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The Typology of Roman and Byzantine Forts and Fortresses in Jordan

I. Introduction

Jordan possesses some of the best preserved Roman and Byzantine fortifications anywhere in the Empire. But, until the late 1970s, none had been excavated. Therefore, understanding the typology of these forts was based on a handful which could be dated through *in situ* building inscriptions and comparisons with forts elsewhere. In addition, detailed plans of many forts were often problematic due to reliance solely on surface observations.

Beginning in 1977 with the excavation of the so-called "Barracks" at Umm al-Jimāl, a number of Roman and Byzantine forts has now been excavated. These excavations have dated these forts and elucidated their internal plans. Further, nearly all the unexcavated forts have now been surveyed, providing more dating evidence.

Although this new evidence offers the prospect of developing a typology of Roman and Byzantine forts, some problems remain. Many excavations have been limited to small soundings. In some cases detailed reports of excavation results have yet to be published. Perhaps the biggest obstacle is that the vast majority of excavated forts have proven to be of the Tetrarchy or later (fourth-fifth centuries). Thus knowledge of second and third century forts remains limited.

Nevertheless, evidence accumulated during the past fifteen years from excavation and survey, combined with the previously available epigraphic and architectural evidence and comparative material from other Roman frontiers, now permits the beginnings of a typology of these military structures. In addition, a recent major synthesis of Roman stone fortifications now allows us to place Jordan's Roman forts into a broader imperial context (Lander 1984). And a valuable typology of Roman forts has now appeared in an aerial survey of Rome's desert frontier in the East (Kennedy and Riley 1990). Although it will be clear below that my own typology differs in some significant ways from theirs, I must acknowledge my debt to their efforts in this regard.

In order to present such a typology of fortifications, we will first review the methodology employed. It will be seen that a number of sites can now be confidently dated, while others remain more problematic. Secondly, we will review the relevant evidence and the typology itself will be presented. Finally, some concluding remarks will be offered. This paper will exclude any discussion of city fortifications and watchtowers, both of which deserve detailed treatment but which cannot be offered here. Even the corpus of forts in Jordan cannot be exhaustive in a paper of this length.

II. Methodology

In presenting and analyzing the evidence for Roman and Byzantine fortifications in Jordan, one is immediately faced by three major obstacles. First, the fact remains that most such structures are unexcavated. Therefore, the extant plan is usually only partially complete. At several sites, for example, the curtain wall of the fort survives and may be traced with certainty, but the internal plan may be partially or completely unknown. Second, the extant plan may well reflect several periods of later rebuilding that may be difficult to disentangle. Third, associated building inscriptions from these forts are rare. Therefore, dating the known sites that have neither been excavated nor yielded a building inscription remains problematic. In these cases one is reduced to offering a date based on the visible surface plan and surface pottery, with all the inherent dangers from these categories of evidence. However, surface-sherding has predicted with fair accuracy the occupational history of forts securely dated by inscriptions or later excavated (Parker 1986: 10-12).

Therefore, the typology offered below is based on the following criteria. In a longer version of this paper, some thirty-two sites identified as Roman forts in Jordan were discussed in terms of their overall plan, areal size, location and type of towers, gates, and internal arrangements. This more summary analysis will focus on the best dated examples. Each fort is assigned to one of six categories, based on architectural and chronological evidence.

III. The Typology

Ancient epigraphic and literary evidence reveals the contemporary Roman terminology for the military structures under review here. Only two words seem to have been commonly used for "fort" in Roman Jordan. Inscriptions typically refer to a fort as a *castra* (Greek *kastra*, *kastron*) or a *castellum* (Greek *kastellos*).[1] To the Romans, these two words for fort appear to be interchangeable.

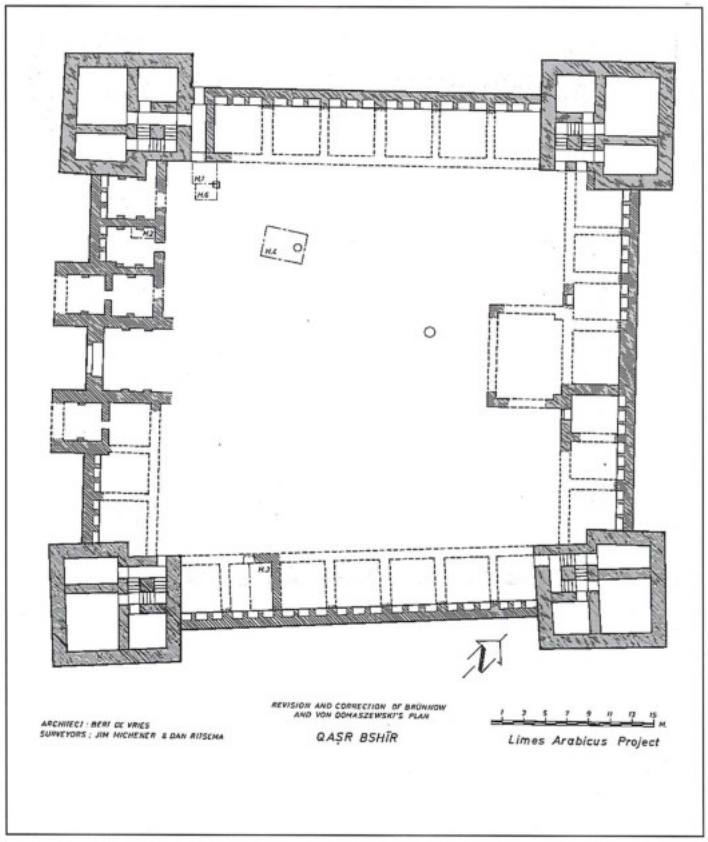
Architecturally, the Roman and Byzantine forts of Jordan may be grouped into six broad categories. These are:

1) *Quadriburgia* (small forts with four projecting corner towers).
2) Forts with external interval and corner towers (further sub-divided into small, medium, and large forts by size).
3) Small forts without external towers.
4) Large forts without external towers.
5) Large forts with rounded corners.
6) Fortresses with U-shaped and semi-circular external towers.

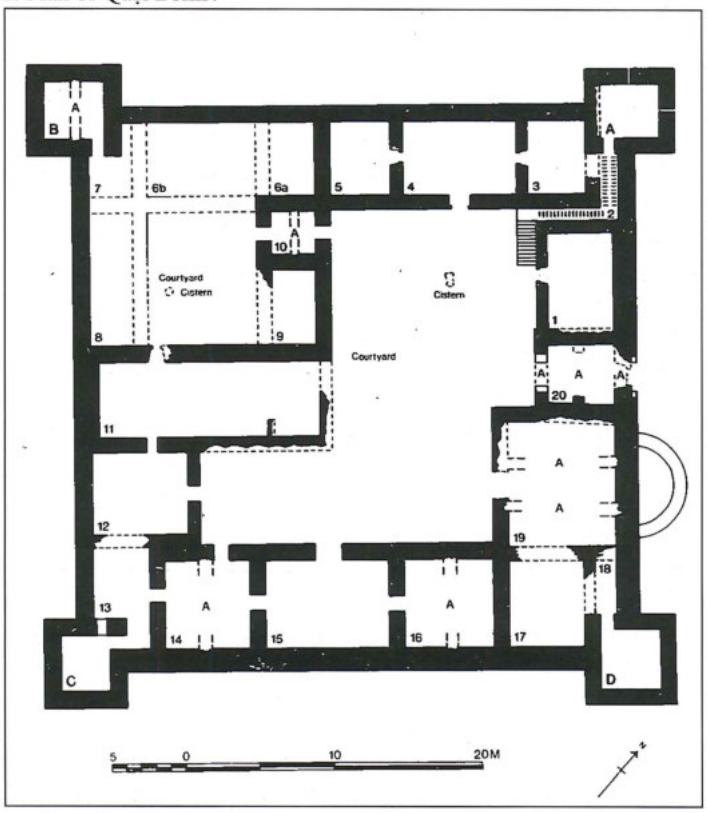
1. Quadriburgia. All these forts share similar features. They are quite small, averaging only c. 40 m² (0.16 ha). They are usually square or nearly square in plan, defended by four projecting rectangular corner towers with few or no interval towers, entered by a single main gate, and contain rooms built against the curtain wall around a central courtyard. This type may be called a *quadriburgium* or "four-towered fort" and are dated to the third and fourth centuries.

The best example is undoubtedly Qaṣr Bshīr (FIG. 1), securely dated to 293-305 by its building inscription. Recent excavations yielded fourth century coins from stratified contexts (Parker 1986: 53-55; Clark 1987; Kennedy and Riley 1990: 176-78). The fort, identified in its inscription as *castra praetorio Mobeni*, is a roughly square trapezoid 0.31 ha in size. Four large towers (12 m²) project from the corners; the towers are three stories in height and contain slit windows. Two smaller projecting towers flank the main gate. The internal plan consists of ranges of rooms in two stories surrounding an internal courtyard. Nearly all the ground floors of these rooms contain three recesses in the back wall interpreted as mangers. Thus these 23 rooms probably were stables. The second story rooms all lack these recesses and thus probably served as barracks for the presumed cavalry garrison. The single anomaly is the room directly opposite the main gate, apparently the *principia* or headquarters.

Other *quadriburgia* include Qaṣr al-Ḥallābāt (FIG. 2), Qaṣr ath-Thuraiya (FIG. 3), al-Quwayra, and Khirbat al-Khāldī (Parker 1986: 30-32, 50-51, 105-09).

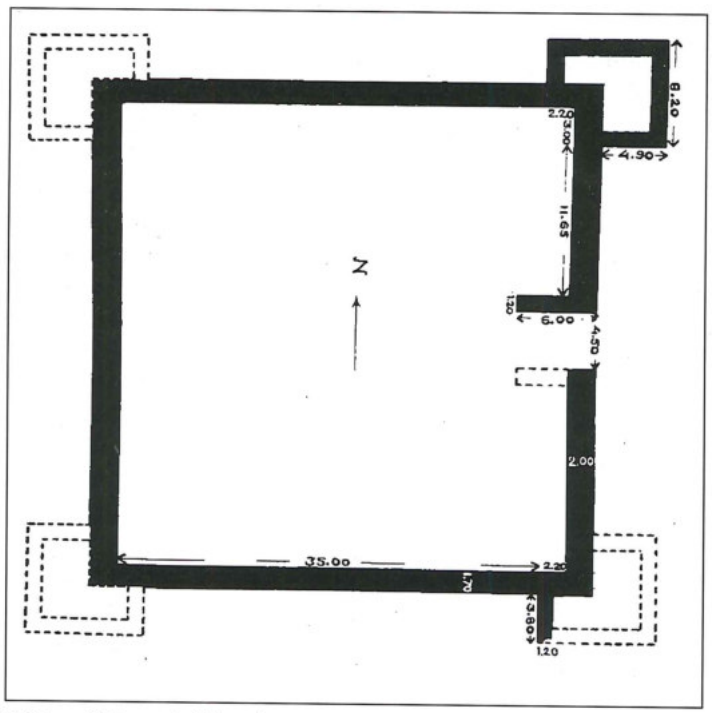


1. Plan of Qaṣr Bshīr.



2. Plan of Qaṣr al-Ḥallābāt.

[1] For Greek and Latin texts of most of these inscriptions, cf. Parker 1986: 17-18, 22, 24, 29, 30-32, 34; Clark 1987: 468.



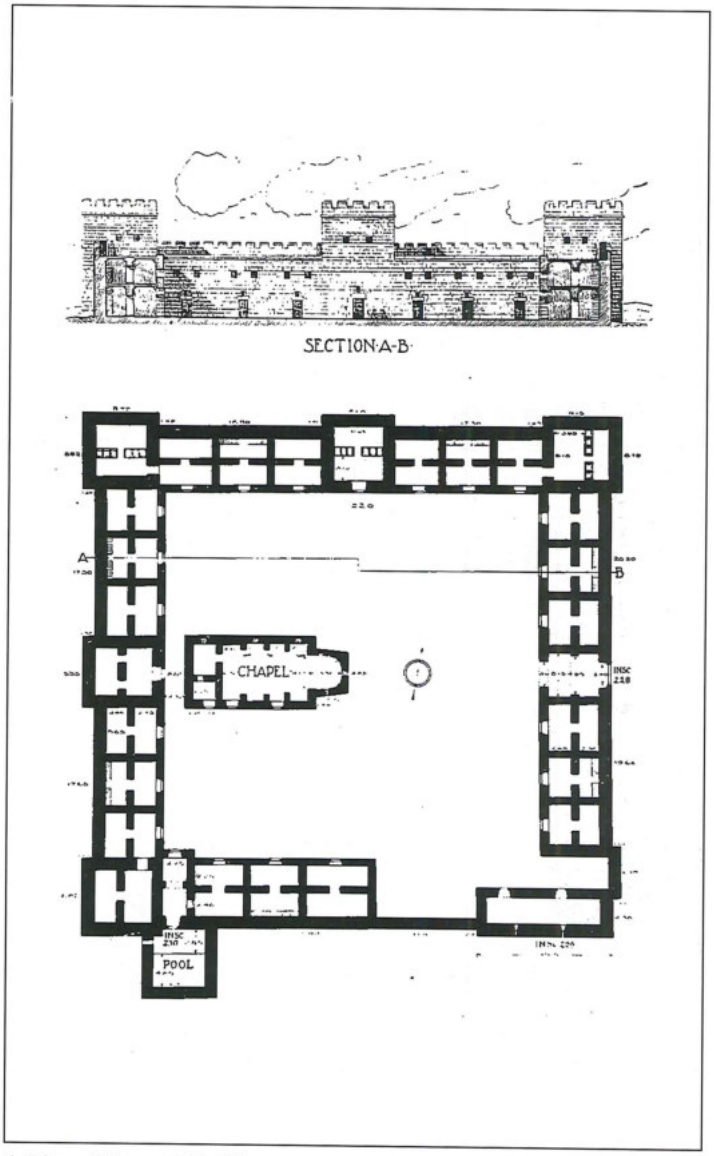
3. Plan of Qaṣr ath-Thuraiya.

2. Forts with External Interval and Corner Towers. These forts are substantially bigger than the *quadriburgia* discussed above. While the *quadriburgia* average only 0.16 ha in size, these eleven forts average 0.9 ha, more than five times the size of the average *quadriburgium*. These forts with external interval and corner towers may be divided into three subcategories: small (0.30 ha), medium (0.60 ha), and large (two forts are c. 1.0 ha, another is 3.0 ha). But it should be noted that even the small subtype is nearly twice as large as the average *quadriburgium*. Most of these forts are also square or nearly square in plan. But, in addition to projecting rectangular corner towers, these forts also have projecting rectangular interval towers, generally of similar size to the corner towers. The existence of interval towers may be due to the greater length of the wall circuits to be defended in these larger forts. Internal arrangements vary according to size. Most have rooms built against the curtain. The rooms of the smaller forts surround a central courtyard; larger forts have rooms both built against the curtain and detached structures within the interior.

Among the six examples of the small subtype, the most securely dated is Dayr al-Kahf (FIG. 4). An inscription, once *in situ*, refers to a *castellum* erected in 306. The fort is c. 61 m² (0.37 ha). Nearly square towers of three stories project slightly from three of the four corners (the other corner was rebuilt between 367 and 375). Interval towers of similar size and shape project from the middle of the north and west walls. A single gate, without flanking towers, pierces the east wall. Internally, two room suites were built in two stories against the curtain, surrounding a courtyard (Parker 1986: 21-24; Kennedy and Riley 1990: 178-79).

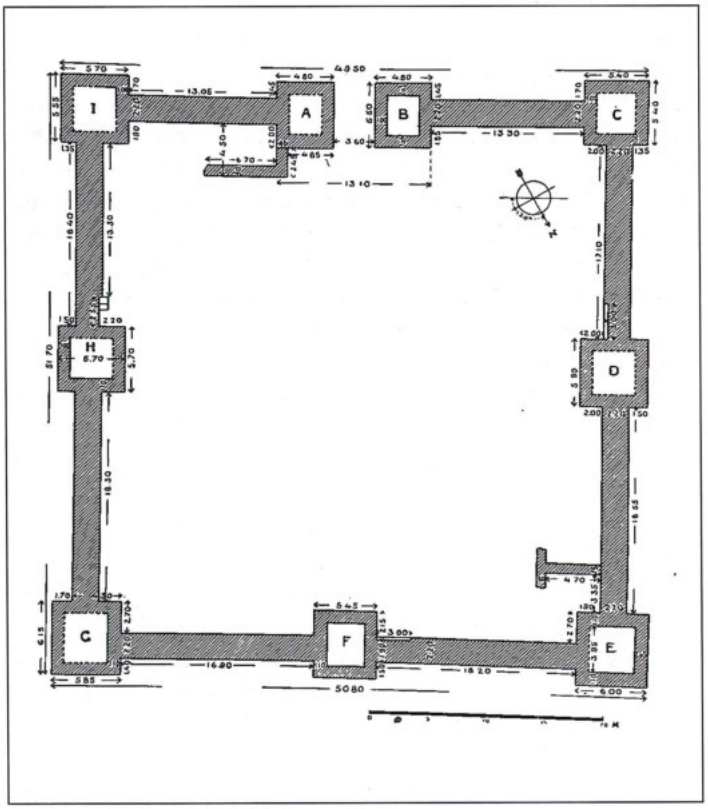
Another fort of similar size is the *castellum* at Khirbat as-Samra. This fort has been dated by excavation generally to the Tetrarchy (Humbert and Desreumaux 1990: 257-58).

Three other forts may be placed within this category of small forts with external corner and interval towers. These include Maḥaṭṭat al-Ḥajj (FIG. 5, upper fort 51.7x 49.5 m, 0.26 ha), Khirbat az-Zūna (FIG. 6, 49 x 44 m, 0.22 ha), and Khirbat al-Qīrāna (c. 50 m², c. 0.25 ha). None of these forts has been excavated nor can they be dated epigraphically. But surface pottery collected at all three provides some evidence as to their occupational history. On typological grounds a late Roman construction of these forts seems plausible (Parker 1986: 57-58, 45-46, 102-104).

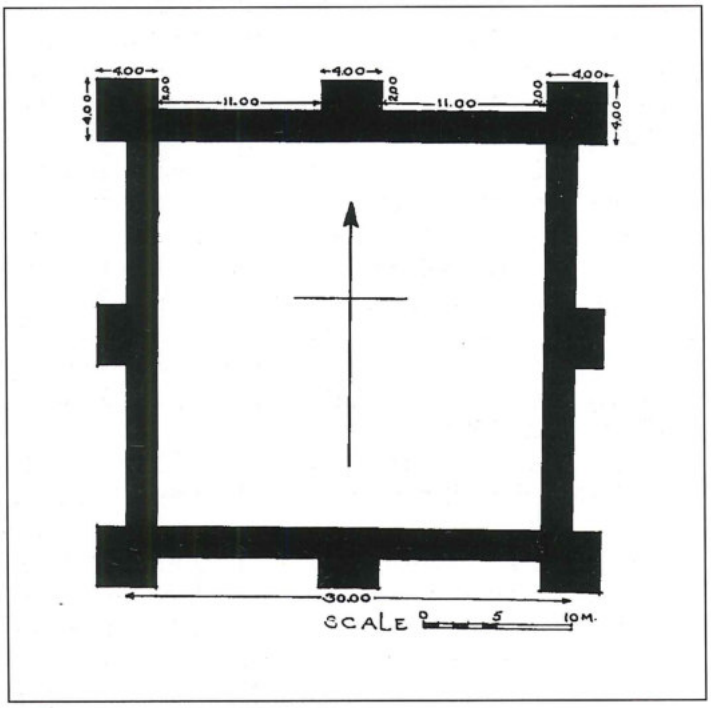


4. Plan of Dayr al-Kahf.

We now move to the second subtype of forts with external corner and interval towers, those of medium size (c. 0.6 ha). There are two examples in this category: one is securely dated by excavation, the other by epigraphic evidence.



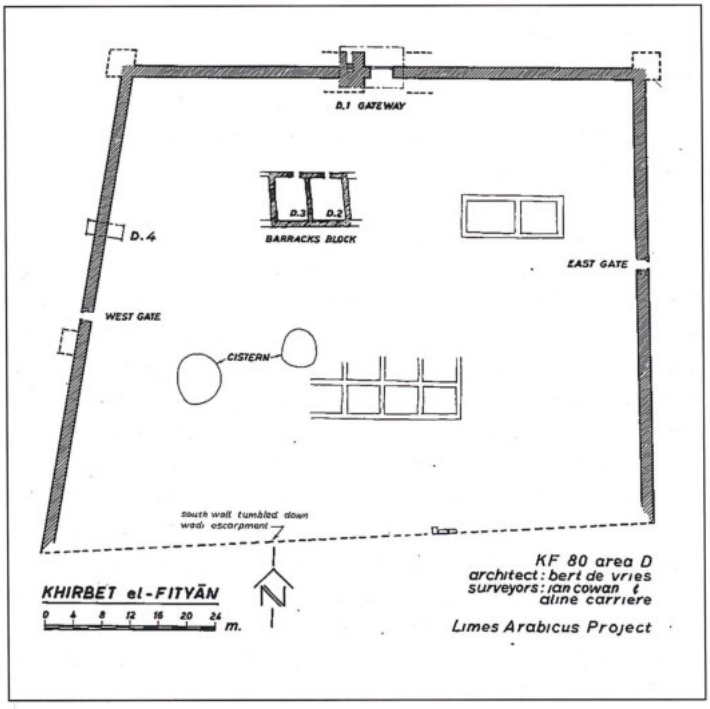
5. Plan of Maḥaṭṭāt al-Ḥajj (upper fort).



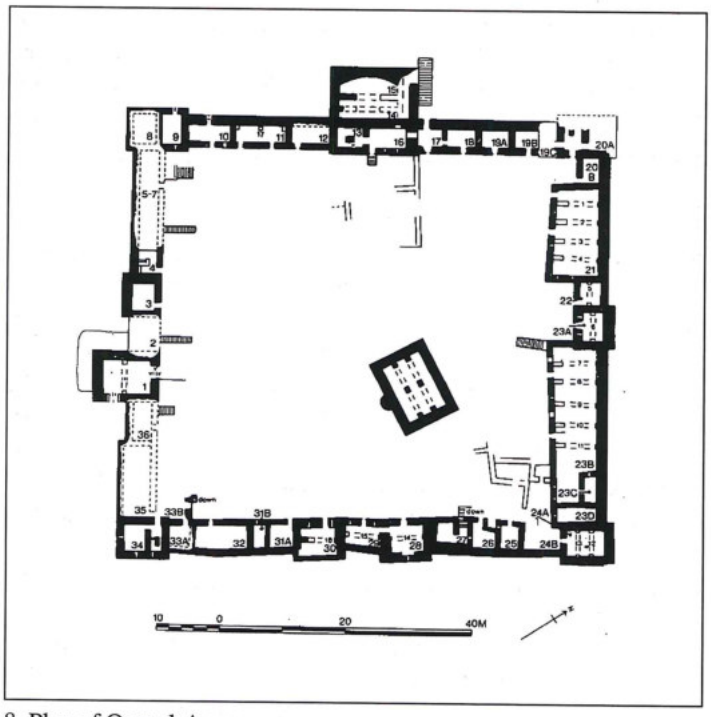
6. Plan of Khirbat az-Zūna.

Khirbat al-Fityān (FIG. 7), has long been interpreted as an ancillary post for the legionary fortress at al-Lajjūn, 1.5 km to the southeast. The *castellum* (c. 78.8 x 76.8 m, 0.6 ha) is roughly square, although the southwest corner does not form a right angle. Rectangular towers were once extant at all four corners, in the middle of the west and south walls, and flanking the main gate in the north wall. Smaller portals have been discovered in the east and west walls. The internal plan is problematic, but barrack-type rooms were excavated near the center of the fort and other rooms were built against the curtain. Excavation revealed that the west curtain was founded atop an earlier Iron Age wall, suggesting the presence of an earlier Moabite fort. But in the center of the fort the Romans scraped off all earlier occupation down to bedrock, on which they founded their barracks. Stratified pottery from the foundations suggested construction contemporary with the legionary fortress, c. AD 300 (Parker and Richard 1987: 429-446).

The second example of a medium sized fort with external corner and interval towers is Qaṣr al-Azraq (FIG. 8). This structure has been interpreted as a nearly square Roman *castellum* (c. 79 x 72 m, c. 0.57 ha) rebuilt in the medieval period. Rectangular corner and interval towers of three stories project slightly from the walls. Internal arrangements, though modified, may still basically reflect the original Roman plan. Rooms in two stories were built against the curtain around a central courtyard. Architecturally the plan is quite similar to the somewhat smaller fort of Dayr al-Kahf, discussed above. Al-Azraq is unexcavated, but two inscriptions of the early fourth



7. Plan of Khirbat al-Fityān.



8. Plan of Qaṣr al-Azraq.

century and a few surface potsherds of similar date, as well as the close parallels to the securely dated Tetrarchic fort of Dayr al-Kahf, suggest al-Azraq was also constructed in this period (Kennedy 1982: 69-96; Parker 1986: 19-20; Kennedy and Riley 1990: 179-181).

Finally, there are three examples of the third subtype in this category, large forts with external corner and interval towers. All are securely dated by excavation. Two are nearly identical in size, similar in plan, and contemporary in date.

The fort at Ḥumayma forms a rectangle measuring 204 x 147 m (3 ha). The large size of this fort, which dwarfs all others in Jordan except the great fortresses of al-Lajjūn and Udhruḥ, must be stressed. There are four gates, one in the middle of each wall. Excavation in 1993 revealed projecting rectangular interval and corner towers and suggest construction in the late second century and occupation until the fourth century (John Oleson, pers. communication). Thus Ḥumayma is the earliest Roman fort thus far attested in Jordan. Its size suggests it was designed for a typical 500 man auxiliary unit of the Principate. The internal plan remains unknown, apart from a large reservoir near the northwest corner.

The *castellum* of Da'jāniya (FIG. 9) is nearly square (c. 100 x 100 m, 1 ha). The main gate is located in the eastern wall; smaller posterns pierce the west and south walls. Rectangular towers project from the corners. Two rectangular interval towers sit astride (i.e. project both inwards and outwards) all four walls. In addition, the east wall has two more towers that flank the main gate. The internal plan is well preserved. The *principia* faces the *via principalis*. Barrack blocks fill most of the remaining interior, with additional rooms built against the curtain. Excavation suggests that the fort was founded in the late third/early fourth century (Parker 1991: 134-141).

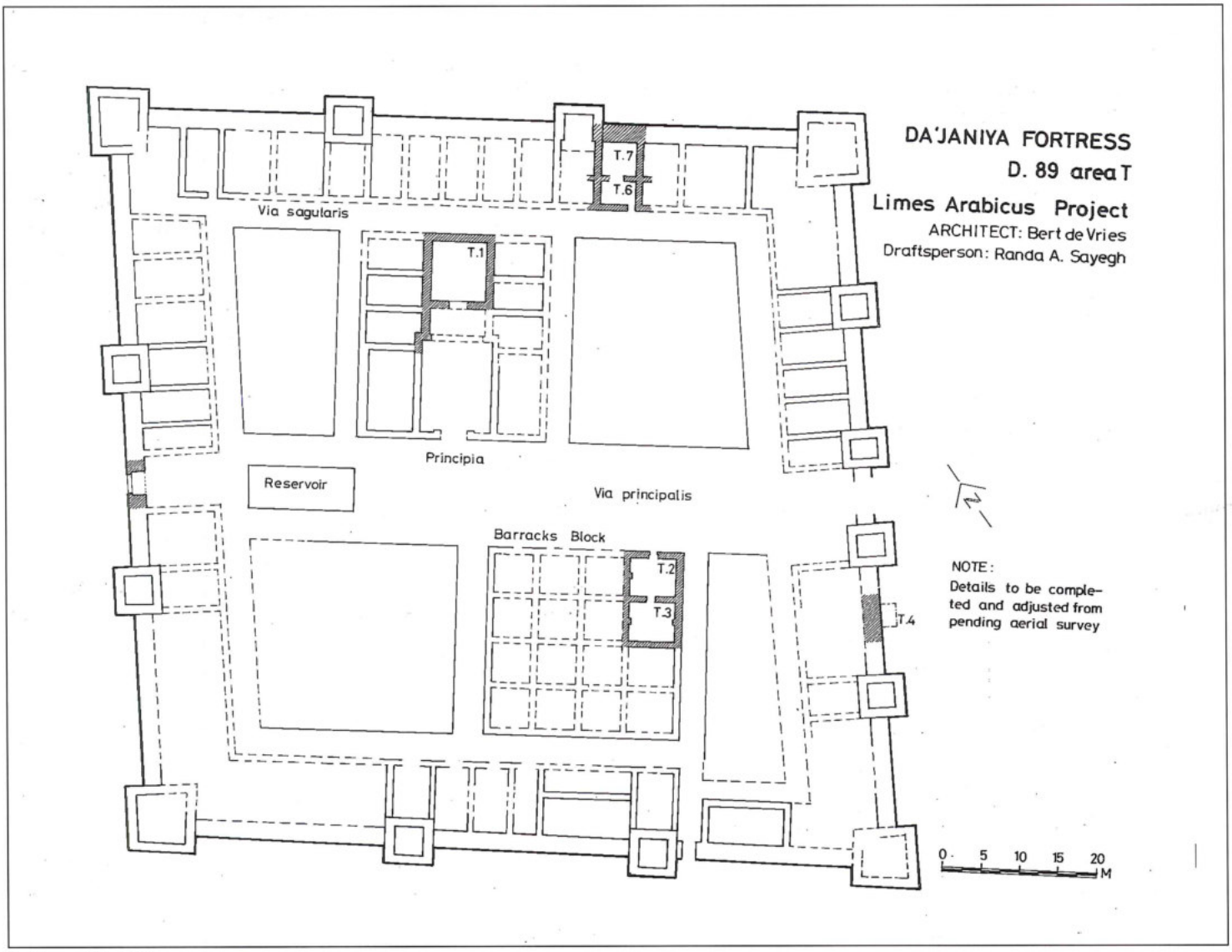
A similar *castellum* is located at Umm al-Jimāl (FIG. 10), built along the eastern city wall. It also measures c. 100 m on a side (c. 1 ha), but the southwest corner does not form a right angle, apparently to avoid encroaching on a pre-existing reservoir. Gates were built in the middle of the east, south and west walls; the latter two gates are flanked by rectangular interval towers that project both inward and outward. Rectangular towers also project from all four corners. Internal arrangements include an apparent *principia* and ranges of barracks. Other rooms were built against the curtain. Excavation suggested construction in the early fourth century (Parker 1986: 26-27).

It is interesting to note that four of these six medium and large *castella* in this class of forts with external corner and interval towers have internal rooms built both against the curtain and standing as independent structures. One exception, Qaṣr al-Azraq, has rooms only against the curtain around a central courtyard. But al-Azraq has not been excavated and was heavily rebuilt in the medieval period. Also, the courtyard is filled with a deep layer of animal dung that may cover the foundations of earlier internal structures. The interior of the other fort, Ḥumayma, is unexcavated.

3. Small Forts Without External Towers. The third major group of forts includes six examples. The two important criteria for inclusion in this group are their small size (0.17-0.31 ha, average 0.22 ha) and lack of projecting towers. Only one has been excavated, but two others can be dated by inscriptions. The remaining three are dated only by surface pottery.

Qaṣr al-'Uwaynid (FIG. 11) is an irregular quadrangle (c. 75 x 49 x 43 x 30 m, c. 0.25 ha). A free-standing tower (c. 8.5 m²) stands within the projecting southwest bastion. Rooms were built against the curtain surrounding a courtyard. The fort is dated epigraphically to c. 200-202. Surface pottery has been dated from the late first/early second century to the late third/early fourth century (Kennedy 1982: 124-126; Parker 1986: 17-19; Kennedy and Riley 1990: 159-161).

The second fort in this group is Qaṣr al-Bā'iq (FIG. 12), which was well preserved when surveyed early in this century. The fort was square (c. 41 x 41 m, c. 0.17 ha) and entered by narrow gates in the north, west, and south walls. Towers of three stories stood in each corner, but did not project beyond the curtain wall. The interior was filled by complexes of rooms built in two stories, a church, and two small courtyards. The fort is dated precisely by a once *in situ* building inscription of 411 (Park-



9. Plan of Da'jāniya.

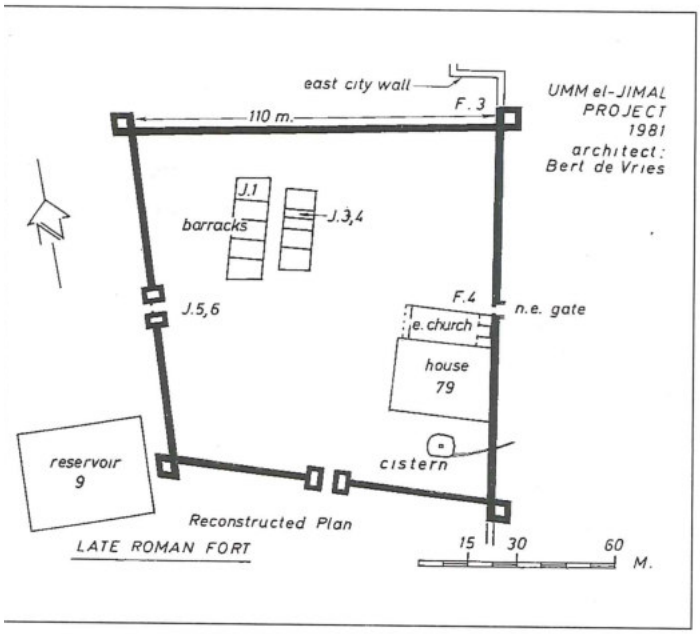
er 1986: 24-25).

Within the walls of Umm al-Jimāl is another fort, the so-called "Barracks" (FIG. 13). This fort is still well preserved and has been excavated. It forms a rectangle measuring 55 x 33.75 m (0.19 ha), with a chapel attached to the eastern wall. The single gate is also located in the east wall. There are two towers: one on the southeast corner rises six stories in height; the other in the middle of western wall rises to three stories. The interior consists of ranges of rooms (most of two stories) built against the curtain around a courtyard. Excavation suggested construction in the late fourth or early fifth century, corresponding to a building inscription found lying outside the structure, which refers to a *kastellos* erected c. 412-413, about the same date as Qaṣr al-Bā'iq just to the west (De Vries 1981; Parker 1986: 28-29).

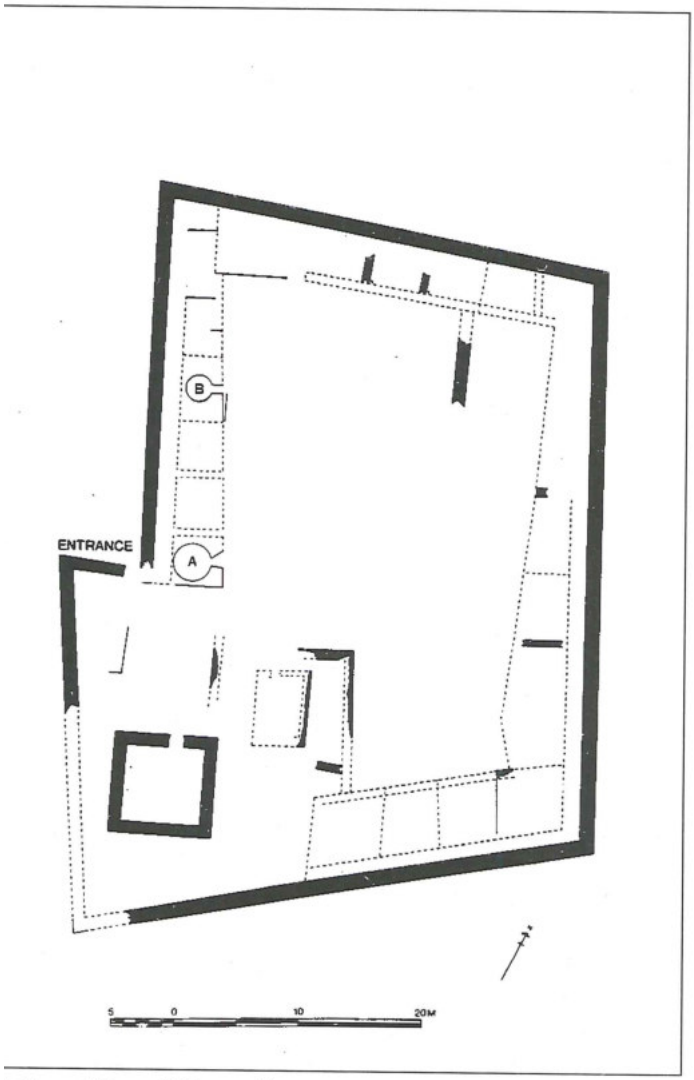
4. Large Forts Without External Towers. There are only two examples in this group and neither is securely dated.

The first is Umm al-Quṭṭayn, in northern Jordan near the Syrian border. A rectangular enclosure (156 x 120 m, 1.87 ha) has been identified as a Roman fort. It lacks projecting towers, but few other constructional details can be recovered because of later rebuilding. An inscription from the site refers to a part-mounted unit, the *cohors I [II?] Augusta Thracum Equitata,* which seems an appropriate sized unit of c. 500 men for an early imperial fort of this size (Kennedy and Riley 1990: 141-143). Without excavation or other evidence this remains conjectural.

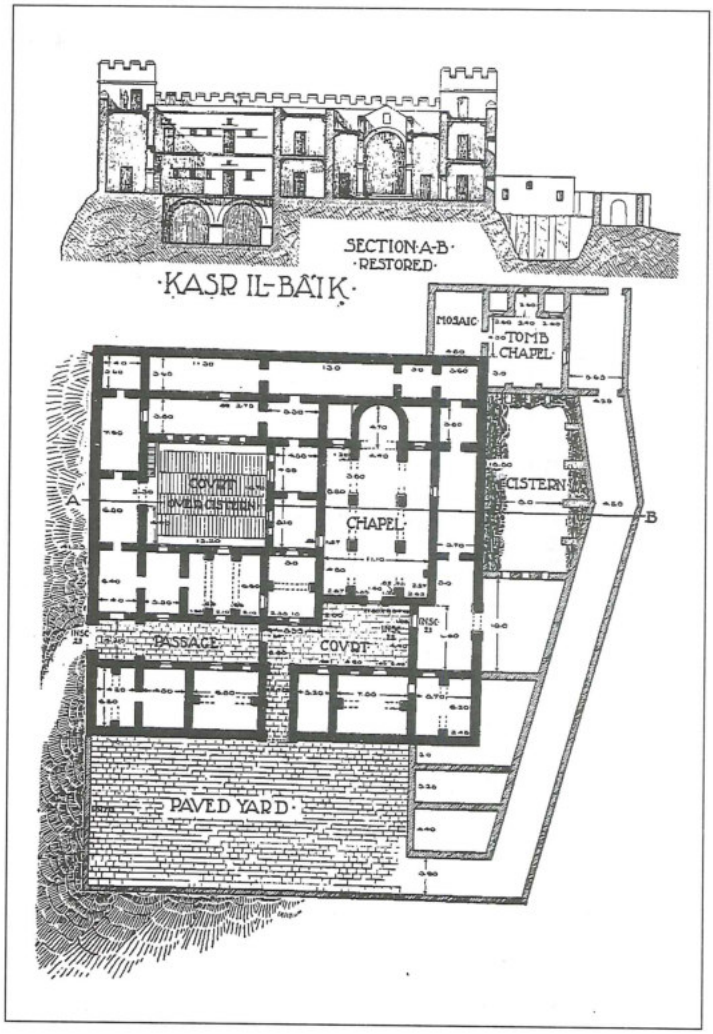
Second is Umm Ubtūlah on Wādī al-Ḥasā. This enormous irregular walled enclosure (c. 520 x 250 m, c. 13 ha) contains remains of apparent barrack blocks. Surface pottery suggests intensive periods of use during the Early Bronze Age and the Roman and Byzantine periods. If the



0. Plan of the *castellum* at Umm al-Jimāl.



. Plan of Qaṣr al-'Uwaynid.

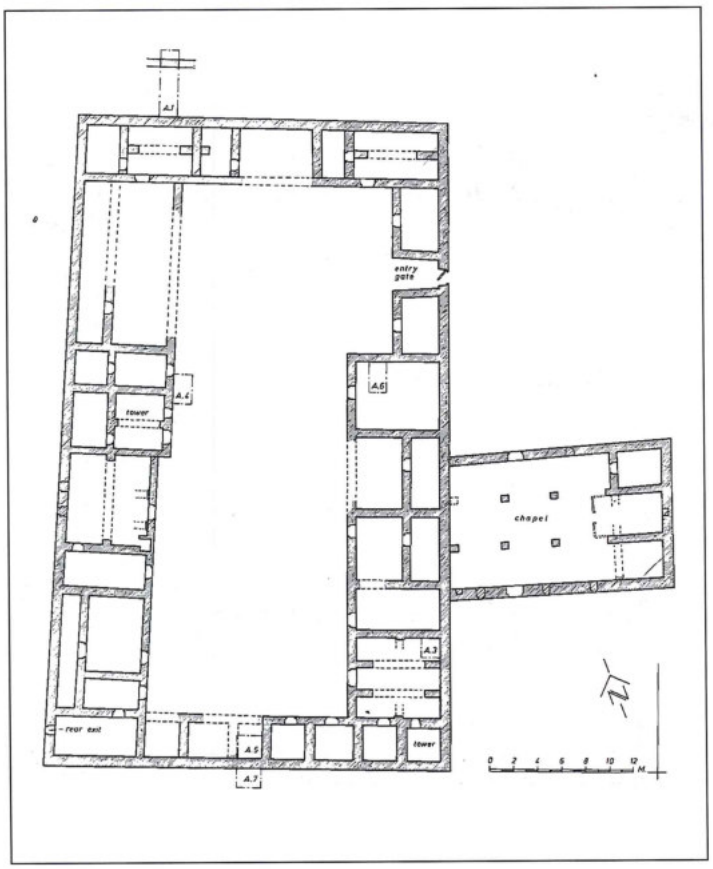


12. Plan of Qaṣr al-Bā'iq.

visible structure is indeed at least partly Roman, it may be a marching camp or siege camp of the Early Roman period (Parker 1986: 89; MacDonald 1988: 292, 294; Kennedy and Riley 1990: 223-224).

5. Large Forts With Rounded Corners. One puzzling phenomenon about Roman military architecture in the Levant is the scarcity of traditional Roman forts of "playing-card" design, so abundant in the European provinces. These are rectangular with rounded corners and without projecting towers. Traces of only two such forts have been reported from Jordan. Neither has been excavated and no dating evidence is yet available.

Tall Abara was discovered by aerial photography. The fort is rectangular (c. 150 x 120 m, c. 1.8 ha), with rounded corners, an external *clavicula* on one gate, but no visible towers. Nothing is known of its internal arrangements. It is similar to temporary siege camps, such as those at Masada (Kennedy and Riley 1990: 107), although it is possible that the fort is simply a permanent Roman playing-card fort of early type.



13. Plan of the "Barracks" at Umm al-Jimāl.

The other example of a "playing-card" fort was discovered in an aerial photo of al-Azraq. The remains visible in the photo unfortunately reveal only a portion of the original enclosure, but do suggest a fort of at least c. 100 x 125 m (c. 1.25 ha). No dating evidence is available (Kennedy 1982: 87).

6. Fortresses With U-Shaped and Semi-Circular External Towers. Both well-known examples in this category have been extensively excavated.

The fortress of al-Lajjūn (FIG. 14) was almost certainly designed for *legio IV Martia* and was constructed c. 300. It forms a rectangle measuring 242 x 190 m (4.6 ha). Semi-circular angle towers, probably once of three stories, project from all four corners. Twenty U-shaped interval towers project from the walls, each of which is pierced in the middle by a gate. The internal plan is reasonably clear, although much of the fortress reflects a major reconstruction following the 363 earthquake, when the legionary garrison was apparently reduced by 50% to c. 1000 troops. The *principia* is centrally located at the intersection of the two main streets. Barrack blocks occupy most of the eastern half of the fortress as well as portions of the western half. Excavation has also revealed other internal structures, including a bath, church, reservoir, and *horreum*. (Parker 1986: 58-74, 1987: 183-383, 1990: 91-104; 1991: 117-130).

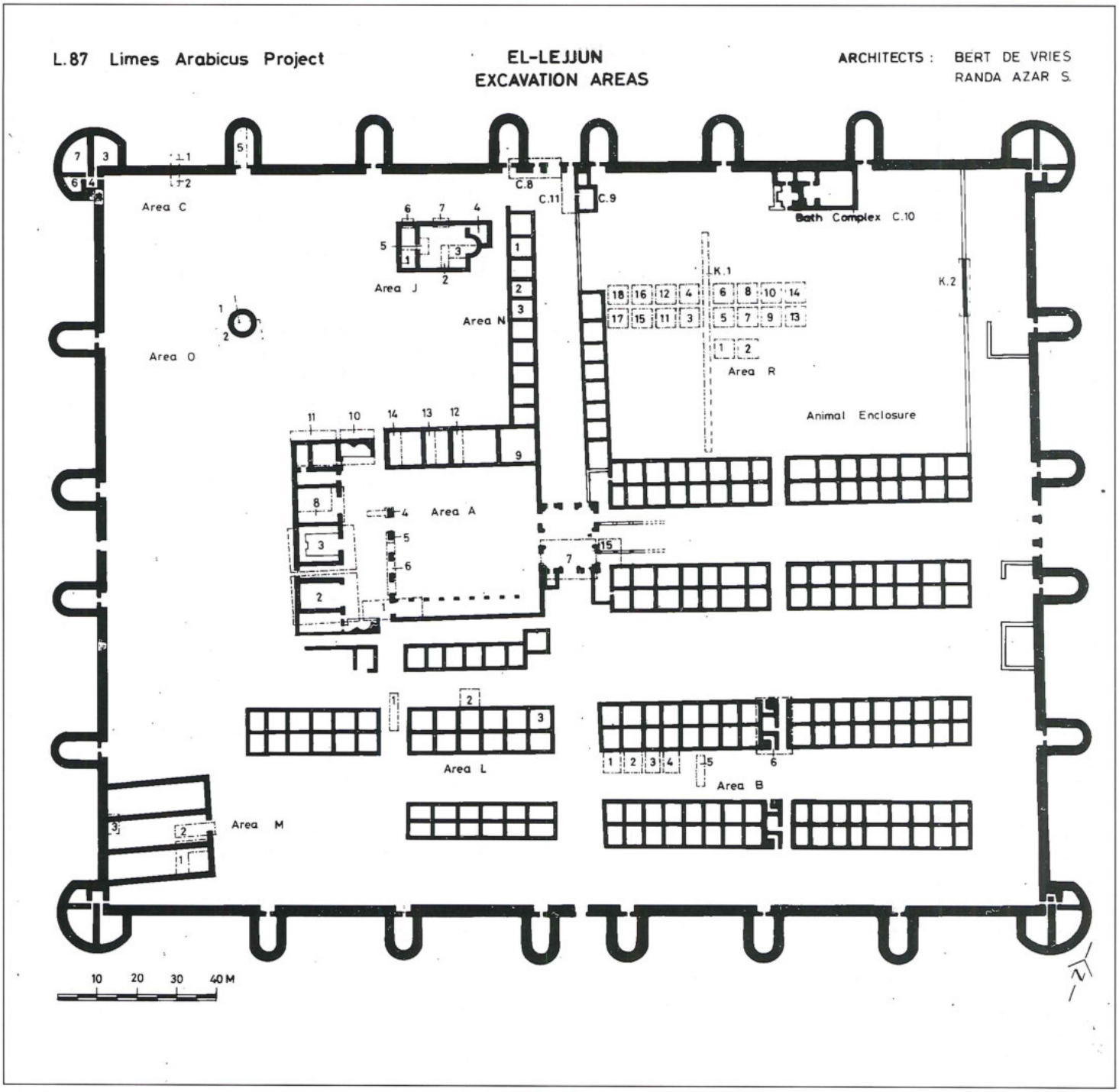
The fortress at Udhruḥ (FIG. 15) is a virtual twin of al-Lajjūn. Although not strictly rectangular, Udhruḥ (248 x 207 x 246 x 177 m, c. 4.7 ha) is virtually identical to al-Lajjūn in size, gates, and the number and plan of its corner and interval towers. Apart from the *principia*, little remains of the original plan, which was obscured by later rebuilding. Despite the obvious similarities to al-Lajjūn, the excavator of Udhruḥ initially suggested a construction date in the early second century (Killick 1983; 1986). While the site unquestionably was occupied this early, others have argued that the extant fortifications must be late Roman, contemporary with al-Lajjūn, or c. 300 (Parker 1986: 94-98; Kennedy and Riley 1990: 131-133). Unfortunately, detailed results of the excavation remain largely unpublished.

IV. Conclusion

Several important conclusions may be drawn from the evidence presented above. Although some sites are not yet securely dated, several specific types emerge that may be closely dated.

First, the chronological distribution of the extant forts is heavily biased towards examples of the late third and early fourth centuries. We have only one securely dated fort of the second century. Without question, this is the most problematic period for the study of Roman forts in Jordan. Ironically, this is best documented and understood period on most other Roman frontiers. But in Jordan there is little evidence for this period. Most notable for its rarity is the typical Roman "playing-card" fort, so well known on the European frontiers and from the Roman siege camps at Masada and Machaerus. Apart from Ḥumayma, the only other possible second century forts are the "playing-card" forts of Tall Abara and al-Azraq and the large fort without towers at Umm al-Quṭṭayn. There are several possibilities for this dearth of second century evidence. Many units may have been based in towns or cities. Other units may have simply taken over existing Nabataean fortifications when the Nabataean army was incorporated into the regular Roman army and transferred out of the province. Finally, these earlier forts may have been dismantled by later Roman military construction, as apparently was the case at al-Azraq.

Second, two securely dated forts do exist for the Severan era (193-235): Qaṣr al-Ḥallābāt and Qaṣr al-'Uwaynid. Interestingly, these forts were built within a decade of one another and only a few kilometers apart, yet they display very different plans. Ḥallābāt fits nicely into the category of the *quadriburgia*, 'Uwaynid clearly does not. It lacks projecting towers (apart from the single "bastion") and is of irregular plan. Both Severan forts do share rooms built against the curtain and relatively small size. Both clearly were designed for small detachments



14. Plan of al-Lajjūn.

of auxiliary units of the Severan era.

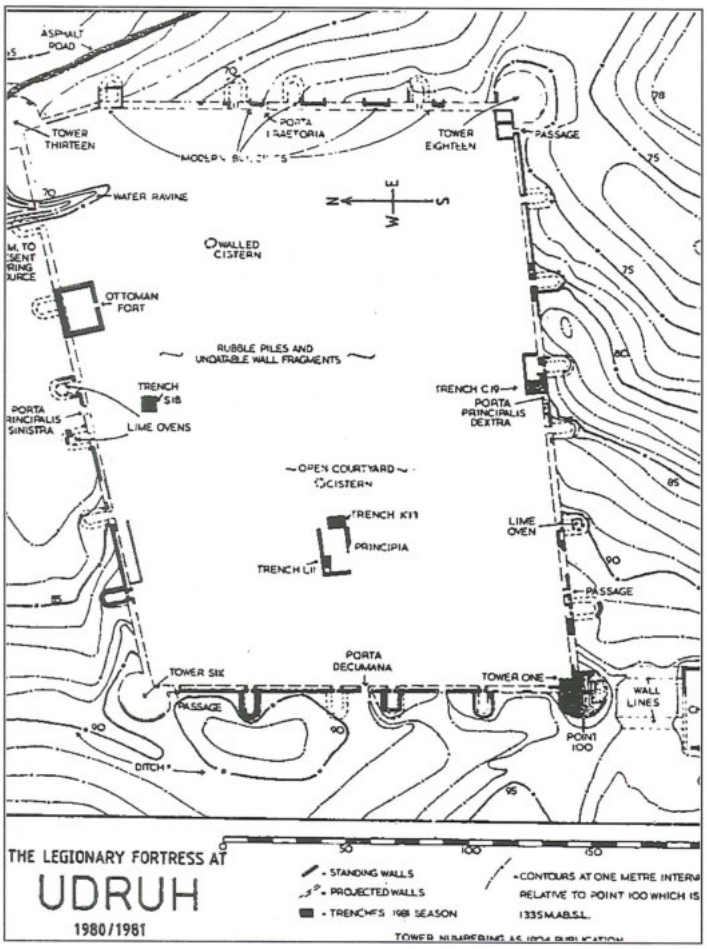
A substantial number of forts in Jordan date to the Tetrarchy, including *quadriburgia* (Qaṣr Bshīr, Qaṣr ath-Thuraiya), forts with projecting interval and angle towers (Dayr al-Kahf, Qaṣr al-Azraq, Khirbat az-Zūna, Khirbat al-Fityān, Da'jāniya, Umm al-Jimāl, Khirbat as-Samra), and both legionary fortresses (al-Lajjūn and, presumably, Udhruḥ). The forts with both interval and angle towers are considerably larger in size than the *quadriburgia*. The largest, at c. 1 ha, could have comfortably housed the reduced auxiliary units of the late Empire. The smaller of these forts contained rooms built only against the curtain, but the larger also display independent structures within the enclosure. All these Tetrarchic forts, regardless of size, share projecting towers. These are invariably square or rectangular for the *castella*, while both fortresses were defended by U-shaped and semi-circular towers.

Few forts can be proven to have been constructed in

the Byzantine period. The two well dated examples, the Barracks at Umm al-Jimāl and *castellum* at Qaṣr al-Bā'iq, reveal that by the early fifth century forts without projecting towers were again being built. However, both these forts were protected by *internal* towers. The Jimāl barracks follows the conventional placement of rooms built against the curtain around a central courtyard. But Bā'iq is exceptional in that its internal structures fill nearly the entire interior.

It is notable that the absence of external towers is generally not a useful indicator of date, nor is the presence of rooms built against the curtain wall.

In conclusion, the assembled evidence now permits a typology of Roman fortifications to be advanced. Certainly there are major chronological gaps over the half millennium of direct Roman rule. Yet most known forts in Jordan can now be assigned with some confidence to the typology presented above. These forts also compare readily with contemporary fortifications on other Roman imperial frontiers. By all appearances, most Roman forts in Jordan date to the late third or fourth century and thus reflect the late Roman army of that period. It seems that several different types of forts were built in the same period and even in the same region. Presumably this variety suggests different conditions or purposes for such divergent yet contemporary military structures. Clearly we still have much to learn.



15. Plan of Udhruḥ.

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