarging the courtyard to an almost square size.

The early photographs by Butler, documenting the condition of the ruinous structure before the 1938 restoration, clearly show that the cornice of the eastern aisle only extends along two bays and the bond of masonry above the springing of the arch is still clearly marked (fig. 38). Alternatively, this observation could suggest a later enlargement of the courtyard, leaving the Ayyubid mosque with the relative small rectangular courtyard.

The enlargement of the mosque in 618/1221-22 may have been required in consequence of the growth of the population figure and relative prosperity of the society. Islam distinguishes between *masjid*, denoting a 'local mosque' and *masjid al-jami*, generally referred to as the Friday Mosque or the Great Mosque, intended for the collective prayer on fridays of all the faithful within the community. Indirectly, the size of the Great Mosque then manifest the size of the male population. Many such examples of modifications to the existing mosques does exist coinciding with a change in the city's population figure (9).

The enlargement of the Great Mosque in Bosra took place simultaneously with the ambitious building programme initiated and commissioned by al-Salih Ismail for the citadel during the time he held the fief of Bosra from 615/1218 to 644/1246. During this period the barracks inside the caeva, the mosque and the bath was constructed. And to the exterior, the fortifications were further consolidated by the construction of the large donjon towards the south-west, the masterpiece of the citadel (tower no. 5).

Building phase IV: Mamluk modifications (possibly 773/1373).

Obviously the original timber construction has been altered at some undetermined date, when the wooden structure had deteriorated. This medieval restoration using basalt stones supported by corbel stones follows the traditional methods of construction in the Hauran. The restoration may possibly be simultaneously with the erection of the Hammam Manjak in 773/1372, when new attention was directed towards the most prominent Islamic buildings in Bosra by the Mamluk governor of the Damascus province, Manjak al-Yusufi. On the other hand, the employment of a purely local building tradition does not equal the imperial design that is the hallmark of the bath complex.

As the width of the aisles, reaching about 4.50 meters is too large to be spanned by basalt slabs, additional rows of columns and pillars had to be introduced for support reducing the free span to about 4.00 meters. The plan published by Butler (10) shows two additional rows of columns in the prayerhall reducing the free span of the aisles to about 3.80 meters. This system of roofing still existed at the turn of the century when the building had fallen into ruin. One of this later ceiling stones, probably originating from one of the many other monuments of the city, inscribed with the signature of a certain Haidara and dated 469/1067-68, was found among the debris during restoration in the 1930's (10). Assuming that only the main aisles originally had gable roofs as shown on the axonometric reconstruction (fig. 40), the stoneslab may actually be part of the initial structure, alternatively the dating is due to second-hand materials related to another structure.

The interior decoration.

The architecture of the Umayyad period was generally committed to lavish stucco decorations, often of a polychrome design. The beautiful bands of inscriptions of the great mosques in Damascus and Mekka have disappeared, but authors have preserved the memory of them (12). The interior of al-Umari Mosque

followed this tradition of decoration using high relief carving and inscriptions on large areas of wall surfaces. A few traces of the original floral and geometric decoration and bands of inscriptions in Cufic characters still remain on the *mihrab* wall. Due to the columns and pillars, which were placed against the wall to support the later Hauran roofing, some areas have been concealed and preserved. These later structures were removed during the rebuilding of the mosque in 1930s and the stucco panels were brought to light providing some idea of the original lavish wall decorations originating from 506/1112-13. The amazing similarities to stucco decorations of the 6th/12th century in Eastern Iran and Afghanistan testify to the importation of such stylistic features from the homelands of the Seljuks appropriate for a military commander of Turkish origin (13).

Building phase V: The rebuilding program of this century.

The mosque obviously was disused long before the nineteenth century. Due to the collapse of most of the arcades, the courtyard and parts of the exterior walls on the north-west corner had collapsed.

The Syrian Department of Antiquities, cleaning a great part of the interior during 1938-39, commissioned the restoration to Michel Ecochard, a French architect, who initiated the restoration of the prayerhall in 1938-40. Subsequently, in 1949-50 the side arcades (*riwaq*) were reconstructed, including the external western wall. And finally, during the last phase of restoration from 1963 to 1965, the northern side of the courtyard was rebuilt following traces of the previous foundations. The rectangular courtyard was thereby restored to the almost square plan measuring 15 x 16 meters (14).

The courtyard flooring with contrasting stripes of limestone and basalt may be partly of Mamluk origin, including the individual geometrical patterns of interlacing stonework. However, the flagstones in the arcades have been replaced by new floor tiles of modern make. For practical reasons, the court was covered by a newly designed steel and glass structure and reinforced concrete slab was used to roof the arcades. The later columns and pillars, supporting the traditional roof of stone slabs were removed in the cause of this operation and the preserved stucco decoration came to light.

Notes and references

(1) J.S. Buckingham, *Travels among the Arab tribes inhabiting the*

countries east of Syria and Palestine, London, 1925, p.198-199.

- (2) - PPUAES, Div.II, sect.A, part 4, pp. 288-292.
- Enno Littmann, pp. 24-25.
- K.A.C. Creswell, *Early Muslim Architecture*, (reprint), New York, 1979, vol.I, part II, pp. 484-490.

(3) Sulaiman al-Muqdad, *Bosra: Historical and archaeological guide*, Damascus, 1978, p. 22.

The early dating of the mosque is based on the inscriptions published by Jean Sauvaget, 'Les inscriptions Arabes de la mosquée de Bosra', *Syria*, vol. 22, 1941, pp. 53-65.

(4) Enno Littmann, p. 23.

(5) *ibid.*, p. 24.

(6) Klaus. S. Freyberger, 'Zur datierung des Theaters in Bosra', *Damaszener Mitteilungen*, vol. 3, 1988, p. 21.

(7) This observation by Michael Meinecke is opposing the theory put forward by Jean Sauvaget, *op.cit.*, pp.56-58, and repeated by Creswell, *op. cit.*, p.490: '..our minaret therefore was built in 102 H./ 721-21, and it is consequently the earliest in Islam. It is tempting to take this as the foundation inscription of the mosque also'.

(8) Enno Littmann, p. 26.

(9) Oleg Grabar, *The formation of Islamic Art*, Yale University (1973), 1987, p. 108.

(10) PPUAES, IIA, part 4, ill.

(11) Jean Sauvaget, *op. cit.*

(12) Max van Berchem, *Journal des savants*, 1909, p.406.

(13) *Islamic Bosra*, p. 26

(14) R. Amy, *Mise en valeur de Bosra-Cham*, Unesco, Paris, 1969, p. 39.

THE LOCAL MOSQUES

Introduction

Whereas the Great Mosque (*al-Jami*) is intended for the communal prayer of all who profess Islam within the society, the local mosques (*al-masjid*) are built to serve the needs of each individual neighbourhood. In Bosra a total of five medieval mosques have survived to the present day, and another three local mosques are known from inscriptions only. The dating of the very first Muslim sanctuary possibly related to the foundation of the later al-Mibrak Mosque as well as the foundation of the al-Umari Mosque is a source of speculation. All other mosques are dated according to inscriptions between 528/1134 and 705/1306 relating to the Ayyubid and Mamluk periods. Generally the benefactor's name appears from the commemorative inscriptions, and significantly, in most cases the construction has been commissioned by the contemporary governors of Bosra.

Generally, these local mosques are built according to the local tradition using girder arches with a low springing line to support the roof of stone slabs. For structural reasons, the massive, double walling is pierced by a limited number of openings and the solid facades produce a rather austere appearance mainly devoid of ornament apart from the commemorative inscription slabs. Only the minarets stand out in distinct relief against the monotony of the low skyline of the town.

Four local mosques forming part of the historic environment will be discussed in the following pages; additionally two mosques are related to the madrasas, which will be treated separately.

Al-Khidr Mosque (528/1134).

Al-Khidr Mosque (fig. 45) is situated in the western part of the ancient town, 200 metres south of the *al-Jahir* spring. The historic name of the building refers to the Muslim saint al-Khidr especially popular in medieval Bosra, and still associated by local tradition with some ancient ruins to the north-west of the mosque. The name is also rooted in the Arabic word that denotes 'to be green', possibly alluding to the neighbouring perennial spring (1).

The inscription, cut in a stone set above the front door mentions the restoration of the Masjid al-Khidr by 'Izz ad-Din Abu Mansur Kumushtakin, who commissioned the work in 528/1134.

The full text reads as follows: 'In the name of God etc.! (He who) ordered its restoration (was) the emir, the most noble general, the grand seigneur, the sincere, the chosen, 'Izz ad-Din, the prime of Islam, the faithful man of the state, the strength of religion, the sword of the nation, the hero of the kings, the crown of the emirs, the honour of the courtiers, the glory of the armies, the aid of the champions, the man of the two resolutions, 'Abu Mansur Kumushtakin, the official of the atabek Zahir ad-Din, the supporter of the Commander of the Faithful, distinguished among his freedmen. (It was brought to perfection) in the month of Ramadan of the year 528'. And in the dovetails: 'Mosque of al-Khidr' (2).

The founder, Abu Mansur Kumushtakin, had already patronized the rebuilding of the Great Mosque (506/1112-13), and later he commissioned the construction of the madrasa attached to the al-Mibrak Mosque (530/1136).

The North-west Tell, located further to the north-west of the al-Khidr Mosque, was the possible site of the very first settlement in Bosra still forming part of the classical city, but as a recent archaeological excavation has revealed, domestic occupation in this part of the town came to an end during the Umayyad period, possibly as a result of the earthquake in 129/747 (3). The location of the al-Khidr Mosque, one of the oldest surviving Islamic monuments, is then indicating the western boundary of the medieval town, extending at least as far as the Roman Spring Street and covering an area of about 600 by 800 metres at the time of the Islamic revival of Bosra in the 6th/12th cent.

The building has an almost square plan measuring 9 by 10 metres to the outside. The interior space is divided into 3 bays by 2 transverse arches supporting the stone slabs of the flat ceiling. Several of the rounded and well carved stone windows remain in the original position. The entrance gateway, providing access to the yard, as well as the doorway to the mosque and the minaret have the original stone shutters preserved (fig. 44). The small *masjid* is then featuring many remarkable architectural details and remains a unique example of the archaic building construction in the Hauran. Large patches of plaster still appear on the northern facade of the mosque, suggesting that the exterior originally were plastered, except perhaps for the most prominent features. In private houses today, the interior of the courtyards are often plastered and whitewashed, likewise indicating that the rendering of external facades was common practice during more prosperous periods in history.

The massive minaret, still preserved to a height of 12 metres, is set apart from the mosque. The isolated position to the

western side of the building is due to a later date of construction, possibly in the 7th/13th century, when the impressive minaret of the Great Mosque seems to have initiated the erection of a series of square towers added to the existing religious buildings as a new symbol of Islam.

Al-Fatima Mosque (date effaced, the minaret 705/1306).

The al-Fatima Mosque, located near the early Christian centre of the ancient city, hardly stands out from the surrounding domestic housing quarter, apart from the towering minaret. The traditional name of the mosque refers to the venerated daughter of the Prophet Mohammed, but the structure is undoubtedly of medieval origin. The name of the patron and the year of construction have been effaced from the building inscription on the front facade, but the style of the calligraphy, carved in Naskhi script relates to the Ayyubid period in the first half of the 7th/13th century. The construction is then possibly commissioned during the time of the Ayyubid prince al-Salih Isma'il, in possession of the city between 615/1218 and 644/1246.

During the time he held the fief of Bosra, extensive construction works were accomplished at the citadel as well as the enlargement of the the Great Mosque, including the erection of the minaret (618/1221-22) and the construction of the ad-Dabbagha Madrasa (622/1225-26).

The readable parts of the inscription runs as follows: 'In the name of God etc., He only shall repair to the mosques of God who believes in God. (He who) erected this blessed mosque (was)..... - may God (the Supreme) cover him with mercy and blessings - needing God's mercy 'Abu..... - may God have mercy upon him. In the year.....'(4).

Effaced purposely, it seems that not everyone was allowing God to have mercy upon him. Anyhow, van Berchem has treated of Isma'il and of his governorship of Bosra and relates that some words in his inscriptions have been erased by order of his nephew, who succeeded him as a governor (5). This incident then possibly concerns the foundation inscriptions at the al-Fatima Mosque and the al-Umari Mosque.

Truly local in character the plan and sectional form of the mosque resembles the al-Khidr Mosque taking a simple cubical shape and to a large extent re-using building stones from older structures. The elongated prayer hall, originally measuring about 13.50 by 11 metres was divided into four bays by three transverse arches.

The minaret, erected at the north-eastern corner of the Mosque as a solitary structure, is a later addition dated by inscription to the year 705/1306. Set upon a solid, square base and rising to a total height of about 18 metres, the structure is modelled on the minaret of the Great Mosque, likewise taking a form deriving from the church towers of the Christian period.

At the turn of the last century it was the only mosque still in use, indicating the marked depopulation of Bosra and the Hauran during the Ottoman period. Only a few decades ago the mosque was extended, adding three more arches in southern direction in response to the new revitalization of the city in this century.

Masjid Yaqut (655/1257-58)

The small Masjid Yaqut (fig. 48) is located immediately to the east of ad-Dabbagha Madrasa at the north-eastern corner of the water reservoir, Birkat al-Hajj. Measuring 7 x 14 meters at the exterior, this small unpretentious building encloses a small funerary chamber (*turbah*) and a mosque erected in 655/1257-58 by the emir Yaqut, governor of Bosra.

The full text of the foundation inscription reads: 'In the name of God etc. And praise be to God, Lord of the inhabitants of the world. This blessed mosque was built in the year 655 (/1257-58). And may God have mercy upon those, who pray for mercy for Yakut, who needs the mercy of his Lord'. Another inscription commemorates the death of the founder's son the year before (6).

The entrance portal has been put up as an independent structure at the north-western corner of the building. The arch, with a slightly accentuated horseshoe form is an alien feature to the local building tradition in Bosra, and so is the crossvaulting of the funeral chamber and the *masjid*. In Bosra, this design was introduced only for the palatial design of the Ayyubid citadel in the first half of the 7th/12th cent. As the construction of the tomb was ordered by the governor of the fortress, it can be assumed that stone masons working on the citadel have directed the construction of this small building.

The little holes in the carved inscriptions of the foundation stone is yet another indication of the close connection to construction works on the citadel. Made to fasten small metal pieces enhancing the text, this detail is otherwise only to be seen at the long horizontal inscription bands of white limestone adding distinction to tower no. 5 and 6, constructed in 615/1218-19 and 647/1249-50 respectively (cf. fig. 31). At a

later time, crossvaults were likewise used for the construction of the Mamluk bath complex 773/1372 yet another example of imperial design implanted in the more modest Bosra environment.

Masjid Shafi'i (656/1254).

The small ruined structure (fig. 49) located at the south-eastern corner of the cemetery related to the al-Mibrak Mosque and Madrasa can in the present condition hardly be identified as a historic structure of any significance. The foundation text of the structure, carved in a block of limestone situated on the western facade is hardly readable and certain parts have been entirely effaced (7). So much can be read that founded as a Koranic school, the building was entrusted in *waqf* to the al-Mibrak Madrasa with the date of construction given to the year 656/1254. Also the name of a certain 'Abd al-Wahid ash-Shafi'i is readable, giving the name of the founding patron.

The semi-circular arch, spanning the entranceway and corresponding to the curve of the cornice at the top of the back wall, appears as the most prominent feature of the structure. Only fragments of the original roofing are laying on the ground, but photographs from around the turn of the century show parts of the stoneslab roofing *in situ* (8). The lateral parts of the ceiling flat, the central part follows the curve accentuating the *mihrab* in the centre of the south wall.

The profile of the cornice stones, the cantilevered sun-hood above the foundation stone on the western wall, as well as the conch above the *mihrab* are all features that possibly originate from an earlier Byzantine structure. The makeshift and composite character of the structure can be considered an example of the thoroughly local tradition resorting to second-hand use of stone materials so plentiful in the surroundings. From a constructional point of view, the stoneslab vaulting is particularly interesting as a sectional form adapted to the local conditions. Known already from Roman time, this roofing method was used for the so-called Praetorium in Mismiya (Roman Phaena) in the Ladja dated by inscription to 160-169 A.D. (9). This building unfortunately no longer exists, but the stone vaulting is common in the vernacular architecture, possibly as an adaptation of the Near-Eastern brick vaulting to the local conditions of the Hauran (cf. surveys of Inkhil, fig. 8-10 and Djemmerin, fig. 13).

Notes and references

- (1) S. Ory and S. Mougdad, 'Bosra, cité Islamique', *Archéologia*, no. 148,

1980, pp. 22-32.

(2) PPUAES, Div.IV, Sect. D, p. 30; quoted according to the translation of Van Berchem, 1896.

(3) Jim Wilson and Maria Sa'd, 'The domestic material culture of the Nabataean to Umayyad Period Busra', *Berytus*, vol. XXXII, Beirut, 1984, p. 79.

(4) Enno Littmann, p. 27-28.

(5) Max van Berchem in Brünnow and von Domaszewski, vol. III, p. 215. See also Enno Littmann, p. 38.

(6) Enno Littmann, pp. 34-35.

(7) The foundation text is unpublished, quoted from written communication to Michael Meinecke from Solance Ory, University of Provence, Aix-Marseille.

(8) Brünnow and von Domaszewski, vol.III, fig. 924, p.41.

(9) K.A.C. Creswell, *Early Muslim Architecture*, vol. I, Oxford, 1932, p. 308; drawing by M. de Vogüe, vol.I, pl. 7.

THE AL-MIBRAK MOSQUE AND MADRASA (the madrasa 530/1136)

Introduction.

The al-Mibrak Mosque and madrasa are situated immediately to the north-east of the ancient city precinct. The minaret is possibly built on top of a redoubt forming parts of the original fortification of the Roman city (1). A small section of what might be the original, bossed masonry is visible incorporated at the west wall of the sanctuary forming the solid base of the minaret. The difference in the levels of the terrain, clearly marked to the west of the monument is corroborating this hypothesis, but further to the east or south of the monument, where now an Islamic graveyard is located, no obvious indication of the alignment of the city boundary is visible.

The building consists of three separate parts forming one intricate building structure: a sanctuary and a mosque, each composed of a prayer hall with an open courtyard in front, and a madrasa. Additionally, a minaret and an openair mosque immediately to the east of the madrasa make up the whole complex (fig. 50).

The western sanctuary.

According to oral tradition, the construction of the western sanctuary is associated with the arrival of the first copy of the Holy Koran that was brought into Syria during the time of the caliph Uthman ibn Affan. The name of the mosque alludes to a halting place or a spot where a camel bends down, and it is commonly believed that the camel caravan stopped at this very site, that was chosen for the construction of the first Muslim sanctuary in Syria. Another tradition relates to the visit of Mohammed, the Prophet, who visited Bosra as a child once accompanying his uncle on a caravan to Syria (2).

Obviously, the makeshift structure is the result of many alterations representing a phased building development that can only be conjectured: A square stone slab with several cavities supposedly alludes to the imprints of the kneeling camel. Taking this general belief as the point of departure, the western mihrab has been set in the wall to mark the spot where the camel was kneeling. It is likely then that a simple shelter was constructed next to this sacred place, when the site developed to be a place of pilgrimage *extra muros*. This first structure serving as a mosque (fig. 55), is constructed with one single arch to support the flat roof of basalt slabs following the vernacular tradition. The section of the southern wall of the mosque (fig. 54) clearly shows that the floor-to-

ceiling height has been increased at a later time; possibly at the same time as the open sanctuary was roofed. In any case, it would not have been possible to erect the two columns and to construct the girder arch supporting the roof above the sanctuary, without the possibility of spanning the arch between two existing structures and obviously, the girder arch has been put up against the enclosing walls without any bond to the sidewalls.

The dividing wall in front of the western sanctuary is then contemporary with the roof. The finely dressed surface, the decorative features of the lintel and the superb masonry all point to second-hand use of masonry originating from the Byzantine period. The direction of the mihrab is forming an oblique angle with the south wall, possibly because the mihrab was set into the existing wall before the sanctuary was enclosed and roofed over. The straightened wall with the niche in front of the mihrab is then relating to the later building phase. The former arched openings between the mosque and the sanctuary have been blocked and the whole of the interior has been plastered as indicated by the remaining plaster.

Likewise, the mosque has an open courtyard in front of the prayerhall. The enclosing walls are constructed of second-hand masonry forming a symmetrical square with a wall niche to each side. The southern wall is built up against the exterior wall of the mosque and the original semi-circular opening has been closed off leaving traces of the original arch incorporated in the masonry above the new doorway (fig. 50 above).

The Madrasa of Kumushtakin (530 A.H/1136 A.D.).

The madrasa forming the eastern part of the structure is obviously a deliberately planned building dated to the year 530/1136 according to the foundation inscription (3). The madrasa was commissioned by Izz ad-Din Abu Mansur Kumushtakin, the governor of Bosra under the Atabeks of Damascus. The early date of construction implies that the building is the oldest surviving example in Syria of a religious college, a function which was first introduced in Iran in the middle of the 5th/11th cent. In fact, the axial plan lay-out, not recorded previously on any Syrian monument of religious use, clearly depends on Iranian models (4).

To the exterior the building has an austere appearance without decoration, apart from the commemorative inscription slab above the doorway and a round, pierced stone window placed in the middle high up on the northern facade. Indeed, the building displays no liking of superfluous decoration, but impresses from sheer solidity as most of the early medieval Syrian

buildings. The appreciation of solid masonry during the time of the Ayyubids is not only dictated by structural needs, but reflects the rigorous taste of the Syrian military rulers, who commissioned these buildings. For example, Al-Fadl b. Marwan, first vizier of al-Mu'tasim tells that al-Mu'tasim had no liking for the decoration (*tazyin*), of the buildings; his mind aimed entirely at their solidity (*ihkam*)' (5).

This stern and pragmatic attitude to architecture is dominating also in Bosra until the Mamluks eventually introduced a more extravagant fashion of bichrome masonry. The alternate use of white limestone and black basaltstone utilized for decorative purpose at the facade of the Hamam Manjak is the only example of the new ostentatious architecture, which came to flourish in Damascus and Cairo under imperial Mamluk patronage.

The symmetrical plan (one single axis) is centered around a little court, only 6.0 meters at each side, with the lateral iwans opening directly on to the court. The arches take a horseshoe form, slightly pointed and raised on impost blocks of Roman or Byzantine origin. The entrance vestibule to the north and the prolonged prayer hall to the south open on to the court through a group of three doorways. This tripartite arrangement is foreshadowing the typical plan of the madrasas of northern Syria about a century later; f. ex. Dar al Hadith al-Nuriya and Madrasa al-Rukniya, Salihiya, Damascus. The four corners of the building are occupied by secondary rooms. To the north-west traces of the staircase can be seen leading up to the roof. All other secondary rooms have two stories, but the horizontal divisions of stone slabs have all gone. Access to the second storey of the rooms to the south-east and south-west has been by way of simple accomodation ladders through a hole in the floor divisions, as indicated by the placing of the supporting corbel stones in the one corner of the room. The upper room in the north-east corner of the building has been reached through a doorway opening directly on to the entrance vestibule at first floor.

The roof is constructed of basalt slabs supported by stone corbels according to the local method of construction that is used throughout the Hauran. The parts of the roof above the prayer hall still *in situ* suffice to show the extraordinary good quality of the original roof structure. The individual slabs are precisely joined to each other with a free span of 3.80 m. and the surface dressing shows a quality of finish equal to the best of Byzantine works.

Originally, the open courtyard was crowned by a dome, noteworthy as the only known example in Syria to cover a madrasa. The transition from the square space beneath to the octagonal base of the dome structure was managed by means of cantilevered stone beams of which only a few courses remain. J. L. Burckhardt is relating that the dome or '*kubbe*' had been

destroyed by the Wahabi in 1810 when they made an incursion into the Hauran (6). About half a century later G. Rey related that the building had been disfigured by a restoration, which apparently took place in December, three years before his visit to Bosra in 1857. He gives no details about the actual character of the work, which was initiated by Abbas Pasha, the vice-roy of Egypt, in connection with the burial of one of his sons in 1270/1854 (7).

The interior as a whole must have been richly decorated at one time. Burckhardt describes that 'the interior was embellished, like that of the great mosque, with Cufic inscriptions, of which a few specimens yet remain over the Mehrab' (8). The present traces of stucco at the interior walls give indications of three different layers of plaster originating from successive applications. The relative age shows that the oldest rendering was a hard, durable lime plaster with a deep red hue. The subsequent layer of plaster, presently covering large areas of the interior walls is yellowish, soft and mixed with cattle's hair. This additive has been a quite common reinforcement to lime plasters giving flexible working properties that helps to avoid cracks and fissures in the finished surface. The sample analyses show a content of lime as high as 85 per cent by weight for both these plasters (9). The most recent layer is a simple clay plaster, mixed with straw and whitewashed. The floral design decoration above the mihrab is executed in this material. The raised floors (*mastaba*) of the prayer hall and of the two lateral iwans must be a rather recent modification to the original structure, possibly originating from the restoration in the middle of last century, as it appears that the lime plaster continues down below the present floor level.

As long as forests were abundant in the Lebanese mountains wood was used extensively for building construction throughout Roman and Byzantine time and ample evidence does exist on the great wooden domes of Bosra, Damascus and Jerusalem in the classical periods. The dome maintained symbolic importance and the domeshape was carrying on a Syrian tradition, which has been kept alive also during Islamic periods (10). The Kumusthakin Madrasa is noteworthy as the first known example of a madrasa with the courtyard covered by a dome and remained a rare example of this type in Syria. However, exceptional as it may be in Syria, the dome became a normal feature for the Seljuk madrasas in Anatolia forshadowing the large Ottoman structures with a central dome.

The transition from the square base to the round form of the dome is managed in a simple way by cantilevered stone beams put across the corners providing for a primitive dome-setting. As the plaster has gone from the projecting stones, no informations remain of possible 'false' pendentives with *muqarnas* or

similar decorative features that might have adorned the transitional zone, when the dome was still in position. Anyhow, the oversailing courses of stonebeams were later carved with niches to simulate tiers of *muqarnas* pendentives as for example at Ramla in 666/1267-68 (11). The reconstruction proposal (fig. 52-53 and 57) is mainly based on the form and construction of the Sct. George at Ezra (12).

The first visual documentation of the structure is owing to the photographs taken by the Princeton University expedition in 1904 (13). By that time the building had fallen into ruin and the building condition further deteriorated during the first decades of this century. When Creswell visited Bosra on his reconnaissance in Syria, the minaret was in serious danger of collapse and during the intermediate time the upper courses of the transition zone of the dome have disappeared. The first measures of consolidation and preservation of the structure involving the partly rebuilding of the minaret were implemented in the late 1960's (14) and recently the monument has been entirely restored between 1986 and 1989 by the Bosra Directorate of Antiquities in co-operation with the German Archaeological Institute, Damascus, to be used again for religious purposes.

Notes and references

- (1) PPUAES, IIA, part 4, pp. 294-295, see also Brünnow and Domaszewski, vol. 3, pp. 39-40.
- (2) The reference to the early visit of the Prophet to Bosra see *i.a.* Guillaume Rey, *Voyage dans le Haouran et aux Bords de la Mer Morte, 1857-1858*, Paris, (1860), p. 180; S. Mougdad and S. Oly, *Bosra cite Islamique, Archeologia*, no 148, November 1980, pp. 22-32. *Mibrak an Naqa* litterary means a bending camel and the hollows in the large stone positioned in front of the *mihrab* is commonly believed to be the imprints of the camels's knees.
- (3) J. Sauvaget, *Notes sur quelques monuments musulmans de Syrie, Syria*, XXIV, 1944-45, p. 231.
- (4) M. Meinecke, 'Rückschlüsse auf die Form der seldschukischen Madrasa in Iran', *Damaszener Mitteilungen*, vol. 3, 1988, pp. 185-202.
R. Hillenbrand, 'The Madrasa', especially sec.III, architecture, in *The Encyclopaedia of Islam*, new edition, Leiden 1986.
- (5) Quotated from Ernst Hertzfeld, 'Damascus Studies in architecture, III', *Ars Islamica*, vol. 11-12, 1946, p.38.
- (6) J.L.Burckhardt, *Travels in Syria and the Holy Land*, London, 1822, p.235.

- (7) Guillaume Rey, *op.cit.*, pp.180-181.
- (8) Burckhardt, *op. cit.*, p.235
- (9) Sample survey for the determination of contents of lime is carried out by 'Kalk og Teglværkslaboratoriet, Denmark, in 1985.
- (10) For a detailed discussion on the use of the wooden dome in Syria and the Near East cf. E. Baldwin Smith; *The dome, a study in the history of ideas*, Princeton University Press, 1950; esp. p. 43-44.
- (11) K.A.C.Creswell, Problems in Islamic architecture, *The Art Bulletin*, 1953, XXXV, no.1, p. 5. Cf. also the chapter on 'The evolution of the pendentive' in K.A.C. Creswell, *Early Muslim Architecture*, vol. I, Oxford, 1932, pp. 304-323. Already de Vogüe (vol. I, pp. 44-45) has suggested that the stalactite pendentives developed from the primitive dome setting by cantilevered stone planks spanning across the corners. The Creswell photographs of the Kumushtakin Madrasa are deposited at *The Creswell archive*, Dept. of Eastern Art, Ashmolean Museum, Oxford.
- (12) The present dome of Sct. George at Ezra dates from a restoration in about 1940 according to informations from the churchwarden. According to Creswell it happened before 1932. Previously the central space was covered by a stone dome built of rubble; K.A.C. Creswell, *Early Muslim Architecture* (reprint), New York, 1979, vol.I, part I, p. 119. The original shape and construction of the dome of Sct. George has been discussed by H.E. Messerer, *Die Centralbauten des Hauran. Das kuppelproblem*, Dissertation, München 1953; and W. Karnapp, 'Das kuppelproblem von St. Georg in Ezra', *Tortulae*, 1966, pp. 178-186.
- (13) PPUAES, IIA, part 4, ill 264-266, pp.294 ff.
- (14) R. Amy, *Mise en valeur de Bosra-Cham*, Unesco, technical report, Paris 1969, p.41.

AD-DABBAGHA MADRASA (622/1225-26, the mausoleum 630/1232-33).

The ad-Dabbagha Madrasa is situated at the very edge of the al-Hajj water reservoir to the south-east of ancient Bosra, in close vicinity to the remains of a Muslim cemetery bordering the open cistern to the east (plate 36). Indirectly, the location tells of the Eastern extension of the medieval city. The traditional name, meaning a 'tannery' remains obscure. However, depending on the easy access to water the textile dyeing and leather crafts have possibly been located in the neighbourhood. These circumstances may as well explain the puzzling cavities in the stone masonry at the lowest course, which is facing on to the cistern. Previously, the openings were connected by a drain that continued into an open channel running along the northern brink of the water reservoir.

Anyhow, the foundation inscription carved on two blocks of white limestone endows the building to serve as a madrasa and commemorates the inauguration in 622/1225-26. The order of construction is attributed to the contemporary governor of Bosra, as Salih Isma'il, but the true founder obviously was the military commander Sham ad-Din Sunqur al-Hakim, who endowed the building to serve as a madrasa during his lifetime and as funerary monument after his death. The full text runs as follows:

'In the name of God etc... The erection of this blessed building was ordered by our master, the sultan, the most illustrious grand seigneur, the wise, the just, the champion of faith, the warrior, strengthened by God, the [conquering], the victorious al-Malik as-Salih 'Imad ad-Dunya wad-Din, the sultan of Islam and of the Moslems, 'Abu l-Fida Isma'il, the son of the defunct sultan al-Malik al'Adil Saif ad-Din Abu Bakr ibn Aiyub, the friend of the Commander of the Faithful - may God hallow his soul. And it was constituted as a pious bequest [and given as mortmain...his Lord] by the most illustrious emir, the great general Shams ad-Din Sunkur ibn 'Abdallah as-Salihi, known as al-Hakim, a madrasa during the days of his life and a tomb at the time of his decease according to what is contained in the act of bequest and according to the specified description recorded in it. May God let them profit by it 'on the day when wealth shall profit not, nor sons, but only he who cometh to God with a sound heart'. And this was in the year 622 of the hegira of the Prophet'. A secondary text placed on the upper left corner of the inscription slabs reads: ' Work of 'Mukanna ibn Abbad', possibly the architect of this conspicuous monument (1).

On the exterior the building appears with an aloof, almost fortified character, due to the solid stone walling and squared building forms devoid of decorative features, except for the

commemorative inscription slab placed high on the southern facade (fig. 61). The planning represents a mixture of the local building tradition of the Hauran and a formal design related to an axial lay-out characteristic of the Seljuk madrasa.

The original structure has an elongated plan with four *iwans* opening on the courtyard. The present composite flooring of limestones clearly shows a square formation of about 3 by 3 metres, indicating the original position of a water basin quite similar to the plan of contemporary madrasa buildings in Damascus. The two lateral *iwans* have pointed vaults, quite unusual features in the Hauran, just like the pointed arches spanning the elongated prayerhall, but otherwise the roofing resort to the local tradition using stone planks and corbels. With the imposts of Roman origin raised high on limestone columns set against the side walls, the interior space acquires a lofty and truly impressive character compared to the ordinary Islamic buildings in Bosra that cannot but associate to the great reception halls of the Umayyad and Abbasid palaces, as can be seen at Qasr el Kharanah (possibly 92/711) and Ukhadir (possibly 161/778). These features, alien to the local building tradition, are possibly relating to an even earlier Sasanian tradition. At Sarvistan, for example, the side walls have buttresses placed perpendicular to the vaults and likewise resting on free-standing columns (2).

Compared with the local mosques the interior space reaches a truly impressive scale (plate 37). The high springing lines and the pointed arches require some kind of buttresses to ground the outward thrust that converge on the walls at some point above the imposts. This structural problem is solved by the adjoining rooms intended for the accommodation of the students and teachers originally living in the madrasa.

The cruciform plan is not easily recognizable because of the elongated *qibla iwan* and the later building alterations. At some undetermined date, the court has been spanned by two transverse arches and roofed in the traditional way by stone slabs (fig. 59). The springers of the arches have clearly been incorporated into the original masonry. Also the semi-circular shape is different from the slightly pointed profile of the original arches showing the local origin of this later modification of the building.

Further to the modification of the open court, two later additions have shaped the present form of the building. The mausoleum attached on the south-eastern corner of the complex is clearly a later addition as the masonry shows no bonding to the original parts. The dating can be established on the basis of an inscription on the under side of a sarcophagus cover found in the Masjid Yaqut nearby giving the year 630/1232-33 and commemorating the erection of tomb for the

great emir al-Hakim (3). The attachment of a funeral chamber (*turbah*) to a madrasa connected with a mosque became common practise in the capitals of Damascus and Cairo during the time of the Ayyubids and the Mamluks and obviously, a military commander in the province also cared for the name he left behind. Attached to the madrasa, one of the former window openings now provide the access to the tomb. The chamber, approximately 4.20 metres on the one side, supports a dome resting on corner pendentives that remain an isolated architectural feature in Bosra reflecting the contemporary Ayyubid development of the capital.

Originally, the funeral chamber had an arched recess to the eastern side, which has been closed off at a later time, probably to provide a solid foundation to the minaret erected on the roof of the mausoleum at some later date. The minaret of the al-Umari Mosque from 618/1221-22 was the first to be constructed in Bosra, followed by that of al-Fatima Mosque from 705/1306. It must then be expected that the minaret is added in the last decades of Ayyubid rule, or in the early Mamluk period.

The madrasa was put to use as an ordinary school building during a few decades of this century during which period the main access was made from the north and the lintel of limestone can still be seen at the ground outside the building. The most recent alteration of the building took place between 1982 and 1985, when the whole structure was roofed by a reinforced concrete slab in replacement of the original roofing of stoneslabs resting on corbel supports. Simultaneous with the renovation of the roof, the former octagonal transition zone was changed to form a simple, square base supporting a cupola of reinforced concrete.

(1) Enno Littmann, pp. 32-34. Cf. also PPUAES, IIA, part 4, pp. 293-94, for a general description of the monument.

(2) K.A.C. Creswell, *Early Islamic Architecture*, vol. 2, Oxford, 1940, p. 88.

(3) Enno Littmann, pp. 32-33.

Comparative development of the madrasa.

Giving the early dates of the al-Mibrak Madrasa (530/1136) and ad-Dabbagha Madrasa (622/1225-26), these two monuments have special interest to the history of Muslim architecture. Erected within an interval of about one century, the two monuments represent different solutions to the architectural form complying with the various needs of worship and religious teaching as well as accomodating teachers and students. Furthermore, the al-Mibrak Madrasa has the specific distinction to be the oldest example of this type of building in existence within the entire Islamic world (1).

It seems unquestionable that the madrasa as a mosque and a theological school originates from Khurasan, where it was founded as an Islamic institution by the wazir Nizam al Mulk in Nishapur about the middle of the 5th/11th century (2). The theological institution gained momentum and spread to the western parts of the Seljuk realm, including Iran, Iraq and Syria in the course of the 6th/12th cent. The importance of the madrasa grew as a means of propagating the ortodox Sunni faith of Islam throughout the Seljuk empire. Especially the Baghdad Caliphate needed a loyal body of followers at a crucial time of conflicts with the Fatimid Caliphate of Egypt. Syria was a place of conflict not only because of the heresy of the Shia muslims, but was threatened also by the incursion of the Crusaders possibly explaining the great popularity of the new institution that resulted in the erection of a great number of madrasas throughout Syria as a means of educating loyal subjects (3).

The possible origin and the architectural evolution of the four-iwan plan has caused much discussion among art historians. Van Berchem has formulated the most authoritative theory on the advancement of the madrasa scheme as a political institution forwarding the conclusion that 'since the madrasa has entered Egypt by way of Syria, it is there that we must seek the origin of the crusiform plan' (4). This hypothesis was opposed by K.A.C. Creswell, who strongly argued that the cruciform plan was Egyptian in origin and practically unknown outside Egypt (5). Based on a limited reference material collected in Syria in 1918 his conclusion does not keep valid, however, since he only refers to eight madrasas located in Aleppo dating between 1168 and 1270.

Typically, these buildings have an open courtyard with a tank in the middle and symmetrical prayer halls opening onto the courtyard by a tripartite archway. The number of *iwans* is limited to one or two and the the prayer hall in front of the *mihrab* is often domed. It is noteworthy that several design features are antedated by al-Mibrak Madrasa in Bosra. The dome

above the courtyard, however, appears to be an isolated example in Syria as compared to the later development in Anatolia. For example, the madrasas at Tokat (546-52/1151-7) and at Niksar (552/1157-8) were built with central domes above the courtyard and this feature became a typical feature in Anatolia during the succeeding centuries (6). Whether the remaining parts of the building are roofed by vaults or stone slabs depend mainly on the available material and has not much bearing on the planning. Also the tripartite archway is clearly a common design feature relating the Bosra madrasa to the succeeding architectural evolution in northern Syria and Anatolia.

Ad-Dabbagha Madrasa, dating about one century later than al-Mibrak Madrasa, is more clearly related to the subsequent development of the cruciform plan type, which reached to full maturity in the perfect, double symmetry of the madrasas erected under royal patronage in Mamluk Cairo. The two lateral iwans with pointed vaults are very unusual in Hauran and represent the first example of this type of construction to be found in Bosra. Likewise, this feature is found at the citadel indicating the foreign influence on the construction of these monuments in Bosra. Divided into three bays and roofed in the local fashion, the elongated *qibla iwan* is explicitly associated with the traditional architecture of the local mosque. The plan, however, is explicitly representing the four-iwan type centering on an open courtyard. This fact has possibly escaped the notice of Creswell due to the later roofing of the courtyard. Constructed in 622/1225-26 it then appears that the four-iwan plan of the ad-Dabbagha Madrasa is antedating the related development of the cruciform madrasa in Cairo with 37 years (7).

Notes and references

(1) R. Hillenbrand, 'the Madrasa', *Encyclopaedia of Islam*, vol. V. Leiden, 1979, p. 1138.

(2) In that area of Khurasan, the earliest madrasa identified by inscription is the ruined structure dated 571/1175-76 at Shah-i Mashad in the north-western part of Afghanistan. Cf. Casimir and Glatzer, 'Shah-i Mashad, a recently discovered Madrasa of the Ghurid Period in Gargistan', *East and West*, Rome 1971, pp. 53-68. The earliest example of the madrasa in Iran is the Madrasa Imami in Isfahan (755/1354).

(3) R. Hillenbrand, *op. cit.*, is pointing to some 14 surviving madrasas in Syria all datable before 700/1300, and ..'the literary evidence confirms that these are only a fraction of what was built in this period and has since vanished - 82 madrasas are mentioned in the detailed chronicle of mediaeval Damascus, for example, and 46 in the more summary account of medieval Aleppo.... the area with

the largest number of surviving madrasas datable before 1300 is Sejuk Anatolia, which boasts no less than 50 examples'.

(4) Max van Berchem, *Matériaux pour un Corpus Inscriptionum Arabicarum*, part I, *Egypte, Mémoires mission arch. franc. au Caire*, vol. XIX, Paris, 1903, pp. 254-68. The assumption that Syria played a decisive role in the formation of the four-iwan madrasa as a specific building type was already put forward by Stanley Lane Poole, *The art of the Sarcens in Egypt*, (London, 1886), reprint, Beirut, no year, pp. 52-53.

(5) K.A.C. Creswell, 'The origin of the cruciform plan of the Cairene Madrasas', *Bulletin de l'Institut Francais d'Archéologie Orientale*, vol. XXI, Cairo, 1922, pp. 1-54.

(6) Oktay Aslanapa, *Turkish art and architecture*, London, 1971, p.83.

(7) K.A.C. Creswell, *op. cit.*, p.36, refers to the Zahiriyah in Cairo as the first madrasa with a cruciform plan dating from the year 1262.

For a detailed discussion on development of the madrasa in Syria, cf. especially:

- Jean Sauvaget, 'L'architecture Muselmanne en Syrie', *Revue des Arts Asiatiques*, vol VIII, I, 1934, pp. 35-46.

- E. Herzfeld, 'Damascus - Studies in architecture', *Ars Islamica*, vol. IX, 1942, pp. 1-53; vol. X, 1943, pp. 13-70; vol. XI-XII, 1946, pp. 1-71.

- André Godard, 'L'origine de la madrasa, de la mosquée et du caravansérail à quatre iwans', *Ars Islamica*, vol. XV-XVI, 1951, pp. 1-9.

- M. Meinecke, 'Rückschlüsse auf die Form der Seldschukischen Madrasa in Iran', *Damaszener Mitteilungen*, vol. 3, 1988, pp. 185-202.

Hamмам Manjak (773/1372)

The Mamluk bath complex is situated immediately to the east of the great Friday Mosque in the very centre of ancient Bosra. Located in the middle of the former Roman street that branches off from the *Nymphaeum* and the *Kalybé* leading to the North Gate (1), this particular siting is obviously owing to the prominence of the neighbouring al-Umari Mosque. The two buildings form an Islamic nucleus of the ancient city and no doubt, the minaret of the mosque (618/1221-22) together with the cupola of the bath composed the most prominent feature of the medieval sky-line of the city.

Inaugurated in 773/1372 the Hamмам Manjak is the latest Islamic monument known to have been constructed in Bosra. The building archaeological investigations and finds from the recent years of excavation show that the bath was functioning only for a limited period before the technical installations fell into disrepair and the bath was finally abandoned. The Mongol invasion of Timur in 802/1400 may have precipitated the disrepair long before the end of the Mamluk period. Eventually, the bath survived in a ruinous condition during the subsequent Ottoman period marked by a general economic decline and depopulation of the Hauran.

The existence of the ruinous bath complex was first realized by J.S.Buckingham in 1816: '...at a building called el-Hammam, or the Bath, there are in the interior four pointed arches facing each other, with what would be called Gothic concave recesses, the arches of these recesses being also pointed, and formed by alternate layers or rays of black and white stone. Between them is a sculptured tablet,..... The upperdome of this bath was of brick work, the bricks of the flat kind called Roman tiles, of a bright red colour and cemented together with a layer of lime equal in thickness to the brick itself, very strongly and neatly done...' (2). Though still quite well preserved, the recovery of the Hauran and the subsequent resettlement in this century caused further destruction to individual monuments due to the new habitation in the middle of the ancient ruins of Bosra.

The first photographic documentation originates from 1894, when the bath was photographed by Max van Berchem (3). The exterior appearance was then hardly distinguishable from the neighbouring living quarters. Brünnow and Domaszewski indicate only roughly the location of a bath at the outline map of Bosra compiled during their visit to Bosra in 1898 (4). Six years later Butler relates that the Moslem bath opposite the Great Mosque was inhabited and impossible to measure and for that reason only a sketchy outline of the complex appears in his publication (5).

Completely disfigured by later rebuilding, the monument resembled the ordinary residential quarters up to the late 1970's. The whole of the northern structure had been levelled to provide space for the construction of casual shelters to men and beasts. The large brick dome of the reception room had collapsed a long time past and two partition walls had been erected inside the reception room to enable the construction of a new roof according to local means and possibilities. The former connection to the bath was blocked and a new doorway had been made in the northern iwan, connecting the various parts of the premises. To the exterior, only parts of the western facade gave any clue to the authenticity of a historic structure and to all other sides, the facades were either hidden below ground or disfigured by a new facing (fig. 01). Converted into a mill and subsequently functioning as a mechanical workshop until very recently, it later appeared that the bath extended much further towards the north than first realized.

Excavation and restoration.

The Bosra Directorate of Antiquities started a first clearance of the reception room in 1968. The partition walls supporting a flat traditional Hauran roofing were pulled down disclosing the remaining parts of the elaborate *muqarnas* pendentives originally shaping the transition zone of a brick dome. Subsequently, parts of the *muqarnas* were rebuilt with some of the original stones retrieved from the fill and the west facade was partly consolidated in order to stop further disintegration pending a restoration proper.

In 1981 an extensive excavation and restoration programme was started by the Bosra Directorate of Antiquities in co-operation with the German Archaeological Institute, Damascus (6). After the final clearance of the reception room, it was realized that the bath continued in northern direction, though the original bath was obscured by domestic structures built on top of the collapsed bath chambers. Furthermore, to the exterior the accumulated strata of deposits, raising to about 1.20 metres above the original street level obscured the complex in the northern direction. After expropriation of the land by the Bosra Directorate of Antiquities and the subsequent clearance of the inferior structures, the excavation of the northern parts was initiated in 1986 and finally completed in 1990 (7).

The state of preservation varies considerably. While the rooms to the south are relatively better preserved with the walls standing to a height of about 2.00 metres, possibly due to the earlier collapse of the roofs in this part the building, the northern parts were almost levelled with the ground. The major

part of the precious paving stones and the marble veneer of the partition walls had been pillaged, leaving only smaller bits and pieces in the original position. Anyhow, the remaining parts give an impression of the original polychrome design of the flooring that can still be appreciated (fig. 5).

The exposed ruins have been consolidated and partly restored by anastylosis, using original material, whenever the stones could be put back in position. The reconstruction has been justified by firm archaeological evidence of the original appearance. New stones were cut for replacement of the missing ones, when the original form and pattern were fully verified and the integrity of the monument would be respected (8).

Building description

Additionally to the archaeological finds and the building archaeological investigations, contemporary bath buildings in Damascus still in current use, provide a rich material for a comparative study of the form and function of the original bath complex (9). The proposed reconstruction of Hammam Manjak (fig. 13-16) and the following description of the physical fabric, is based on these sources.

The plan of the building is divided in three separate parts: (i) The entrance and re-dressing area, (ii) the hammam proper composed of a cold- and a hot water area, and finally (iii) the heating and service installations located at the northern part of the complex. Altogether the building measures 45 metres in length and 14 metres in width, covering a total area of 630 metres square.

The exterior appearance.

The visible parts of the facades did not afford grounds for much appreciation at the outset of the clearance and subsequent excavation of the site. With the passage of time, the surrounding area has been raised about 1.20 metres above the original level of the street paving completely distorting the original proportions of the building. Not least, the former decorative features of white limestone contrasting with the black basalt had been pillaged from the facades and makeshift masonry disfigured the stately appearance of the building. These lintels, positioned above the portal and the windows (fig. 8), were removed towards the end of the last century by the local shaikh for the embellishment the the reception building (*madafa*) located within a housing complex about 300 metres to the south-east of the monument (10).

The lintels show identical blazons in flat relief from the early Mamluk period, with a scimitar in the middle of a three-fielded shield. The fragmentary inscription on the major block, originally part of the door lintel, mentions the construction of the bath (hammam) for the Mamluk governor of Damascus, Manjak al-Yusufi. The text reads in the translation of van Berchem (11):

'.... constructed this blessed bath His Most Noble Excellency Saif ad-din Manjak al Ashrafi, Viceroy of the Noble provinces of S[yria....under the supervision of..] the District Officer of Bosra and its districts, for high and low, praying that God the Exalted have mercy upon him. In the month...'

The year of construction, missing in the inscription, can be restituted from Arabic chronicles, recording the completion of the Hammam Manjak at Bosra in the month Shawwal 773 A.H., corresponding to April 1372 A.D. (12).

The entrance portal.

The excavation in front of the entrance revealed the original street pavement of basalt stone and the chamfered corner of the building. The two lower courses to each side of the doorway were preserved, including the door-jamb and two weathered limestones in the original position to the right side of the portal. Additionally, two voussoirs of basalt and three well dressed and smoothed limestones with a profile on the one edge were retrieved from the fill in front of the doorway permitting the reconstruction of the portal that has been attempted in drawing (fig. 9).

The length of the door lintel of limestone fits with the existing width of the entrance portal. Only the left part, in which the date of the inauguration of the building would have appeared, is missing. The relieving lintel situated above the inscription is conjectured, but the employment of a basalt stone in this position is justified from a structural as well as an aesthetic point of view, creating the shift in colour between the white limestone and the black basalt that was favoured by the Mamluks. Taking the width of the arch as the point of departure and applying the eccentricity used for the arches of the reception room (1:8), there is every probability that the rise of the portal arch is determined and furthermore, the form is corroborated by the wedge-shape of the voussoirs. Having the form of the arch determined, the curve of one profiled limestone fragment fits well into the upper right part of the tympanum. Supplemented by two other fragments of the same white limestone, which have a similar profile along the one edge, the form of a possible frame, surrounding a

decorative tablet or inscription slab, has been resolved (13).

Compared to the composite character of buildings in Bosra the Hammam Manjak is a manifestation of a genuine Mamluk design. Especially the entrance portal, expressing the patron's pride and ambition in the achievement, make use of the striking contrast of white limestone against the black basalt in the best conformity with the current fashion of the Mamluks (14). Such extravagant features could only be afforded to buildings erected by the ruling class as a demonstration of power and influence in contrast to the otherwise anonymous and drab environment of ordinary housing, which make up the townscape.

The reception room

The entrance corridor provides for an oblique entrance securing the privacy of the disrobing room. Originally covered by cross vaults, the eastern dead end of the corridor was used as a latrine with an air shaft above for ventilation, while the access to the reception room is placed in the main axis of the bath.

The reception and disrobing room (*mashlakh*), has a square plan, 6.5 metres on each side, with iwan-like recesses spanned by pointed arches to all four sides. A podium (*mastaba*), with a total of 31 niches for the keeping of shoes, runs along the external walls. The full height of the podium was determined from the mortar traces still *in situ* at the wall. After restitution of the dismembered parts, the *mastaba* was completed by the required stones of basalt and limestone (fig. 6). Generally the limestone were weathered to such a degree that only very few stones could be used for the anastylosis and the uppermost course was totally missing. Logically this final course was reconstructed in limestone creating the desired shift of colour from the basalt beneath and thereby reaching to the final height of the bench.

The flooring was partly complete with an alternating pavement of basalt and lime stone supplemented by marble flags in the open drain surrounding the basin (fig. 6). The missing parts have been restored to the original pattern that was discernable from the remaining mortar joints. Likewise the water basin was restored by use of black and white stones placed in alternating courses to achieve the required shift of colour. Only the final course has been omitted lacking evidence of the original finish.

The central brick dome has gone completely leaving only a reddish soil from the decomposed bricks with no indications as to its original form. The transition from the square to the

octagonal form has been achieved by means of *muqarnas* pendentives at the four corners (fig. 7). Here again white limestone has been used for decorative purposes creating a pleasing contrast between black and white. At the start of the restoration 23 stones were still *in situ*, 29 carved stones were retrieved from the debris during the excavation whereas an additional number of 39 had to be carved anew in order to achieve the complete restoration. The suggested reconstruction of the dome shows one additional transition zone in brick forming a 16-sided polygon as the seat of the cupola (fig. 13). The carving of the three-dimensional form of the individual stones requires considerable skills of the stone mason and it can be presumed that the building has been erected by conscripted- or touring craftsmen from Damascus, who were well versed in the construction methods and the design as well as in all aspects of the elaborate technical installations.

The greater parts of the interior walls, as well as the inside of the cupola, was originally plastered and whitewashed presenting a much more delicate interior than it has been possible to recreate. After the restoration of the main architectural features, the reception room still appears as part of a ruined structure, but visitors can now appreciate the original space concept and get an impression of the original proportions of the Mamluk bath.

The bath proper.

Proceeding from the disrobing room through a bent entrance with several turns preventing a direct view into the bath chambers, the guests would have been provided with a pleasant surprise. Before entering the bath proper, immediately in front, at the far end of an elongated room, water was cascading down a water chute (*chadar*) positioned in a wall niche (fig. 12). The stone- or marble slab is missing, but the slanting limemortar bedding remains. Generally, the surface would have been textured, designed to break the sheet of water flowing down the slab. Often with edges taking a shape that resemble waves, the sound and sight of water would have been enhanced creating a feeling of joy and recreation. The continuous flow of water runs by a shallow runnel with a polychrome mosaic pavement (fig. 12) along the sloping floor into a hexagonal pool with a fountain in the centre. The whole arrangement is quite unusual, introducing the well known features of the Islamic leisure garden into the interior of a bath in Bosra (15). The ante-rooms have a practical function providing a buffer zone between the bath proper and the dressing room that secure the condensation of the humid air. Furthermore, the flow of cold water running across the floor towards the outlet has ensured the cleanness of the bath proper.

Another doorway in the main axis of the building leads to a large central room that originally was covered by a dome measuring 5.50 metres in diameter. The ten-sided room makes up the warm area of the bath known as the *wastani juwani* ('inner central'). For the individual use by the bathers, two separate chambers supplied with cold water, known as *magsura*, branch off to each side. The plan was originally conceived with access to four separate bath chambers from the central room. This arrangement, however, was changed during the construction by closing the two doorways to allow the water pipes to pass behind a recess.

Further to the north follows the hot room, known as the *juwani harara* ('inner heat'), where the hot steaming atmosphere would help to work up a sweat before the final wash. The large elongated room taking up the whole width of the complex is furnished with six individual washing places. Additionally, access is provided to four separate bath chamber situated at each of the diagonal corners. Altogether a total of eleven rooms have been offering various facilities and pleasures to the clients, who would then have returned to the dressing room for relaxation.

The water distribution system.

The following description relates to the diagrammatic drawing of the technical installations that are reconstructed on basis of the building archaeological investigations. The longitudinal section and the diagrammatic view of the technical installations (fig. 14 and 15) show the relative position of the various features mentioned in the text.

The water tank was situated in an elevated position to the north-east of the bath from where the water could be channelled under natural pressure into two main supply systems. Only the southern and lower part of the basin has been preserved leaving no information about the possible outside water source and original storing capacity of fresh water.

The supply of water to the 'water play room' and the central basin in the reception room as well as to the latrine was piped along the eastern exterior wall to a distribution chamber, located on top of the water chute (marked with a 'B' on fig. 75 and 76). Obviously, the distributor would have been accessible from the exterior for the control of the waterflow and for cleaning purposes. The two openings in the bottom of the distribution chamber are still intact originally controlling the water supply to the chute and to the central basin in the middle of the reception room respectively. As long as the water basin was filled with water, the fountain in the middle of the

'water play room' would spout and likewise, the water supply was secured for the latrine, situated at the end of the entrance corridor.

The second water distribution system, channelling water into a separate cold- and warm water supply system, could be controlled from another distributor (marked by an 'A') situated in the service room next to the tank. Supplied via the large T-shaped reservoir, the water would be heated and stored, ready for use. One outlet to the east and another to the west of the pool were channelling the hot water to the respective bath chambers. The cold water was supplied directly from the distributor to the individual washing places. The one pipe, however, meandering along the bottom of the hot water reservoir, would possibly have supplied lukewarm water to the taps situated in the western part of the bath complex.

The double line of pottery pipes with a diameter of about ten centimetres was bricked-up, one above the other, into the one side of the otherwise massive stone walls, admitting a relatively easy access to the pipes for possible repair. The water outlets in the limestone facing of the niches were possibly controlled by brass taps similar to medieval examples that exist in museum collections. Each corner of the niches had a low bench connected by a vertical stone slab barrier, forming a water basin to retain the water. Alternatively, the hollows in the flagstones at the bottom of the niches, indicate wear and tear of water jars that have been positioned in this particular place. Within the hot room, the washing places were possibly furnished with monolithic bowls of basalt stone, but only one-half of a bowl with a diameter of about 85 centimetres remains in the original position at the western end of the elongated room (fig. 11 above).

The flooring and drainage.

Originally, the floors were neatly assembled into a complex polychrome design. The main pattern is composed of black basaltstone alternating with white limestone slabs. Within this overall framework, a few fragments of tiles indicate the original geometric mosaic pattern; and the joints, still traceable in the mortar backing of the floors, provide enough information for an almost complete reconstruction of the original floor pattern (fig. 5). The mosaics were best preserved in the water runnel in front of the water chute (fig. 12 below). The star shaped pattern of black, red and ochre mosaic tiles provide some idea of the original polychrome beauty of the flooring, attaining true brilliance only in wet condition.

The floor, laid with a fall of about 25 centimetres towards the south, has drained the waste water towards an outlet situated

in the floor of the ante-room, from where it was discharged to a sewer below floor level. The drainage system is also connecting the overflow of the central water basin of the dressing room as well as the latrine, obviously discharging into the city's drainage system.

The vaulting.

The bath rooms to the south-east still have the walls standing to a height of approximately 1.80 metres conforming to the original height of the stone masonry. The springing line of the vaulting is indicated by the projecting edges of stucco that remain *in situ* at one of the individual bath chambers. Comparing with contemporary bath buildings in Damascus, still in current use, the transition zone was originally formed by several series of projecting, flat stucco niches - the one row above the other - reaching a total height of about one metre. Fragments of these stucco alveoles have been found among the mass of debris together with broken glass bits and bigger lumps of carved limestone. Altogether thirteen limestone fragments with an average thickness of about 10 -15 centimetres have come to light. The back is crudely hammered whereas the front is neatly combed ready for a final coat of lime plaster. The recesses of about 3.5 centimetres have possibly been forming a star shaped pattern on the ceiling, but the existing number of stones are not sufficient for the completion the jigsaw puzzle. To the outside the lime stone vaulting have probably been covered by a layer of bricks laid in mortar, plastered and fitted with glass insets of a greenish colour, filtering dim daylight into the interior of the bathing rooms. The round apertures for the skylights are varying in size between 10 to about 45 centimetres in diameter. To the interior, the wall base had a marble facing, while the remaining surface of walls and ceilings originally were plastered (16).

The heating and service area.

The heating and service area had direct access from the street. The western facade still shows a reminiscent arch of the original entranceway leading into the cross-vaulted boiler room. Another stone arch, positioned in the partition wall between the T-shaped water reservoir and the boiler room, has originally been bricked up providing only one opening for the furnace chute and another for the inspection of the water reservoir. The sloping chute is still intact leading down to the round furnace pit, 1.60 metre deep with a diameter of 1.20 metre lined with fired bricks. The cleaning of the furnace took place from the barrel-vaulted basement, that was reached via a stairway ascending from the boiler room. The service duct stretching in northern direction has not yet been excavated to

the very end and its original purpose still remains obscure. The smoke duct extends in the southern direction from the furnace, branching out in several directions to ensure the floor heating. Finally, the smoke would have been emitted through the chimney situated in the partition wall between the bath proper and the dressing room.

A large cauldron of brass or copper would have been positioned on top of the furnace and yet another kettle has possibly been positioned on top of the smoke duct. The excavation reveals only the hollows in the ground, but similar arrangements are recorded in contemporary bath buildings in Damascus. When the water was heated, steam would be contained within the T-shaped hot water reservoir from where it could be released to the neighbouring hot room through an opening in the partition wall. Likewise the hot water was stored ready for use, whenever the taps were opened in one of the individual washing places.

The original appearance of the northern structure cannot be finally concluded on the basis of the remaining parts. The external walls are definitely part of the Mamluk bath complex, but the roofing and the openings in the northern facade is due to later modifications of the original structure executed in the style of the traditional Hauran architecture some time in this century. Several millstones were discovered during the clearance pointing to a former use of the premises as a flour mill and most lately the structure has been put up as a mechanical workshop.

Building stylistic comparison.

The majority of Islamic monuments in Bosra demonstrate an extensive use of columns, capitals and stones originating from Roman and Byzantine buildings. The Hammam Manjak is exceptional in this respect, as second-hand building materials used for the construction would not have been noticeable after completion. Obviously, the bath is a genuinely planned structure, which greatly resembles contemporary bath buildings in Damascus (fig. 16).

Generally, the medieval Damascene bath buildings follow a uniform design concept, which gradually changed as demonstrated by Michel Ecochard and Claude Le Coeur in their description of the Damascene bath buildings (17). The traditional 6th/12th century bath had one hot room only, but more were added to the plan concurrently with the improvement of the bathing facilities. The central ten-sided room first appear by the end of the 7th/13th century allowing direct access to four separate bath chambers, whereas the previous octagonal room gave access to only two such rooms. In the case of Hammam Manjak, the ten-

sided room is found but obviously the planning was not finally settled from the outset as the scheme was modified in the course of construction.

The decagonal central space is known from only three bath buildings in Damascus, all of them displaying the same main proportions and functional lay-out as the Hammam Manjak in Bosra. Az-Zen and al-Ward are likely to be contemporary, possibly built before 749/1348, whereas al-Tayrouzi dates from 845/1444, approximately one hundred years later. All three baths are still operative today.

To the exterior al-Tayrouzi bath has alternating courses of black basalt and white limestones extending throughout the whole facade, including interlaced stone rosettes as part of the decorative facade scheme, originally in combination with an elaborate use of *muqarnas* above doorway and windows. The *muqarnas* of the portal, after falling into disrepair sometime after 1942 have been replaced by a simple pointed arch. By comparison the Hammam Manjak displays a more austere external appearance due to the dominating use of black basalt stone. White limestone has been limited to a single course on each side of the entrance doorway, but also the framing above the doorway as well as the lintels were in white limestone reflecting the contemporary Mamluk building style of Damascus (18). In the Hauran white limestone is only available from quarries located in the vicinity of Dera'a, 50 kilometres to the west of Bosra, posing a natural restraint to the use of this material.

Hammam Manjak adapted for an Islamic Museum.

As a generally accepted principle, buildings are best preserved for the future when the cost of upkeep and maintenance can be justified by continued and appropriate use. The attraction of ancient Bosra to the tourist has been enhanced by the mixture of historic ruins and the continued habitation within the precincts of the ancient town. This archaic situation is presently under radical changes owing to the improved earning capacity of the citizens and the consequent demand for better living standards. The well-to-do families have already moved to the new housing areas located mainly to the south and west of the old town. Furthermore, in preparation for more extensive archaeological excavations, all private properties within the central areas of the classical city are about to be expropriated by the Bosra Directorate of Antiquities, and the remaining inhabitants are now forced to move out of the central areas. This policy was already conceived and partly initiated by the late 1960's, when the first extensive programme for

restoration was initiated under the assistance of Unesco aiming at the presentation of ancient Bosra as an archaeological site (19).

This development, continued by the Bosra Directorate of Antiquities with the assistance of various foreign scientific institutions is furthermore part of the Governments policy of promoting cultural tourism in Syria. In this process of change, an appropriate presentation of the cultural heritage is needed.

A small regional museum was established in the citadel, after the successful completion of the restoration in the 1960s, exhibiting an archaeological as well as an ethnographic collection. Furthermore, as a result of the excavation and subsequent restoration of the Hammam Manjak, the opening of a small Islamic field museum has been made possible (20).

The main access remains at the original position to the south of the bath, leading to the entrance corridor and further into the reception room. This part has been partly restored and provides an eventful experience of the original space, complete with such historic features as *mastaba*, water basin and *muqarnas* pendentives.

The middle part of the bath is preserved as a ruin in its own right. In the northern part, the walls were gone completely leaving only the floor pattern reminiscent of the former plan, whereas they were still standing to a height of about 2 metres in the cold-water area. Rebuilt to an almost uniform height, the walls give an impression of the original space concept and facilitate the understanding of the heating and water distribution system, that still remain partly visible.

The former service facilities to the north of the bath, used as a workshop prior to the expropriation by the Directorate of Antiquities, provides a suitable exhibition hall for a field museum presenting the Islamic heritage of Bosra. The original roof construction remains as an example of the vernacular building tradition of Hauran relying completely on the local basalt stone for construction purposes. Finally, the courtyard serves as a *lapidarium* exhibiting building fragments and inscription blocks originating from the vicinity of the museum, which constitute the historic centre of the Islamic city of Bosra.

Notes and references

- (1) Jean-Marie Dentzer - Winfried Orthmann (eds.), *Archéologie et histoire de la Syrie II*, Paris, 1989, p. 239.

- (2) J.S. Buckingham, *Travels among the Arab tribes inhabiting the countries east of Syria and Palestine*, London, 1825, p. 198.
- (3) Photographic collection, *Fondation Max van Berchem*, 5 avenue Miremont, 1206 Geneva, Switzerland. Deposited at the University library.
- (4) Brünnow and Domaszewski, vol. III, fig. 865, p.2.
- (5) PPUAES, IIA, part 4, p.290. Leyden, 1914, pp.215-295.
- (6) Michael Meinecke - S.'Abd Allah al-Muqdad - Philipp Speiser, 'Der Hammam Mangak in Busra, Grabungsbericht 1981-1983', *Damaszener Mitteilungen*, vol. 2, 1985, pp. 177-192.
- (7) The final project report, including the findings of the archaeological excavation, conducted by Michael Meinecke, will be contained in the project publication scheduled for publication as a monograph of the *Damaszener Forschungen*, German Archaeological Institute, Damascus.
- (8) The documentation of the restoration process is contained in four technical progress reports. Concerning principles of restoration, please confer: *International charter for the conservation and restoration of monuments and sites*, ('The Venice Charter'), IInd International Congress of Architects and Technicians of Historic Monuments, Venice, 1964.
- (9) Michel Écochard - Claude Le Coeur, *Les Bains de Damas*, Institut Français de Damas, Beirut, vol I, 1942; vol. II, 1943.
- (10) É.E.Ouéchek - S.A.Mougdad, *Bosra, Guide historique et archéologique*, Damascus, 1954, p.14.
- (11) Quoted from L.A. Mayer, *Saracenic heraldry*, Oxford, 1933, p. 154-155; referred by Michael Meinecke, Grabungsbericht 1981-83, *op. cit.* note 6, p. 186. According to Mayer, Manjak al-Yusufi was a freed Mamluk serving under Muhammad b. Qala'un as an officer employed on special missions. Promoted to the rank of Emir, he came to Damascus in 748/1347, from 755-59/1354-58 he was governor of Tripoli and for a short time during 759/1358 governor of Aleppo. Subsequently he became viceroy of Syria from 771/1369-70 to 775/1373-74 and ended as viceroy of Egypt until his death in 776/1375.
- (12) Viktoria Meinecke-Berg, 'The founder of the Hammam Manjak in Busra: his works in Egypt and Syria', *New light on the history and archaeology of Bilad esh-Sham*, (Qasim Twair, ed.), Damascus 1989, (in Arabic).
- (13) A similar framing of a stone plaque was originally situated above the entrance of al-Tayrouzi bath, Damascus. However, the facade has been modified after 1942. Previously the lofty entrance portal was crowned by stalactite works. Cf. Ecochard and Le Coeur, 1943, *op.cit.*, fig. vi, p. 19.
- (14) The visual effect produced by the alternating courses of white and black stones, so-called *ablaq* gave name to Qasr al-Abraq constructed by al-Zahir Baybars al-Bunduqdari in Damascus in 1266; cf. Hayat Salam-Liebich, *The architecture of the Mamluk city of Tripoli*, The Aga Khan Program for Islamic

Architecture, Cambridge (USA), 1983, p. 207. Also referred by Creswell, *Early Muslim Architecture*, New York, 1979, vol. II, p. 157 (reprint of the original edition, Oxford, 1940). In Mamluk architecture in Cairo any two contrasting colours are applied, largely depending on the availability of stone blocks.

(15) In The Holy Koran refers to a fountain called *salsabil* (Sura LXXVI, 18), used as a metaphor of fresh and cool water providing comfort to the paradise dwellers. This motive is often associated with Islamic garden design. A slab of decorated marble, tilted at an angle to permit a flow of water to run over the textured surface is well known especially to Persian and Indian Islamic gardens (also named 'chadar', literally 'shawl').

(16) Chemical analyses of remaining plaster taken from various part of the bath show corresponding result (Rathgen-Forschungslabor, Staatliche Museen, Berlin, 1.6.1990). The plaster samples have a very high content of lime in all samples reaching as high as 50 % of the aggregate material containing much scoria and organic material, such as charcoal ash and plant material. This result corroborates the results of samples taken from the madrasa Mibrak, showing a content of CaCO_3 as high as 80 % of the dry weight.

(17) Ecochard and Le Coeur, 1943, *op.cit.*, p. 25. Refer also: J. Sauvaget, 'Un bain damasquin du XIIIe siècle', *Syria*, vol. XI, Paris 1930.

(18) The characteristic orientation in Islamic architecture towards the interior results in plain facades, only occasionally accentuated through the use of striped masonry as in the case of Hammam Manjak; Cf. Michael Meinecke, 'Mamluk architecture, Regional architectural Traditions: evolution and interrelations', *Damzener Mitteilungen*, vol. 2, 1985, p. 166.

(19) R. Amy, *Mise en valeur de Bosra-Cham*, Unesco technical report, Paris, 1969.

(20) Museum concept and planning, F. Aalund/German Archaeological Institute, 1989; cf. M. Meinecke, 'Das Islamische Museum zu Bosra, Südsyrien', *Museumsjournal*, no. 11, 1990.

Abstract: The vernacular tradition and the Islamic architecture of Bosra.

The Arab conquest of Syria in 13 A.H./634 A.D. did not entail the destruction of the ancient cities or their structures. During the preceding five centuries of Roman supremacy, civil and artistic architecture had reached to an extraordinary perfection of classical art in Syria. The city of Bosra, capital of the Roman *Provincia Arabia*, was rivalling the other principal centres of Syria and Jordan, as f.ex. Petra, Jarash, Palmyra and Apamea. Roman city design and buildings, together with prodigious churches of the Early Christian period, continued to shape the townscape of the ancient city for a long time. No longer the centre of a bishopric subordinate to the patriarch of Antioch and with no Christian population capable to maintain the edifices, they eventually crumbled.

The vernacular tradition.

The vernacular tradition continued, as a timeless way of building, to be in force within the informal sector of the society, quite independent of the Roman or Byzantine influences. Behind the colonnaded streets and grand design of monumental structures, the indigenous architecture was firmly rooted with the local population. Neither had the Arab conquest, formally introducing Islam as a religion, any sudden and immediate influence on the build environment. Only through a period of transition was the Muslim ideals and life-style to carry weight. The Umayyads, when they took power of the region, had no architectural tradition of their own to superimpose on the conquered lands, as the Romans previously had managed. They were compelled to draw upon a variety of different architectural styles that could be extracted from the existing cultural environment, obviously resulting in a new style of eclectic architecture.

The most tangible achievements of the Umayyads are preserved in the desert lands to the east, northeast and south of the Hauran, where a number of large country estates were constructed during the formative years of Islam. These enigmatic settlements may have been inspired from the former Roman fortifications of the *Limes Arabicus*, but the basic plan obviously owes credit to the much earlier tradition that existed in the Hauran long before the propagation of Islam. Especially the *bayt*, consisting of one large hall in the middle ajoin by secondary rooms to both sides, remains the basic plan unit that can be traced to the widespread domestic housing, still fairly well preserved in the lithic architecture of the Hauran. A succession of several of these basic units, one

beside the other, formed the more elaborate and important building complexes. The larger the extended family, the more of these *bays* were added. Ultimately, the large desert settlements of the Umayyads can be considered as an assemblage of many individual *bayts*, forming one large community within a common outer enclosure.

As examples of the vernacular building tradition, four structures have been surveyed to provide a reference for the discussion on the transition of the architecture during the early Islamic period. The division of the plan into several individual *bayts* provide interesting clues to the housing tradition, which can be associated with such celebrated palace structures as the Umayyad Mshatta and the Abbasid Ukhadir. The terraced houses at Inkhil in particular, with the large stonevaulted central hall of the middle *bayt* is a very illustrative example, but the same plan type is used in the vernacular tradition throughout the Hauran. Without a thorough archaeological investigation, the extant buildings cannot be put into the proper context of daily use, but considering the plan form and construction I feel convinced that the vernacular building tradition in the Hauran rely heavily on the earlier Partian and Sasanian cultures, testifying to the continuity of the Near Eastern material culture that lasted in spite of formal influence from Roman and Byzantine culture.

The Islamic architecture.

Followed by a period of only local importance under Abbasid control, the city of Bosra regained, especially under the Ayyubid governors, a major importance due to the strategic position for the control of the Hauran and the fertile plains of Nuqra. The formidable citadel, constructed around the Roman theatre, remains the most conspicuous vestige of the military ambitions and power struggle in the region. Altogether nine historic monuments have survived from this period of Islamic renaissance at Bosra. The construction of these buildings must be seen as a response to a variety of circumstances. Some of these are related to the long lasting vernacular tradition that has determined the plan and structural form of the small mosques (*al-masjid*) serving the local communities. The round stone arches with a low springing line, spaced at regular intervals to allow the roof slabs to span between the corbel stones, are the most characteristic features of the truly native buildings. The Friday mosque (*al-jami*) follow the hypostyle plan of the venerated Umayyad Mosque in Damascus and also the crusiform plan of the madrasa buildings are due to outside Islamic influence. Yet another factor, contributing to the build environment, is motivated by the absolute authority of the Ayyubid and Mamluk ruling classes.

The extensive building schemes were commissioned by the successive governors, and it then appears that the revival of Bosra to a large extent was a result of the military built-up in the area as a response to the advancing forces of the Crusaders. A first unsuccessful attack was launched on Bosra in 542/1147 and another was tried out four years later, soon after to be followed by the Mongols, who devastated the city in 668/1261.

The major building schemes

Under the patronage of the contemporary military rulers, especially three building periods of the Medieval Ages fostered a pronounced impact on the Islamic townscape of Bosra. This Islamic renaissance is clearly documented by the survival of nine monuments, which are discussed in the thesis.

During the first half of the 6th/12th cent., the governor Izz ad-Din Abu Mansur Kumushtakin initiated works on the Great Mosque (506/1112-13) and the al-Khidr Mosque (528/1134). He also commissioned the construction of the madrasa attached to the al-Mibrak Mosque (530/1136), remaining of particular importance to the history of Islamic architecture. As the oldest surviving example in Syria of a religious college with an axial plan form, this structure represents an intermediate link between the early development of the madrasa as a religious institution in Khorasan and the subsequent establishment of the medrasa in Egypt, where the four-iwan plan developed to become synonymous of the Islamic madrasa.

The second period involving a major building activity occurred in the first half of the 7th/13th cent. during the time the Ayyubid prince as-Salih Isma'il held the fief of Bosra (615/1218-644/1246). In this period, the Great Mosque was considerably enlarged (618/1221-22), including the erection of the impressive minaret that came to be a model for all the minarets to be added to the religious structures in Bosra as a new landmark of Islam. The construction of the local al-Fatima Mosque also dates from this period, obviously built to satisfy the needs of an expanding Muslim population in the city. The ad-Dabbagha Madrasa (622/1225-26), was constructed adjacent to the Birket al-Hajj water reservoir, that was restored to secure the water supply to the city as well as to the passing caravans of pilgrims on the way to the Holy Cities of the Hijaz. Likewise, the infrastructure was improved by the construction of the bridge near al-Kharaba connected with the western route to Damascus (623/1226) and the construction of the outer line of fortified towers, surrounding the Roman theater, were in progress. Subsequently, the arsenal and internal improvements of the citadel were accomplished (620/1250-658/1260) and the exterior fortifications, completed in 649/1251, brought the

citadel to its ultimate imposing appearance.

Building constructions continued under patronage of the Mamluk sultans. The viceroy of Syria and governor of the Damascus province, Manjak-al Yusufi commissioned the construction of an elaborate bath complex (773/1372), the latest monument known to have been built in Bosra before the city development stagnated and eventually the structures fell into ruin.

This remarkable corpus of medieval monuments constructed mainly during the 12th, 13th and 14th centuries A.D. are preserved in a varying state of conservation as it appears from the thesis. The citadel was subject to continued restoration by the Directorate of Antiquities from 1946 to 1970. As a result of these efforts the Roman theatre encapsulated by the citadel is now again put to use for annual cultural festivals. Likewise the al-Umari Mosque has regained its previous importance as the Great Mosque of the growing population of Bosra after successive restorations lasting from 1938 to 1965.

From the 1950's onwards a comprehensive research program has been initiated by different European archaeological mission working in close co-operation with the Bosra Directorate of Antiquities aiming at the establishment of a thorough scientific documentation of all aspects of the city's history. As part of this international research, the Islamic era of the city's history has been subject to a research programme carried out under the auspices of the German Archaeological Institute, Damascus, from 1981 to 1990. Centered on the excavation and architectural conservation of the Mamluk bath complex, Hammam Manjak, the project also accomplished the survey and documentation of the entire physical fabric of historic monuments as presented in this thesis on the vernacular tradition and the Islamic architecture of Bosra.

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