

**SURVEY OF BYZANTINE AND
ISLAMIC SITES IN JORDAN
SECOND SEASON REPORT, 1981**

by
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Part I: Field Report (Geoffrey King)

Introduction

The survey of which this constitutes the second report was conceived as a re-examination of material remains in Jordan relating to the transition between the Byzantine and the early Islamic periods. The survey concentrated initially on those regions of the country where the distribution of well-known Umayyad sites implied that it might be useful to search for others; the results of earlier surveys also suggested that the re-examination of certain sites and districts could be of value from the viewpoint of this transitional phase and helped to determine the areas and sites on which to lay stress. Our main intention has been to place the familiar early Islamic desert sites into a wider framework, and although other regions were surveyed during the second season, the desert and its immediate perimeters were the principle focus of our attention. The character of the early Islamic sites in the desert and their surroundings suggests that it is quite inadequate to treat them as isolated phenomena constructed in desolate areas by Umayyad rulers and *amirs* interested only in creating an environment for their personal frivolities — the desert retreats and “pleasure palaces” of a half-bedouin régime. The results of our work in and along the edges of the Jordanian desert over the past two seasons indicate that a different view should be taken: the distribution of sites begins to suggest a process of establishing new settlements and improving old ones in the desert and marginal lands, while occupation in villages close to the desert often continued from the Byzantine

period. In part, the Umayyad site distribution may reflect a concern with communications within their Arabia and Bilād al-Shām oriented state, but their practical developments in eastern Jordan must also be seen in context of political factors within the Caliphate.

The Second Season

The survey team concentrated during the second season on the following areas:

1. Sites in the eastern Jordanian desert towards Wādī al-Sirhān and the Sa‘udi Arabian frontier were examined to continue our researches begun during the first season (1980). During the second season, we further investigated Qasr al-Mushāsh, as well as the site at Wādī al-Jilāt and Qasr Bāyer.
2. The Hawrān was examined once more as additional work remained to be completed from the previous season. In addition, the area between Umm al-Quttayn and Azraq was traversed and further to the east, Wadi Muqat was followed southwards from H4 as far as the Sa‘udi Arabian border.
3. A number of sites south of Madaba and north of Wadi al-Mūjib were surveyed in order to determine the degree of Byzantine and Islamic period occupation immediately west of the desert. Work remains to be done in this region before our report on this area can be published,¹ and only the mosque at Umm al-Walid will be discussed at this stage.
4. As an extension of our fieldwork in the

1. The third report of the survey will deal with sites in the southern Ghawr and the Wadi ‘Araba.

The fourth report will deal with sites north of Wadi al-Mūjib and west of Mafrāq.

Ḥawran, a limited number of sites west of Maḥraq towards Jerash were surveyed. A certain amount of fieldwork remains to be carried out in this region and the results will be published in a subsequent report.

Section 1: Eastern desert

(Note: Throughout sections 1 and 2, for references to ceramic tabulations and stone artefacts, see Part II: C. J. Lenzen and Part III: G. O. Rollefson, respectively).

Qaṣr al-Mushāsh (Fig. 1: Plan)

Several visits to Qaṣr al-Mushāsh² allowed more extensive observations of the area surrounding the main site than had been possible during the previous season and more detailed notations of the structural remains were made. While the various installations that constitute the site were sherded, more precise dating is to be hoped for from the excavations initiated at the complex subsequent to our second season by Dr. Ghazi Bisheh. In view of the additional information now available to

us, the installations at Qaṣr al-Mushāsh noted in 1980 will be discussed followed thereafter by descriptions of other remains located in 1981.³

I. Smaller enclosure (*qaṣr*); II. Circular *birka*; III. Larger enclosure/*birka* (?)

These structures were all seen in 1980, situated close to the north bank of the Wādi al-Mushāsh flood channel. The small enclosure, the *qaṣr* (I), measures a little over 26.00 x 26.00 m. and it is oriented towards the cardinal points. Stones from the enclosure wall of the *qaṣr* had fallen into the Wādi al-Mushāsh since 1980. Most of the sherds collected were found around graves to the east of the *qaṣr* rather than within it. Nearby is the small circular stone-lined tank II, formerly roofed with stone slabs supported by three stone arches, and measuring 4.20 m. in diameter; of the roof-supporting arches, only two remain intact, with a number of *wushum* cut into the masonry. Roofing slabs still rest on these arches on the south-east side of the *birka*. Some traces of plaster survive on the interior surface of the *birka* wall, a feature shared with other

2. Qaṣr al-Mushāsh has been noted by earlier travellers, although none but G. L. Harding has associated it with the Arabs, Alois Musil visited the site on 15th June, 1901, (*Kusejr-ʿAmra*, I, Textband mit einer Karte von Arabia Petraea, Kaiserliche Akademie der Wissenschaften, Vienna, 1907, p. 115, with Fig. 104 and 105). Thereafter, B. Moritz visited the site in 1905-1906 (*Ausflüge in der Arabia Petraea, Mélanges de la Faculté Orientale, Université Saint-Joseph III*, fasc. 1, 1908, p. 425-427, Taf. VII). Their accounts are given in an appendix to this report. Sir Aurel Stein visited Qaṣr al-Mushāsh on 19th March, 1938, unaware that it had been described by Musil and Moritz (Stein Limes Report in D.L. Kennedy, *Archaeological Explorations on the Roman Frontier in North-East Jordan*, BAR International Series, Oxford, 1982, p. 254-255; Kennedy also gives a short reference, p. 302). Stein regarded Qaṣr al-Mushāsh as a part of the Roman road and *limes* system from ʿUwaynid and Azraq through to ʿAmman (Philadelphia). G. L. Harding referred to the site in his unpublished *Notebooks* held at the Registration Centre of the Department of Antiquities in ʿAmman: "Qaṣr Amshash (~~60~~ 60 in "Sites Register Trans-Jordan Vol. 'A') District: East Map Ref: 2745 1364

Date: Arab(?), Prehistoric

Description: "Ruined Castle"

"Rolled Abbevilean (sic) (Chellean) flints in the wady bed"

Remarks: Sch. OG 621

SM I, 28

"Flints in wady to N."

Harding thus was the first to make the connection between the *qaṣr* and the Arabs: it is mentioned in the Prehistoric, Chalcolithic and "early & medieval Arabic & Crusaders" maps in the *The Archaeological Heritage of Jordan*, Amman, 1973, part 1. See also G. King, Preliminary Report on a Survey of Byzantine and Islamic sites in Jordan 1980, *ADAJ*, XXVI (1982) p. 86-88, and note 8 for map references; and, Byzantine and Islamic sites in northern and eastern Jordan, *Proceedings of the 13th Seminar for Arabian Studies* 13 (1983), p. 83-84. Although the name is generally given as Qaṣr al-Mushāsh, we have heard it described by the local people as Umm al-Shāsh, close enough to Harding's "Amshash". Moritz knew the site only as "al-Qusayr". Qaṣr al-Mushāsh must be distinguished from Qaṣr al-Mushaysh which lies south-south-east of al-Qatrāna in the desert.

3. Qaṣr al-Mushāsh was visited on 27th July, 10th August and 17th August, 1981.

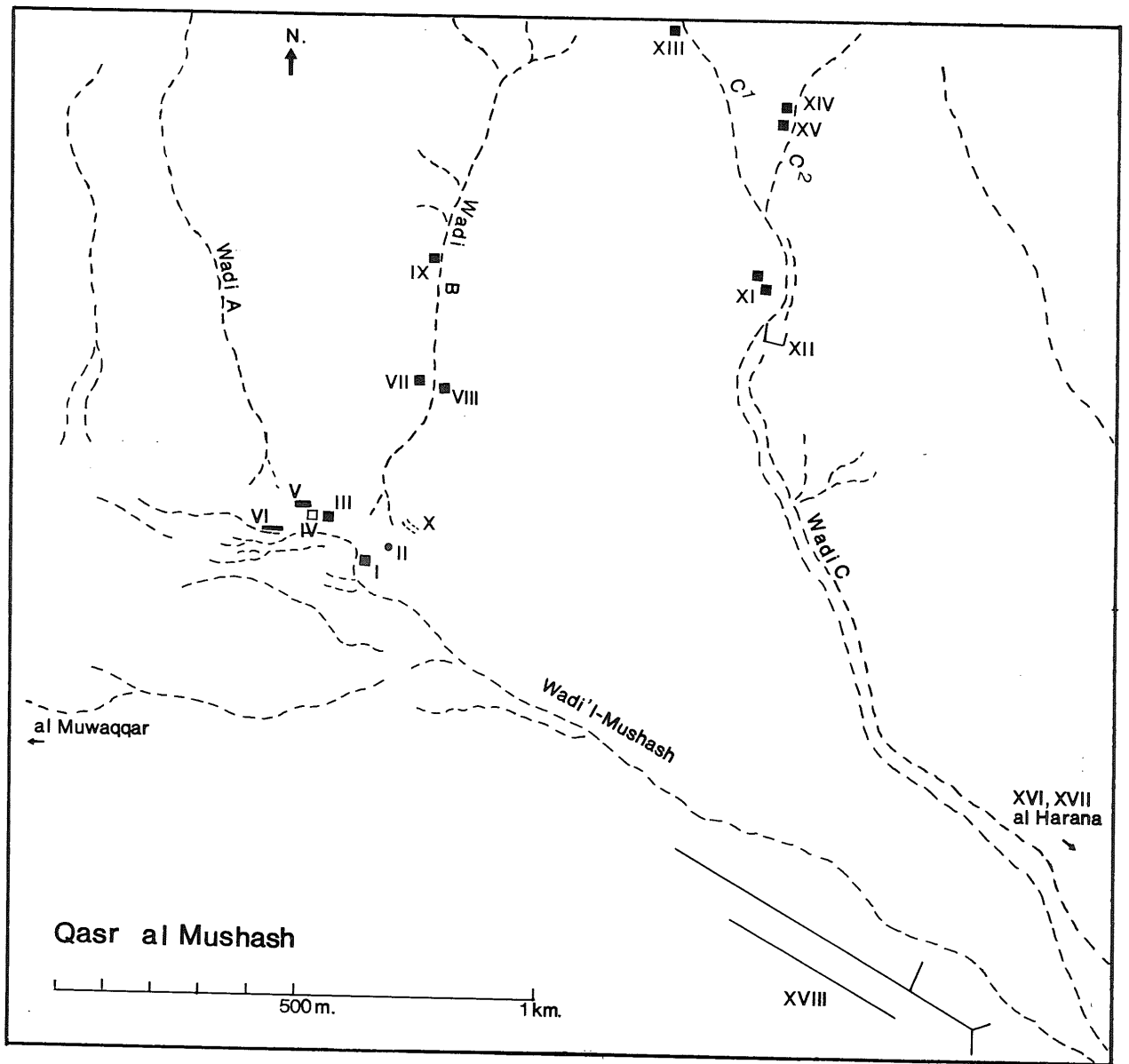


Fig. 1

birak at the site. On the eastern side of the round *birka*, at the base of the lining wall, is a small square feeder pipe which is plastered and which must have drawn its water supply from somewhere to the north-east. Although other *birak* at al-Mushāsh are plastered, this, the smallest, is the only one to have been roofed. In view of this precaution to keep the water stored in the *birka* clean, it is suggested that the small tank was intended to provide the occupants of the *qaṣr* with drinking water. Piled just to the south-east of the *birka* is the earth excavated when the *birka* was dug.

The large enclosure (III) is outlined by earth banks, measuring about 33.00 m. x 34.00 m. and it is oriented towards the cardinal points. Dr. Bisheh is probably correct in suggesting that it was a *birka*, for contrary to our original impression, the central area of the enclosure is without feature. A piece of broken marble slab lying on the surface within the western part of the enclosure must have originated in the bath (IV) just to the west.

IV. Furnace, bath and related structures

These installations, immediately west of the large enclosure III, appear as little more than surface wall-traces delimiting the eastern and western sides of a small building. At the northern end, where an ashy pit with clay piping, fired brick and marble fragments were found in 1980, unauthorised digging had taken place by August, 1981. This had revealed yet more ashy deposit and freshly broken marble slabs. Among the fragments was a piece of baked brick, plastered on one face, and a fragment of worked basalt, a stone not found in this area. The speculation that the installation had been a furnace and a bath has been confirmed subsequently by Dr. Bisheh's excavations.

V. *Birka*

The *birka* to the west of installation IV was first noted in 1980. It measures 17.98 m. x 6.81 m. and has its longer sides on an east-west axis. Its depth to the present floor level is 2.56 m. A stepped

course at the base of the stone walls on three sides (and probably originally on all four sides) suggests that the floor level towards the eastern side of the *birka* approximates to the original depth. At the best preserved point, the stone walls lining the *birka* are nine courses deep, including the step-like foot. In each of the three intact corners of the *birka* there is a single stone laid on angle, set half-way up in the wall, as if to act as a brace. The interstices between the stones lining the *birka* are filled with a cementing plaster which must have coated the entire surface. Similar plaster appears on the walls of other *birak* in the *Qaṣr al-Mushāsh* complex. In the centre of the *birka*-wall, at the summit on the west side, is a shallow stone-lined channel running from the west; it extends 3.40 m. in that direction, as far as can be judged from the surface. The water to feed the *birka* was clearly drawn from the west, where there are several wall-traces. The position of *birka* V indicates that it was related to the furnace (IV) to the east. Further wall traces lie to the south of the furnace IV and *birka* V, and one of these walls can be seen in section in the face of the north bank of the Wadi al-Mushāsh flood channel.

Tributary awdiyah north of Wadi al-Mushāsh (Fig. 1: Plan).

There are several tributary *awdiyah* running into Wadi al-Mushāsh from the north with their outlets in the vicinity of the *Qaṣr al-Mushāsh* installations described above. *Wadi* A marks the westernmost channel across whose course a further installation was noted; no other structural remains were located to the west of this *wadi*. Further east lie *awdiyah* B and C, beside and in which other installations were found.

VI. Wall in the north bank of Wadi al-Mushāsh (Pl. LXXXV,1)

A wall was noted for the first time by this expedition in 1981 to the west of the main installations: it measures some 23.60 m. in length, lying across the mouth of the small tributary *wadi* channel A (Fig. 1:

Plan). This wall was entirely silted on its north face when found and our observations are limited to the south face. It appeared that water was intended to collect on the north side. Just east of this area there are two low mounds. It was speculated that water from here may have fed *birka* V which in turn supplied installation IV.

The exposed south face of wall VI stands to only three or four courses of stone above the present Wadi al-Mushāsh bed, with each course some 0.30 m. high. The face of the wall is plastered; the plaster has flat stones mixed into it, a system found elsewhere in the Qasr al-Mushāsh complex. The summit of the wall is capped by a stone course 0.05 m. thick which levels it off. To the west of this wall is a water channel with stone sides and hard cement-like lining forming the floor of the channel. The channel continues westwards to terminate in a substantial rectangular structure whose original form cannot be determined without excavation (Subsequently this structure was cleared by Dr. Bisheh).

Wadi B: Installations VII, VIII and IX (Pl. LXXXV, 2)

The second tributary *wadi*, B, flows towards Wadi al-Mushāsh and debouches to the north of the *qaṣr* (I). About 400.00 m. northwards along the *wadi* B channel, two further occupation areas were noted (VII and VIII). Installation VII lies to the west of the *Wadi* B flood channel on the slope. It consists of a number of wall traces and stone rubble, with scatters of sherds which are Late Byzantine/Umayyad or clearly Umayyad wares. The walls outline several rectangular structures whose limits can be quite readily defined. Opposite, on the east bank, is installation VIII (Pl. LXXXV,2), a small rectangular enclosure described by earth ramps. A fragment of finely polished white marble panel was found on the surface, 18 mm. in thickness.

Just under half a kilometre north of installations VII and VIII, along the course of *wadi* B is a very large *birka* (IX), situated on the west side of the flood channel. Immediately south and south-

east of the *birka* is an earth barrage set east-west across the channel, cut by the modern track in the *wadi* bed. The purpose of the barrage was apparently to deflect water back into the *birka* from this channel, as it flowed south to the Wadi al-Mushāsh. The barrage and mounds south and north of the *birka* were built from the material excavated when the *birka* were built from the material excavated when the *birka* was dug. The *birka* measures 19.35 m. north-south and 18.35 m. east-west and to present floor level has a depth of 4.69 m., which is probably its original maximum. The *birka* walls are stone-lined with fifteen courses and a sixteenth course forming an overhanging ledge that runs around the north, west and south sides. This ledge once must have continued along the east side as well. The *birka* has a staircase of projecting stone slabs which have snapped off: these commence at the west end of the north wall and descend to the east to provide access to the water in the *birka*. From the north, the *birka* was fed by a channel which debouches precisely above the staircase. This channel is stone-lined with a central stone ridge which in effect creates a double mouth. The channel is a total of 0.94 m. wide and it can still be traced for a distance of 5.40 m. towards the north. The corners of the *birka* are curved rather than squared off and the sides are coated with a plaster in which small stones are mixed as described above for installation VI.

X. Barrage

Just east of the mouth of tributary *wadi* B, to the north-east of the *qaṣr* (I), a small gully in a hill-side has been closed off by an earth barrage at its southern end to collect the water running off the slopes. *Wadi* C, C1, C2: Installations XI, XII, XIII, XIV, XV.

East of *wadi* B is a third tributary *wadi*, designated as *wadi* C. Before it debouches into Wadi al-Mushāsh the track from the Qasr al-Mushāsh complex to Qasr al-Harāna crosses its course. In the northern reaches of *wadi* C, the main channel divides, with a channel C1 branching to the north-west and a second channel, C2 branching to the north-east.

In both upper tributaries further installations are located in addition to those downstream in *Wadi C*.

XI. Rectangular foundations

Installations XI lies on the west bank of *wadi C*, set a little above the flood channel, and it consists of a group of rectangular outlines formed by low ramps and wall traces on the slope, arranged in terraces.

XII. Wall traces

A short distance south and east of installation XI are walls describing a large rectangular outline in the bed of *wadi C*.

XIII. *Birka*, *Wadi C1*

A further water storage *brika* is set into the south-western slope above *wadi C1* (XIII). It appears to be a natural cavity which has been widened into a T-shaped reservoir. The walls are of the natural rock, made smooth, and where cavities existed, they have been filled with stones. The entire surface was then plastered in two layers, the under layer mixed with stones, and the surface provided by a finer finish; this is the same system as that used to plaster the large *birka* IX and the wall VI. It is now difficult to estimate the depth of this T-shaped *birka* XIII as rubble conceals the floor. It must have been fed primarily by *wadi C1* for there is an earth barrage to the east intended to deflect water flowing in the flood channel back into *birka* XIII. The *birka* is partly covered on its western side by a natural roofing of rock, presumably to reduce evaporation. A number of stone artefacts were found in this vicinity.

XIV and XV. Blocked *birak*, *Wadi C2*

On the west bank of the *wadi C2* channel, a further two *birka*-traces were identified, XIV and XV, although both were blocked. They appear originally to have been similar to *birka* XIII in *wadi C1*. Of the two, *birka* XIV is more clearly

defined: it consists of a blocked reservoir, choked with soil and reduced to a mere depression. There is a barrage nearby which once served to deflect water from the flood-channel into the *birka*, although the barrage is eroded. The earth for the barrage probably came from the excavation of the *birka*. *Birka* XV, just south of *birka* XIV, is of the same nature, although apparently smaller and much less clearly defined. All that is visible is the trace of an earth deflector barrage and a slight depression in the ground. It was identified only because we were already familiar with the significance of these remains after examining *birak* XIII and XIV.

Installations east and south of the main complex

A number of related installations were located beyond the main concentration of structures and *birak* at *Qaṣr al-Mushāsh*. Although some were discovered in 1981, others were found during the third season in the field in 1982: it is more convenient to describe them here, rather than to await the publication of the report for the third season.

XVI. *Birka* (Pl. LXXXVI, 1)

This installation is situated well beyond the principle occupation areas of the main *Qaṣr al-Mushāsh* complex, although it was without doubt a part of the overall system. The installation is south-east of the main site and just north of the track from *Qaṣr al-Mushāsh* to *Qaṣr al-Ḥarāna*; at first sight, it appeared to be no more than a mound of white soil but this proved to be yet another barrage to deflect water into an excavated *birka*. This *birka* is set on the edge of a small tributary *wadi* running into *Wadi al-Mushāsh* channel.

Two massive circular piers support a roof of natural rock which covers much of the excavated *birka* to reduce evaporation. These piers and the sides of the irregularly shaped *birka* are plastered in the same manner as already noted in the cases of installations VI, IX and XIII.

XVII. Blocked *birka*⁴ (Pl. LXXXVI, 2)

On a subsequent visit to Qaṣr al-Mushāsh in 1982 a further blocked *birka* and barrage of white excavated soil were identified a short distance east of *birka* XVI in another tributary *wadi* running into wadi al-Mushāsh from the north. This blocked *birka* is separated from *birka* XVI by a spur from the hills lying to the north. The traces of this *birka* XVII relate it to others of the main Qaṣr al-Mushāsh complex.

XVIII. *Qanawāt* (Pls. LXXXVII, 1-2)

Exploring the area south of the Wadi al-Mushāsh channel to investigate lines noted on aerial photographs⁵ it was found that the lines are parallel ridges, the remains of *qanawāt* running north-west to south-east. The northern line has a secondary branch running off towards the Wadi al-Mushāsh and two branches forking at the eastern extremity. A further line runs southwards from the southern of the two parallel ridges. Unfortunately, the ends of the systems either peter out or have been destroyed by the Wadi. Along the sides of these *Qanat* traces there are circular mounds of small stones (Pl. LXXXVII, 2) set at intervals, especially beside the southern ridge line. A similar phenomenon is recorded at Nessana in the Naqab⁶ where P. Mayerson concluded that the stone mounds were for cultivating vines or trees, referring to them as "tuleilat el-'anab" and "rujūm el-kurūm". Dr. Bisheh put forward a similar suggestion at the time of the discovery of these mounds. This is the clearest evidence of cultivation as opposed to pastoralism based on water storage found so far at al-Mushāsh.

An Installation Towards Qaṣr al-Ḥarāna
(Pl. LXXXVIII,1)

Continuing 1.5 km south-east from *birka* XVI at al-Mushāsh, a number of walls were noted south of the track:⁷ beyond, the track continues on to Qaṣr al-Ḥarāna, which can be clearly seen on the distant horizon from high points around the al-Mushāsh site. The installation had recently been used by the Army to judge by the tracks and debris left behind. While the standing enclosure walls are probably recent, the underlying wall-traces indicate that there were earlier structures. The ceramic tabulation for this site is extremely interesting: the majority of the sherds collected are Byzantine, with far fewer Late Byzantine and Umayyad wares. Since the evidence of Byzantine occupation is so pronounced, it would be unwise at this stage to associate the site too closely with the Qaṣr al-Mushāsh complex which is principally Umayyad, judging from the sherd evidence. This ruined structure is important not so much for its continued use in the Umayyad period—lying between the complex at al-Mushāsh and Qaṣr al-Ḥarāna this is to be expected—but for the evidence that it presents of Byzantine use of this area. G. W. Bowersock⁸ has suggested that there may have been some Nabataean and Roman presence that preceded the Umayyad development of sites like Qusayr 'Amra, Qaṣr al-Ḥarāna and Qaṣr al-Tuba. He also mentions Qaṣr al-Hallabāt where the case is now very clear following Dr. Bisheh's recent excavations. The sherd reading from our small site south-east of Qaṣr al-Mushāsh, implies that such a pre-Umayyad use of the sites in the desert may have also occurred in the Byzantine period. At Qaṣr al-Mushāsh the number of Byzantine sherds is too small to interpret the site as pre-Umayyad, but even here the presence of these Byzantine sherds may take on some importance in view of the

4. Installations XVII and XVIII were located on 6th September, 1982 when we accompanied Dr. Ghazi Bisheh to the site. Dr. Bisheh described his recent excavations there and kindly made his plans available to the author, for which I am most grateful.

5. IGN-78-JOR-16/250 no. 476, 1:25,000 Series, Jordanian Geographical Centre, Zarqa.

6. Philip Mayerson, The ancient agricultural

regime of Nessana and the central Negeb, *Excavations at Nessana (Auja Hafir, Palestine)*, ed. H. Dunscombe Colt, London, 1962, vol. 1, p. 249-257 and plates XLI.5 and XLII.6.

7. Located 10th August, 1981.

8. G. W. Bowersock, A report on Arabia *Provincia Journal of Roman Studies*, LXI (1971) p. 242.

Byzantine use of the installation *en route* to al-Ḥarāna.

It is clear from the foregoing that Qaṣr al-Mushāsh was a complex of great scale and that one of its main purposes was to collect water in considerable quantities. Even if the small circular *birka* (II) was intended as a drinking water supply for the residents of the *qaṣr* (I) and *birka* VI was employed in conjunction with furnace IV for the bath, there still remain between seven and ten additional water collection and storage points. Of these, *birka* X has a capacity of 165 cu. m. It is to be presumed that after a wet winter, a certain amount of water would remain in some of these reservoirs for quite a long period as long as they were maintained. Qaṣr al-Mushāsh lies on the edge of the present 100 mm. annual average precipitation area,⁹ but the heavy winter and spring rainfall and flooding of the *awdiyah* that has taken place since we first saw the site in 1980 suggests that there would be little difficulty in filling the *birak* during a wet winter: the lack of water in the *birak* in summer today is probably because of the deterioration of the sealing plaster lining them, as much as evaporation. Meanwhile, the heavy rainfall of recent years has ensured that the Wadi al-Mushāsh flood channel and its surroundings have remained well covered with thick foliage through the high summer: this situation must have been as likely to occur in ancient times as today and provided grazing.

It should be noted that the majority of the water catchment systems at Qaṣr al-Mushāsh are in the tributary *awdiyah* north of Wadi al-Mushāsh. It is possible that the flow of these northern tributaries was more manageable than that in the main Wadi al-Mushāsh channel and less damaging to the constructions themselves. However, Dr. Bisheh has found some indication that there may have been an

attempt to harness the water in the main Wadi al-Mushāsh itself.

Why were so many *birak* required? No field traces seem to exist in the aerial photographs available to us, nor could any be identified on the ground, although the transformation of the morphology of the area through flooding may account for this. The existing *qanāt* and *rujm ʿanab* system (XVIII) are very restricted within the overall complex. Rather than serving cultivation, it seems more likely that the storage of large quantities of water was intended to support herds of animals, sheep and goats in particular; this issue will be returned to below in the context of the dams at Wadi al-Jilāt. The pottery tabulation of the Qaṣr al-Mushāsh installations shows that we are dealing in the main with a large scale Umayyad desert development to be seen not only in the context of the other early Islamic sites in east Jordan, but also to be compared with other Umayyad water-control and storage installations in Bilād al-Shām.

Dams in Wadi al-Jilāt (Pls. LXXXVIII, 2; LXXXIX, 1-2)

The dams at Wadi al-Jilāt were visited after our examination of Qaṣr al-Mushāsh¹⁰ approaching the site from the east via Qaṣr al-Ḥarāna. The dams in Wadi al-Jilāt are 26 kms. south-south-west of al-Ḥarāna, although the route that we followed was by no means so direct. The dam site has been visited by several expeditions, the earliest being that of Henry Field, who reached it on May 8, 1928, on the way from ʿAmman and Mshāṭta to Qaṣr al-Ṭuba and Bayer.¹¹ Field called the site “Birkat Tuba”, a name unknown to the Bani Sakhr bedouin with whom we stayed. Field described the site, which coincides very clearly with that which we saw, as follows:

“At mile 64 we arrived at a large dam, perhaps 100 feet wide, which

9. *National Water Masterplan of Jordan*, The Hashemite Kingdom of Jordan, National Resources Authority, Amman/Federal Republic of Germany, German Agency for Technical Cooperation, Ltd., Frankfurt, Essen, Hanover (July, 1977), Map SW-4.1.

10. Map ref. BQ 539 882, Sheet 3253 II, series

K737. Aerial photograph: IGN-78-JOR-16/250 No. 413; Scale 1:25,000, Jordanian Geographical Centre, Zarqa. Visited 11th August, 1981.

11. Henry Field, *North Arabian Desert Archaeological Survey, 1925-50*, Cambridge, MA. 1960, p. 75.

must have held an extremely large reservoir before it became silted up. Three deep buttresses sustained the dam, but their faces had fallen away in time of earthquake under the pressure of the masonry and silt behind them. The masonry was of hewn blocks with a filling of small stones. The wall of the dam was not vertical but very steeply stepped to break the force of the overflow. There was no visible sluice. The wall was about 15 courses high... About 200 paces further down the wadi, a smaller dam controlled the flow of a minor watercourse into the stream bed. This was of rougher workmanship, and was perhaps built by poorer rulers after the great dam had been silted up and neglected."

The next account of this site is given by J. d'A. Waechter and V. M. Seton-Williams,¹² although they say little of the dams. They mention a small bedouin mosque above the Wadi which still remains.

N. Glueck subsequently visited the site,¹³ describing it as being in "Wâdi Dhôbai":

"We came across such a dam, built probably by the Romans, in the Wâdi Dhôbai, far from any permanent settlement, to catch the freshets caused by occasional rains and thus provide water for numerous flocks. This dam is about 85 km. n.w.-n.n.w. of Bayir, and some 58 km. w.s.w.-s.w. of 'Amri in the Wâdi Sirhân, and 38 km. s.w.-s.s.w. of Qaṣr Kharâneh. The main wall of the dam is still in excellent condition on the whole. We made no attempt to measure it exactly, being able to spend only a

very few minutes in the vicinity. The width of the top of the dam is 5.50 m., and its length on the top is about 57.8 m. The top of the outer s. face of the wall is flush with the silt which has filled up the *wâdi*-bed on that side. There is a drop of some 6 m. on the inner side down to the bed of the *wâdi*, enabling 15 courses of stones to be seen. The rows of stones are set back successively about 12 cms. from each other. There are 3 piers buttressing the inner side of the dam. Many of the stones of these buttressing piers have been dislodged and fallen to the ground.

"There are supposed to be the remains of another dam, much less well preserved, farther down the *wâdi*. We were unable to locate them in the time at our disposal. The analogy thus with the dams at Kurnub becomes a compelling one. About 500 m. from the main dam, the Wâdi Dhôbai bends eastwards, and there is a deep drop in its bed, with a great hole scoured out as if by a strong waterfall. This waterfall probably exists for a brief while when the *wâdi* is in flood. At the time of our visit on May 8, 1944, there was a pool of putrid water in it. No greater testimony to the dynamic quality of the population and rulers of the country in the first centuries A.D., and to the peace and enterprise which prevailed, could be furnished than by dams such as these. The impounded rainwater served great flocks long after the brief rainy seasons had passed."

In fact, the correct name of the Wadi in which the two dams are situated is Wadi

12. J. d'A. Waechter and V. M. Seton-Williams and colleagues, The excavations at Wadi Dhobai, 1937-1938 and the Dhobaiian Industry, *The Journal of the Palestine Oriental Society*, XVIII (1938: nos. 3-4) p. 173-174 and plan 1.
13. Nelson Glueck, Explorations in Eastern Palestine IV, Part 1, text, *AASOR*, XXV-XXVIII (1945-1949) p. 49-53 and figs. 39-41, plate entitled "Dam in Wâdi Dhôbai". To the above references should be added a brief outline in G.L. Harding's unpublished *Notebooks*, Registration Centre, Department

of Antiquities, 'Amman:

"Wady Dhobai"

Dist.: Desert

Map Ref.: 288145 approx.

Date: Prehistoric, Roman

Biblio. JPOS (*Journal Pal. Orient. Soc.*)

"Many small prehistoric sites and a Roman Dam in the Wady." Accompanying Harding's entry is a photograph of the main dam: it is identical with that which we saw in Wadi al-Jilat.

al-Jilāt, although Waechter and Seton-Williams, Glueck and Harding all consistently confused the Wadi with Wadi al-Dab'i into which Wadi al-Jilāt flows before the united channels run towards the Azraq basin in the north-east. Dr. G. Rollefson visited al-Jilāt in October 1981 and was told by the bedouin that one of the dams is "rujm Jilāt" and they pointed out two tailed cairns and some smaller cairns south of the main dam, describing these as "Qaṣr Jilāt".¹⁴ The present author was assured by the Bani Sakhr that there were no other antiquities in the vicinity except the two dams described here, and the various *rujūm*. There is no Qaṣr al-Jilāt as such.

The Wadi al-Jilāt at the site of the dams is very striking in its topography. It cuts through a broad valley with ranges of low hills on either side. Within this depression, a rocky gorge drops steeply below the level of the valley floor by some 6.00 m. so that the gorge is invisible from a distance. This gorge commences at the western end at the main dam which is silted on its western face up to the summit, as Field and Glueck have said. Thereafter, the rocky gorge continues as a narrow channel with small tributaries flowing in from either side. The gorge moves in a generally north-easterly direction with sharp turns before it eventually broadens out and the steep cliff sides cease. The second dam mentioned by Field was located at the mouth of a tributary in the south side of the main gorge. Not far beyond the main dam there are water-holes in the bare rock of the stream-bed.

The principle dam at al-Jilāt could only be examined from the eastern face, that is, downstream, because of the total silting upstream. The eastern face of the dam is constructed of excellently cut limestone and banked with regularly stepped courses. Each step in the dam face is set back about 0.05 m. from the step below it, so that the summit of the dam slopes steeply back from the base. The dam is 28.85 m. long and 5.80 m. high

measured at the centre of the eastern face to bedrock. At the north end the slope of the gorge-bank reduces the height of the dam from its base. The eastern face of the dam consists of seventeen courses of ashlar including the lowest course visible, submerged at the time of our visit in a pool of water. A bearing taken along the line of the dam gave an alignment of 309° (by Mag. N.). The eastern face of the dam is reinforced by three rectangular buttresses which project 2.12 m., measured at the summit. Although consistently well cut, the limestone ashlar blocks of which the dam is constructed vary in their dimensions: representative measurements of accessible masonry are as follows:

0.77 x 0.41 m.

0.75 x 0.29 m.

0.51 x 0.35 m.

0.53 x 0.34 x 0.51 m.

0.90 x 0.34 x 0.25 m.

0.57 x 0.35 x 0.28 m.

The filling of the dam as a whole could not be established but the buttresses on the east face have a rubble core between good ashlar facing when examined at the summit. The dam is covered heavily with *wushum* and graffiti but we noticed no sign of a dating inscription. At the top of the dam on the level ground on either side wall-traces were noticed but there was no opportunity to excavate them to test whether or not these are indicative of sluices.

A little further eastwards along the Wadi al-Jilāt gorge the second dam is located, built to block off a tributary gully running into the main channel from the south. The second dam is ruined but was very much smaller than the principle dam. Such was the damage to this smaller dam that it can only be examined at the points at which it was built against the sides of the gully: the rest of the structure has vanished. This dam survives on the eastern side to a maximum of sixteen courses, but the stone is far less well cut and laid than that of the principle dam. Its thickness at the base is 3.08 m.: at this point, the

14. Communication, 29th November, 1981. A "Qasr el Jilāt" is marked at the site on the 1:250,000 Archaeological Map, Sheet 2, Karak.

tributary gully is 9.25 m. wide. The small dam was intended to trap water in the gully but the quality of workmanship, such of it as remains, is so far inferior to that of the main dam that it is not difficult to accept Field's view that the smaller dam is pre-dated by the finely built principle dam. An alternative interpretation would be that less attention was given to the building of the smaller dam, and that the two dams are in fact contemporary.

On the cliff-top above the small dam is the simple mosque mentioned by Waechter and Seton-Williams outlined on the ground with stones, a type laid out by bedouin in this area and in Arabia. It has a rectangular *miḥrāb* projection of the *qibla* side. It would be quite foolhardy to assign a date to such a structure.

Further along the Wadi al-Jilāt, the gorge makes a turn, at which point the great natural cavity in the Wadi floor to which Glueck had referred was found. The sharp drop in the Wadi bed above this natural feature must form a spectacular waterfall when the Wadi al-Jilāt floods and the cavity itself probably retains a considerable quantity of water, afterwards. East of this cavity, the gorge is without signs of construction.

Along much of the course of the steep-side gorge of Wadi al-Jilāt below the principle dam, the stone floor of the water-channel has been washed smooth and clean. The circular water-holes in the stream-bed had water nearly to surface level at the time of our visit, although heavily polluted by animals. Water seeped and oozed in trickles from the sides of the gorge and the principle dam still held water in the silt behind it, for a small waterfall was flowing through a crack in the south end of the dam and the bedouin were drawing water from it: water had also pooled at the base of the dam on its east side. It must be stressed that our visit was in August after some months without rain, and yet the continuing importance of the dam as a watering place, albeit silted and damaged, is clear enough. In a wet winter, as that of 1980-81 had been in the region,

enough water is caught to ensure that the gorge can be used as a place to draw water throughout the dry summer months. In the gorge animal droppings testified to the frequent use of the place by bedouin with their flocks, while the number of Banī Ṣakhr tents in the vicinity also reflected the importance of the site for them.

No sherds were found in the gorge below the main dam, which is hardly surprising in view of the amount of water that must flow through it after rain. However, a certain amount of pottery was located on the silted western side of the principle dam. A further scatter of sherds was found on the slopes of the hills just to the south of the gorge, overlooking the bedouin mosque. This scatter was greater in quantity than that by the principle dam but unfortunately we were unable to examine the area as closely as we would have wished as there were bedouin tents set up on the same site. We also found a number of flints around the dams and nearby. The exploitation of the place since early times is already known from Waechter's investigations with Seton-Williams, while Dr. Rollefson's study of the stone artefacts appended to this report indicates its use in Pre-Pottery Neolithic B. Dr. Rollefson has also noted Safaitic inscriptions on hilltops south of Wadi al-Jilāt.¹⁵ For historical periods, the ceramic tabulation by Dr. C. J. Lenzen shows a span of occupation in relatively more recent times, and as we have seen this use of the gorge by the bedouin continues to this day. There is little in the sherd evidence to allow a confident association of the principle dam with the Romans, despite Glueck's dating of the construction, maintained also by Harding. There is some sherd evidence of Byzantine period use of the site, but it is quite meagre. The pottery collected at the site thus does little to support Glueck's belief that the dam is Roman, although Roman presence or influence in the area is by no means impossible in theory. Glueck based his dating on the similarity of the principle dam at al-Jilāt to the main dam at

15. Communication, 29th November, 1981.

Kurnub/Mampsis¹⁶ in the Naqab: while it is a compelling view on the basis of the character of the masonry of the two structures, the paucity of Roman wares at al-Jilāt and the greater quantities of Byzantine, Late Byzantine/Umayyad and Umayyad sherds is disturbing. In view of this evidence, a better case could be made for a Byzantine-period — or Ghassānid — origin for the dam, or an early Islamic date. Whatever facilities already existed at al-Jilāt in the seventh-eighth centuries A.D., the use of the place by people using pottery had increased. The presence of this Late Byzantine/Umayyad and Umayyad pottery suggests that the use of the site in this period should be seen in context of the Umayyad exploitation of the eastern desert of Jordan that we have seen further north. The degree to which the early Muslims developed water storage and control facilities at Qaṣr al-Mushāsh and other sites¹⁷ suggests that a naturally

wet area like the Wadi al-Jilāt gorge would not have been ignored, especially when the place had been used since ancient times, and as it continues to be today.

Such an exploitation of the area by the early Muslims indicated by ceramics underlines the importance of the question of whether or not they actually built the dams. From the scant ceramic evidence, this seems as plausible as the Roman dating proposed by Glueck and by Harding, although as I have suggested, construction in the Byzantine period cannot be excluded. To state the case, however, for an Islamic period attribution, it should be recalled that the Umayyads built other dams to the south in the Hijāz, where there are several near al-Ṭāʾif. Sadd Saysid, south-east of al-Ṭāʾif, is 58.00 m. long and was built in A.H. 58/A.D. 677-678 by ʿAbd Allāh b. Sakhr for the Caliph Muʿawiya b. Abi Sufyān according to the inscription close by.¹⁸ The dam is

16. C. Leonard Woolley and T. E. Lawrence, *The Wilderness of Zin*, London, 1915; new ed. 1936, p. 139-140 and Plate XXX(2) "Kurnub: Great Dam". George Eden Kirk, *Archaeological Exploration in the Southern Desert*, *PEQ*, (1938) p. 219-220. He describes the Great Dam at Kurnub as being 26.00 m. long, 8.30 m. high and 7.00 m. thick, and observes that there are at least six dams in the *wadi* south-west of the town of Kurnub/Mampsis. A. Negev, Mampsis: a report on excavations of a Nabataeo-Roman town, *Archaeology*, 24 (1971) p. 166-171. M. Avi Yonah and E. Stern (eds.), *Encyclopaedia of Archaeological Excavations in the Holy Land*, OUP III (1977) p. 722-735 with detailed bibliography. Kurnub/Mampsis flourished through the Nabataean, Roman and Byzantine periods, to decline shortly after the Arab conquest. It is to be noted that no Nabataean wares were found at al-Jilāt.
17. Examples of major Umayyad hydraulic systems for controlling water and for farming occur at Qaṣr al-Hayr al-Sharqi (Oleg Grabar, Renata Holod, James Knustead and William Trousdale, *City in the Desert: Qaṣr al-Hayr east*, Cambridge, MA, 1978, i, 100ff.), at Qaṣr al-Ḥallabat (Ghazi Bisheh, The second season of excavations at Hallabat, 1980, I', *ADAJ*, XXVI (1982) p. 133-143), and elsewhere. The remarks by George C. Miles, Early Islamic inscriptions near Ṭāʾif in the Hijāz, *Journal of Near Eastern Studies*, VII (Jan.-Oct., 1948) p. 236-242, are illuminating in this context. H. Gaube (*Ein arabischer Palast in Südsyrien: Hirbet el-Baiḍa*, Beirut, 1974, p. 22-24) raises an important question regarding the use of the

- desert site of Khirbat al-Bayda in southern Syria, expressing his doubt that it would have been in use all year, since hydrological and climatic conditions were only suitable in March-May. The point is relevant to the other desert *qusur* in eastern Jordan: would water trapped in winter and spring regularly have remained after evaporation in the hot dry months? With unmaintained *birak*, their plaster fallen, it is now difficult to say. At Burqu', deep in the desert, water was trapped behind the dam in May 1974, when Gaube studied the site; water from the rains earlier in the year had vanished by August, 1980, to be replaced by thick mud. In April 1928 the Field expedition had found the lake-bed behind the dam bone-dry.
18. George C. Miles, *loc. cit.*, p. 237-241; K.S. Twitchell, *Saudi Arabia*, Princeton, NJ, 1958, 3rd ed., p. 134.
- A. Grohmann, *Expedition Philby-Ryckmans-Lippens en Arabie*, II^e partie *Textes épigraphiques*, tome 1, *Arabic inscriptions*, Bibliothèque du Museon, vol. 50, Louvain, 1962, p. 56-58, z 68: Shirley Kay, Some ancient dams of the Hejaz, *Proceedings of the 11th Seminar for Arabian Studies*, 8 (1978) p. 68-80. Sami Sakkar, The dams of Taif—an observation and comment, *Proceedings of the 11th Seminar for Arabian Studies*, 8 (1978) p. 66-67; *idem*, Note re the Saysad Dam near Taif, *Proceedings of the 12th Seminar for Arabian Studies*, 9 (1979) p. 113; Majeed Khan and Ail Al-Mughannam, Ancient Dams in the Ta'if Area 1981 (1401), *ATLAL*, 6 (1402/1982) p. 125-135 and plates 105-123.

stepped on the downstream face and M. Khan and A. al-Mughannam comment on the quality of its construction and resilience. Another dam system is located at Wadi Liyya, south-west of al-Tā'if and is known as Sadd al-Samallaqi. It is 212.00 m. long, and stepped on the downstream face. Early Kufic inscriptions are located nearby, and Mrs. Kay has referred to local association of the dam with Mu'awiya b. Abi Sufyan and 'Amr b. al-'As, while Khan and al-Mughannam favour an Umayyad date for several of the dams around al-Tā'if.¹⁹ There are more dams further north, around Khaybar, but so far these are undated. In view of the epigraphic evidence of Umayyad dam building in the Ḥijāz, the Umayyad attribution of the al-Jilāt principle dam is at least as plausible as Glueck's Roman dating — especially when supported by the scatter of Umayyad sherds south of the site and the Umayyads' known interest in this particular area of eastern Jordan. Nevertheless, it might be objected that the Umayyad Sadd Saysid lacks the fine masonry of the al-Jilāt dam, for all its strength; yet this point may be countered by recalling that in Jordan and Bilād al-Shām generally, the Umayyads had at their disposal highly skilled stoneworkers, whose availability accounts for the well-cut blocks that form the eastern face of the al-Jilāt main dam: in the al-Tā'if area, a different tradition of stone-working prevailed.

Situated 37 kms. south of Qaṣr al-Mushāsh and 26 kms. south-south-west of Qaṣr al-Ḥarāna, 30 kms. east of Khan

al-Zabib (occupied during the Umayyad period) and 25 kms. north-west of the Umayyad Qaṣr al-Tūba, the water caught by the al-Jilāt dams could indeed have supported large flocks, as Glueck has said, although in Byzantine or the early Islamic period on the weight of evidence rather than the Roman. This instance of yet another water storage point at least in use under the Umayyads is particularly important in view of the number of water storage points at Qaṣr al-Mushāsh, which we have already treated above as indicating an early Islamic period concern with pastoralism. In this context, a remark by Alois Musil is interesting.²⁰ Discussing the tribal history of the Wadi al-Sirḥān area, Musil points out that the Sirḥān has traditionally marked the boundary between the camel rearing tribes to the east and sheep and goat herders to the west, i.e., the area of the Jilāt dams and Qaṣr al-Mushāsh. Musil discussed this division in the context of the period of the Umayyad Caliph 'Abd al-Malik b. Marwān and even in his own day as he travelled with the Āl Ruwallā, the Sirhan remained the boundary between camel herding tribes and those raising sheep and goats. Indeed, it is only in very recent years that the practice of bringing in water by tanker has allowed the formerly camel-herding tribes of northern Sa'udi Arabia to rear sheep south and east of the Sirḥān.²¹ It must not be forgotten that much political support for the Umayyad Caliphate was based on the tribes of eastern Jordan; it seems quite plausible that the Umayyads would have improved the water supplies

19. An interesting description was made of sherds recovered in the vicinity of the al-Tā'if dams: "Several unique pieces were found with a buff slip and red to brown painted designs" (Juris Zarins, Norman Whalen, Mohamad Ibrahim, Abd al Jawad Mursi, and Majid Khan, Comprehensive Archaeological Survey Program: Preliminary Report on the Central and Southwestern Provinces Survey: 1979, *ATLAL*, 4 (1400/1980) p. 27. It would be useful if these sherds were to be published as they are strongly suggestive of Umayyad painted wares familiar from Jordan.

The local connection of 'Amr b. al-'As and Mu'awiya b. Abi Sufyān with the Sadd al-Samallaqi to which Mrs. Kay refers may be supported by the presence of inscribed

gravestones in the names of descendants of 'Amr from the mosque at 'Ikrima, 6 kms. south of al-Tā'if, dated to the 3rd/9th century (Grohmann, *op. cit.*, p. 9-11, p. 24-25, p. 27-28, p. 33-34). Grohmann's suggestion that 'Amr's family owned land near 'Ikrima lends some credence to the association of a major dam in the area with his name.

20. A. Musil, *Arabia Deserta*, New York, 1927, p. 100, note 27; p. 335, note 81.

21. Dr. G. Knoess of FAO who specializes in camel rearing kindly made this point to me during a conversation in Sakākā, al-Jawf on September 26, 1982. The evidence of sheep herding as a current, but recent, activity is clear along the desolate highway between Tabūk and al-Jawf.

available for the herds of their supporters in the eastern Jordanian desert as an aspect of their policy on the desert margins, facilitating movement between Bilād al-Shām and Arabia, and exercising patronage in the area occupied by tribes crucial to their power base.

Qasr Bayer (Pl. XC,1)

In the context of our investigations of the eastern desert sites, we visited Bayer to examine the *qasr*²² which has been attributed to the Umayyad period. If this were indeed correct, then its geographical position would be particularly significant in relation to other Umayyad sites in the neighbourhood. Fortunately two ground-plans of differing precision had been made of the *qasr* prior to and just after its demolition by Peake Pasha in 1931 to build the Arab Legion fort that overlooks Bayer wells from the hill above.²³ So thorough was Peake's demolition of the *qasr* that there was no point for us to measure the surviving ridges which are all that remain. We must therefore continue to rely on plans and photographs provided by earlier travellers. The main point emerging from our own work at the site and touched on by Mr. Scott Rolston is the question of the attribution of the *qasr*.

Bayer was mentioned by A. Jaussen,²⁴ B. Moritz²⁵ and A. Musil,²⁶ the latter associating the site with the "Ubajr" mentioned in the context of the Umayyad Caliphs: nevertheless, Musil implied that in his view, the *qasr* was already standing before Islam, referring to the fact that the

Ghassanids under 'Amr b. Hārith passed it ca. A.D. 620; indeed, Moritz mentioning the same incident, assumed the *qasr* to be Roman. H. Lammens²⁷ treated "Aba'ir" as one of the hunting areas of the Umayyads and Gertrude Bell took the *qasr* to be of Umayyad origin when she visited the site on her way to Hā'il on 20th January, 1914.²⁸

"And we came at two o'clock to the last of the castles, Ba'ir, as yet unplanned and unphotographed. The plan is a very old type and the place may be 8th century. It is very famous on account of its wells, and in summer and autumn, if the Sukhur are not camped here, all the ghazus pass this way".

D.G. Hogarth²⁹ was more specific still, saying that Gertrude Bell had "thought it an early Islamic castle like Tuba, and the last that the desert-loving Caliphs of Damascus had pushed out into the Syrian waste", E. Schroeder planned the site in 1928 in the context of one of the Field expeditions and compared it to Mshattā.³⁰ Since Gertrude Bell had treated the *qasr* as Umayyad and Schroeder had compared the arrangements of rooms and courtyards with Mshattā and since the latrines and disposition of the *buyut* in Schroeder's plan were like those of Mshattā, K. A. C. Creswell³¹ followed this view. J. Sauvaget³² concluded that the *qasr* was typically Umayyad, and Florance E. Day³³ also accepted the Umayyad attribution.

Like Moritz and Musil, other visitors to Bayer were proponents of an earlier

22. Map ref. BQ 777 057 (wells), Sheet 3351 IV, ed. 1. Other ruins are marked north-north-east in the *wadi* which we did not examine. This is presumably the *birka* mentioned by other visitors. Bayer was visited 24th-25th July, 1981 with Mr. Scott L. Rolston and Ms. A.V.G. Betts.
23. Creswell, *op. cit.*, I, part 2, p. 642. Stein in Kennedy, *op. cit.*, p. 255-257.
24. A. Jaussen, *Coutumes des Arabes de Moab*, 1908, p. 70.
25. Moritz, *loc. cit.*, p. 428, note 1.
26. Musil, *Arabia Deserta*, p. 324, note 76.
27. H. Lammens, *La Bâdia et la Hîra sous les Omayyades, Mélanges de la Faculté Orientale, Université Saint-Joseph*, IV (1910) p. 102, note 7; p. 109.

28. Lady Bell (ed.), *The Letters of Gertrude Bell*, London, 1930, p. 269.
29. D.G. Hogarth, *Gertude Bell's Journey to Hayil*, *The Geographical Journal*, LXX (1927: no. 1) p. 6.
30. In H. Field, *Op. cit.*, p. 100: plan, Fig. 29, p. 98.
31. K. A. C. Creswell, *Early Muslim Architecture*, Oxford, 1969, I, part 2, p. 642-643.
32. J. Sauvaget, *Remarques sur les monuments omeyyades*, *Journal Asiatique*, CCXXXI (Janvier-Mars, 1939) p. 39-40. Notwithstanding the ceramic indications noted by Glueck to suggest that the *qasr* was Nabataean, Sauvaget categorically declared it to be that of al-Walid II on architectural grounds. He had not visited the site.
33. In H. Field, *op. cit.*, p. 158-160.

dating. D. Carruthers³⁴ was captured by a raiding party which was encamped at Bayer wells in 1909. He took the *qasr*, which he called a *khān*, or caravanserai, as proof of an ancient trade route between Egypt eastwards through al-Jawf to the Gulf. Since the route that he mentions he had extrapolated from the disposition of sites on the map of Ptolemy, it is to be inferred that, like Moritz, Carruthers regarded the *qasr* and the route through Bayer as Roman. T. E. Lawrence³⁵ described the site as Ghassanid without explaining why he held this view and Sir Aurel Stein³⁶ was inclined to agree with Lawrence. N. Glueck³⁷ treated the *qasr* as Nabataean and G. L. Harding³⁸ in a brief reference also dated the site as Nabataean, mentioning possibly Chellean flints in the *wadi* and ruined features.

The evidence of recent expeditions, including our own, to Bayer does not lend support to an Umayyad date for the *qasr*, nor has any traceable Umayyad use of this area of the site been identified. The sherding by Mr. Rolston³⁹ and our own show intense Nabataean use of the *qasr* and our tabulation also provides evidence of Roman and a possible Late Roman/Early Byzantine occupation. Thereafter, according to the available sherd evidence, there was no further occupation at the *qasr* to leave traceable material remains. In these circumstances, it is difficult to maintain that Qasr Bayer is Umayyad in origin.

Musil⁴⁰ has referred to the fact that there were three routes from north-west Arabia into Jordan, one of which was poorly supplied with water and passed from Taymā' to Kilwa and thence to Bayer

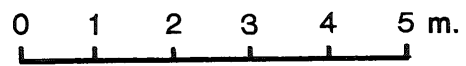
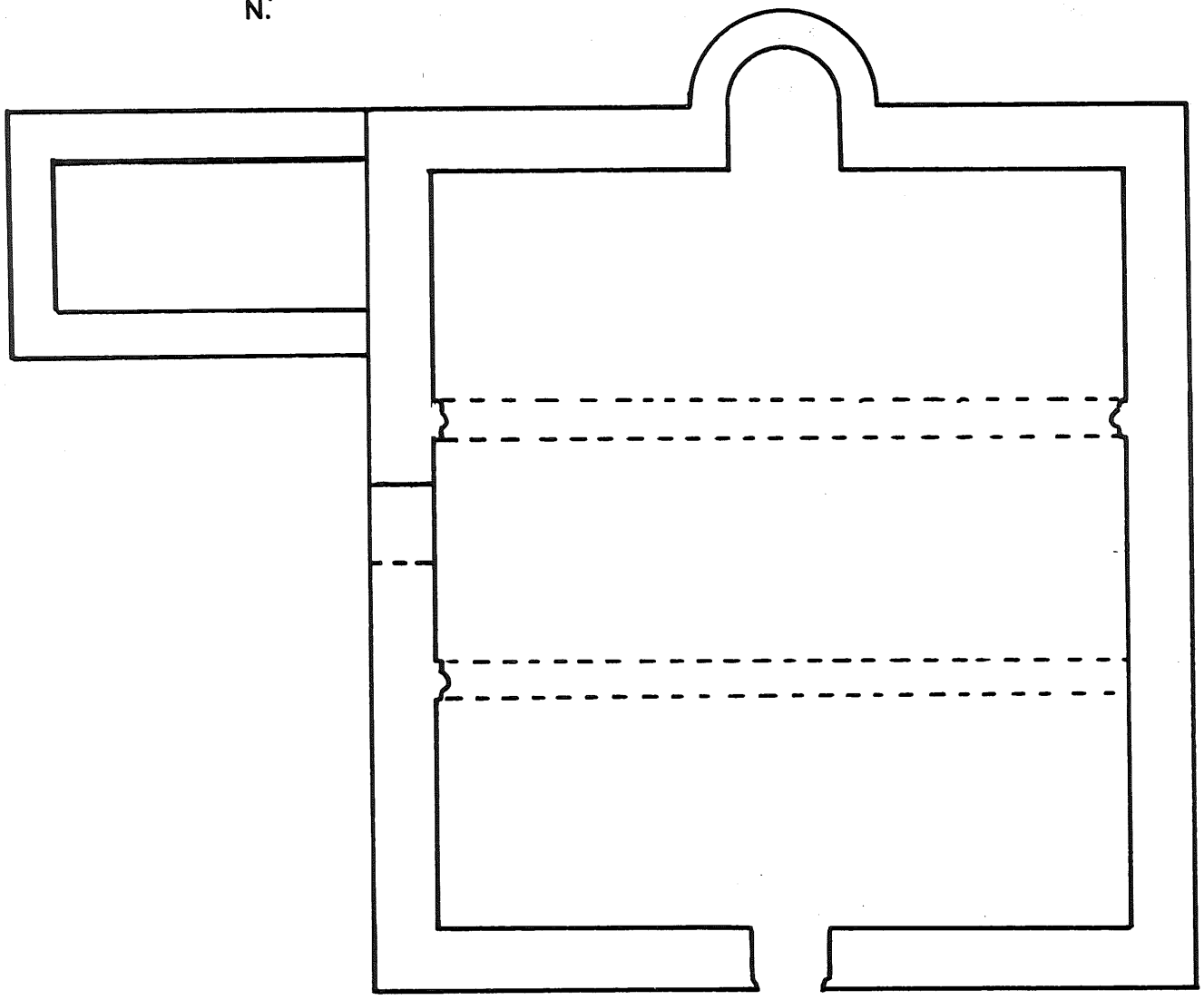
and the north. It was a route less favoured than that which lies further west or the Wadi al-Sirhān route in the east. On this more difficult dry central route, the wells at Bayer take on great importance for travellers. There is no reason to suppose that the wells were not used in the Umayyad period even if the *qasr* had fallen into disuse or short halts at the place left no material remains. Visitors to the site have referred to the use of the wells by the bedouin, and indeed, at the time of our visit a group of Huwaytāt were watering their camels: such a role which the wells must have always served would not necessarily leave any traces. If the Umayyad Caliphs indeed visited the site then their passing left no more indication than the bedouin. Unfortunately, we were unable to visit the other installations near the *qasr* and until these are examined it cannot be concluded whether or not there are any constructions in the vicinity to be dated to the early Islamic period. In broader terms, the present information from Bayer conforms with an apparent dearth in southern Jordan of the early Islamic ceramic types familiar in the northern half of the country. Yet a cautionary note must be struck, for Mr. A. Killick⁴¹ has recently reported early Islamic material at Udruh; more research is required in southern Jordan and the northern Hijāz before any conclusions can be drawn about the region in the early Islamic period, and especially under the Umayyads.

The Mosque, Umm al-Walid (Pls. XC, 2; XCI, 1; XCI,2; Figs. 2, 5).

34. D. Carruthers, A journey in North-western Arabia, *The Geographical Journal*, XXXV (March, 1910) p. 243-244.
35. T. E. Lawrence, *Seven Pillars of Wisdom*, Penguin ed., 1973, p. 288.
36. Stein in Kennedy, *op. cit.*, p. 257.
37. N. Glueck Explorations... I", *AASOR*, XIV (1933) p. 73-75; plate XXXIX; *idem* "Explorations... IV, *AASOR*, (1945-1949), XXXV-XXVIII, pp. 47-49.
38. Harding, Unpublished *Notebooks*. Bowersock, *loc. cit.*, p. 242 has also proposed a Nabataean date and a Roman use.
39. Scott Laird Rolston and Gary O. Rollefson,

The Wadi Bayir Paleoanthropological Survey, *ADAJ*, XXVI (1982) p. 211-213. Although not primarily concerned with late periods, the sherds gathered at the *qasr* were read by Dr. James Sauer (p. 213) and proved to be 95% Nabataean indicators, with the remaining few sherds Early Byzantine and Ottoman: a second intensive sherding showed 100% Nabataean indicators.

40. Musil, *Arabia Deserta*, p. 516 ff.
41. A. Killick, Udruh--the frontier of an empire: 1980 and 1981 seasons, a preliminary report, *Levant*, XV (1983) p. 121; p. 125; fig. 10.



Umm al Walid: mosque

Fig. 2

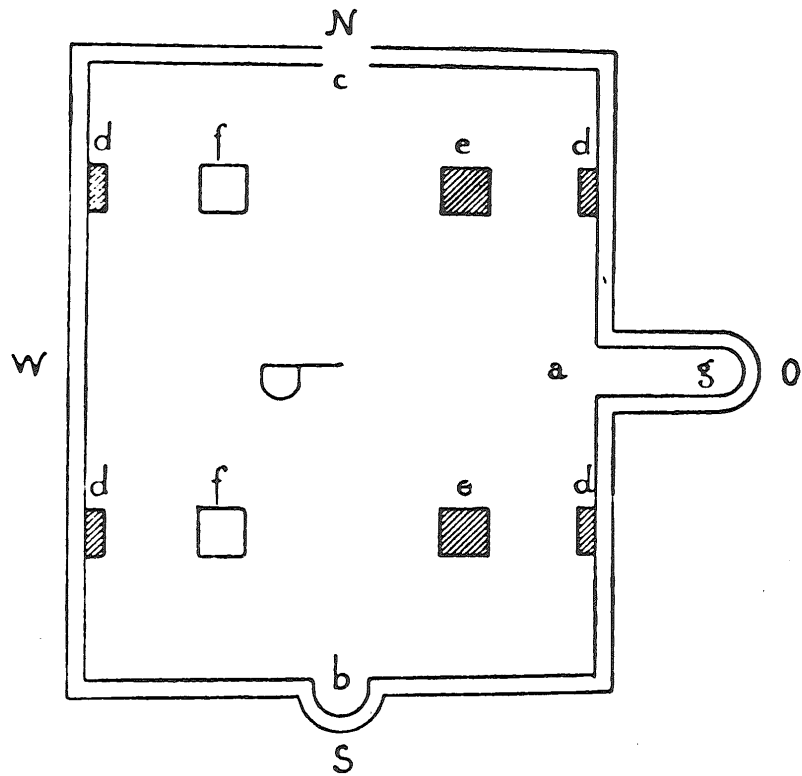


Fig. 5

In the context of surveying towns and villages to the west of the Umayyad sites in the eastern Jordanian desert, we visited Umm al-Walid where we examined a mosque situated to the east of the walled ancient town.⁴² Our re-discovery of this building is of interest as it does not appear to have been examined since H.B. Tristram visited Umm al-Walid in 1872. Indeed, Creswell was inclined to think that the mosque had disappeared since he had failed to locate it. Tristram's account is worth quoting in full because it is the earliest and apparently the only first hand account, made at a time when Umm al-Walid seems to have been deserted:⁴³

"Near the east end of the city we found a large open space, well paved with large square slabs, still perfect and clear, and surrounded by ruins and broken pillars, with a few fragments of capitals; as if it had once been encircled by a colonnade. It was 41 paces by 38 in extent inside, and may have been the old *αγορά* or *forum*. Immediately beyond was the line of the east wall of the city, built of Roman rustic-dressed stone, and the central gateway and street, still plainly to be traced.

Just beyond the gate is a Doric temple, 12 yards, N. to S. by 10 yards E. to W. The door of the temple faced east, and, in the centre of the south wall, is a small semicircular niche or apse for the image. Inside the doorway the bases of two columns remain *in situ*: and four plain Doric capitals, and portions of shafts are lying about. This temple is exactly similar in all its arrangements to the old Doric temple near Khan Zebib. Are these the remains of an ancient Chemosh, or Baal-worship? We

found afterwards several similar temples in various stages of ruin, all of them outside a city, always at its east end, and with the door to the east, and always Doric, whenever the architecture could be determined".

Subsequently, in 1897, Brünnow and von Domaszewski⁴⁴ noted the building, although Creswell⁴⁵ suggests that Brünnow did not actually see it, as he merely reproduced Tristram's ground-plan. E. Herzfeld⁴⁶ correctly re-interpreted this small building as a mosque and associated it with a mosque at Khān al-Zabib which Tristram had also taken for a temple. Herzfeld rightly pointed out the error made by Tristram and Brünnow in regarding the Umm al-Walid building as anything other than a mosque.

The location of the mosque noted during our survey accords precisely with the building described and planned by Tristram and there is no doubt that what we saw and the building that Tristram recorded are one and the same. The building is quite certainly a mosque and no credence can be given to Tristram's interpretation. It is due east of the east wall of Umm al-Walid at just over 60.00 m. distance and towards the edge of the hill on which the town is situated. It is freestanding, with no structures anywhere near it. The mosque only survives in plan, defined by the lower courses of the walls, and built of fairly well-cut stone. The quality of the masonry is finest at the *mihṛāb* where it stands to three courses, and in the carving of the attached columns against the side walls (Pls. XCI,1; XCI,2). The walls are two stone blocks in thickness, a method of construction common in western and northern Jordan. The breadth of the walls (0.86-0.90 m.) is a dimension encountered everywhere in this

42. Map Ref. YA 747 052, Sheet 3153 II, ed. I-AMS, series K737. Visited 30th July, 1981: our plan was checked on 18th June, 1983.

43. H. B. Tristram, *The Land of Moab*, London, 1874, 2nd ed., p. 179-181 and Fig. no. 15.

44. R. E. Brünnow and A. von Domaszewski, *Die Provincia Arabia. Der Aussere Limes und die Römerstrassen von el-Ma'an bis Bosra*, Strassburg, 1905, zweiter Band, p. 89, fig. 671 and p. 90.

45. Creswell, *op. cit.*, I, part 2, p. 506, note 1.

46. E. Herzfeld, Mshattā, Hira und Badiya, *Jahrbuch der Preussischen Kunstsammlungen* XLII (1921) p. 130.

G. L. Harding also mentions the site in his unpublished *Notebooks* but without referring to the mosque.

N. Glueck, *Explorations... I*, AASOR, XIV (1933) p. 10-12 also refers to the site, but not the mosque.

region and the Ḥawrān. Measured externally, the mosque is 11.67 m. east-west by 12.68 m. north-south, excluding the curved projecting *mihṛāb* niche set in the centre of the south (*qibla*) wall. This *mihṛāb* is 1.71 m. deep internally and is typical of Bilād al-Shām Umayyad *mahareb*. The mosque is oriented to 188° (by Magnetic N.). There is an entrance set centrally in the north wall on axis with the *mihṛāb*, with flying jambs, the raised rims being set on the outer edge as is common in western and northern Jordan in the Byzantine and the Islamic periods. There may well have been an entrance in the east wall mentioned by Tristram as being preceded by “sloping debris, evidently the ascent to the door”. In fact this door is not very clear now although the ramp of debris is visible still. Built against the exterior of the east wall of the mosque, at the south end, are wall-traces which form a rectangle measuring 5.00 m. east-west and 3.50 m. north-south:⁴⁷ the walls are a mere 0.63 m. in thickness. Assuming that the structure to which these wall-traces belonged are original, it is possible that they are remains of a minaret, situated at the *qibla* end of the east wall. Too few early minarets survive—least of all attached to small mosques—to comment on this positioning.

Internally the mosque is filled with tumbled masonry; the only remaining features in position are the bases of attached half-columns, one towards the south end of the west wall, and one towards both the north and the south ends of the east wall. The remains of the attached half-column base from the north end of the west wall have fallen out of position on the floor of the mosque. All the attached half-columns are of the same form, consisting of a rectangular block set against or into the wall with the rounded half-columns facing into the mosque. The half-columns are carved as one with the rectangular stone blocks from which they project. From the disposition of these

attached half-columns and their supports, it is obvious that the mosque was subdivided internally by two colonnades running parallel to the *qibla* wall, but the exact form of the upper part of the colonnade or the roofing is unclear. The Doric capitals that Tristram mentioned have disappeared, although column drums lie among the fallen masonry on the floor of the mosque. A stone beam measuring a maximum of 2.00 m. in length x 0.30 m. x 0.20 m. was found inside the mosque near the assumed eastern doorway.

The mosque at Umm al-Walīd is close in plan and dimensions to the now vanished mosque at Khān al-Zabīb to the east, planned by Brünnow and von Domaszewski.⁴⁸ The descriptions of the Khān al-Zabīb mosque by Brünnow and von Domaszewski and before them by Tristram⁴⁹ (who as already observed, had regarded it as a temple) confirm the similarity to the mosque at Umm al-Walīd. The Khān al-Zabīb mosque stood independent of two large complexes at the site, towards the south. Creswell reproduced the ground-plan of Brünnow and Domaszewski as he found that the building had been demolished during the construction of the Ḥijāz railway and had been reduced to four ridges of debris about 11.00 m. square when he saw the site.⁵⁰ According to Brünnow and Domaszewski, the mosque was 11.19 m. north-south and 10.38 m. east-west, measured internally. The presence of a doorway in both the east and the north walls at Khān al-Zabīb matched what can be understood of the doorways at Umm al-Walīd. The deeply curved *mihṛāb* projection at Khān al-Zabīb (measuring 1.80 m. in depth) was also very similar to that at Umm al-Walīd. The internal support system at Khān al-Zabīb with its double attached columns, indicates that it too was subdivided by a colonnade system in two rows running parallel to the *qibla* wall, just as at Umm al-Walīd (Fig. 3).

47. This had not been noticed in 1981. Returning in 1983 to check our ground-plan, we found that the surface had been disturbed slightly, to reveal wall traces invisible two years earlier.

48. Brünnow and Domaszewski, *op. cit.*, zweiter Band, p. 82, fig. 666; fig. 665 (detail of attached

double half-columns); p. 81 for a brief reference to the mosque as the third building of the complex.

49. Tristram, *op. cit.*, p. 173.

50. Creswell, *op. cit.*, I, part 2, p. 505, fig. 560.

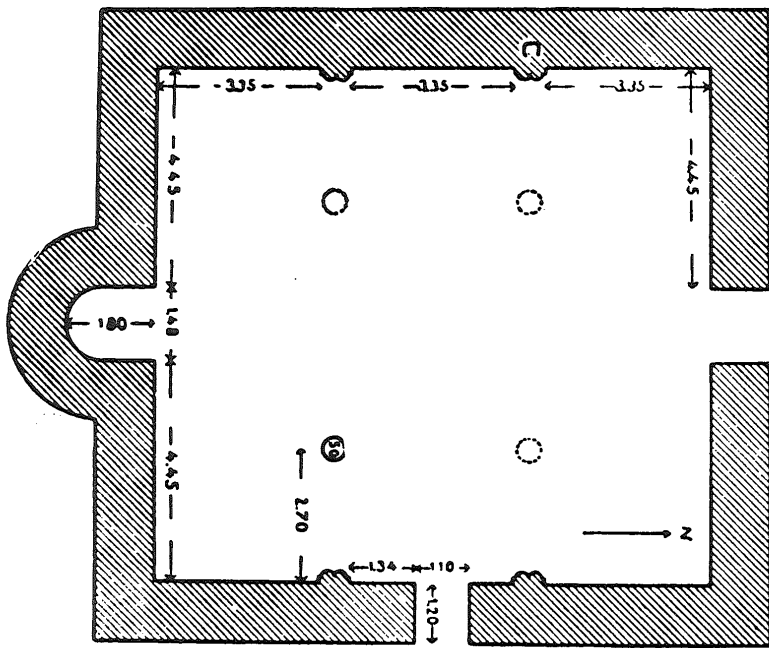
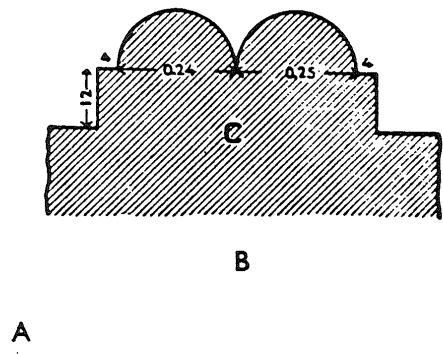


Fig. 3



A third very similar mosque measuring 9.34 x 9.48 m. internally stands 70.00 m. west of Qaṣr Jabal Usays (or Says) in southern Syria,⁵¹ whose Umayyad occupancy is dated by graffiti to A.H. 93-113/A.D. 712-732. Like the Khān al-Zabīb mosque and, it seems, the Umm al-Walīd mosque, there is a doorway in the north and the east walls of the mosque at Jabal Usays, although internally the mosque is subdivided by a single colonnade parallel to the *qibla* wall. A somewhat more complex development of this type is represented by the mosque that lies east of the walls of Qaṣr al-Hallabāt,⁵² dated to the Umayyad period (Fig. 6) Finally, a fifth mosque related to this group should be mentioned, namely the so-far unpublished mosque that lies to the north of the Umayyad Hammām al-Sarakh excavated by the Department of Antiquities of Jordan. Although somewhat different in proportion to the other mosques mentioned here, its freestanding position, to an extent its style of *mīhrāb*, and above all, its small scale, relate it to the others discussed above.

The mosque at Umm al-Walīd was created as Umayyad by Creswell, and now that it has been possible to re-examine the remains of the building, this attribution is likely in view of its similarity to other

mosques in the area of the Umayyad period. The ceramic evidence allows for such a dating.⁵³ It seems that the mosque-type as a whole represents a very early form in Islam: the essentials of Islamic worship are present in the design with no extraneous intrusions, for being built as mosques from the first, these small structures needed no adaptation dictated by the existence of earlier structures on these sites. This form is so well-established and coherent in this area in the Umayyad period that it may be asked with justification whether the design of these mosques goes back to the practice of the Prophet Muhammad in Arabia, where he personally established a number of mosques apart from that in al-Madina itself.

Section 2: The Ḥawrān (Fig. 4)

In the course of further survey work in the Ḥawrān of northern Jordan, a number of additional observations were made to complement our first report on our work in the area.⁵⁴ As in our previous report on the Ḥawrān, the description moves from west to east.

Jabir (Pls. XCII,1; XCII,2; XCIII,1; XCIII,2)

Jabir⁵⁵ lies north of Mafrāq and north-

51. K. Brisch, *Das Omayyadische Schloss in Usais, Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo*, 1963, Band 19, 141-187; *idem*, *Le Château omeyyade de Djebel Seis, Les Annales Archéologique de Syria*, XIII 1963 p. 135-158; *idem*, *Das omayyadische Schloss in Usais II, Mitteilungen des Deutschen Archäologischen Instituts, Abteilung Kairo*, 1965, Band 20, p. 147-149. Creswell, *op. cit.*, I, part 2, p. 476 and fig. 538.
52. H. C. Butler, *Publications of the Princeton University Archaeological Expedition to Syria in 1904-1905*, Leyden, 1907, II. A. 2, Southern Syria, p. 74-77 and illus. 57-58, and Appendix, pp. xvii-xix and illus. 57a-58a. Creswell, *op. cit.*, I, part 2, pp. 502-505. Ghazi Bisheh, *Excavations at Qaṣr al-Hallabāt, 1979, ADAJ, XXIV*, (1980), p. 73-75. Kennedy, *op. cit.*, p. 53.
53. Harding (unpublished *Notebooks*, entry "Um el Waleid") regarded the site as Nabataean and records finding Nabataean painted wares. Glueck (*Explorations... I, AASOR, XIV* (1933) p. 10) mentions Nabataean, Roman, Byzantine and mediaeval Arabic wares. S. Thomas Parker (*Archaeological survey of the Limes Arabicus:*

A Preliminary Report, ADAJ, XXI 1976 p. 23) gives a far more precise reading which includes the following: 11 Ayyubid-Mamluk/16 Umayyad/14 Early Byzantine/22 Late Roman III-IV/26 Late Roman I-II/10 Late Roman/112 Nabataean. Although we found sherds on the main site in 1983, none were located in the vicinity of the mosque.

54. King, *Preliminary Report...*, *ADAJ, XXVI* (1982) p. 88-95.
55. Map Ref. BS 371 009, Sheet 3255 III, ed. 2 (Khirbat Jabir) Visited 6th and 14th July, 1981. H. C. Butler, *op. cit.*, II. A. 2, Southern Syria, p. xv-xvi. E. Littmann, D. Magie, Jr., D. R. Stuart, *Publications of the Princeton University Archaeological Expeditions to Syria, 1904-1905 and 1910*, Leyden, 1910, III. Greek and Latin Inscriptions in Syria, Section A, Southern Syria, part 2, p. 50. N. Glueck, *Explorations... IV, AASOR, XXV-XXVIII* (1945-1949) p. 2. S. Mittmann, *Beitrage zur Siedlungs-und Territorialgeschichte des nordlichen Ostjordanlandes*, Wiesbaden, 1970, p. 190-195.

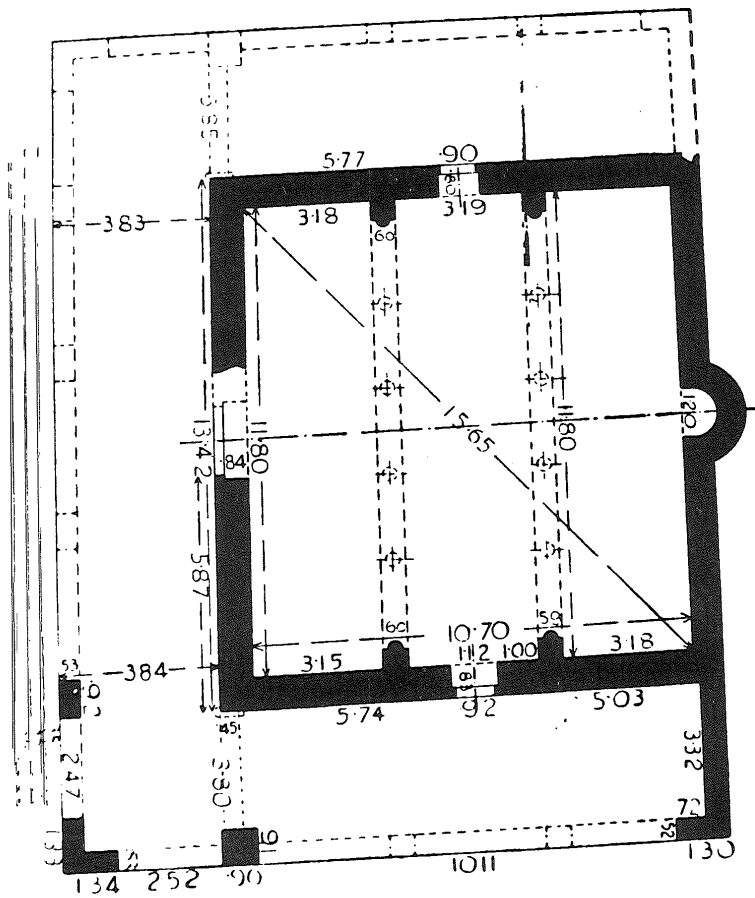


Fig. 6

west of Samā, very close to the Syrian frontier. In this area it marks the furthest westerly limit of our survey in the Ḥawrān. The site stands on high ground overlooking the surrounding agricultural land. Immediately south of Jābir, just east of the road from Samā, is a substantial stone wall in well-cut massive masonry, described as a dam.⁵⁶ The village itself had clearly grown in recent times, although H.C. Butler⁵⁷ mentions that already at the time of his visit, the ancient site had been badly damaged and that a small village stood there. The construction of the railway track from al-Dirā to ʿAmman probably had had a serious effect on the ruins of Jābir before Butler's visit, for the railway runs quite close to the village. In subsequent building, a great deal more of the ancient masonry was re-used. S. Mittmann studied the site in the course of fieldwork between 1963 and 1966 and provided an important description: unfortunately, much of what Mittmann described has been destroyed since, particularly the mosaics. A mosaic with an inscription dating the work to the Bishopric of Agapios in January, A.D. 531 has now vanished along with the remains of the church to which it belonged.⁵⁸ Our Department of Antiquities Representative, Mr. Mufleḥ al-Gharayba, said that the demolition took place less than twenty years ago; that is, not long after Mittmann's recording of the inscription. Traces of a plaster floor were still to be seen in section by 1981 on the site where the church had stood. Just north-west of the site of the lost church is a modern mosque.

On the summit of the hill of which Jābir stands is a building constructed with ancient masonry, including a lintel over a door on the north side of the structure bearing a carved cross in a circle, and raised motifs in each of the quadrants (Pl. XCII, 2). The threshold of the same doorway has a simple cross incised in it (Pl. XCIII, 1). Various pieces of ancient

stonework, including basins and column fragments, are scattered across the site while there are graves in the hillside caves. Although greatly damaged now, the ancient site of Jābir appears to have been a fair-sized town in ancient times. The modern building and occupation has disturbed the surface and this may account for the paucity of sherds, although those few we found suggest that the place followed the usual pattern with a Roman period use followed by Byzantine and Umayyad continuum.

Umm al-Surab

In 1980, the survey team had paid considerable attention to the Church of Sts. Sergius and Bacchus and the alternations carried out on it in the Islamic period. In the 1981 season⁵⁹ our attention was drawn to two further churches in the village. No previous visitors to the site seem to have recognized these two buildings as churches, although Butler referred to "two... apsidal buildings": these were presumably the churches which we identified during the second season.⁶⁰

The West Church (Pls. XCIV, 1; XCIV, 2; XCV, 1)

This church is south of the asphalt road through Umm al-Surab, to the south and west of the Church of Sts. Sergius and Bacchus. The church is built of basalt and internally measures 9.55 m. east-west by 7.88 m. north-south, exclusive of the curved apse which is 3.24 m. deep. The exterior of the church is largely obscured by the rise in ground-level all around it and by the accumulation of subsequent buildings, especially on the south side. The west facade has a triple entrance, the main central doorway being embellished with a lintel decorated by a cross in the centre and two waving lines extending out from the Cross to descend to the corners to right

56. Marked as "Roman Dam", due south of Jābir at BS 364 001, Sheet 3255 III, ed. 2.

57. Butler, *op. cit.*, II. A. 2, p. xvi.

58. Mittmann, *op. cit.*, p. 190-194.

59. Re-visited 11th-12th July, 14th July, 20th July, 1981. For the Church of Sts. Sergius and

Bacchus, see the author, Two Byzantine Churches in Northern Jordan and their Re-use in the Islamic Period, *Damaszener Mitteilungen* I (1982) 1983, p. 111-136.

60. Butler, *op. cit.*, II.A.2, p. 95.

and left (Pl. XCIV, 2). There are rough openings in the north wall, but the original principal lateral entrance is in the south side. The apse has been walled off, the wall being rough later work pierced by an entrance. Only the bases of the chancel arch survive. To the south of the apse is a small sacristy entered from inside the church itself and also from the exterior, from the south. The church is in a sadly ruinous state but sufficient survives of the masonry to indicate that it once was a building of the finest craftsmanship from the area.

The North Church (Pl. XCV, 2; XCVI, 1)

The North Church lies north-north-west of the Church of Sts. Sergius and Bacchus on a low rise. Like other churches and houses in Umm al-Surab, it is built of basalt, and measures 16.37 m. east-west by 14.01 m. north-south internally. A second structure abuts the east wall of the church but it does not bond with it. This is taken to be a later addition. The church itself is reduced to foundation courses except at the west and where it still stands to some height.

There is a single entrance in the west facade and another in the south side of the church. It is divided internally into three aisles and at the east end, the entire church is squared off. The apse in the centre is flanked by two rectangular sacristies. Although the central apse is now a rectangular chamber, sufficient survives to show that within this rectangle, the apse itself was curved. The church is well-built, although without the very fine workmanship that marks the West Church at Umm al-Surab.

Date

It is premature to hazard a date for either church at Umm al-Surab. Sts. Sergius and Bacchus in the same town is dated by an inscription to A.D. 489 (384? Prov. Arabia). The evidence of the pottery collected in the vicinity of the West Church

and north of Sts. Sergius and Bacchus is somewhat inconclusive, with Early Byzantine and Late Byzantine ceramics fairly evenly represented. The construction of Sts. Sergius and Bacchus in the late fifth century A.D. is by no means evidence that the other churches belong to the same date, but the existence of three finely constructed churches in Umm al-Surab indicates that the place was of some importance in the Byzantine period as a whole. In contrast with Sts. Sergius and Bacchus, there is no evidence of any monastic or ecclesiastical buildings attached to the West or the North Church, or that they were transformed into mosques in the Islamic period as is our contention with the Church of Sts. Sergius and Bacchus and with St. George at Samā.

Sirat al-Arnab

Sirat al-Arnab is a diminutive site with modern houses lying to the east of Umm al-Jimal.⁶¹ It is located on a low rise with a good view of the surrounding area: around the site is a certain amount of agricultural land under cultivation. The houses are constructed for the most part with re-used ancient basalt blocks, although there are relatively few stones still *in situ* to indicate the disposition of the ancient site: nevertheless, a number of wall traces were identified. Mr. Gharayba reported that there had been a monumental tomb at the site some thirty years ago; it had stood in elevation and had borne inscriptions. This tomb had entirely vanished by 1981, although we were shown where it had stood. The Druze are said to have taken the inscribed stones to Syria. We have heard a similar explanation of the loss of inscriptions at Umm al-Quttayn to the east. A number of ancient tombs at Sirat al-Arnab had been opened in recent times. The sherd evidence at the Site from surface collection was limited, showing Iron II, Late Roman, Byzantine and Umayyad use of the site, the nature of which cannot be defined on the available evidence.

61. Map ref. BR 598 789, Sheet 3254 I (Khirbat el Arnab). Visited 15th July, 1981.

Khirbat ʿAmra wa ʿAmira

This site⁶² had been visited in 1980. It is south-west of Sirat al-Arnab. When visited in 1980, traces of the curved apse of a church had been identified under field-walls but it had been impossible to discern enough of the wall-traces to make a ground-plan. When the site was re-visited in 1981, the field-walls had been entirely removed and so too had all sign of the church foundations, except for a single wall-trace on a north-south alignment. The masonry of the church had been used to construct a new house in basalt nearby. This episode illustrates a constant threat to the monuments of the Ḥawrān as the population increases and the villages and towns expand, despite the efforts of the Department of Antiquities to prevent this destruction.

Sabaʿ Asir

In 1980 we had visited Sabaʿ Aṣīr (the name was also given to us as Sabaʿ Siyār),⁶³ when we had been shown a building said to have been a church and tentatively treated as such in our first report. On a subsequent visit to Sabaʿ Aṣīr in 1981⁶⁴ we re-examined this church site in the central area of the village and were assured that there had been traces of an apse visible in the recent past, although we could not identify it. There were said to have been floor mosaics, but we could find no trace of them.

It was suggested that there had been more than one church at Sabaʿ Aṣīr. A putative church site was pointed out on the summit of a low rise although only the indistinct foundations of a large building could be seen, with nothing to identify them as belonging to a church. Several houses in the vicinity, of modern date, were constructed of particularly well-cut ancient basalt, the quality of which may

indicate that they once had belonged to the vanished church. Mr. Gharayba showed us yet a third place where he thought, with some hesitation, that there may have been a church, but there was nothing remaining visible on the ground. No inscriptions or carved crosses were found at Sabaʿ Aṣīr, although the sherd evidence makes it quite clear that there was a significant occupation of the ancient site in the Byzantine period following on from a Roman period use which has left fewer sherds. The Late Byzantine period seems to have marked the end of settlement at the site and we located no evidence of a subsequent Islamic-period use of Sabaʿ Aṣīr until modern times. Most of the sherds located were on the south-east slope of the rise on which the site is situated, washed off the summit. In the loss of its ancient church remains, Sabaʿ Aṣīr is comparable to other sites in the neighbourhood.

Salatīn (Khisha Salatīn, al-Manshiyya)

The site lies between al-Dafyāna and Umm al-Quṭṭayn, north of the asphalt road:⁶⁵ the site and the immediate vicinity are known variously as Salatīn, Khisha Salatīn or al-Manshiyya, the latter being the more recent name. It consists of a natural rocky promontory with massive tumbled masonry towards the north end. The nature of the building material and construction technique is quite distinct from that of the finer structures of Roman, Byzantine or later periods in the Ḥawrān. The surface sherds located point to an Early Bronze (?) use of the place with slight evidence of Iron II(?) and far greater sign of activity in the Roman period. The presence of other indications of Early Bronze period occupation in the Ḥawrān should be borne in mind, while there is a recurrent, if limited suggestion here and elsewhere of Iron Age occupation in the region.

62. King, Preliminary Report..., *ADAJ*, XXVI (1982) p. 92. Returning to the site on 15th July, 1981, residents explained that since the two villages of Khirbat ʿAmra and Khirbat ʿAmira had grown into one, the double name was

applied to the place as a whole.

63. *idem*, p. 92.

64. Revisited 15th July, 1981.

65. Map ref. BR 738 801, Sheet 3354 IV, series K737, ed., 1. Visited 19th July, 1981.

Hawshiyān

Just to the east of Umm al-Quṭṭayn, we were shown a site named Hawshiyān.⁶⁶ It is immediately beyond the buildings on the eastern periphery of Umm al-Quṭṭayn and consists of an extensive area of low mounds and wall-traces. The site is empty and uninhabited, contrasting in this with the heavily populated town of Umm al-Quṭṭayn. Numerous surface sherds were found at Hawshiyān, indicating a significant Early Bronze and Iron I occupation. The quantity of Roman material collected is also interesting, in so far as our sherd collection at Umm al-Quṭṭayn produced rather small quantities of Roman ceramics overall. By contrast, Byzantine and Umayyad sherds at Hawshiyān were few in the first case and not represented in the second, whereas there is a great deal of Byzantine and Umayyad pottery at Umm al-Quṭṭayn. The presence of four churches and a *Dayr* at Umm al-Quṭṭayn mentioned in our previous report for 1980⁶⁷ reflects the extent to which the site flourished during the Byzantine period. It may be that Hawshiyān was the centre of occupation during the Roman period and that the settlement extended or shifted westwards to the present site of Umm al-Quṭṭayn under the Byzantines but it would probably be as well to treat Umm al-Quṭṭayn and Hawshiyān as a double site for the Roman-Byzantine periods, distinguished now by the modern settlement at Umm al-Quṭṭayn and the contrasting emptiness of Hawshiyān.

Al-Qis (Al-Qays, formerly 'Aynayn) (Pls. XCVI, 2; XCVII, 1).

Al-Qis, or al-Qays⁶⁸ lies nearly 4 kms. south-west of Umm al-Quṭṭayn. The site is located on a crescent-shaped ridge running round to a volcanic crater. The position provides a view over most of the district

and commands the approaches to Umm al-Quṭṭayn from the south. From the lofty position of al-Qis there would have been no difficulty in signalling over a considerable distance to points in all directions. The Jabal al-Qis remains visible on the horizon as far as al-Manāra to the south-south-east, for instance.

The ruins on the summit of Jabal al-Qis are built of basalt, reduced to a mass of tumbled masonry for the most part, although some traces of structures and their foundations can be identified. The cut stone matches the work in the churches of Umm al-Quṭṭayn and the rest of the Ḥawrān. There are bedouin graves in and around the ruins. The site of al-Qis appears to have consisted of several buildings but their form or extent is impossible to determine accurately without clearing the great quantity of fallen stone that obscures them. At the east end of the ruins two corners of a building were identified, the related walls forming the eastern, southern and northern sides of a structure, but only the foundations remain. The east wall is 4.85 m. in length, the south wall 13.90 m. but the north wall only could be traced for an insignificant distance. The east wall lies on a bearing of 170° (Mag. N.). In the north-west part of the ruins a further corner was identified; unfortunately, again there is too much fallen masonry to make even a rudimentary ground-plan. In the central area of the ruins this is particularly the case, although there are occasional stretches of wall visible under the tumbled basalt blocks. A number of corbels from the roofing system and door jambs are scattered about, while in the centre is a massive basalt door with a large cylindrical pivot projecting from it (Pl. XCVII, 1); most of the door is concealed by debris. There were once similar doors in the rest of the Ḥawrān and the type still can be seen in place at Azraq, but in general these ancient basalt doors have been removed.

66. Map ref. BR 777 781, Sheet 3354 IV, series K737, ed. 1. Visited 26th July, 1981.

67. King, Preliminary Report., *ADAJ*, XXVI (1982) p. 94.

68. Map ref. BR 740 746, Sheet 3354 IV, Series K737, ed. 1. Visited 21st July, 1981.

L. W. B. Rees, *The Transjordan Desert, Antiquity*, III (1929) p. 398, refers to "Tel Keis", but only mentions it as an observation point from which he viewed the landscape to the north.

Al-Qis, because of its remote location, has not suffered at the hands of stone looters like village sites elsewhere in the area.

In the ruins and on the slopes immediately below, a number of mosaic cubes were found. The dimensions of these stone and marble cubes suggest that they constituted a floor mosaic rather than wall decoration, although apparently a patterned pavement, judging by the colour range. There were also several pieces of fallen plaster with a thick coarse base embedded with basalt pebbles, while a smooth white plaster constituted the exposed surface. Similar plaster has been found elsewhere in the Ḥawrān, notably at Umm al-Surab and Umm al-Jimāl. On one of the bedouin graves a basalt block with a hollowed groove or channel had been used as a headstone: another stone bears the inscription “bism Allāh al-rahmān al-rahīm”, although this is probably of no great antiquity.

The site is rich in surface sherds. The date-ranges suggested by these for the occupation of al-Qis tend to match those for Umm al-Quttayn and Hawshiyān, taken together, immediately to the north-east. There is also a similarity to Parker's tabulation for Dayr al-Kahf to the east.⁶⁹ The quantity of Late Byzantine/Umayyad and of Umayyad ceramics points to a significant use of al-Qis perhaps just before, and most assuredly during the early Islamic period until about the fall of the Umayyads in A.H. 132/A.D. 750. This occupation of al-Qis under the early Muslims and the Umayyads corresponds to the pattern at Umm al-Quttayn, of which al-Qis was a dependency or outpost, as well as to al-Dafyāna to the west, and Dayr al-Kahf to the east. By contrast, Dayr al-Qinn, which lies to the north-east, shows no sign of Umayyad use. There seems to be an intensive early Islamic utilization of the eastern settlements of the Ḥawrān that corresponds to the emerging evidence from Umm al-Jimāl, and al-Bā'iq to the west, although the later is only attested by ceramic evidence.

The purpose of the small structure on Jabal al-Qis is not readily identifiable from the ruins. Although it must have served as a lookout point, the presence of a polychrome mosaic pavement, however limited, suggests a degree of luxury not expected in the functional circumstances of a fortified watchtower: it was also more extensive and complicated than the small Roman tower that we visited opposite to the Late Chalcolithic site at Jawa. While the orientation of the walls running east-west and the mosaic floor might suggest a chapel, no Crosses were found to confirm this, while the east end of the site is too strewn with masonry to allow the presence of an apse to be ascertained.

Muqā'is

Muqā'is is located on a hill west of al-Qis.⁷⁰ There is once again a good view of the surrounding country from the site. Traces of a single thick wall were noted and a large mound of basalt, very weathered and coated with lichen. The only artefact found is a possible Neolithic punch blade. There is no evidence of Roman, Byzantine or Islamic occupation.

Umm al-Quttayn to Azraq (Fig. 7)

In 1980 we had been informed by Shaykh Muhammad Bakhit of Umm al-Quttayn of a track that had been in use among people of the area to Azraq from Umm al-Quttayn and al-Qis. Major points along the route were mentioned as follows:

Umm al-Quttayn

Al-Qis

Al-Manāra

Bi'r Ḥūyanīt

Al-Manāsif

Al-Usaykhin

Azraq

In fact the route seems to have been adapted to use the IPC pipeline road between al-Manāra and a junction south to Bi'r Ḥūyanīt, while al-Usaykhin is too far

69. Parker, *loc. cit.*, p. 23.

70. Map ref. BR 723 746, sheet 3354 IV, series K737, ed. 1. Visited 21st July, 1981.

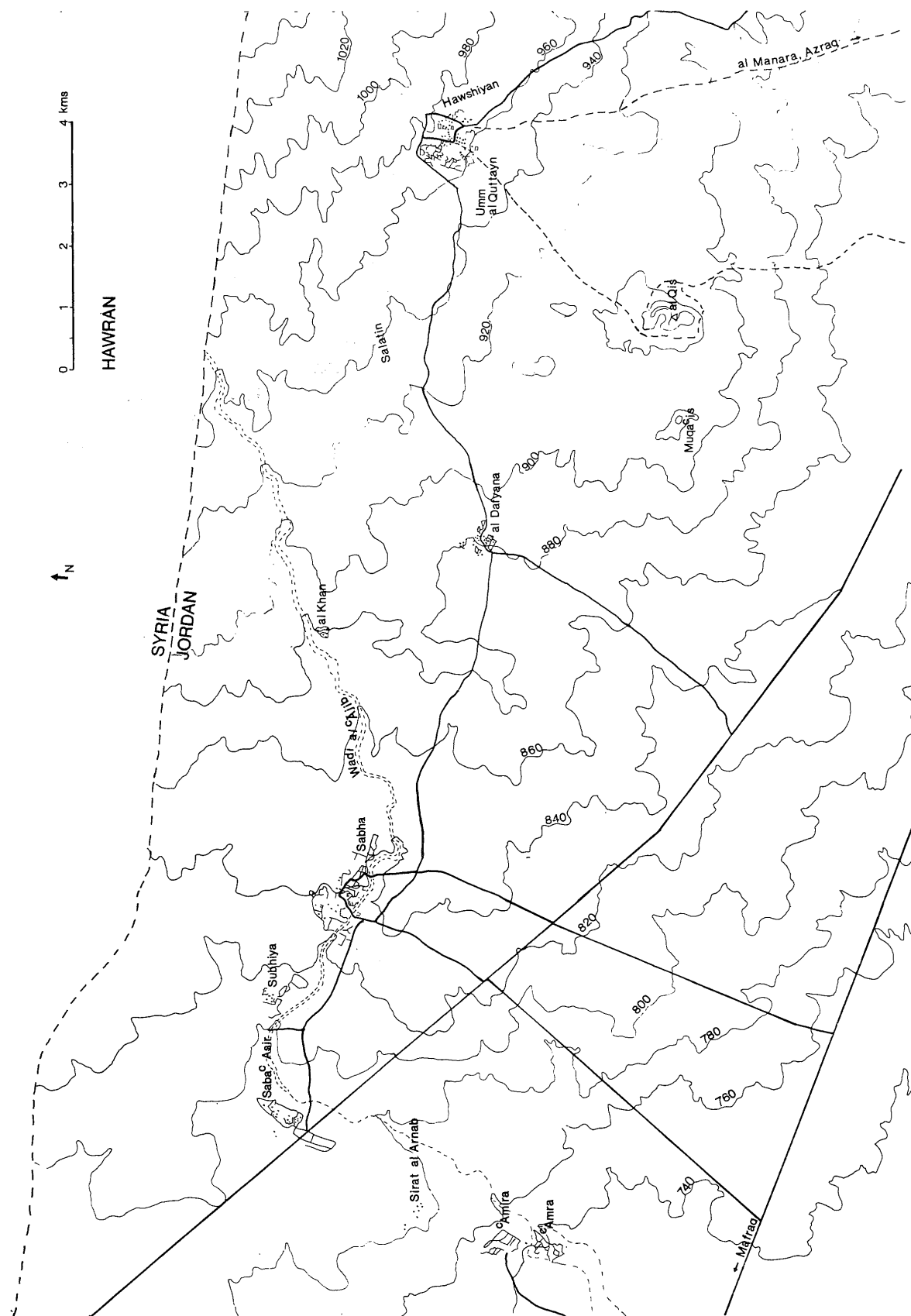


Fig. 7

east to be a place on the route rather than a position able to observe it. Shaykh Muhammad stressed to us that the route was commanded by points on high ground as it indeed is from al-Qis and al-USaykhin and as it could be in the al-Manāsif area. We seem to be dealing with two separate routes, both possibly in use in antiquity. The north part of the route from Umm al-Quṭṭayn to al-Manāra seems to constitute a segment of a direct track from Umm al-Quṭṭayn to Azraq. The southern part of our route, following a track from the IPC pipeline road beside a raised water pipe to Azraq, is very rough as it crosses the *harra* that stretches north and north-east of Azraq. This southern part of our route seems to follow the general alignment of a direct route from Dayr al-Kahf to Azraq and to which A. Poidebard referred as a Roman road between the two *castella*.⁷¹ As to the route between Azraq, Umm al-Quṭṭayn and beyond, this has been discussed by Dr. D. L. Kennedy since our field expedition.⁷²

On 21st July, 1981, we followed the route given to us by Shaykh Muhammad Bahkit from Umm al-Quṭṭayn to al-Qis and al-Manāra: we then continued along the asphalt road between Maḥraq and H5 as far as a branch at Map Ref. BR950 595 where we followed tracks south-south-west past Bi'r Ḥūyanīt and east of Jabal al-Manāsif al-Gharbiyyah towards Azraq, generally beside the elevated water pipe: we omitted only al-USaykhin which has been examined by Parker and Kennedy in recent years.

Al-Manāra

Al-Manāra⁷³ is 11.5 km. due south of Umm al-Quṭṭayn, on the north side of the Maḥraq-H5 asphalt road: it lies north-west of Azraq at a distance of 48 kms. Al-Manāra consists of a modern building in basalt, two concrete buildings and a *birka*. Mr. Gharayba said that there had been more foundations of walls but these have now vanished: only a broken basalt

threshold stone was noted and some wall-traces. Of the tower that the place name implies, there is no sign. However, it is important to note that Jabal al-Qis is visible in the north at 304° and Jabal al-USaykhin can be seen to the south-south-east where the Roman *castellum* is one of the points controlling the northern Wadi al-Sirḥan and Azraq. Everything indicates that al-Manāra was a post for relaying signals between the Azraq area and the Ḥawrān and a way-station on the route from Azraq to Umm al-Quṭṭayn. The surface sherd evidence suggests that the site could have played these roles in the Roman, Byzantine and Islamic periods. The presence of numbers of sherds of the Roman and Early Byzantine periods accords with the notations of ceramics from Umm al-Quṭṭayn/Hawshiyān, al-Qis, and the evidence from Dayr al-Kahf and Azraq. This lends support to Kennedy's association of Khirbat Umm al-Manāra (we were given only "al-Manāra") with Basiensa, a place on the Roman road from Azraq to Umm al-Quṭṭayn. It is important to stress that we found a *birka* at the site which Kennedy had assumed to have existed from a Latin inscription that he discusses.

The presence of Late Byzantine and Umayyad sherds at al-Manāra accords with the tabulation we have from the eastern Ḥawrān and the eastern desert of Jordan, and with the utilization of this entire desert area under the early Muslims. There is every reason to believe that a route from the northern Wadi al-Sirḥan and the Azraq basin through Umm al-Quṭṭayn and beyond was important for the Umayyads, given the disposition of their sites in eastern Jordan and Syria. The scatter of Mamlūk sherds conforms with the fact that, for them, Azraq and the Ḥawrān were quite important frontier areas, and a place like al-Manāra may well have continued to serve the Mamluk administration as a staging post when necessary.

71. A. Poidebard, *La Trace de Rome dans le Désert de Syrie*, Paris, 1934, p. 96-97 and map; also p. 54; p. 121.

72. Kennedy, *op. cit.*, p. 177-183.

73. Map ref. BR 764 669, sheet 3354 III, series

K737. Visited 21st July, 1981.

N. Glueck, *Explorations... IV, AASOR, XXV-XXVIII (1945-1949)* p. 25.

Kennedy, *op. cit.*, p. 184-185.

Bi'r Hūyanīt (Pl. XCVII, 2)

The only site located in this vicinity is known as Bi'r Hūyanīt: there was no sign of a "Qasr el-Ḥuweinit"⁷⁴ mentioned on the 1:50,000 map of the area, and the bedouin knew of no such *qasr*. Bi'r Hūyanīt is a natural cavity in the rock lying to the east of the track. The cavity was dry at the time of our visit, but the smooth rock surface around the hole bore witness to the flow of water here in the rainy season. When the crevice fills with rainwater, a considerable amount must stand afterwards. A very tentative dating of stone artefacts from Bi'r Hūyanīt by Dr. Rollefson suggests a Chalcolithic or Early Bronze origin. Otherwise, the use of the water-hole over centuries has left no material record.

Rujm opposite Jabal al-Manāsif al-Gharbiyya

We had understood that there was a site or a posting place in the area of Jabal al-Manāsif al-Gharbiyya but we were unable to locate anything but a *rujm*⁷⁵ east of the Jabal in Wadi al-Manāsif. It is 18 kms. north of Azraq. Nothing further was noted on our route to Azraq.

East of the Ḥawrān: Wadi Muqāt and Qā' Abu al-Husayn

In the easternmost area of Jordan

beyond the Ḥawrān and Azraq only a limited amount of field-research has concentrated on Roman and later periods. The most detailed analysis of a post-Roman building is that by Dr. H. Gaube dealing with Qasr Burqu^c, reconstructed by the Umayyad Caliph al-Walid b. 'Abd al-Malik in A.H. 81/A.D. 700, while still *Amir* during his father's Caliphate.⁷⁶

In the course of the first season,⁷⁷ we had examined Dayr al-Qinn to the north-east of Dayr al-Kahf. Although a cross was found incised on a stone, the sherd tabulation shows far more Roman material than Byzantine. In contrast with the other sites in the eastern Ḥawrān, Dayr al-Qinn shows no indication of Umayyad use. Continuing on to Jawa we noted a basalt-built rectangular tower on the summit of a hill north of the Late Chalcolithic site.⁷⁸ The tower is well constructed and appears to be Roman, judging by the predominance of sherds, with a few Early Byzantine wares; this accords with the reading for Dayr al-Qinn, Dayr al-Kahf, al-Hawshiyān, al-Qis and al-Manāra, although without the later occupations testified at most of those other sites. The tower at Jawa, which very recently had been used for a bedouin burial, seems to have served as a forward position in the desert, well beyond the principle settlements and forts. A number of other towers seem to have existed further west: apart from the sites of al-Manāra and al-Qis which could have both served

74. Map ref. BR 948 583, sheet 3354 II, series K737. Visited 21st July, 1981.
75. Map ref. BR 919 469, sheet 3354 II, series K 737. Visited 21st July, 1981.
76. H. Gaube, An examination of the ruins of Qasr Burqu, *ADAJ*, XIX (1974) p. 93-100. See also; Ahmad M. H. Shboul, On the later Arabic inscription in Qasr Burqu^c, *ADAJ*, XX (1975) p. 95-98.
The present survey team visited Qasr Burqu^c on 25th August, 1980 during the first season in the field.
77. Visited 27th August, 1980, during the first season in the field. See King, Preliminary Report..., *ADAJ*, XXVI (1982) p. 95.
78. Visited 27th August, 1980 during the first season in the field. S. W. Helms, Jawa excavations, 1975: third preliminary report, *Levant*, IX (1977); p. 23, mentions that a ground survey in 1975 suggested an occupation sequence in the

Jawa area as follows: "aceramic" flint sites; pre-Islamic sites indicated by Safaitic inscriptions and Roman Byzantine sherds; and Islamic sites indicated by bedouin occupation up to the present. F. V. Winnett (An epigraphical expedition to north-eastern Jordan, *BASOR*, 122 April, 1951 p. 49-52) noted Safaitic and Kufic inscriptions in the area around Jawa and argued that some Safaitic inscriptions from the district date to warfare with the Sassanians over Bosra in A.D. 614. The most recent fieldwork in the Jawa region attests Byzantine, early 'Abbāsid and later Islamic activity (M. C. A. Macdonald and later Islamic activity (M. C. A. Macdonald with a contribution by Ann Searight Macdonald, The inscriptions and rock-drawings of the Jawa area: a preliminary report on the first season of field-work of the corpus of inscriptions of Jordan project, *ADAJ*, 1982 p. 159-172).

effectively in a signalling system, a tower site was examined in 1980 at al-Jubaiya,⁷⁹ west of Dayr al-Kahf, where Butler had reported what he called a monastery tower: unfortunately it has collapsed or has been demolished. Butler also referred to a site called "Kôm il-Menârah", north of Umm al-Jimâl, and now in Syria:⁸⁰ there was a tower there which Butler regarded as being of great age. If these sites were indeed related, did they constitute a series of watch-towers or signal towers throughout the desert frontier district? If true, then the tower at Jawa represents one of the most advanced positions in the desert.

Wadi Muqât and Qā' Abu al-Ḥusayn

In the first season in the field in 1980 we had examined Qaṣr Burqu^c on the eastern edge of the ḥarra. Since it had been a residence of al-Walīd b. ʿAbd al-Malik, it seemed useful to examine the country to the south. The practical exploitation of the desert areas by the Umayyads that we have seen elsewhere suggested that al-Walīd's re-use of Qaṣr Burqu^c with its water storage system might have had less to do with a princely desire for solitude in the basalt wasteland than with command of the route between northern Arabia and central Syria, and with the political relations of tribes with the Caliphate. Poidebard had proposed the existence of a route passing through Burqu^c out of Arabia and into Syria in the Roman period, and if this putative route was of importance to the Romans, then it would have had still more relevance to the early Muslims, given the axis of power in the Umayyad state, and the concentration of their desert establishments in eastern Jordan and further north at Jabal Usays and Qaṣr al-Bayḍa, beyond which lay Damascus. There seems to be good reason for thinking that Burqu^c itself and the area in which it is situated was regarded by the Umayyads as of major importance since it was al-Walīd, eldest son and successor of the Caliph ʿAbd al-Malik, who rebuilt it

according to the inscription in his name. Burqu^c was in a region that had belonged to the Bani Kalb, a tribe with whom the Umayyads had maintained close relations, although by the time that al-Walīd established himself at Qaṣr Burqu^c, the Kalb may well have withdrawn to the southern Ghawr at the south end of the Dead Sea under Qaysite attack. The maintenance of the Umayyad alliance with the tribes of Bilād al-Shām required Umayyad family presence in and around the desert areas where their tribal power base rested: hence the Umayyad concern for eastern Jordan and water points like that at Burqu^c. Routes out of Arabia like those from the Wadi al-Sirḥān through to the west and the north would have received attention in such an Umayyad alliance system. Within this proposed framework of a political geography of the area in the Umayyad period, it was decided in 1981 to make a preliminary exploration in the area south of Qaṣr Burqu^c, following Wadi Muqât (known locally as Wadi Umqat) to Qā' Abu al-Ḥusayn and as far as the Saʿūdī Arabian border.

Wadi Muqât is a broad stream bed running south of H4, skirting the eastern edge of the ḥarra which extends westwards towards Azraq and the Ḥawrān. In summer the surfaces of the Wadi and the Qiʿan of the area are hard and easy to cross by car, but in wet weather the entire region must become a quagmire, a view confirmed by those who have travelled in the district in winter. Eventually, the track southwards opens out into the Qā' Abu al-Ḥusayn. It is quite clear from our journey that passage from Arabia to the north along this route is indeed practical in dry weather and preferable to the difficulties of the ḥarra terrain to the west. Qaṣr Burqu^c occupied an important position along this route into central Syria, with its dam holding water for much of the year after rain: however, by August 1980 the lake behind the dam had evaporated and the flies drawn by the mud were pestilential. To the south of Wadi Muqât,

79. King, Preliminary report..., p. 94.

80. Butler, *op. cit.*, II. A. 2, p. 100.

two *rujum* were examined.

Rujm I

The more northern *rujm*⁸¹ examined is set immediately west of Wadi Muqāt on the top of the *ḥarra*. It is surrounded by Safaitic inscriptions and drawings on the rocks. The stone artefacts collected are discussed by Dr. Rollefson below.

Rujm II

The Second *rujm* to the south⁸² overlooks Qā' Abu al-Ḥusayn itself, prominently set on the edge of the *ḥarra*. This *rujm* is also surrounded by Safaitic inscriptions and rock drawings, and a number of stone artefacts were also located. The ceramics collected were particularly important: although only a limited scatter of body sherds was found, the reading is very interesting, including Roman, Byzantine and Umayyad material. Among the Umayyad wares is a sherd with red paint on white wash. Obviously such a small scatter of body sherds must be treated with reservation, but nevertheless, evidence is provided of Umayyad period use of the area. This evidence takes on greater significance in view of the presence of al-Walīd's Qaṣr Burqu' to the north and the possible Umayyad date of a ruined building at Dawqira to the south within Sa'udi Arabia.⁸³ Despite the fact that a Ghassanid date has been recently suggested for the Dawqira building,⁸⁴ the possibility that it remained in use in the early Islamic period is also plausible. If this is indeed the case, then it would be possible to relate Dawqira and Qaṣr Burqu' to a route running east of the northern Wadi al-Sirḥān from the general direction of al-Jawf and along the edge of the *ḥarra*, rather than to the Umayyad sites to the west in the immediate vicinity of Azraq. As far as

desert routes into central Syria are concerned, the area of Wadi Muqāt and Wadi al-Sirḥān seems to have retained importance into recent times. The activities of the Wahhābi forces in the late 18th century and their successors, the Ikhwan, in the early 20th century, are still recalled in the region and reflect the importance to any Arabia-centric power of these internal desert routes into Bilād al-Shām. The use of these routes in recent times must have been matched in the early Islamic period by an Arab Caliphate that could range freely in the marginal and desert areas in a way that neither Romans nor Byzantines had been able. In this respect, the Umayyads were the successors of the Nabataeans and Ghassanids who had both exercised their power in very different circumstances over districts that the Mārwanis subsequently were to favour.

Part II: Preliminary Pottery Report, First (1980) and Second (1981) Seasons (C. J. Lenzen)

This preliminary report on the pottery from the Survey covers the material from the Hawrān and the areas of the eastern Jordanian desert. The Survey was objective-specific in nature as regards the collection of sherds, although sherds were also gathered comprehensively to avoid a distortion of the occupation horizon or the sites examined. Where the architectural features of a site were distinctive, the pottery was collected in association with that particular structure. By definition, none of the pottery originates in a controlled stratigraphic context. The dating of the pottery is therefore dependent on comparison with published corpora. At the same time it should be noted that there is a lack of published parallels relating to much of the Byzantine and Umayyad pottery from stratified sites

81. Map. ref. DR 149 539, sheet 3654 III, ed. 1, Visited 22nd July, 1981.

82. Map ref. DR 144 516, sheet 3654 III, ed. 1, Visited 22nd July, 1981.

83. Florence E. Day, in Field, *op. cit.*, 158-160; E. V. Winnett and W. L. Reed, *Ancient Records from North Arabia*, Toronto, 1970, p. 4-5.

84. Robert McC. Adams, P. J. Parr, Muhammad Ibrahim, 'Ali S. al-Mughannum, Saudi Arabian Archaeological Reconnaissance 1976: the Preliminary Report on the first phase of the Comprehensive Archaeological Survey Program, *ATLAL*, I (1397/1977) p. 37.

in Jordan and Syria, the areas where there would be the closest comparisons with the Ḥawrān pottery in particular. As for the Mamlūk calls, some of these may eventually prove to be Mamlūk/Ottoman, but at this stage it seems premature to so designate surface collected sherds without established stratigraphy. Because of the preliminary nature of this report, broad categories are used for the identification of periods. The dates are those proposed by Dr. James A. Sauer.⁸⁵ It is intended to publish drawings and photographs as well as comparative material at a later date. (See also "Observations on the ceramics" [G. King] below.)

Abbreviations

EB	Early Bronze
MB	Middle Bronze
LB	Late Bronze
I ¹	Iron I
I ²	Iron II
Nab.	Nabataean
R/Nab	Roman-Nabataean

- IA. Vicinity of graves, east of small enclosure, *qaṣr*, QM4
 UD: 11 (body sherds)
 Um: 114 (107 body sherds)
 Total: 125
 Body sherds: 94%
- III. Large enclosure/*birka* QM2
 UD: 1 (body sherd)
 Byz/Um: 3 (body sherds)
 Um: 23 (21 body sherds)
 Total: 27
 Body sherds: 93%
- IV. Furnance, bath QM3
 UD: 1
 Byz: 2 (body sherds)
 LByz/Um: 14 (body sherds)
 Um: 42 (29 body sherds)
 Mod: 1

R	Roman
ER	Early Roman
LR	Late Roman
Byz	Byzantine
EByz	Early Byzantine
LByz	Late Byzantine
LByz/Um	Late Byzantine-Umayyad
Um	Umayyad
Ay/Mam	Ayyūbid/Mamlūk
Mam	Mamlūk
Ot	Ottoman
Mod	Modern
UD	Undifferentiated or unknown

Tabulation

Section 1: Eastern Desert

1. *Qaṣr* al-Mushāsh
 I. Small enclosure, *qaṣr*, QM1
 UD: 4 (body sherds)
 Byz/Um: 35 (32 body sherds)
 Um: 4 (3 body sherds)
 Total: 43
 Body Sherds 91%

85. James A. Sauer, *Heshbon Pottery 1971*, Andrews University Press, Michigan, 1973, p. 1-5. idem, The pottery of Jordan in the early

Islamic Periods, *Studies in the History and Archaeology of Jordan*, ed. Dr. Adnan Hadidi, Amman, 1982, I, p. 329-337.

- Total: 60
Body sherds: 75%
- IVA. West of bath QM5
UD:1
Um: 33 (body sherds)
Mam: 1 (body sherd)
Total: 35
Body sherds: 97%
- V. *Birka*
UD: 1 (body sherd)
Um: 30 (28 body sherds)
Total: 31
Body sherds: 94%
- VI. Wall, north bank of Wadi al-Mushāsh
Um: 5 (body sherds)
Total: 5
Body sherds: 100%
- VII. Wall traces, *wadi B*
LByz/Um: 21 (19 body sherds)
Um: 12 (body sherds)
Total: 33
Body sherds: 94%
- VIII. Rectangular enclosure, *wadi B*
UD: 1 (body sherd)
Um: 11 (body sherds)
Total: 12
Body sherds: 100%
- XI. Terraced enclosures, *wadi C*
UD: 2 (body sherds)
UM: 14 (12 body sherds)
Total: 16
Body sherds: 88%
- XIV. Water Storage tank, *wadi C*²
Um: 1 (body sherd)
Total: 1
Body sherds: 100%
2. An installation towards Qaṣr al-Ḥarāna
Byz: 53 (50 body sherds)
LByz/: 6 (5 body sherds)
LByz/Um: 3 (1 body sherd)
Um: 6 (body sherds)
Ot: 1 (body sherd)
Total: 69
Body sherds: 91%

3. Al-Jilāt

I. South of dams
UD: 1
Byz: 3 (body sherds)
EByz: 2
LByz: 3 (body sherds)
LByz/Um: 35 (body sherds)
Um: 4 (3 body sherds)
Total: 48
Body sherds: 92%

II. Principle dam
R: 1 (body sherd)
Byz: 1 (body sherd)
Um: 9 (body sherds)
Total: 11
Body sherds: 100%

4. Qaṣr Bayer

UD: 42 (40 body sherds)
P: 1 (body sherd)
Nab: 94 (59 body sherds)
R/Nab: 86 (82 body sherds)
R: 192 (176 body sherds)
ER: 8 (body sherds)
LR/EByz: 64 (58 body sherds)
Total: 487
Body sherds: 87%

5. Umm al-Walid (eastern sector of ancient town)

UD: 10 (9 body sherds)
P: 7 (body sherds)
R: 6 (body sherds)
ER: 5 (2 body sherds)
LR/EByz: 32 (body sherds)
Byz: 4 (body sherds)
EByz: 15 (11 body sherds)
Um: 4 (body sherds)
Ay/Mam: 1 (body sherds)
Mam: 26 (13 body sherds)
Mod. 1 (body sherd)
Total: 111
Body sherds: 81%

Section 2: The Hawrān

6. Jābir

UD: 3 (body sherds)
ER: 2 (body sherds)
Byz: 5 (body sherds)
EByz: 1 (body sherd)
LByz: 1 (body sherd)
Um: 6 (5 body sherds)
Mam: 1 (body sherd)

Total 19
Body sherds: 95%

7. Samā

I. Area of St. George's Church (SamI)

UD: 2 (body sherds)
I?: 1 (body sherd)
R: 4 (1 body sherd)
ER: 3 (2 body sherds)
LR: 1 (body sherd)
Byz: 21 (19 body sherds)
EByz: 3
LByz: 10 (7 body sherds)
LByz/Um: 5 (body sherds)
Um: 9 (body sherds)
Mam: 2 (body sherd)
Ot: 2 (body sherds)
Mod: 2 (1 body sherd)
Total 65
Body sherds: 79%

II. Area south of St. George's Church (Sam2)

UD: 2 (body sherds)
ER: 2 (1 body sherd)
LR: 1 (body sherd)
Byz: 6 (body sherds)
EByz: 1
LByz: 1
Um: 5 (body sherds)
Mam: 15 (10 body sherds)
Ot: 1 (body sherd)
Total 34
Body sherds: 77%

III. Apsidal building, north sector, Samā (Sam3)

UD: 1 (body sherd)
I: 1 (body sherd)
ER: 2 (1 body sherd)
Total: 4
Body sherds: 75%

8. Umm al-Surab

I. General central area (US4)

UD: 3 (body sherds)
R: 1 (body sherd)
EByz: 8 (5 body sherds)
LByz: 7 (5 body sherds)
Byz: 2 (1 body sherd)
Um: 3 (body sherds)
Mam: 3 (body sherds)
Mam/Ot: 1 (body sherd)
Total: 28
Body sherds: 79%

- II. Southeast area (US6)
 UD: 2 (1 body sherd)
 R: 15 (13 body sherds)
 ER: 3
 LR/EByz: 4 (body sherds)
 Byz: 2
 EByz: 17 (body sherds)
 Um: 7 (4 body sherds)
 Mam: 7 (6 body sherds)
 Mod: 1
 Total: 58
 Body Sherds: 78%
- III. Building complex north of Sts. Sergius and Bacchus (US2)
 UD: 18 (body sherds)
 R: 1 (body sherd)
 Byz: 4 (2 body sherds)
 EByz: 8 (1 body sherd)
 LByz: 5 (4 body sherds)
 Byz/Um: 1 (body sherd)
 Um: 2 (body sherds)
 Mam: 9 (7 body sherds)
 Total: 48
 Body sherds: 75%
- IV. Sts. Sergius and Bacchus (US3)
 Um: 1
 Mam: 5 (4 body sherds)
 Total: 6
 Body sherds: 67%
- V. West Church area (US1)
 UD: 21 (19 body sherds)
 MB/LB: 1 (body sherd)
 P: 1
 R: 14 (body sherds)
 ER: 5 (body sherds)
 LR: 13 (12 body sherds)
 LR/EByz: 15 (13 body sherds)
 Byz: 74 (59 body sherds)
 EByz: 21 (3 body sherds)
 LByz: 21 (18 body sherds)
 LByz/Um: 8 (4 body sherds)
 Um: 9 (4 body sherds)
 Mam: 42 (31 body sherds)
 Ot: 1
 Mod: 2
 Total: 248
 Body sherds: 74%
- VI. House-courtyard, w.s.w. of West Church (US5)
 R: 2 (1 body sherd)
 Byz: 40 (37 body sherds)
 EByz: 1
 LByz: 4 (3 body sherds)

LByz/Um: 1 (body sherd)
Mam: 8 (body sherds)
Total: 56
Body sherds: 89%

9. Şīrat al-Arnab

UD: 25 (body sherds)
I²: 4 (body sherds)
LR: 4 (body sherds)
Byz: 18 (body sherds)
EByz: 4
Um: 4 (3 body sherds)
Total: 59
Body sherds: 92%

10. Saba^c Aşīr/Saba^c Şiyār

UD: 3 (body sherds)
R: 7 (6 body sherds)
ER: 1 (body sherd)
LR: 8 (7 body sherds)
LR/EByz: 1
Byz: 71 (64 body sherds)
EByz: 14 (7 body sherds)
LByz: 15 (13 body sherds)
Mod: 4 (3 body sherds)
Total: 124
Body sherds: 84%

11. Şabha

I.

Southern area (Sab1)
UD: 4 (3 body sherds)
R: 1 (body sherd)
Byz: 6 (3 body sherds)
EByz: 1 (body sherd)
LByz: 2
Byz/Um: 2 (1 body sherd)
Um: 10 (8 body sherds)
Mam: 2 (1 body sherd)
Mod: 1
Total: 29
Body sherds: 62%

II.

Vicinity of South Church (Sab2)
UD: 21 (20 body sherds)
R: 5 (body sherds)
LR: 3
LR/EByz: 55 (54 body sherds)
Byz: 37 (31 body sherds)
Ebyz: 8 (1 body sherd)
LByz: 11 (7 body sherds)
LByz/Um: 4 (3 body sherds)
Um: 16 (10 body sherds)
Mam: 9 (6 body sherds)

Ot?: 1 (body sherd)
Total: 170
Body sherds: 81%

III. Vicinity of North Church (Sab3)

UD: 9 (body sherds)
R: 13 (12 body sherds)
ER: 3 (2 body sherds)
LR: 2
LR/EByz: 28 (27 body sherds)
Byz: 10 (3 body sherds)
Ebyz: 14 (3 body sherds)
LByz: 5 (2 body sherds)
LByz/Um: 14 (11 body sherds)
Um: 9 (8 body sherds)
Mam: 1 (body sherd)
Mod: 2 (1 body sherd)
Total: 110
Body sherds: 72%

IV. Northern area (Sab4)

Byz: 11 (10 body sherds)
EByz: 1
LByz: 3 (body sherds)
Um: 1 (body sherd)
Total: 16
Body sherds: 88%

12. Al-Khān

UD: 4 (body sherds)
R: 59 (48 body sherds)
ER: 1 (body sherd)
LR: 1
LR/EByz: 19 (8 body sherds)
EByz: 19 (18 body sherds)
Total: 92
Body sherds: 86%

13. Al-Dafyāna

UD: 16 (body sherds)
R: 11 (8 body sherds)
ER: 3
LR: 1
LR/EByz: 1 (body sherd)
Byz: 6 (body sherds)
EByz: 18 (14 body sherds)
LByz: 18 (15 body sherds)
LByz/Um: 38 (body sherds)
Um: 32 (26 body sherds)
Ay/Mam: 2 (body sherds)
Mam: 3 (body sherds)
Total: 149
Body sherds: 87%

14. **Salatīn** (Khisha Salatīn, al-Manshiyya)
 UD: 4 (3 body sherds)
 EB?: 15 (body sherds)
 I²: 2 (body sherds)
 Nab: 2 (body sherds)
 R: 105 (104 body sherds)
 ER: 5
 LR: 20
 R/EByz: 2
 EByz: 10 (body sherds)
 Mod: 1 (body sherd)
 Total: 166
 Body sherds: 83%
15. **Umm al-Quttayn**
- I. Vicinity of "Dayr" (UQ1, UQ2, UQ5)
 UD: 30 (28 body sherds)
 EB: 3 (body sherds)
 I²: 1
 R: 5 (3 body sherds)
 LR: 5 (2 body sherds)
 LR/EByz: 75 (74 body sherds)
 Byz: 75 (68 body sherds)
 EByz: 21 (10 body sherds)
 LByz: 12 (9 body sherds)
 LByz/Um: 2 (body sherds)
 Um: 69 (52 body sherds)
 Mam: 25 (24 body sherds)
 Mod: 3 (2 body sherds)
 Total: 327
 Body sherds: 85%
- II. West of "Dayr" (UQ3)
 UD: 8 (7 body sherds)
 Byz: 2 (body sherds)
 EByz: 2
 LByz: 5 (1 body sherds)
 Um: 13 (8 body sherds)
 Mam: 9 (6 body sherds)
 Ot: 1 (body sherd)
 Mod: 2 (1 body sherd)
 Total: 42
 Body sherds: 62%
- III. South Church Vicinity (UQ6)
 UD: 5 (body sherds)
 I²: 1 (body sherd)
 R: 26 (23 body sherds)
 ER: 1
 LR: 8 (3 body sherds)
 LR/EByz: 36 (body sherds)
 Byz: 24 (23 body sherds)
 EByz: 8 (1 body sherd)

LByz: 22 (20 body sherds)
LByz/Um: 11 (10 body sherds)
Um: 18 (5 body sherds)
Ot: 1
Total: 161
Body sherds: 79%

IV. East Church (UQ7)
Byz: 3 (1 body sherd)
EByz: 6 (5 body sherds)
LByz: 1
Total: 10
Body sherds: 60%

V. North-east Church (UQ8)
UD: 2 (body sherds)
P: 1 (body sherd)
R: 3
LR: 1
LR/EByz: 5 (body sherds)
Byz: 15 (body sherds)
EByz: 1
LByz: 3 (1 body sherd)
LByz/Um: 1 (body sherd)
Um: 5 (4 body sherds)
Ay/Mam: 1
Mam: 8 (7 body sherds)
Mod: 1
Total: 47
Body sherds: 77%

16. Hawshiyān

UD: 4 (body sherds)
EB: 138 (body sherds: 9 EB¹ grain wash body sherds)
I: 4 (3 body sherds)
I/I: 93 (88 body sherds)
R: 88 (body sherds)
LR/EByz: 11 (10 body sherds)
Byz: 4 (body sherds)
EByz: 8 (6 body sherds)
Ay/Mam: 1 (body sherd)
Mod: 1 (body sherd)
Total: 352
Body sherd: 97%

17. Al-Qis (al-Qays)

UD: 58 (body sherds)
R: 21 (19 body sherds)
ER: 5 (body sherds)
Byz: 36 (32 body sherds)
EByz: 15 (12 body sherds)
LByz: 5 (2 body sherds)
LByz/Um: 45 (44 body sherds)
Um: 27 (23 body sherds)

Mam: 1 (body sherd)
Mod: 1
Total: 214
Body sherds: 92%

18. Dayr al-Qinn

UD: 11 (body sherds)
P: 2
R: 51 (44 body sherds)
ER: 6 (body sherds)
LR: 61 (36 body sherds)
LR/EByz: 3 (2 body sherds)
Byz: 3 (body sherds)
EByz: 8 (5 body sherds)
Total: 145
Body sherds: 74%

19. Al-Manāra

UD: 10 (9 body sherds)
R: 10 (8 body sherds)
LR: 2
LR/EByz: 19 (body sherds)
Byz: 50 (body sherds)
EByz: 27 (24 body sherds)
LByz: 1 (body sherd)
LByz/Um: 10 (7 body sherds)
Um: 8 (body sherds)
Mam: 5 (body sherds)
Total: 142
Body sherds: 92%

20.

Bi'r Hūyanīt
UD: 4 (body sherds)
Ot: 1
Total: 5
Body sherds: 80%

21. Jawa

I. Tower

UD: 6 (body sherds)
R: 5 (3 body sherds)
LR: 32 (27 body sherds)
LR/EByz: 1 (body sherd)
EByz: 5 (body sherds)
Total: 49
Body sherds: 86%

II.

Tower vicinity

UD: 14 (body sherds)
EB: 2 (body sherds)
P: 13 (body sherds)
R: 7 (5 body sherds)
Total: 36
Body sherds: 94%

22. Qā' Abu al-Ḥusayn, Rujm II
 R: 3 (2 body sherds)
 LR/EByz: 2 body sherds)
 Byz: 1 (body sherd)
 Um: 4 (body sherds)
 Total: 10
 Body sherds: 90%

Other Material Cultural Remains

1. Qaṣr al-Mushāsh
 3 UD glass body sherds

Installation IV:

Fragmentary white to greyish white marble panels, one piece coarse finished, the remainder polished on each face, in the following thicknesses:

- 1 piece 9 mm.
 1 piece 12 mm.
 2 pieces 14 mm.
 1 piece 15 mm.
 6 pieces 16 mm.
 7 pieces 17 mm.
 4 pieces 18 mm.
 2 pieces 20 mm.

24 pieces (total)

Of the above, 2 pieces with flat edges; 3 pieces with rounded edges; 1 piece with one rounded edge and 2 flat edges.

White plaster (3 pieces). Thickness 18 mm.; 31 mm.; 34 mm.

Installation VIII:

Fragmentary white to greyish white marble panel, polished on each face, thickness 18 mm.

Installation XI:

Fragmentary marble panels, polished on each face, in the following thickness:

- 1 piece 17 mm. (white with greenish grey veining)
 1 piece 20 mm. (greyish; flat edge)
 2 pieces (total)

7. Samā

Mosaic cubes:

Area of St. George's Church (Sam1)
 All stone or marble: 1 white; 1 grey; 2 light grey; 2 pink; 2 pinkish white; 3 pinkish grey; 1 v. pale brown; total 12.

"Apsidal" building, north sector, Samā
 (Stone: 1 pink; total 1)

8. Umm al-Surab

1 UD glass body sherd
 Goblet base fragment (LByz?)
 2 Cobalt blue body sherds
 1 base, glass (Mod.)

Mosaic cubes:

South-east area (US6)
 All stone or marble: 1 white; 2 pink; 2 v. pale brown; total 5
 West Church area (US1)
 All stone or marble: 1 white; 3 light grey; 2 pink; 3 pinkish white; 4 v. pale brown; total 13.

From the roofing of a room in the ecclesiastical structure against the north face, tower of Sts. Sergius and Bacchus:

Stone, marble and glass: 3 white; 7 grey; 13 light grey; 2 dark grey; 1 v. dark grey; 10 pink; 55 pinkish white; 10 red; 24 weak red; 3 pale red; 3 light

red; 1 dusky red; 15 reddish yellow; 1 reddish brown; 2 v. pale brown; 7 light brown; 2 pale blue (glass); 1 dark blue (glass); 2 green (glass); total 162.

11. Sabhā

Mosaic cubes:

I. Southern area (Sab1)

Stone; 1 v. pale brown; total 1

II. Vicinity of South Church (Sab2)

Stone; 1 pink; total 1

III. Vicinity of North Church (Sab3)

All stone or marble: 3 grey; 6 pink; 7 pinkish white; total 16

15. Umm al-Quttayn

South Church

Brick or roof tile, reddish brown; maximum thickness 46 mm.

Mosaic cubes:

Vicinity of *Dayr* (UQ5)

Stone or marble; 1 pink; 1 light green; total 2.

North-east Church (UQ8)

Stone: 1 pink; total 1.

17. Al-Qis

2 UD glass body sherds

2 glass base fragments (goblets?), LByz?

1 UD metal fragment

Plaster:

6 pieces, smooth surface; basalt pebbles mixed in. Maximum thicknesses; 6 mm.; 13 mm.; 15 mm.; 28 mm.; 32 mm.; 34 mm.

Mosaic Cubes:

All stone or marble: 3 white; 1 grey; 1 light grey; 1 pink; 1 pinkish grey; 2 weak red; 1 light reddish brown; 1 v. pale brown; total 11.

19. Al-Manāra

1 glass rim, Byz?

20. Bi'r Ḥūyanī

1 Turkish pipe fragment

Observations On The Ceramics (Geoffrey King)

Some comment is necessary on the procedure of sherd collection adopted, its limitations and some of the implications of the material tabulated here. The fact that the Survey is directed towards the transition between the Byzantine and early Islamic periods in Jordan and the subsequent occupation of sites later in the Islamic period, has obviously influenced to some extent the process of surface sherd collection. Nevertheless, it must be stressed that, to achieve a coherent historical overview, we have gathered sherds in the field without differentiation as much as possible. Given the nature of many of these sites, with partial re-occupation established in modern times, and very often with localized scatters of wares of a certain period, it has not been practical to adopt a procedure involving random squares: indeed, this would have been especially fruitless for the collection of later Islamic wares, which frequently occur in limited scatters in restricted parts of the sites.

Any survey results from work in Jordan now must consider that in certain instances, the field team is dealing with a residue of surface sherds left by earlier expeditions, or even a residue left after amateur sherding. Modern activity on the sites disturbs the surface still more. The effects of this process are not so obvious in the desert areas examined, or in most Ḥawrān sites, but are more pronounced in other parts of the country. These caveats

are important to add for they introduce variable elements between the results of this Survey and those done in the past over and above emphases that may arise from period-specific interests.

As the sherd evidence from the desert sites has been discussed in Part I of this Report, no further remarks are necessary. Some additional points should be made concerning our work in the Hawrān where a quite consistent picture of the occupation range emerges. There is sporadic indication of Early, Middle and Late Bronze occupation, with Early Bronze wares particularly prevalent at Hawshiyān. A very slight, but nonetheless persistent indication of Iron I and II occupation appears at certain sites in the area. This Bronze and Iron ceramic evidence suggests that the Hawrān deserves examination from this earlier historical perspective. The lack of Nabataean wares in the same area is remarkable and surprising in view of the epigraphic evidence of Nabataean occupation: Glueck had long ago discussed this issue after finding none of the distinctive Nabataean wares that he had expected at Umm al-Jimāl. Throughout the Hawrān sites surveyed there is evidence of Roman period settlement followed by major Byzantine period occupation. The dated churches at Umm al-Jimāl, Umm al-Surab and elsewhere in the area are well-known and the indication of an efflorescence in the fourth and fifth centuries A.D. that they provide is reinforced by numerous undated churches and epigraphic evidence: the quantity of Byzantine sherds found matches this impression of great activity throughout the period, in both the Early and the Late Byzantine phases. Sherd evidence also demonstrates Byzantine period occupation at sites lacking architectural or epigraphic remains. In general, the proportion of Early and Late Byzantine wares is too evenly balanced to permit a fine distinction of the more important phase within the

period as a whole.

Sites still occupied in a substantial way in the Late Byzantine period were often still occupied in the Umayyad period; major examples of this situation are to be identified at Samā, Umm al-Surab, Ṣabhā, al-Dafyāna, Umm al-Quṭṭayn and al-Qis. This significant occupation of the Hawrān sites in the Umayyad period is a point that has received little or no attention hitherto in discussions of the Umayyad presence in the region. It seems likely that in many cases, this early Islamic occupation was a direct continuation of Late Byzantine settlements: such may be the case at Umm al-Quṭṭayn, al-Dafyāna and Ṣabhā, all quite large places in the Byzantine period. These eastern Hawran sites are stressed because of the weight of evidence available from them, but the same situation probably occurred in the western sites of the Hawrān, where the excavations at Umm al-Jimāl have revealed an unexpected Umayyad settlement.⁸⁶ Nor is this evidence of early Islamic urban occupation restricted to the Hawrān, for increasing information is emerging of a major Umayyad occupation at Jarash and at Abila/Qwailbah in northern Jordan.⁸⁷ In the Hawrān the evidence for the early Islamic period is too sustained to be treated as the consequence of small-scale settlement or the result of the passage of mere itinerant groups. It seems very likely that our understanding of the extent and degree of habitation in the early Islamic period in the district and its neighborhood will develop considerably in the coming years with important consequences for our view of the early Caliphate and its settlement pattern.

Finally, some comment should be made on the later Islamic ceramics, mainly Ayyūbid/Mamlūk or Mamlūk as far as presently understood, although as Dr. Lenzen points out, some sherds tabulated may prove to be Mamlūk/Ottoman. First of all, the quantities of later Islamic wares

86. Bert de Vries, The Umm el-Jimal Project 1972-1977, *ADAJ*, XXVI (1982) p. 97-116.

87. W. Harold Mare, C. J. Lenzen, Michael J. Fuller, Myra A. Mare and Abrahm Terian, The Decapolis Survey Project: Abila, 1980, *ADAJ*,

XXVI (1982) p. 37-65.

The latest excavations at Jerash are unpublished, but I am indebted to Dr. Asim Barghouthi for his observation on his own work there.

are far fewer than those of earlier periods; the centuries of non-occupation or vastly reduced occupation that seem to have intervened in the Ḥawrān from about the time of the ending of the Umayyad Caliphate to the Ayyūbid-Mamlūk period are followed by scant and limited later Islamic occupation at the ancient sites, to judge by the ceramic evidence. For example, at Umm al-Surab, a certain number of Mamlūk wares were located throughout the site, but in general in lesser quantities than in earlier periods, the Byzantine in particular: however, a concentration of Mamlūk sherds was found in the vicinity of the West Church, in the neighbourhood of well-preserved buildings in the western part of the site. A similar local distribution of Mamlūk sherds within the site as a whole was noted at Samā in the area south of St. George's church; a second more sparse scatter of Mamlūk and Ottoman wares was noted at another locality near the church of St. George. Further east at Ṣabḥā scatters of Mamlūk wares seem to reflect a use of the site that was more limited than earlier occupations, while a still slighter scatter of these later Islamic wares was found at al-Dafyāna. At certain *loci* within Umm al-Quttayn, there is a sparse distribution of Ayyūbid/Mamlūk and Mamlūk wares, whereas in the vicinity of the *Dayr* at the same site an exceptional concentration of Mamlūk sherds was noted. It is to be hoped that this issue of Later Islamic occupation will eventually be elucidated by excavations in the area; so far, there is a *prima facie* case for suggesting that the later Islamic re-occupation of these (abandoned?) sites was often slight and limited; where more concentrated, the later occupation was usually confined to a particular part of the ancient site, rather than spread over the site as a whole. In certain cases, we have found Later Islamic wares in association with well constructed buildings of the traditional Ḥawrān type. In the Ḥawrān, one rapidly learns caution in dating domestic architecture, deceptfully well does later construction, so even of the 20th century, imitate the Roman and Byzantine structural techniques with re-used ancient materials.

Notwithstanding this caution, the persistent coincidence of Later Islamic wares with well-constructed buildings in a good state of preservation, leads one to suppose that some of these structures may indeed belong to the same period as the sherds around them: buildings in this category were noted at Umm al-Surab, Umm al-Quttayn and sites south of Madaba.

Part III: Report on Chipped Stone Artefacts from Certain Sites from the Second (1981) Season (G. O. Rollefson)

Qaṣr al-Mushāsh:

Qaṣr I:

- A. 3 blades and 3 flakes (total = 16). No tools. On the blades, two have punch platforms and one has a steep cortical platform. The age of this collection is not clear, but certainly it would be Neolithic or later, most likely the latter.

Installation XI:

1 punch flake... Pre-pottery Neolithic B (PPNB) or later.

Installation XII:

1 probably Neolithic blade.

Installation XIII:

1 flake: 4 blades (1 bidirectional; 1 punch platform, 2 plain steep platforms). Probably all are Neolithic or later.

Wadi al-Jilāt Dams:

- A. 5 cores: 1 microblade core
 3 keel-backed bidirectional blade cores
 1 "Neo-Levallois" flake core.
 29 blades
 9 flakes (2 pieces exhibit heat treatment)
 43 pieces total
 B. Of the 43 pieces, 7 are tools which

include:

- 1 core tool...a chopping tool
- 5 burins... 1 dihedral straight burin (graver)
- 2 opposed burins on concave truncations
- 1 burin on straight truncation
- 1 bilateral burin on an unknown platform (broken)
- 1 projectile point... possibly a shouldered point, but there is a proximal snap with a distal impact burin.

C. Comments:

All of the above pieces are PPNB in date, *ca.* seventh millennium B.C. Three of the flakes are *lames de degagement* (core renewal flakes), one of which may have been utilized in some unknown manner. On the blades, 10 exhibit punch platforms and one has a steep simple facet platform (the other platforms are broken off). 5 of the blades are naturally backed (i.e., one lateral edge is sharp, but the opposing edge is vertical and covered with cortex).

In addition to the 43 pieces discussed above, there is also one blade which is much older in appearance, with evidence of heavy rolling or wind erosion and a dark patina. It is triangular in cross-section, and has a steep single-facet platform. Possibly this piece dates to the Upper Paleolithic (probably somewhere between 30-15,000 B.C.)

Sirat al-Arnab:

1 blade, unidirectional and naturally backed, with plain platform. This blade has been retouched to produce a combination tool: an endscraper plus a lateral denticulate.

The age of the specimen is not certain, but it is possibly Neolithic.

Muqā'is:

1 punch blade, Neolithic (?)

Bi'r Hūyanīṭ:

- A. 1 flake
- 3 blade fragments
- 2 pieces debris
- 6 pieces total

B. Of the above 6 pieces, there is one tool:

1 serrated end-scraper + sidescraper... this piece has double patina.

C. Comments: The age of these pieces is quite uncertain, especially since the sample is so small and the tool is not diagnostic. Since none of the pieces exhibits desert varnish, this may indicate a Chalcolithic or Early Bronze Age date, yet this would be a very tenuous assignment.

Qā' Abu al-Ḥusayn, Rujm I:

- A. 12 blades
- 6 flakes

18 pieces total

B. Of the above 18 pieces, 4 are tools: 2 endscrapers...one is a double endscraper

1 scraper...double convex racloir, which exhibits double patina, indicating re-use long after an original discarding.

1 burin...a bilateral burin on an unknown platform (broken). Two of the blades *may* be natural and therefore not artefacts at all.

All of the material seems to be PPNB in age although the double racloir (scraper) may be older originally, and the multi-faceted blade may in fact date to the Middle Paleolithic (probably in the 50-35,000 years range).

Qā' Abu al-Ḥusayn, Rujm II:

- A. 5 blades and blade segments
- 7 flakes

12 pieces total

B. Of the above 12 pieces none are tools or cores.

C. Comments: Because there are no diagnostic elements in this small

collection, it is difficult to determine a date for the material. On the basis of the desert varnish patina (which has affected 10 of the pieces) and the comparisons of the lithic technology with other "dated sites" in the area, it might be predicted that they are PPNB in age, although this would have to be tempered with some skepticism.

One of the flakes is a *lame de degagement*. One flake has a punch platform, and all other platforms are single facet and steep. All of the blades were produced by normal blade technique.

Two of the flakes are of a glossy, butterscotch coloured flint. The glossiness may indicate heat treatment of the core before these pieces were detached, although there might also be outcrops of such material occurring naturally in the vicinity.

In addition to the 12 pieces discussed above, there is also one older blade (Upper Paleolithic? Epipaleolithic?) with a triangular cross-section and a steep single-facet platform.

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hier war die Thurmruiue in 0 20° S, Charâne in S 56° O sichtbar; Muoggar konnte ich wegen des Flimmerns der Luft nicht mehr erkennen.

Die Ruine liegt in einem von dem Wadi gebildeten rechten Winkel, in dessen Scheitel zwei Quermauern unter stumpfem Winkel zusammenstossen, eine N 20° O, die andere W 20° S, offenbar mit der Bestimmung das Wasser des Wadi aufzustauen; in dem Bett selbst war die Mauer zerstört. Das Wadi hat an dieser Stelle steile Wände und etwa zwei Meter Teife. Etwa 50 Schritt oberhalb dieser Stelle wendet sich das Wadi wieder unter rechtem Winkel nach W und ist nach weiteren 200 Schritt oberhalb abermals von einer 1 m. dicken und ca. 100 m. langen Quermauer in grader Linie durchshitten, die an beiden Enden Flügelmauern nach W entsendet, anscheinend um das autgestaute Wasser am Austliessen in die Ebene zu verhindern. Unfern vom Nordende befindet sich ein gemauertes rechteckiges

Bassin von 22 Schritt Länge (O-W) und 8 Schritt Breite, das nach innen eingebrochen ist, anscheinend unter dem Druck des Regenwassers, das von einer Hügelreihe dicht nördlich hiervon herunterkam. Um das Bassin herum, namenlich an der West- und Osteseite, befinden sich Beduinengräber, mit Steinen und Säulenresten gekennzeichnet, die aus der Ruine stammen. Als Name der Ruine gaben die Beduinen nur el Gesêr an; es ist wohl möglich, dass ein wirkliches nomen proprium dafür existirt.

Die Anlage ist offenbar römischen Ursprungs wie das östlich von ʿAmra gelegene ʿAuênid, und hatte wie dieses die Bestimmung, die grosse von Azraq über ʿAmra und Muoggar nach ʿAmman führende Strasse zu sichern."

"Ausflüge in der Arabia Petraea", *Mélanges de la Faculté Orientale, Université Saint-Joseph* III, Fasc. I, 1908, p. 425-427.

Appendix

i. Qasr al-Mushāsh: Musil's account (15th June, 1901)

“Al-Mšejiš, wo wir um 10 Uhr 42 Minuten anlangten ist ein 200 bis 300 Meter breites Talbett und mit einer hohen Kalkschichte bedeckt, auf welcher jedoch die Kelpflanzen sehr gut fortkommen. Es streicht von Südosten aus dem ġebel al-Kâ'ade und verbindet sich im Nordwesten am Südfusse der Bodenwelle Dejkat al-Kuṭrāni mit dem Tale as-Sultāni. Das linke Ufer des wādi al-Mšejiš, steigt ziemlich steil zu einem grauern unfruchtbaren Hochplateau auf. Wir besteigen diesen Abhang und erreichten um 11 Uhr die Anlage qasr al-Mšejiš, bei der wir die Kamele niederknien liessen. Die Anlage besteht aus einem festen Hof, einem Wartturm und einigen Zisternen. Der feste Hof ist 36 Schritte lang, 34 Schritte (Richtung 232°) breit, seine Mauern 1 bis 2 Meter stark. Alles ist vollkommen zerstört und in Hürden verwandelt, so dass man die innere Einrichtung kaum feststellen kann. Bei der Südecke der Ostmauer scheint ein tor bestanden zu haben. An der Südwest- und Nordwand waren acht Schritte im Geviert messende Kammeren angelegt, die durch 0.56 Meter starke Mauern getrennt waren. Vor der Nordmauer standen noch einige andere Gebäude. Von der Süwestecke sieht man in der Richtung 242° die Nordöstecke des Turmes. Auf ihn zugehend, gelangt man nach 86 Schritten zu einem seichten Wasserbette, in dem sich etwa 50 Schritte nordöstlich drei halbverschüttete Zisternen befinden. Ihre Öffnungen haben die Form eines Viereckes von 0.9 Meter Länge, 0.7 Meter Breite. Nach weiteren 116 Schritten erreicht man den Turm.

Dieser steht in der Südostecke eines von einer 0.8 Meter starken Mauer umgebenen, 34 Schritte langen (Nord-Süd) und 29 Schritte breiten Hofes. Der Turm ist 16 Schritte lang und 12 Schritte (Richtung 90°) breit und seine Mauerstärke misst 1 Meter”.

Musil had passed by Wadi el-Mushash on 7th June, 1898 but did not see the *Qasr* on that occasion (*Kusejr 'amra und andere Schlösser östlich von Moab. Topographischer Reisebericht, I. Theil, Sitzungsberichte der Kais. Akademie der Wissenschaft in Wien, Philosophisch-historische Classe, Vienna, 1902, Band CXLIV, vii, p. 18.*)

ii. Qasr al-Mushāsh: Moritz's account

“Nach 2 3/4 Studen erblickten wir links, etwa 3 km. entfernt, Charâne. Eine halbe Stunde später erreichten wir den Westrand des hier etwa 20 m. über der Ebene sich erhebenden Plateaus. Auf einer vorspringenden Spitze lag ein jetzt verfallener Thurm, daneben eine verschüttete Cisterne; von hier liegt Charâne in S 40° O, Muoggar W 10° und 'Amra in etwa O-Richtung. Dann ging, es in die Ebene el Genâb hinab auf die weithin sichtbare Ruine el Gešer (قشیر) zu, an deren Fusse sich Wasser finden sollte. Etwa 3 km. westlich von der Thurmuine befand sich die Wassertelle “Meschâsch”, in dem bett eines kleinen Wadi. Das Loch wurde von den Beduinen bis auf ca. 2 m. Tiefe mit den Händen ausgegraben, bis sich das rothgelbe Schlammwasser zeigte. Es wurde auf die “rauje” (راوية) ein grosses rundes Lederstück, das sonst als Tisch diente, gegossen, von den Kamelen aber trotz ihres Durstes erst nach einigem Widerstreben genommen. Das Wadi endigt kurz unterhalb dieser Stelle in einer flachen Vertiefung, ergiesst sich also nicht in das Wadi el Charâne. Während die Kamele getränkt wurden, besuchte ich die Ruine, die 880 Schritt N W von der Meschâsch liegt. Es ist ein quadratischer Bau von 29 Schritt Durchmesser aus grossen Kalsteinblöcken mit je 3 Zimmern an den Seiten, die sich nach dem jetzt verschütteten Innenhofe öffneten; die Thür liegt an der Süd- (der dem Wadi zugewandten) Seite. Von Inschriften oder Ornamenten war nichts zu bemerken. Von

hier war die Thurmruiue in 0 20° S, Charâne in S 56° O sichtbar; Muoggar konnte ich wegen des Flimmerns der Luft nicht mehr erkennen.

Die Ruine liegt in einem von dem Wadi gebildeten rechten Winkel, in dessen Scheitel zwei Quermauern unter stumpfem Winkel zusammenstossen, eine N 20° O, die andere W 20° S, offenbar mit der Bestimmung das Wasser des Wadi aufzustauen; in dem Bett selbst war die Mauer zerstört. Das Wadi hat an dieser Stelle steile Wände und etwa zwei Meter Tiefe. Etwa 50 Schritt oberhalb dieser Stelle wendet sich das Wadi wieder unter rechtem Winkel nach W und ist nach weiteren 200 Schritt oberhalb abermals von einer 1 m. dicken und ca. 100 m. langen Quermauer in grader Linie durchshitten, die an beiden Enden Flügelmauern nach W entsendet, anscheinend um das autgestaute Wasser am Austliessen in die Ebene zu verhindern. Unfern vom Nordende befindet sich ein gemauertes rechteckiges

Bassin von 22 Schritt Länge (O-W) und 8 Schritt Breite, das nach innen eingebrochen ist, anscheinend unter dem Druck des Regenwassers, das von einer Hügelreihe dicht nördlich hiervon herunterkam. Um das Bassin herum, namenlich an der West- und Osteseite, befinden sich Beduinengräber, mit Steinen und Säulenresten gekennzeichnet, die aus der Ruine stammen. Als Name der Ruine gaben die Beduinen nur el Gesêr an; es ist wohl möglich, dass ein wirkliches nomen proprium dafür existirt.

Die Anlage ist offenbar römischen Ursprungs wie das östlich von ʿAmra gelegene ʿAuênid, und hatte wie dieses die Bestimmung, die grosse von Azraq über ʿAmra und Muoggar nach ʿAmman führende Strasse zu sichern."

"Ausflüge in der Arabia Petraea", *Mélanges de la Faculté Orientale, Université Saint-Joseph* III, Fasc. I, 1908, p. 425-427.