

THE MOSQUE AT AL-QAṢṬAL: REPORT FROM AL-QAṢṬAL CONSERVATION AND DEVELOPMENT PROJECT, 1999-2000

by
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Introduction

Al-Qaṣṭal is a modern village of approximately 2,500 inhabitants, situated 25 km south of 'Amman, Jordan, on the Desert Highway near the Queen Alia International Airport. The remains of the Umayyad complex, which include a *qaṣr*, mosque, early cemetery, reservoir, two dams, over fifty cisterns and a complex network of irrigation and catchment systems, are situated in the midst of the modern village.

The Umayyad complex at al-Qaṣṭal, including the mosque under discussion in this report, has been well known since it was described in detail by Brünnow and Domaszewski in 1897-1898. An earlier British traveler, H.B. Tristram, thought the mosque at al-Qaṣṭal was a Greek temple (Tristram 1873:235). Brünnow and Domaszewski understood the complex as a Roman camp – a *castellum* and *praetorium* (1905:95-103), but it has been generally consented to date to the Umayyad period since the work of Jean Sauvaget (1939:18-20), who argued that the building previously interpreted as a temple or *praetorium* was actually a mosque. Since Brünnow and Domaszewski's detailed documentation of the site, the mosque has been studied in the field by Heinz Gaube (1977:52-86), Patricia Carlier and Frederic Morin (1987:104-39; 1984:343-383; 1992:187-206; *et al.*),¹ and

currently under the aegis of al-Qaṣṭal Conservation and Development Project (QCDP).² As we shall see, it is now clear that between Tristram's description, published in 1873 and the present time, the mosque at al-Qaṣṭal has been largely destroyed, rebuilt, and modified several times. Our task has been to determine the various phases of use and reuse, including especially a determination of what Umayyad remains still exist.

Restoration of the site has long been neglected for a variety of reasons. Most salient is the fact that nearly a third of *al-qaṣr*, as well as much of the mosque courtyard, were bulldozed in 1984 by Shibli Khalid al-Fayez. The latter then constructed a garden and *dīwān* on top of the razed area, and converted the huge central cistern into a cess-pool. Shortly thereafter, debris from a frontage road paralleling the Desert Highway was dumped in front of and on top of *al-qaṣr*. The interventions most directly affecting the mosque were the bulldozing of the courtyard and the construction of a street through the center of the site, between the mosque (north of the road) and *al-qaṣr* and *ad-dīwān* (south). In the process of road construction, several Ottoman period rooms (the so-called "shops" visible in Fig.1) were backfilled, and the road now covers the area where we suspect the Umayyad period *qibla* to have

1. Other articles (e.g., Bacharach 1996; Bujard 1997) mention al-Qaṣṭal or even, as with Stern (1946), discuss it at some length; but these articles reflect unfamiliarity with the fieldwork (Bacharach), or rely on earlier fieldwork for their conclusions: Stern (1946: 80) uses Brünnow and Domaszewski's work; Bujard (1997: 356) uses Carlier.

2. Al-Qaṣṭal Conservation and Development Project

(QCDP) is a Jordanian NGO working under the aegis of the Ministry of Culture, Jordan, and with the permission and considerable support of the Department of Antiquities of Jordan (DAJ). QCDP combines research with community development, water development, land-use planning and tourism development.



1. View of mosque from southwest (DAJ archives/ late 1960s), before the expansion of *dīwān* Shibli al-Fayez. Note the two arched doorways in the extreme lower right foreground: referred to as “shops” by al-Qaṣṭal locals. Dates for Figs. 1 and 4-6 are determined by the presence or absence of the orchard barely visible in the upper left corner of Fig. 1, and clearly visible in the background of Fig. 6.

stood. It is doubtful that anything remains of *al-qibla* or, of course, *al-miḥrāb*.

The scholarly community has long suspected, however, that the minaret on the mosque at al-Qaṣṭal is very early indeed. Sauvaget, Stern (1946:81), Gaube, and Carlier all note the importance of the solid and handsome, cylindrical structure with its elegant spiral staircase and fluted columns. It is our intention to reconsolidate the minaret as far as possible and, perhaps, to attempt some reconstruction based on the old photographs.³

Methodology

The excavation of the site has of course been facilitated by the sondages conducted by Carlier’s team in the 1980s. As noted above, however, the site is extremely disturbed, rendering stratigraphy almost meaningless. There are relatively few small remains; though the local community harbours a wealth of coins, pottery, and carved stone, few remember where they were found. One is left with structural remains as the primary body of evidence. Our approach has been to analyse the construction of foundations and

3. A complete discussion of the conservation philosophy guiding the restoration can be found in Addison (1999), “The Conservation of an Historic Minaret: Sustainable Development and Cultural

Heritage Conservation at al-Qaṣṭal, Jordan,” in *Proceedings of the Third International Conference and Restoration of Historical Artifacts and Architectural Decoration*. RCCCR, Tehran (in press).

walls, paying particular attention to mortars. After the first eight months of work (June 1998 - February 1999), a collection of mortar samples was submitted for laboratory analysis.⁴ Efforts have been concentrated on (a) reconstructing the sequence of building phases represented in the mosque; (b) determining to which phase *al-miḥrāb*, *al-qibla* wall and the minaret belong. Conclusions thus far regarding *al-miḥrāb* and the minaret are based on archival research combined with evidence from the walls, foundations and mortars.

In view of the disturbed nature of the site, archival research has been especially necessary as a supplement to excavation. It is possible to construct a sequence of drawings and photographs of *al-qibla* wall and the minaret, dating from 1873 to the present. These photographs are drawn not only from the published articles, but from the Department of Antiquities (DAJ) archives and local sources. The latter have been discussed with elderly and middle-aged local residents, who have helped to elucidate the pictures themselves. Conclusions as to the sequence of building phases depends heavily on this archival evidence.

Al-Qibla Wall

Physical Evidence. As dramatic claims were made for the dating of the complex based on the shape of *al-miḥrāb* and orientation of *al-qibla* wall (Carlier 1987:115-6; Carlier and Morin 1985:5; 1992:200), the first probes were conducted with the aim of ascertaining the integrity of these parts of the mosque structure. Frederic Morin's drawing of the mosque plan (Carlier and Morin 1992: 199) indicates an earlier *qibla* wall some 2m south of the present structure.

This wall was supposed to contain a square *miḥrāb* from the Umayyad period, thus suggesting that the complex dated to the rule of 'Abd al-Malik ibn Marwan, AD 685-705 (Carlier 1987:121; Carlier and Morin 1985:5; 1992:206). Probe A yielded no trace of the earlier wall, and revealed that the current wall sits directly on bedrock, without the benefit of foundation.⁵ Probe B was then directed at the area where the square *miḥrāb* should appear. There is, indeed, a squared extension, apparently a *miḥrāb*. Again, however, it sits directly on bedrock or virgin soil. It is poorly constructed of reused, cut stone blocks, and the mortars, where they exist at all, are mismatched and substantially different from those in the walls and foundations of the extant Umayyad period walls of *al-qaṣr* or the minaret (see Mortars, below).

Foundations. The Umayyad foundations at al-Qaṣṭal are sophisticated, consistent, and extremely durable. Exterior walls are founded on a course of roughly squared stones (ca. 0.70 x 0.70 x 1.80m) embedded in some 10-15cm of coarse rubble and mortar foundation, which in turn rests on a thick layer of rolled red clay -varying from 20-80 cm to form the level bed of the foundation. The interior floors are entirely mosaic, whose tesserae vary from 0.5 to 3cm². The mosaic floors are founded on 16-18cm of foundation: an 8cm layer of mortar and large stones (5-6cm in diameter), topped by a 4cm layer of mortar and smaller (3cm) stones. Overlying this is third layer (up to 2cm) of coarse plaster, and then a fourth layer (2cm) of very fine, hard plaster mixed with tesserae waste. The mosaic is then installed as a fifth layer. The mosaic floors at al-Qaṣṭal are all fitted precisely to their enclosures—a triple border

4. The results of these analyses can be found in detail in *The Mosque at Al-Qaṣṭal al-Balqa': Second Season Report, May 1999-2000*, Tables 1-2, filed in the archives of the Department of Antiquities, Jordan.

5. A puzzle is posed by this situation: in a photo from the DAJ archives, reproduced here in Fig.1, a row of "shops" is visible beneath the mosque structure -and so, apparently, *beneath* the "bedrock."

defines the outer edges of each room—even the pools surrounding well-openings are so paved, with the triple border surrounding the well-collar and lining the pool walls. It is extremely doubtful that the *mihrāb* and *qibla* wall of the mosque of such a complex would be constructed on bare soil or bedrock, unfloored.

Walls. The remaining original walls of *al-qaṣr* still stand to the second story on the south and east, and part of the west wings. Only in the areas bulldozed in the 1970s and in 1984 have they fallen. Many intervening walls and vaults have been constructed within *al-qaṣr* over the centuries, but the original interior walls largely stand as their supports. The large blocks (measuring up to 0.75 x 3.80m in some places), are ashlar cut and fit extremely precisely, and all walls, interior and exterior, are constructed in the same fashion. Most of the blocks are dressed on five sides, with an interior, undressed surface. A course is made of two rows of such blocks, dressed face out, with the interior cavity filled with a fired lime and ash mortar mixed with rubble. Every fourth or fifth block is a “stretcher,” narrow on its dressed face, but bulging out to fill the interior cavity and extend through the rubble fill as a support. Capping every two or three courses is a course of flat, solid stones resembling the foundation course described above, but dressed on the outer faces.

Walls reconstructed in later periods either omit the stretchers or mimic them, and the interior fill—where there are double-faced, filled walls at all—is merely stone rubble, without mortar. The present *qibla* wall of the mosque resembles these reconstructed walls. The *mihrāb* set in this wall, in addition to the fact that it (like the wall) is without foundations of any kind, is constructed of loosely assembled blocks, not cut to fit one another, with one course dressed only on the exterior, without a facing course or interior fill. There is a single remaining

course, nested inside the square outer course, suggesting a semicircular niche. This semicircular course is extremely soft limestone, fragile and easily worn. It has been found in only one other place at al-Qaṣṭal: as the interior fill of the elaborately panelled walls at the new West Birkah Site, suspected to be baths. Thus we might suggest that this soft, chalky material was once the fill for the original *mihrāb*, or for a sheltered, interior wall of the original mosque structure. Today, however, this soft limestone is merely set on soil or bedrock, without foundation. On the basis of these observations one is forced to conclude that *al-mihrāb* and *al-qibla* wall are reconstructions, and do not date to the Umayyad period. As we shall see, these conclusions are clearly reinforced by mortar analysis and archival evidence.

Mortars. After many months of work it was possible to discern patterns in the use of various mortars (such as those in the foundations, described above). Present throughout *al-qaṣr* and in some of the mosque walls is a characteristic fine, gray mortar speckled with white lime and carbonized plant matter. It immediately became clear that walls assumed by their construction to be Umayyad all shared this mortar. Later walls and additions used adobe and/or mud as mortar. The walls and mortars at the reservoir northwest of the mosque were investigated, and these match the mosque and *al-qaṣr* mortars as well. All are visually similar to each other and, in turn, similar to the mortars from the dam east of the site. As work proceeded, however, subtle variations were noticeable—some mortars are whiter and finer-grained (e.g., those from the reservoir), whereas others are coarser and darker, with coarser specks or even chunks of carbonized plant matter (e.g., QQ-1, below). While the “visual match” between many of these mortars is striking, it also began to seem necessary to determine a less impressionistic means of “matching” the mortars in various structures.

We therefore undertook to analyze chemically eleven mortar samples from a variety of locations.

Each sample was taken from beneath the immediate surface of the wall in question, in an effort to avoid contamination as far as possible. Still, of course, it must be considered that many of these mortars may have been more or less exposed to weather for nearly 1,300 years. Twelve samples were submitted with a blind code to the Natural Resources Authority,⁶ who donated their time and resources most graciously. The results of the analysis are summarized below (and see n.3). Samples beginning with the code "QQ" were taken from *al-qaṣr*. Samples beginning with "QB" and "QD" were taken from the interior fills at the reservoir and dam, respectively. "QM" indicates samples from the mosque walls, minaret, and *miḥrāb*. The sample coded "WUD" was taken from the interior fill of a dam some 16 km south of al-Qaṣṭal, near West Uraynabah.

The samples with significant variations were QQ1, QB2, QD1 and QM2:

- * The only significant variation in QD1 matched a variation in QB1: high SiO₂ content. These were also the only two samples with a high variation in this line, and they were both water features (dam and reservoir). What is intriguing is that WUD1 did not exhibit this variation: it was consistent with all the other Umayyad mortars sampled.
- * QB2 exhibited the highest number of significant variations. This sample was taken from deep within the reservoir, a meter from the floor, from the plaster which makes the rubble and mortar lining of the reservoir adhere to the limestone south wall of the reservoir itself. QB2 is the

only sample which exhibited a significant variation in MgO content (a high variation). It is also the only sample which exhibited a significant low variation in CaO content.

- * QQ1 and QM2 exhibited nearly the same significant variations: high CaO content and low SiO₂ content, and they were the only samples which exhibited these variations. QQ1, however, was the only sample with a significant variation in carbon content, which would be immediately visible even to the casual observer. QQ1 was taken from the fill between a wall and the curve of an adjacent vaulted room. QM2 was a mortar taken from rectangular exterior course of *al-miḥrāb* where it joins *al-qibla* wall.

This exercise has functioned first as a cautionary tale. What is not apparent from the chemical analysis is that QQ1 is a mortar binding very large chunks of "rubble"—up to 45cm in diameter. It is speckled almost as conspicuously with chunks of white lime as it is visibly littered with charcoal-like chunks of carbonised matter. It is a coarse fill for a large space between a wall and the outer curve of an adjacent vaulted room. QM2 is a very fine-textured, almost brittle, white mortar "pasted" onto the outside of the area which joins *al-miḥrāb* to *al-qibla* wall. Thus, though QQ1 exhibits a marked visual contrast to QM2, the chemical similarities are striking. Samples QB2 and QM2, on the other hand, appear visually similar in color and texture — brittle, white, and fine; they exhibit rather marked chemical variations. The moral of the tale is that neither visual similarity nor chemical analysis can be relied on absolutely — though in general the visual appearance (contrast or similarity) is borne out in the analyses.

6. Analysis by Dr. Salem Musleh, Eng. Suzan Sawaged, Eng. Fathieh Qaimari of the Natural Resources

Authority, Amman.

It is, however, interesting that samples from the minaret (QM4), west wall (QM1) and from the exterior of a block in the bottom course of *al-mihrāb* do “match,” and in turn match most of the other samples. The remaining sample from *al-mihrāb* (QM2) matches no other sample: though it looks like QB1, it is markedly different in chemical composition; though it is chemically similar to QQ1, it is profoundly different in appearance and use. Thus it seems safe to say that the mortar used at the join of *al-mihrāb* to *al-qibla* wall points to a period of construction significantly different from both the Umayyad complex as a whole, and from *al-qibla* wall specifically.

Archival Research. Archival research only further supports these conclusions. By comparing a series of descriptions, drawings and photographs (see Figs. 2-10) it is possible to trace at least the recent history of the mosque, and make some reasonable assumptions about the original structure.

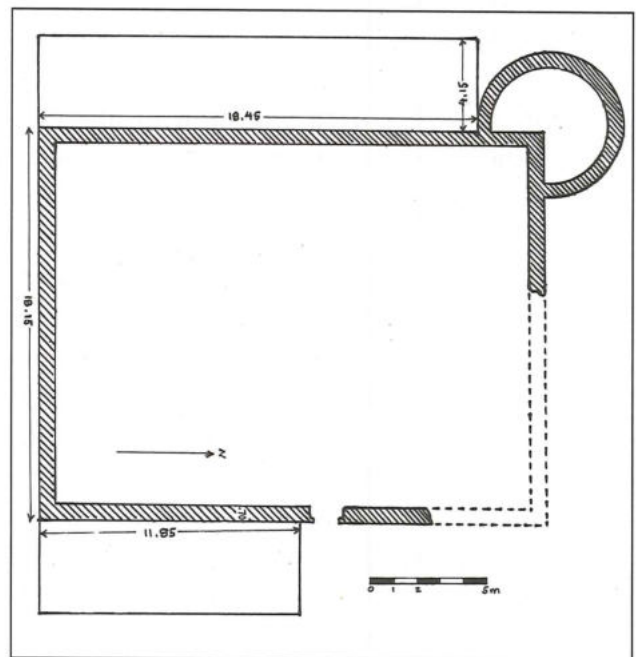
The earliest known depiction of al-Qaṣṭal is H.B. Tristram’s (1873), detailing the minaret and west wall of the mosque. This drawing is accompanied by the following description:

There is an ordinary mass of ruins, caves, walls, and arches innumerable, extending over the west side of the hill; but those on the eastern side are evidently later accretions on a much earlier and more carefully built castle; or rather on two castles, of which the northernmost and smaller is by far the most perfect. It measures thirty yards by twenty (approximately 18 x 27m), and has a large semi-circular bastion at the north-west corner, surmounted by a balustrade of fluted Corinthian squared pilasters, and an inner staircase leading up to it, still remaining. Inside its south wall is a semicircular niche; and two capitals of pure white

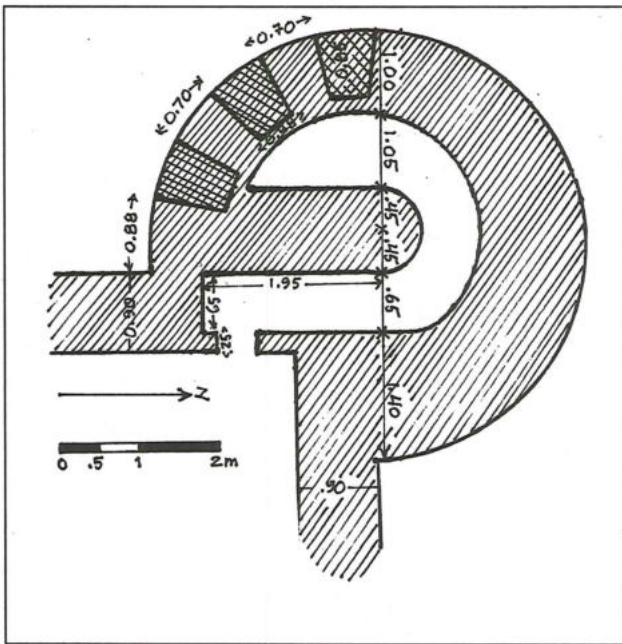
marble are lying in the court-yard. This area is partially filled in with crypts of coarser and evidently later masonry... (Tristram 1873:233-4 - italics are by the authar).

The “northernmost and smaller,” more “perfect” structure is obviously the mosque, and the “semicircular niche” in its south wall is certainly *al-mihrāb*. This description is interesting most immediately because in its present condition the mosque is a grim and clumsy structure by any estimation, and particularly so in comparison to the grand and often graceful *qaṣr*. Tristram’s photo shows four of the “fluted pilasters” remaining in place atop the grooved cornice that defines the minaret’s balustrade. The reference to “crypts” (plural) in the courtyard is also intriguing.

The next documentation of the mosque is Brünnow and Domaszewski’s, from 1897-98 (Figs. 2-3). Their work affords us three photographs and two drawings of the structure. Along with a description of the minaret that matches closely that of Tristram, they comment that “Das Innere ist gänzlich



2. Plan of Mosque after Brünnow and Domaszewski, 1897.



3. Plan of Minaret after Brunnow and Domaszewski, 1897.

zerstört”⁷—apparently Tristram’s “crypts” have collapsed. From the photographs it is clear that *al-qibla* wall is almost entirely tumbled (Brünnow and Domaszewski Fig.682), that only three pilasters remain standing on the “balustrade” (Brünnow and Domaszewski Fig.683), but at least four lie below in the tumble from the minaret (Brünnow and Domaszewski Fig.684). Their Fig.681 gives us an excellent rendering of the minaret described both here and in Tristram (see Fig.3). The plan of the mosque enclosure reveals its dimensions to be roughly 18.5 x 21m.⁸ In contrast to their otherwise detailed plans, Brünnow and Domaszewski’s drawing of the mosque shows an empty enclosure (see Fig.2). There is no “semicircular niche” indicated in the south wall. It appears that the mosque described by Tristram, with its concave *mihṛāb*, was “entirely destroyed” between 1873 and 1897—but a new *al-qibla* wall of some kind

must have been defined some six meters north of the one described by Tristram—i.e., roughly where the existing *al-qibla* wall stands today.

Jean Sauvaget (1939) provides no photographs or plans, but comments that “il existe a proximite immediate du chateau un petit batiment fort ruine...” He also notes, however, that “on en a vu le mihrab en place au milieu du mur Sud” (Sauvaget 1939:19). This information suggests that the mosque may have been again rebuilt—at least to some extent—between 1897 and 1939. Photographs from the archives of the Department of Antiquities confirm this conjecture (Figs. 4-6). In one series, from the late 1960s, *al-qibla* wall is tumbled, and there appear to be only tumbled ruins within the mosque enclosure (Figs.4-5). The next series, from the early 1970s shows a rebuilt *al-qibla* wall and a new structure (Figs.1 and 6)—which appears to be the structure that exists today.

The work of H. Gaube (Fig.7), from 1977, documents essentially the same structure shown in Figure 6. He adds to the earlier plans the structures attached to the north



4. Southeast corner of mosque enclosure (DAJ archives, 1960s). If there is a structure inside the enclosure it appears to be in serious disrepair.

7. Brünnow and Domaszewski 1905:100. Photographs (Fig. 682-4) are found on p. 101-2; a plan of the minaret, reproduced here as Fig.3, appears on p.100; a plan of the mosque enclosure, reproduced here as Fig.2, is found as item [3] in Tafel XLIV, between pp. 96-7. In the present text their figures are preceded by “Brunnow and Do-

maszewski” to distinguish them from ours.
8. Brünnow and Domaszewski: Tafel XLIV:3; unless otherwise noted, measurements noted here run from the north end of the west wall, where it joins the wall of the minaret, to the southwest corner of the mosque enclosure, on the outside.



5. Southwest corner of mosque (DAJ archives, 1960s). Again, where the southwest corner of the enclosure walls has collapsed, only earth is visible inside.

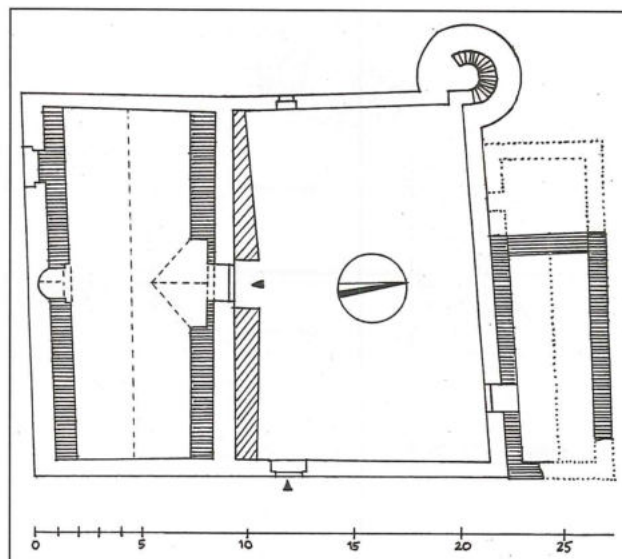


6. Southwest corner of mosque (DAJ archives, 1970s). Here *al-qibla* wall has been repaired, and the roof of the building present today is clearly visible.

wall. Gaube asserts that there are three building-phases evident in the mosque:

Stufe 1 is gleichzeitung mit dem Palast, Stufe 2 läßt sich aufgrund der Bautechnik und gefundener Keramik in das 12.-13. Jh. datieren, Stufe 3 gehört in die zweite Hälfte des 19. Jh.s, wohl in die Zeit des Sultans 'Abdulhamid II. (1876-1909), wie die spätesten Einbauten in den Palast, worauf die dort verwendeten Tür- und Fenster-formen weisen (Gaube 1977:71).

Finally, however, Gaube does not explicate satisfactorily the "building techniques" that point to the Mameluke period, and the ceramics so ubiquitous at al-Qaṣṭal



7. Plan of Mosque after H. Gaube, 1977. This is in contrast to Tristram's description of the courtyard "partially filled with crypts," and the plan by Brünnow and Domaszewski (Fig.2), where no walls or structures are indicated within the enclosure walls. In contrast to Brünnow and Domaszewski, no "platforms" are indicated on the east and west exteriors (see Figs. 1, 5, 6), though at least the western one still existed; on the north, however, Gaube indicates the remains of two rooms which do not appear on the Brünnow and Domaszewski plan.

and so often called "Mameluke" are indeterminate—they have been found to date anywhere between the thirteen and seventeen centuries (Abu-Shmais 2000:1). As for the Ottoman-style door and window treatments referred to, these are evident enough in *al-qaṣr*, but not in the mosque. Gaube goes on to suggest that:

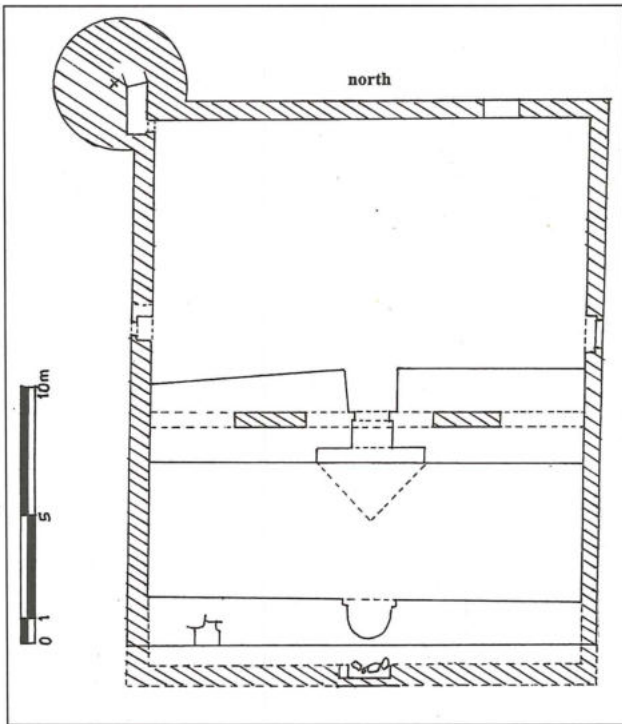
...die Süd- und West-Umfassungsmauern noch fast völlig erhalten sind und auch die Partien um die Tür zum Hof aus ursprünglichem Mauerwerk bestehen... (Gaube 1977:72).

As we have seen, based on photographs of the structure, this cannot be the case. His measurements of the enclosure again reveal dimensions of approximately 18 x 22m.

Patricia Carlier and Frederic Morin seem to accept that *al-qibla* wall is a later rebuild, but date *al-mihrāb*, which is so integrally connected to it, to the Umayyad period, despite the objections noted above. It is un-

clear what led them to postulate that *al-qibla* wall was 1.60m south of the existing one (Fig.8; Carlier and Morin 1987:129). The 1987 plan gives the present measurements of the mosque at approximately 19.75 x 18.5m; with the hypothetical earlier *qibla* wall 1.60m to the south.⁹

To summarize, then, it appears from the written descriptions that the mosque originally measured approximately 18 x 27m. It seems safe to assume that the structure Tri-



8. Plan of Mosque after Frederic Morin, 1987. Morin's plan depicts nearly the same structure as Gaube's (Fig. 7), though some of the measurements differ and the interpretations of the north wall of the prayer hall disagree. Morin indicates neither the eastern and western exterior platforms (though the latter still existed), nor the north exterior additions, remains of which still exist at the time of writing. Carlier and Morin postulate an original wall in which the rectangular *mihrāb* is supposed to have been embedded, though QCDP's Probe A (Fig. 9) revealed no trace of such a wall. QCDP's investigation supports Gaube's interpretation of *al-qibla* over Morin's.

9. In another plan the west wall (from the join between minaret's south exterior and the west wall exterior to the southwest corner of the rebuilt wall) appears 20m in length, with the hypothesized wall some 1.40m further south (Carlier and Morin, 1992:199). Elsewhere Carlier cites the length of

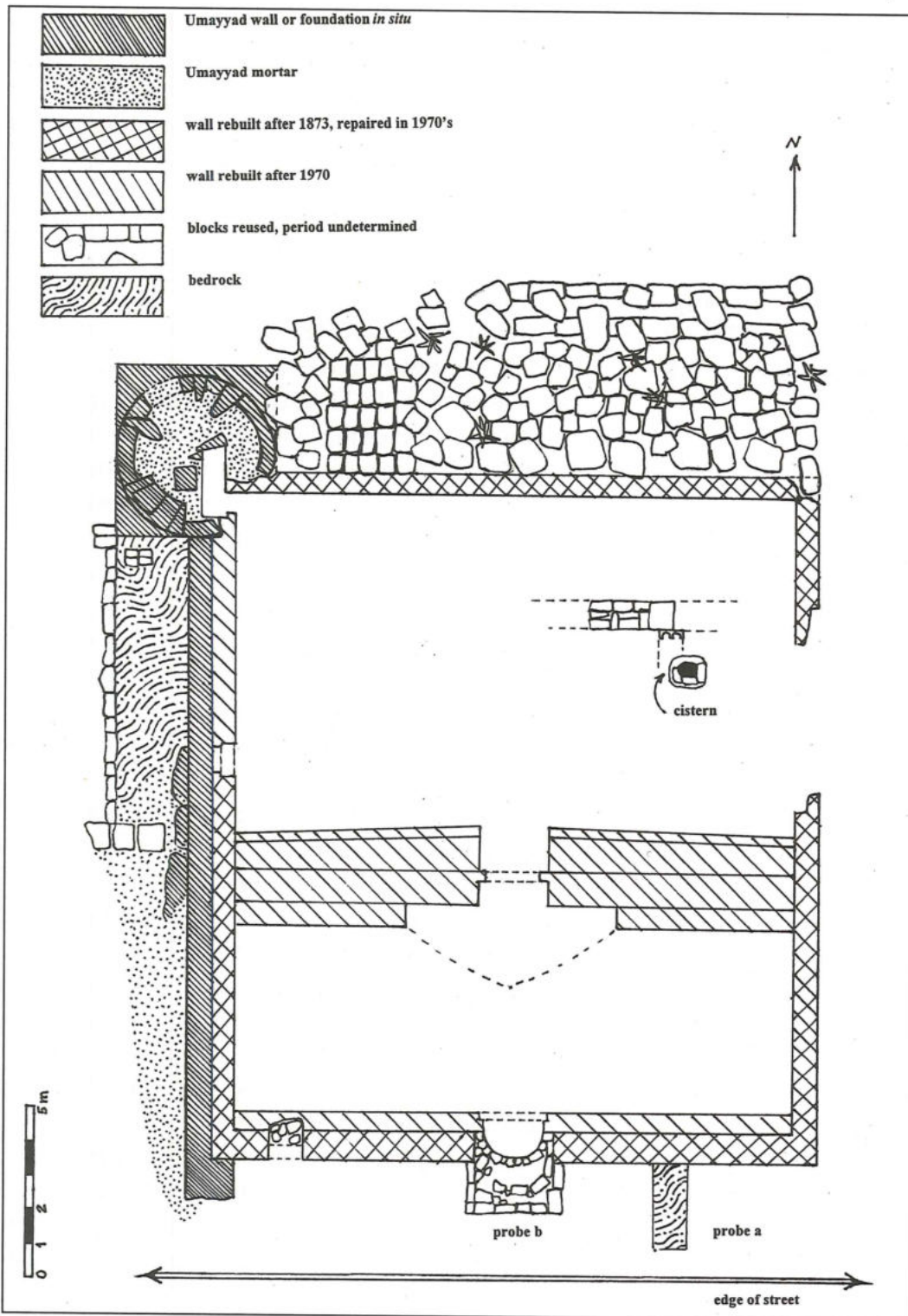
stram describes was the original one, unless one is willing to postulate that the mosque was considerably improved between the Umayyad period and 1873—a suggestion which seems unlikely for two reasons: (a) nothing else in the area seems to have been refurbished; (b) the “temple” described by Tristram sounds much more like early Islamic decor than Mamluke or Ottoman. Sometime before 1873 cruder structures (the “crypts”) were constructed in the courtyard.

Between 1873 and 1897 the crypts and mosque, including almost the entire *al-qibla* wall (and therefore *al-mihrāb*) collapsed, and a new south wall of some kind was constructed approximately 6m north of the original one. It, too, later collapsed. Based on Sauvaget's description we have to assume that there was a *mihrāb* in that new south wall when Brünnow and Domaszewski saw it, but the latter didn't recognize it, because they weren't looking for an Islamic structure. In the late 1960s or early 1970s *al-qibla* wall, the west wall and prayer hall were rebuilt, though evidently not with scholarly intent. It seems likely that the “square *mihrāb*” and interior semicircular course reported by Carlier must remain from the first period of transition, between 1873 and 1897. The interior *mihrāb* in place today in the prayer hall dates from the most recent reconstruction in the 1960s or 70s, and is indicated in Gaube's plan of 1977. Gaube's plan correlates well with the structure in place today, though he is unaware of Carlier's square *mihrāb* or the lower section of the west wall uncovered by QCDP (Fig.9).

The West Wall and the Minaret

Our excavation of the west wall of the

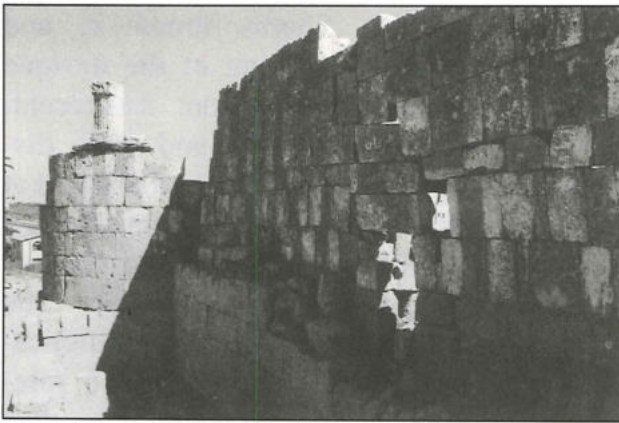
al-qibla wall at 17.95m, and the total length of the west wall at 22.75m. (Carlier 1987:115). The varying measurements on the different plans in each of Carlier's works make it difficult to use their plans as a basis for argument.



9. Plan of Mosque/ E. Addison for QCDP, May 2000.

mosque further confirms these assumptions. Visible in all photographs and drawings of the mosque is a stone platform extending 3+ meters west of the mosque enclosure (Figs. 1, 5 and 6). Initially—and in Gaube and Carlier’s work—this was assumed to be “ground level” for the original mosque. In an effort to determine the nature of the foundations of

both the west wall and the minaret, this platform was removed in the summer of 1999. 70cm below the apparent bottom course of the present west wall was found the remains of an earlier wall, jutting 60cm west of the current west wall, previously assumed to be the original (Fig.10). The foundations under this newly discovered wall match in every



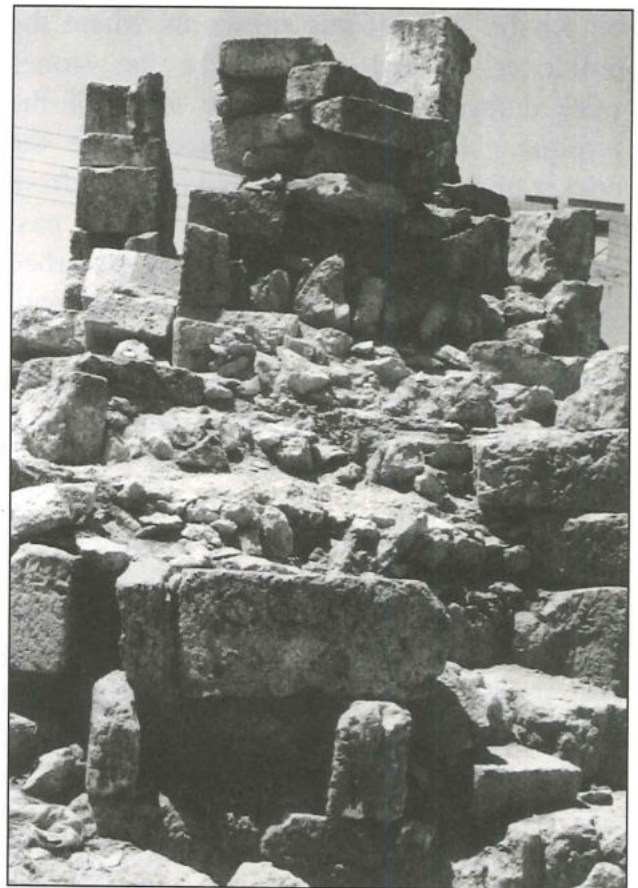
10. West wall and minaret (QCDP, November 1999). The upper and lower sections of the wall are visible. The doorway shown here is not visible in Figs. 1 and 5, but it is indicated in Gaube's plan from 1977 and Morin's from 1987.

sense the foundation of *al-qaṣr*. The wall construction is precisely that of the Umayyad remains of *al-qaṣr*, though the walls are slimmer (1.20m thick), as befits the smaller structure. The ashlar construction intersects the minaret with admirable integrity and the foundations of the minaret are also consonant with those of *al-qaṣr* and the west wall.

The lower section of the wall runs 19.35m south from the minaret before ending abruptly with an undressed stretcher. The southwest corner of the upper wall—and therefore also the rebuilt *al-qibla* wall—is based on this lower wall, but the former is clearly a secondary rebuild. Between the upper and lower sections of the wall is 30-70 cm of dirt fill—no mortar, no stone. In Figure 1 it is possible to see that the current west doorway was absent in the (DAJ) photographs from the 1970s—though it appears in a photograph in Gaube's 1977 article (Tafel 8). It seems clear that the upper section of the west wall is very recent indeed. It is also the case that the upper section presently differs by 25cm from the measurements given by Brünnow and Domaszewski (see Fig.3). The lower half of the wall once extended into the area where there is now a paved street.

The integrity of the west wall foundations, the foundation block for the minaret,

and the minaret itself, however, are striking. The mosque was built on a slope, probably to give height and presence to the minaret, which would have been viewed, coming from the north or east, from below. It is still apparent that the interior staircase extended higher than the extant top platform—and probably higher than the fluted pilasters (Fig.11). A probe inside the courtyard confirmed that the inside (east face) of the lower section of the west wall is flush with the inside of the upper section. The upper section of the wall—as with all traces of earlier walls at the mosque—is 0.65m in width, in contrast to the 1.20m width of the lower section. As noted above, however, Brünnow and Domaszewski—whose measurements of the



11. Minaret viewed from the north (QCDP, June 1999).

The top three steps of the interior spiral staircase are visible, with the last remaining fluted pilaster in place in the background. The top step was approximately 45cm below the top of the pilaster, but no platform or other support, such as those found elsewhere, indicates that the stairway ended at this height.

minaret remains are amazingly precise—give the wall measurements as 0.90m. It is possible that the lower half was built wider to support the weight of the upper wall and particularly to buttress the massive foundations which would have been necessary to level the interior courtyard.¹⁰ And, as we have seen, the mortar samples from the interior fill of the minaret match those of the Umayyad remains elsewhere. It thus seems safe to suggest that the lower section of the west wall, the minaret, and their foundations are Umayyad remains.

The Interior Courtyard

The mosque's interior courtyard has been bulldozed more than once since 1984. Shibli Khalid himself has shown us where the bulldozer entered, and where the stones were dumped on the hillside north of the mosque. It is possible to see where the bucket of the bulldozer pushed remains from the minaret doorway into the stairway passage. It is probably the extremely disturbed nature of this area that accounts for the paucity of pottery or other remains. Still, in addition to the cistern and clues to the original doorway of the minaret, it is possible that some pavement remains still exist.

The Cistern. In the fall of 1999, a probe was conducted to locate the cistern said to exist in the northeast quadrant of the courtyard.¹¹ The cistern is indeed present, and was probably a natural cave enlarged and lined. There remains no trace of its original collar. The present opening of the cistern is cut roughly into an earlier pavement, and bordered by three blocks clearly reused from another location. This arrangement does not resemble the orderly openings and collars of

Umayyad period cisterns found in and around *al-qaṣr*. The lining of the mosque cistern supports this conclusion: it is recent, in almost perfect condition, and again dissimilar to the linings of Umayyad cisterns at al-Qaṣṭal and elsewhere. Local sources say that this and several other of the cisterns were in use to store water until 1968. The presence of this cistern has several implications: (a) the “shops” visible in the foreground of Figure 1 did not extend more than fifteen meters or so back beneath the mosque; (b) these “shops” may once have been caves, solving the problem posed by the bedrock floor encountered in Probe A. In general, the shape and conformation of the cistern itself resembles others from the Umayyad period, and it seems safe to assume that this one was relined and reused in later periods. If this is the case, it may suggest that the presence of water in the mosque courtyard was thought to be important also in the Umayyad period.

Marble Columns. A column base of pale gray marble was removed from the cistern, and Shibli's household reports that it was dropped in during one of the bulldozing episodes. Two identical marble column-bases flank the main door to *diwān* Shibli, who confirm that they, too, were taken from the courtyard before the bulldozing. At the house of Mamdouh Sultan al-Fayez, on the Mādabā road, are two pale-gray marble column drum sections, which the owner confirms were taken from the mosque courtyard at the same time. Another section of a pale-gray marble column base was incorporated into a wall at the Muhammad Fawwaz al-Fayez house, west of *al-qaṣr*.¹² This fragment was photographed in 1998, but has

10. I am grateful to Dr Ignacio Arce for this suggestion.

11. The primary goal of the work at al-Qaṣṭal during the year 2000 is the investigation of the water systems at al-Qaṣṭal. QCDDP is supported in this research by UNDP's Global Environment Facility (GEF), in cooperation with the Dept. of An-

tiquities of Jordan.

12. At the time of writing, the Islamic Awqaf of Jiza District, under the direction of Tayil Sa'ud al-Fayez, is endeavoring—with notable success—to retrieve and return to the site as many such elements of the mosque as possible. QCDDP gratefully acknowledges their continuing efforts on our behalf.

since disappeared. The top section of another identical column base, converted into a grinding bowl, was found in room 30 of *al-qaṣr*. These elements, combined with the evidence from Tristram's report, suggest that the roof of the mosque was once supported by marble columns. Tristram also remarks that a site northwest of *al-qaṣr*, next to the reservoir, was decorated with "elaborately carved lintels of Corinthian character"—and he describes this decoration as Hellenistic, as he did the mosque (Tristram 1873:235). One capital fitting this description has been retrieved from the new West Birkah Site. Thus we can gain a sense of the elegance which once graced this mosque.

The cistern probe also revealed a section of wall which is clearly a post-Umayyad intervention, since elaborately carved Umayyad stones were used in its construction. The wall section may be part of one of the "crypts" described by Tristram. This wall is set on top of a pavement, though the dating of the pavement remains to be seen. Several of the expected "ingredients" of Umayyad foundations are present: e.g., the rolled red clay layer and a white limestone gravel "base course;" but they are scrambled, and the plaster-like pavement itself is not immediately recognizable from the pavements found at *al-qaṣr*. Further work is necessary before this pavement can be attributed to one of the building phases discussed above.

North and East Walls. It appears that the southernmost of the two walls indicated on the current plan (Fig.9) is probably in the position of the original Umayyad wall, though it has probably been rebuilt—it was not *in situ* in 1897 (see Fig.2). The west end of the north wall forms the right side of the doorframe at the entrance to the minaret

stairway. This doorway and the entrance passage, up to the first stair, are still present. The threshold pavement of the doorway (typical to all doorways in *al-qaṣr* complex), though broken in half, is lodged inside the opening to the passageway. Outside this first wall is another, massive secondary wall, built of reused Umayyad period blocks. There is also a curved "platform" (see Fig.7) resembling both the platform that extended from the west wall, and—because of its curvature—the current facade of the prayer hall itself. Apparently, this extension was constructed after 1897, because it does not appear in Brünnow and Domaszewski's plan.

It is impossible at this time to determine the relationship between the present east wall and the original east wall of the mosque enclosure. Because the east-west measurement of the enclosure has remained consistent from Tristram's report to the present time, it seems likely that the east wall is at least based on the Umayyad foundation. Further work is necessary before this conjecture can be confirmed.

Conclusions

It is beyond the scope of this report to argue the current debate over the precise dating of the complex, though a Marwanid dating (AD 705-750) is without question. Literary evidence suggests a date before AD 723.¹³ Thus the minaret at al-Qaṣṭal is arguably the earliest minaret built as such still standing today. Hence, it is a vitally important clue to the development of architectural conventions in mosque construction, especially the minaret. While there existed "minarets" converted from church and temple towers (e.g., those at the congregational mosque of Damascus), Qaṣṭal's minaret is the earliest minaret *built as such*, i.e., with an interior staircase, presumably for the call

¹³ Given the reference in the *diwān* of Kuthayyir 'Azza, (d. AD 723), and the concave shape of *al-mihrāb*, it seems likely that the mosque and minaret were constructed between AD 708 (when

Walid I is said to have established the concave *mihrāb* as a norm during the construction of the Great Mosque in Medina [Creswell 1969: 388]) and AD 723.

to prayer. It is a commonly known fact that none of the other small mosques of Bilād ash-Shām have minarets. Al-Qastal's minaret, and its emergence at this particular point in the history of Umayyad architecture, should provoke further discussion and reconsideration of patterns of Islamic worship, particularly the call to prayer.

Acknowledgements

We are grateful to Dr Ghazi Bisheh for bringing to our attention, after the body of this article was written, yet another set of photographs which add to our understanding of the prayer-hall structure. The series is

said to date from 1966, but the presence of Humeidi Muhamad al-Fayez' orchards in the backdrop of some of the photos suggest that there are at least two series in this group. All photos discussed in this article (and many more) are available in the "Qastal" box file of the Department of Antiquities of Jordan archives.

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