

THE LIMES ARABICUS PROJECT THE 1989 CAMPAIGN

by
S. Thomas Parker

Introduction

The project focuses on the Roman frontier east of the Dead Sea. A dramatic military buildup began in this region ca. A.D. 300, including construction of fortifications, systematic repair of the regional road network, and arrival of military reinforcements (Fig. 1).¹ The frontier remained well fortified through the fourth and fifth centuries, encouraging the spread of settlement. But by the early 6th century most of these same fortifications had been abandoned. What can account for the massive military buildup in this sector ca. 300? Why were most of these same fortifications abandoned two centuries later?

The project seeks to address these questions through a four part program: 1) excavation of the legionary fortress of el-Lejjūn (the largest military site in this sector), 2) soundings of four smaller fortifications, 3) intensive archaeological survey of the frontier zone, or *limes*, and 4) a survey of the desert fringe east of the frontier to learn about the nomadic tribes. All five campaigns as originally planned have now been conducted, in 1980,² 1982,³ 1985,⁴ 1987,⁵ and 1989. In addition to the series of published preliminary reports cited above, the project has also published a detailed interim report on the first three

seasons, 1980-1985.⁶

The 1989 campaign was conducted between June 8 and July 23, under a permit granted by the Department of Antiquities of Jordan. The project is sponsored by North Carolina State University and is affiliated with the American Center of Oriental Research (ACOR) in Amman. Principal funding for the 1989 season again was provided by the National Endowment for the Humanities. Additional funding was provided by the Dumbarton Oaks Center for Byzantine Studies, North Carolina State University, student contributions, and private donors. Additional grants enabled four students to participate on the project. Three students (Jennifer Jones, Elizabeth Stephens, Amelia Winstead) received travel grants from the Endowment for Biblical Research; another student (Benjamin Hartsell) received the inaugural Jennifer C. Groot Fellowship in the Archaeology of Jordan. The Department of Antiquities also offered helpful logistical assistance. The author is grateful to all for their support. Special thanks are due to Dr. Ghazi Bisheh, Director-General of the Department of Antiquities, and to Dr. Bert De Vries, Director of ACOR.

Senior staff in the field in 1989 included Patricia Crawford as paleo-

1. S. Thomas Parker, *Romans and Saracens: A History of the Arabian Frontier*, ASOR Dissertation Series no. 6, Winona Lake, Indiana, 1986, p. 135-152.
2. Parker, 'Preliminary Report on the 1980 Season of the Central Limes Arabicus Project,' *BASOR* 247 (1982), p. 1-26; 'The Central Limes Arabicus Project: The 1980 Campaign', *ADAJ* 25 (1981), p. 171-178.
3. 'Preliminary Report on the 1982 Season of the Central Limes Arabicus Project', *BASOR Supplement* 23 (1985), p. 1-34; 'The Central Limes Arabicus Project: The 1982 Campaign', *ADAJ* 27 (1983), p. 213-230; *Archaeology* 37.5 (1984), p. 33-39.

4. 'Preliminary Report on the 1985 Season of the Limes Arabicus Project', *BASOR Supplement* 25 (1988), p. 131-174; 'The Limes Arabicus Project: The 1985 Campaign', *ADAJ* 30 (1986), p. 233-252.
5. 'Preliminary Report on the 1987 Season of the Limes Arabicus Project', *BASOR Supplement* 26 (1989), p. 89-136; 'The Limes Arabicus Project: The 1987 Campaign', *ADAJ* 32 (1988), p. 171-187.
6. Parker, *The Roman Frontier in Central Jordan: Interim Report on the Limes Arabicus Project, 1980-1985*. BAR International Series 340. Oxford: British Archaeological Reports, 1987. Hereafter as *Interim Report*.

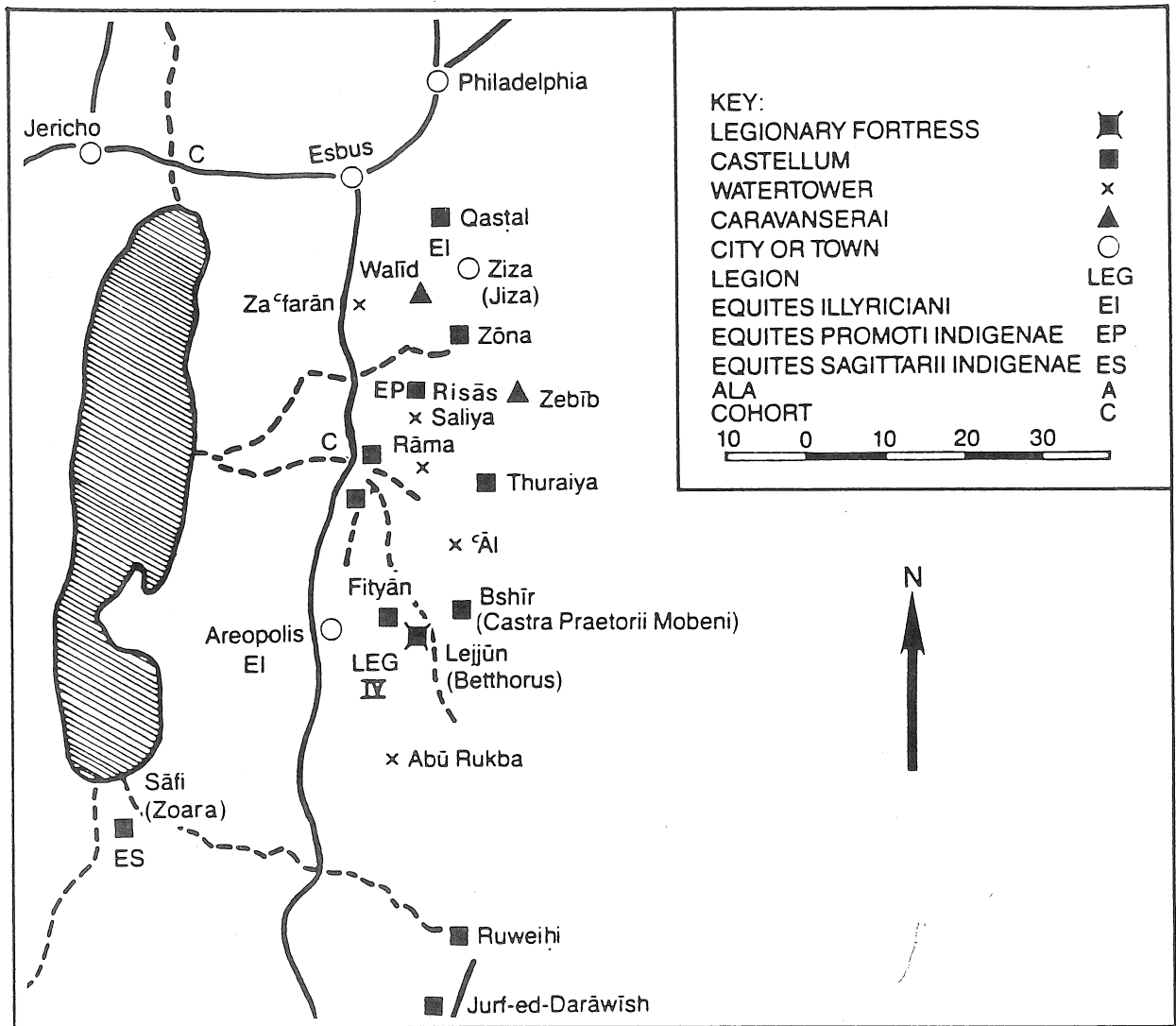


Fig. 1. Map of the Roman frontier east of the Dead Sea in the fourth and fifth centuries A.D.

botanist, Bert De Vries as architect/surveyor, Nelson Harris as camp manager, Sonja Jilek as objects specialist and pottery registrar, Frank Koucky as geologist, Andrea Lain as human osteologist, S. Thomas Parker as director, stratigrapher, and ceramicist, Deborah Porter as photographer, and Michael Toplyn as faunal analyst. Area supervisors were Anne Haeckl (Area A - the Lejjūn *principia*), Andrea Lain (Area C - the Lejjūn fortifications and bath and Area O - the reservoir), Jennifer Jones (Areas K and L - Lejjūn barracks), Robert Schick (Area N - rooms along the *via principalis*), Patricia Crawford (Area P - the east *vicus* building), Vincent Clark (Area Q - the southeast

vicus building), Michael Toplyn (Area R - Lejjūn barracks), and Victoria Godwin (Area T - Da'jāniya). Emile Masadi and Khalaf Ṭarawneh served as Department of Antiquities representatives.

Square supervisors included Lauren Anderson, Paul Cobb, Michael Dixon, Timothy Dolan, Eliza Evans, Timothy Ferrell, Dorianne Gould, Benjamin Hartsell, Priscilla Hohmann, Jay Holtvluwer, Christine Kayden, Jennifer Kieley, Karen Kumiega, Lucy Lerner, James Lowe, John Miller, Katy Old, Joanne Ryan, Kristin Schardt, Andrew Smith, Elizabeth Stephens, Elisabeth Stoving, Lane Therrrell, and Amelia Winstead. Ken Daughtey and Peggy Theodore were assistant

architect/surveyors. The staff worked with a force of up to eighty local labourers.

The following is a summary of the 1989 season. It describes the excavation of the Lejjūn legionary fortress, soundings of two structures in the Lejjūn *vicus*, and soundings of the *castellum* of Da'jāniya. Some preliminary conclusions are drawn from these and earlier results.

Excavation of the Lejjūn Legionary Fortress

A) Plan of the Fortress and Stratigraphic Summary⁷

The fortress at el-Lejjūn has long been identified as Betthorus, base of *legio IV Martia* in the *Notitia Dignitatum*.⁸ This identification is still unproven but remains probable. The rectangular fortress (Fig. 2) (242 x 190 m., 4.6 ha.) is surrounded by an enclosure wall 2.40 m. thick studded with projecting towers. Each wall is pierced in the middle by a gate. Two major streets intersect at the *groma* or middle of the fortress: the *via praetoria* extends from the east gate to the *groma*, the *via principalis* runs from the north gate to the south gate. The *principia* or headquarters building is near the intersection of the two main streets.

El-Lejjūn was excavated in order to learn about its garrison, its role in the military frontier, its complete stratigraphic history, and the character of the Roman legions of the late Empire. Each principal component of the fortress has been sampled through excavation. This included the headquarters building, several blocks of barracks, each principal component of the fortifications, possible granary, bathhouse, church, and reservoir. Three structures in the *vicus* or adjacent civil settlement have also been excavated.⁹

In 1989 excavation within the Lejjūn

fortress continued in several areas worked previously — the *principia*, barracks, fortifications, and reservoir. One major new area was opened: a bathhouse built against the north wall.

B) Stratigraphic Summary

Results from the four previous seasons established a basic stratigraphic sequence from associated numismatic and ceramic evidence. The results from the 1989 season fit nicely into the existing stratigraphic framework. The impact of three identifiable earthquakes, in 363, 502, and 551, provide important breaks in the stratigraphic sequence.

Stratum	Period	ca. Dates
VI	Late Roman IV	284-324
VB	Early Byzantine I	324-363
VA	Early Byzantine II	363-400
IV	Early Byzantine III-IV	400-502
III	Late Byzantine I-II	502-551
	Post Stratum III Gap (intermittent use of site for camping and as a cemetery)	551-1900
II	Late Ottoman	1900- 1918
I	Modern	1918-

C) The Principia (Area A)

The headquarters building (63 x 52.50 m.), is traditionally located at the intersection of the two main streets and contains the essential elements of the classic *principia* (Fig. 3): 1) the principal entrance at the *groma* (monumental gatehall) leading into an outer or public courtyard, 2) an inner, sacred courtyard, and 3) a block of official rooms containing administrative offices and the legionary shrine, or *aedes*.¹⁰ Work in 1989 concentrated in two sectors: the

7. Parker, 'Introduction to the Legionary Fortress', *Interim Report* p. 183-198.

8. *N.D. Oriens* 37.22.

9. For detailed results of these excavations during

the first three seasons, cf. Parker, *Interim Report*, p. 203-398.

10. For results from the first three seasons, cf. Anne E. Haeckl, 'The *Principia* of el-Lejjun', p. 203-260 in Parker, *Interim Report*.

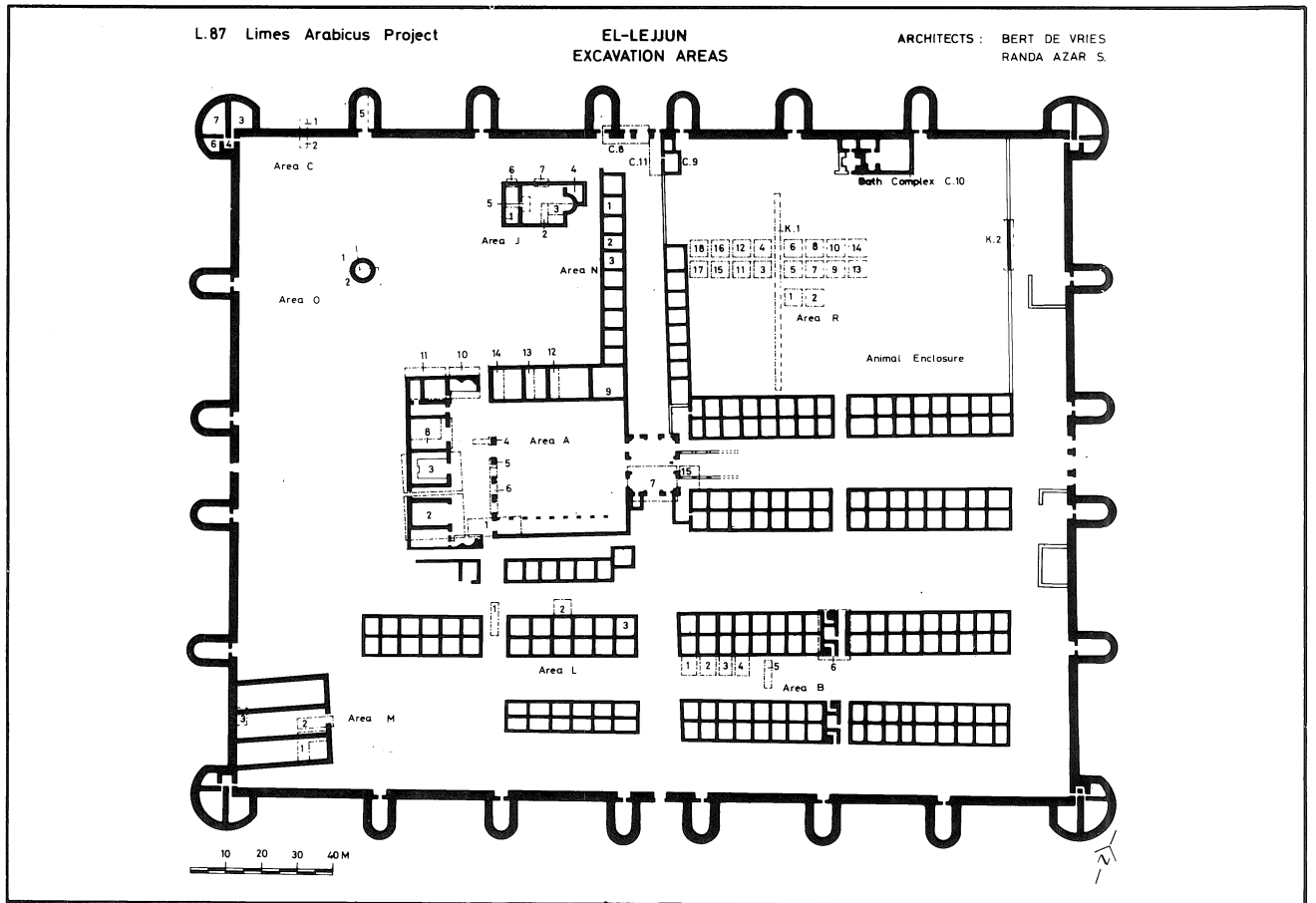


Fig. 2. Plan of the legionary fortress of el-Lejjun in the Early Byzantine period (ca. A.D. 363-502), with excavation areas (1980-1989).

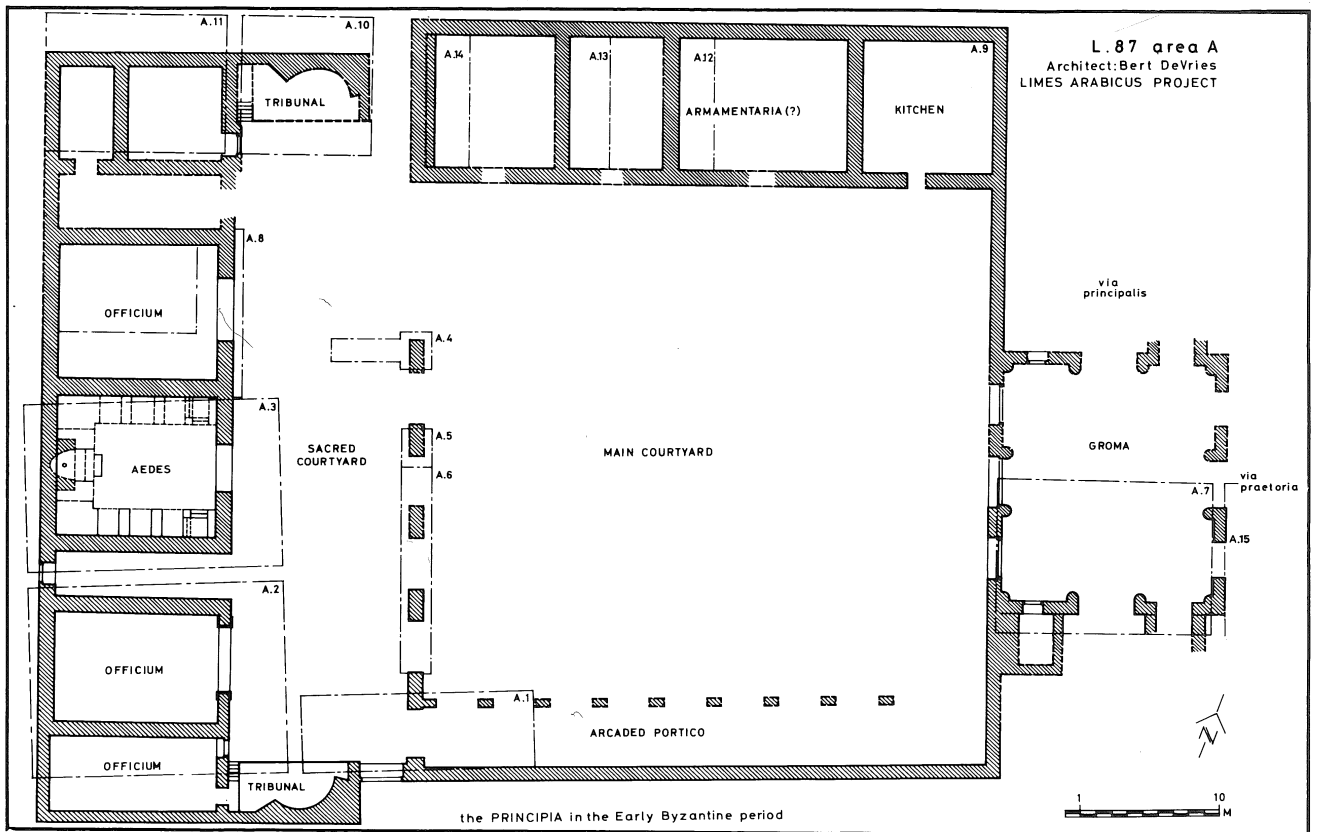


Fig. 3. Plan of the *principia* in the Early Byzantine period.

groma fronting the *principia* (A.15) and three rooms along the northern wall adjacent to the outer courtyard (A.12, 13, 14).

A trench just east of the *groma* examined a portion of the *via praetoria*, the street that extends to the eastern gate (Fig. 4). The *via praetoria* was divided into a central thoroughfare wide enough for vehicles flanked by two pedestrian sidewalks. Square A.15 examined the southern half of the central thoroughfare and the southern sidewalk. The sidewalk was roofed by an arcaded portico and yielded a series of Early Byzantine pavements. Excavation of the street to the north revealed a stone-lined drain and evidence of Late Byzantine occupation following the 502 earthquake.

Within the *principia*, north of the public courtyard, is a range of four rooms (Fig. 3). Based on parallels elsewhere in the Empire, it was thought that these might have served as *armamentaria*. Excavation of the most easterly room (A.9) in 1987 instead revealed a kitchen. This season the remaining three rooms were excavated to determine their function and stratigraphic history (Fig. 5). All three were built in the Late Roman period (Stratum 6) and were substantially rebuilt after the 363 earthquake. Room A.13 yielded a hoard of 254 bronze coins from a small hole dug in a floor. These coins await cleaning and identification. None of the rooms yielded any fragments of weaponry, casting some doubt on the suggestion that these served as *armamentaria*. All the rooms appear to have been largely abandoned after the earthquake of 502. None produced any significant evidence of Late Byzantine (Stratum 3) occupation.

D) The Barracks (Areas K, L, and R)

The barracks within the fortress are being excavated in order to recover their plan (and thus reconstruct the internal organization and overall strength of the

garrison), complete stratigraphic profile, and cultural material relating to the legionary garrison. A major unresolved problem is the supposed transformation of the late Roman *limitanei* from full-time soldiers to a peasant militia.¹¹

Earlier excavation had revealed that eight long blocks of barracks had been originally built in limestone ca. 300. Following the earthquake of 363, only half the original number of barracks were rebuilt, this time largely in chert.¹² In 1989 excavation continued in the northeast quadrant (Area K, Fig. 2) in an effort to elucidate the plan of an extensive sector of the primary Late Roman barracks. A series of squares (K.11, 12, 15, 16, 17, 18, 19) exposed considerable portions of the foundations of this barrack block (Fig. 6), although these were partially obscured by the later reuse of the sector in the Early Byzantine period (Strata 5B-4). In 1987 evidence of corral walls, a large plastered reservoir, and a small-scale foundry suggested that the sector was reused as a stockyard for animals. This season the full extent of the plastered reservoir was exposed (ca. 9 x 8 m.) and a second apparent manger came to light.

A second barrack block (Area R) investigated this season was the third block of original Late Roman barracks south of the northern enclosure wall, located just south of Area K (Fig. 6). Two 5 x 5 m. squares (R.1-2) exposed the foundations of two rooms of Late Roman date. Area R was opened largely for methodological purposes. Unlike most other areas excavated by the project, where sieving of soil was conducted only in special circumstances, 50% of all soil from Area R was sieved. The goal was to compare the retrieval of artifacts from sieved soil versus unsieved soil. Preliminary results suggested that sieving increased the number of tiny sherds and bones recovered, but these were so small and undiagnostic that they failed to alter the interpretation of the

11. Benjamin Isaac, 'The Meaning of the Terms *Limes* and *Limitanei*', *JRS* 78 (1988), p. 125-147.

12. Jennifer C. Groot, 'The Barracks of el-Lejjun', p. 261-310 in Parker, *Interim Report*.

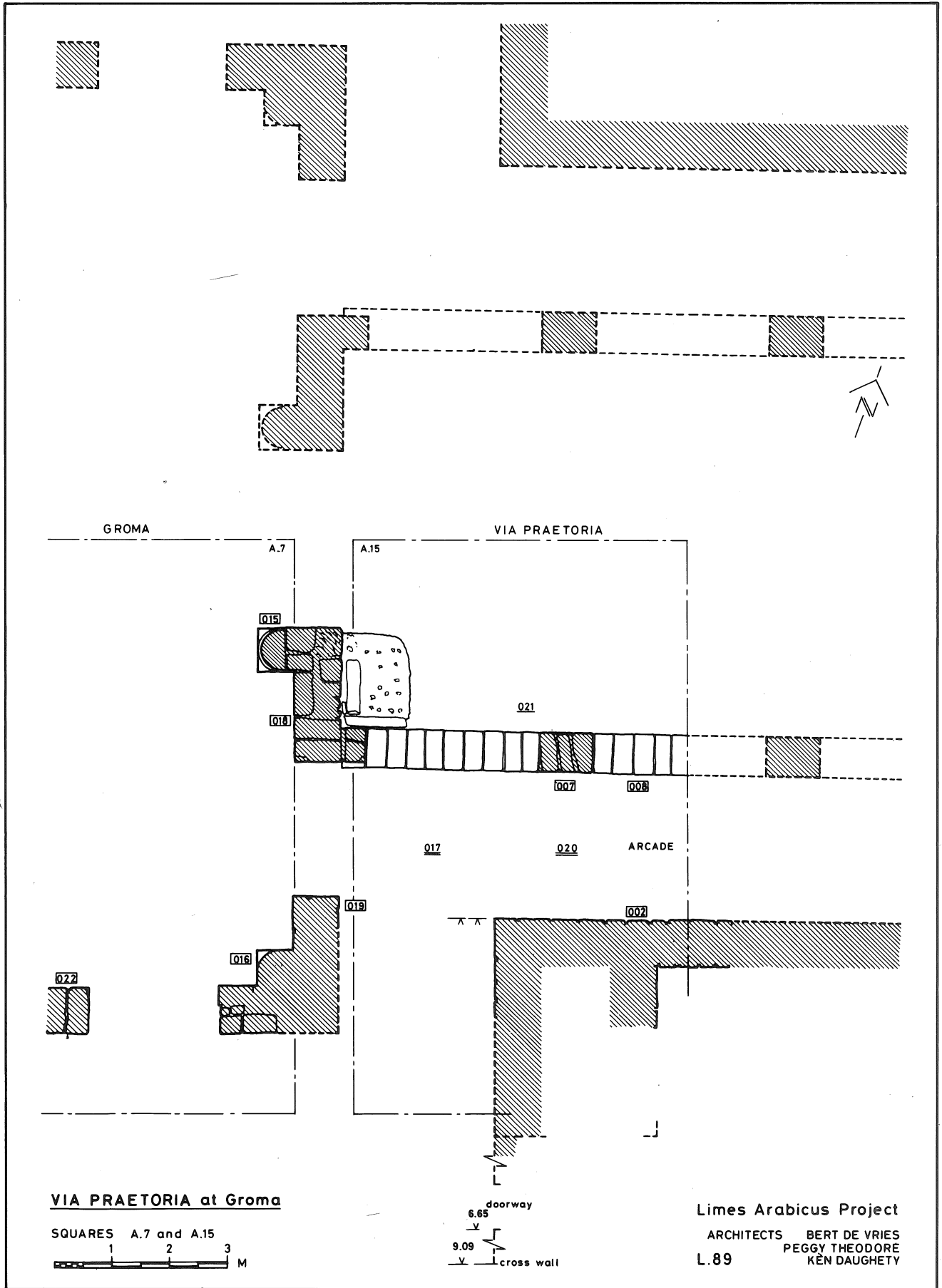


Fig. 4. Plan of the *via praetoria* at its intersection with the *groma*.

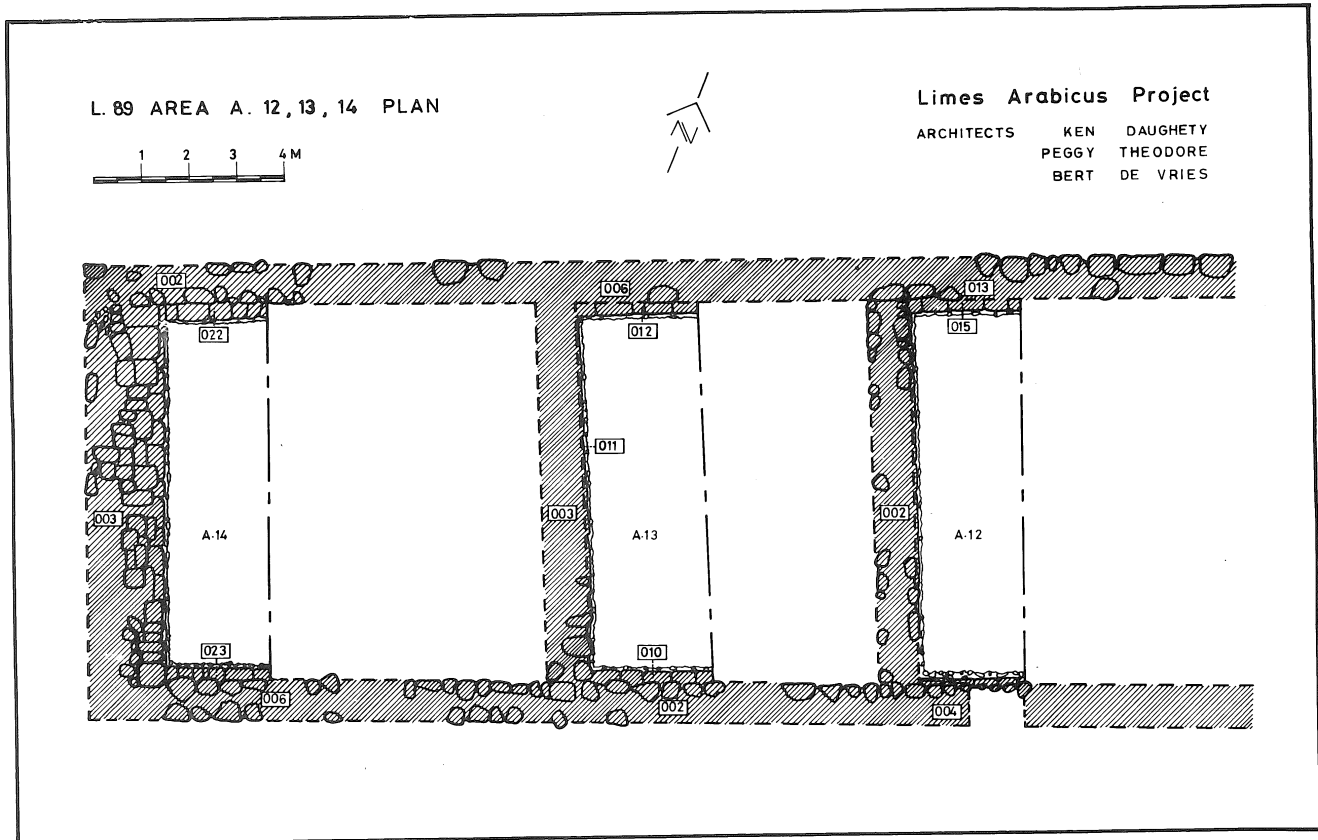


Fig. 5. Plan of three rooms along the northern side of the *principia* excavated in 1989. A hoard of 254 bronze coins was recovered from a pit in a floor in room A.13.

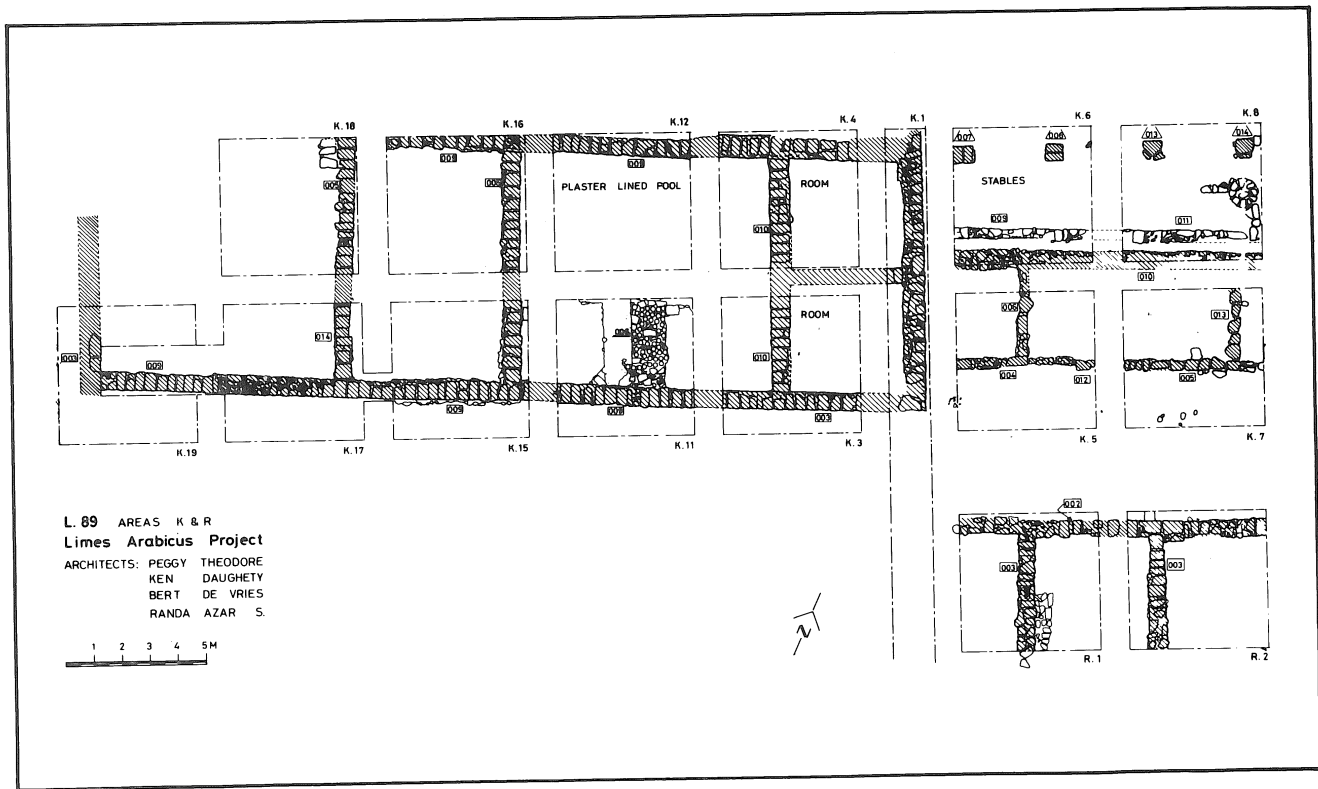


Fig. 6. Plan of the structures exposed in Areas K and R in the northeastern quadrant of the fortress. These structures, interpreted as an Early Byzantine stockyard, reused the foundations of Late Roman barracks.

associated stratigraphy. Virtually all diagnostic artifacts were recovered through manual retrieval prior to sieving of the soil.

A third group of barracks investigated was south of the *principia* (Area L, Fig. 2). These blocks are comparable in size and building materials to the Early Byzantine barracks east of the *via principalis*. Yet the Area L barrack consists of only six rooms on either side of a central spine wall, rather than the eight or nine rooms in the eastern blocks. The block also appears to be of secondary date, erected after 363. A room near the center of the block (L.2) had been completely excavated in 1987. This season the alleyway north of the room was excavated, revealing a Late Roman roadway surface of lime mash. Farther to the east, a second room and associated alleyway (L.3) of this block were also completely excavated. This end room opened on to the *via principalis*. It contained a large *ṭabûn* in its southwest corner. In the neighbouring alleyway an *in situ* millstone, storage bin, and plastered basin were found adjacent to one another. These installations and the *ṭabûn* apparently functioned together as a bakery in the Early Byzantine period.

E) The Fortifications (Area C)

The project has sampled each component of the fortifications of the fortress: enclosure wall, U-shaped interval towers, semi-circular angle towers, and gateways. A section through the northern enclosure wall was completed in 1980. An interval tower was excavated in 1982. The northwest angle tower was completely excavated over three seasons (1982-1987).¹³ Excavation of the northern gateway (*porta principalis sinistra*) was initiated in 1987 and completed this season (C.8, 9).

The gateway is triple-entry, with a large central opening flanked by two smaller portals (Figs. 7-8). Opening off both side portals were staircases recessed into the enclosure wall which gave access to the rampart and the second story of the adja-

cent interval towers (Fig. 9). The western staircase was found in 1987; the eastern, as expected, was found this season. The eastern portal was blocked during the Late Byzantine period, when a two room domestic complex (C.9) was constructed against the enclosure wall just east of the gateway (Fig. 10). Some evidence of Late Islamic squatters was found overlying the original Late Roman flagstone roadway surface in the central portal.

F) The Bathhouse (Area C.10)

Architectural planning of the fortress had indicated the presence of a large structure built against the north enclosure wall, east of the north gate (Fig. 2). Excavation this season revealed a building complex consisting of at least five rooms, all built of fine ashlar limestone (Fig. 11). Several rooms were once roofed by barrel vaults (Fig. 12). The large eastern room contained rows of closets built into the walls. Clear traces of raised floors supported by hypocaust tiles appeared. Several fragments of ceramic pipes still *in situ* against the walls and several drains were found. All these suggested that the complex was designed as a bath. The walls abutted the enclosure wall, indicating a secondary date of construction. Yet this bath must have been built soon after the curtain wall, for pottery from the foundations of the bath suggested it was also erected in the Late Roman period. The bath was cleaned out in the Late Byzantine period for reuse as a stable.

G) Rooms Along the *Via Principalis* (Area N)

This area investigated the row of ten rooms north of the *principia* along the west side of the *via principalis* (Fig. 2). Similar rooms in other Roman forts have been identified as storerooms, stables, workshops, or barracks. The primary goals were to recover their occupational history and determine their function. Two of the three

13. For work in this area between 1980 and 1985, cf. Bert De Vries, 'The Fortifications of el-Lejjun', p. 311-352 in Parker, *Interim Report*.

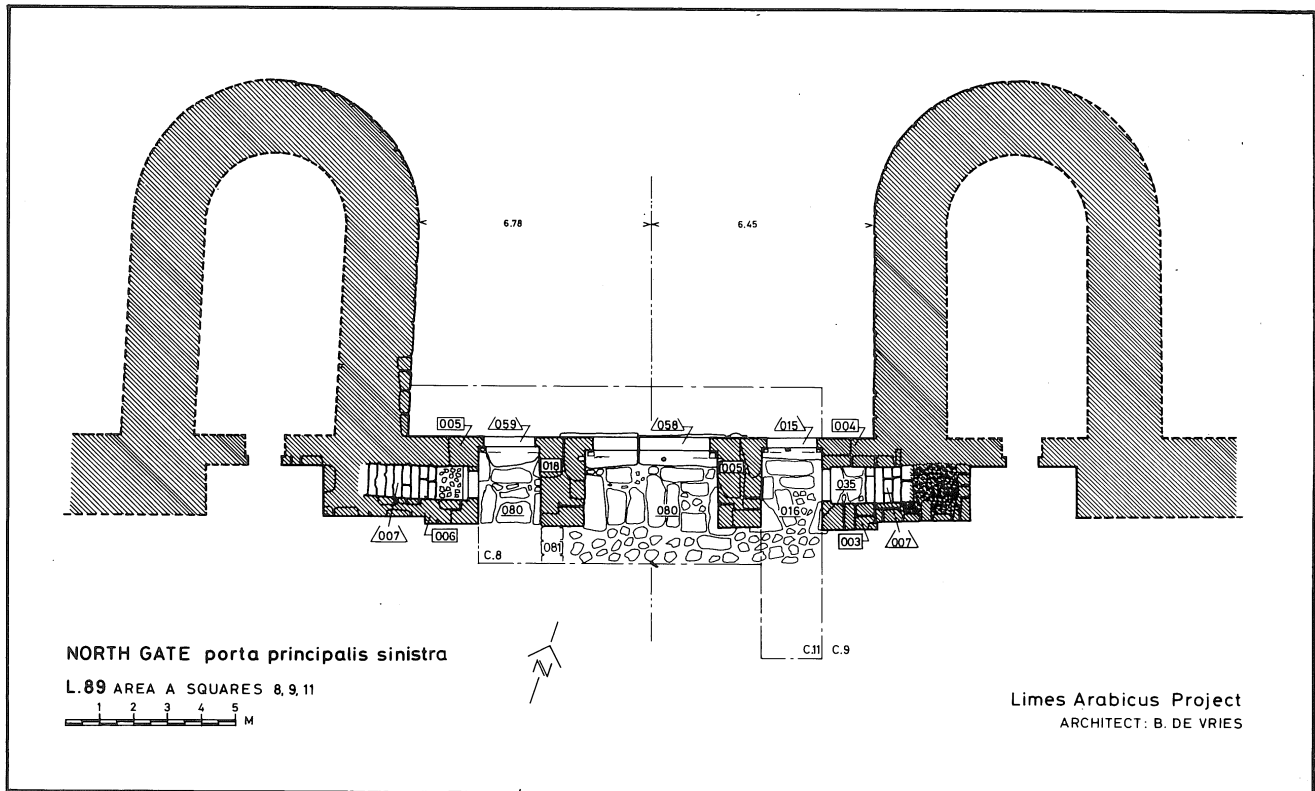


Fig. 7. Plan of the northern gateway (*porta principalis sinistra*) flanked by projecting interval towers.

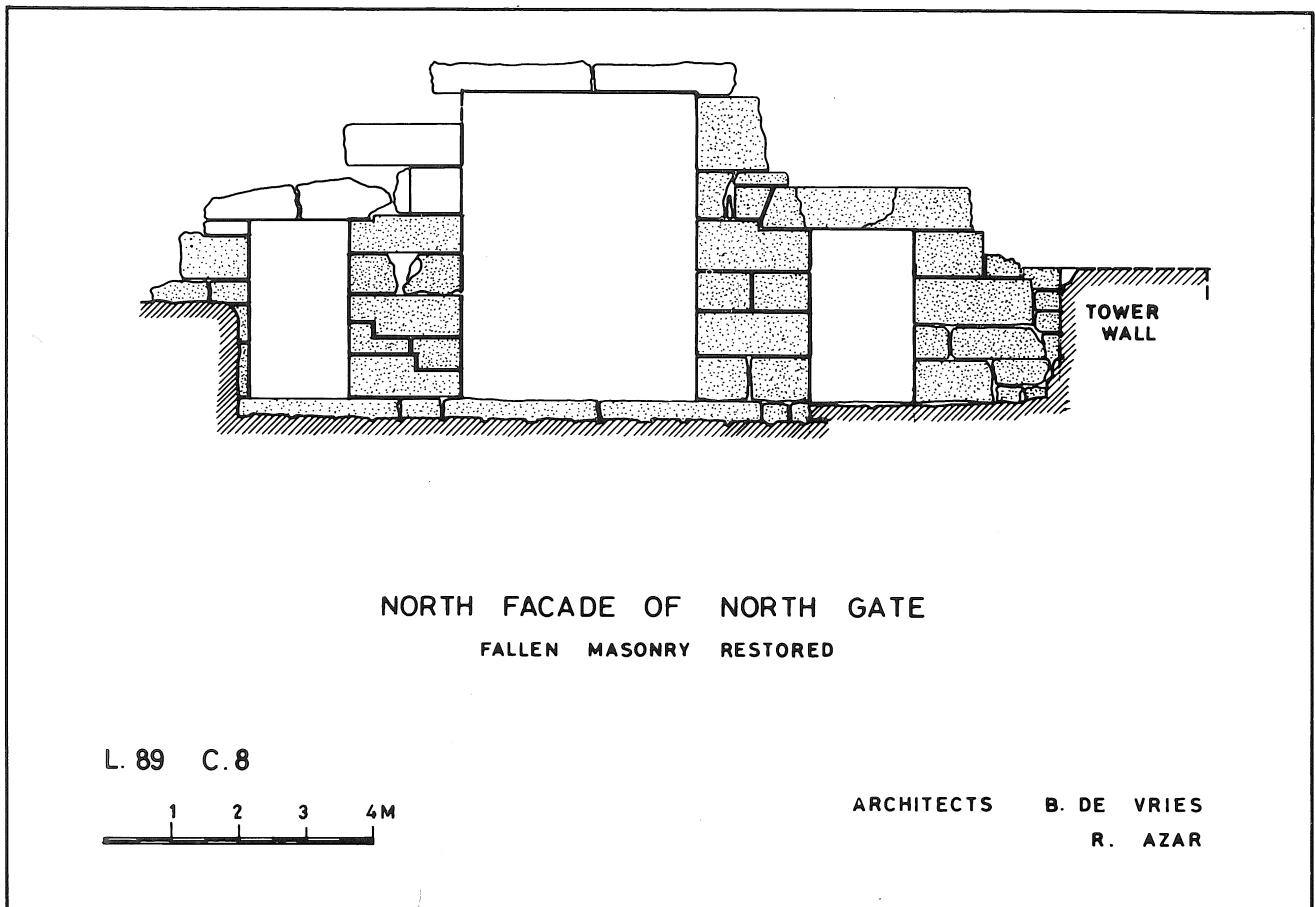


Fig. 8. Elevation of the north (exterior) facade of the northern gateway, with some fallen masonry restored.

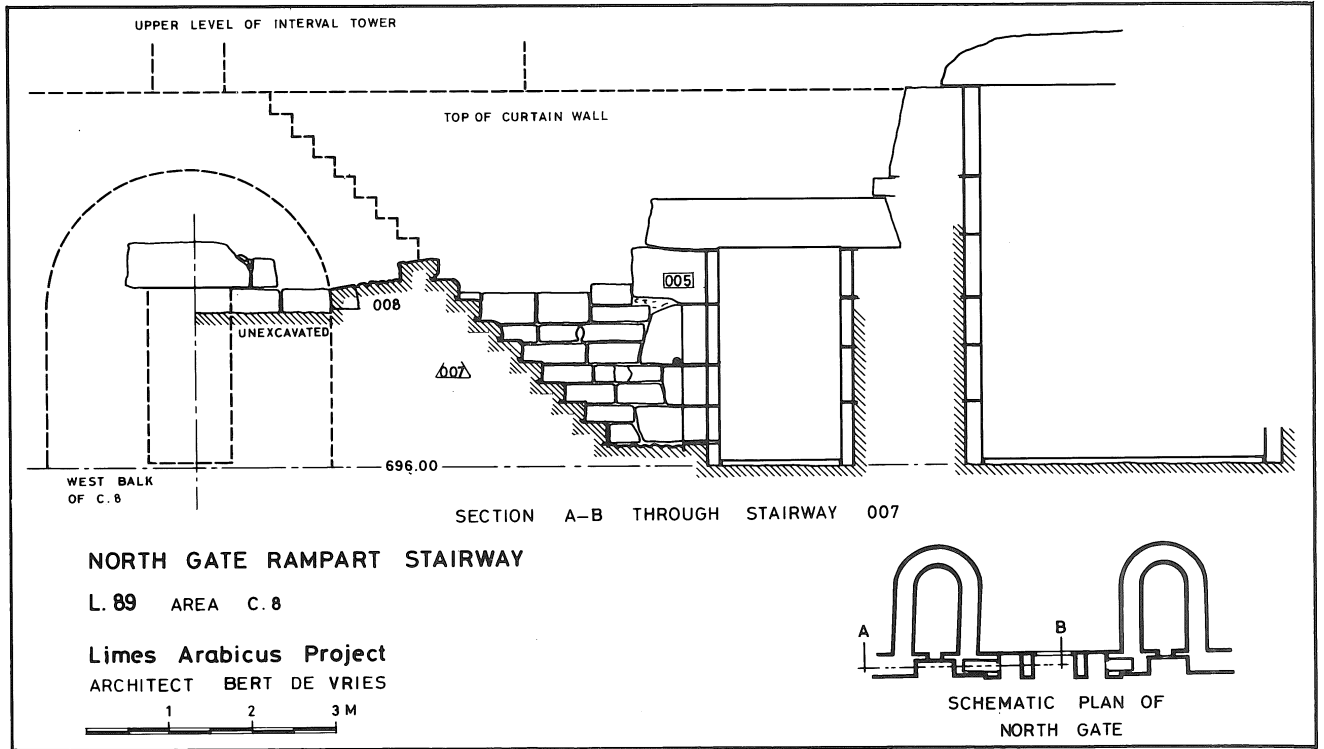


Fig. 9. Elevation of the west rampart stairway of the northern gateway, partially restored.

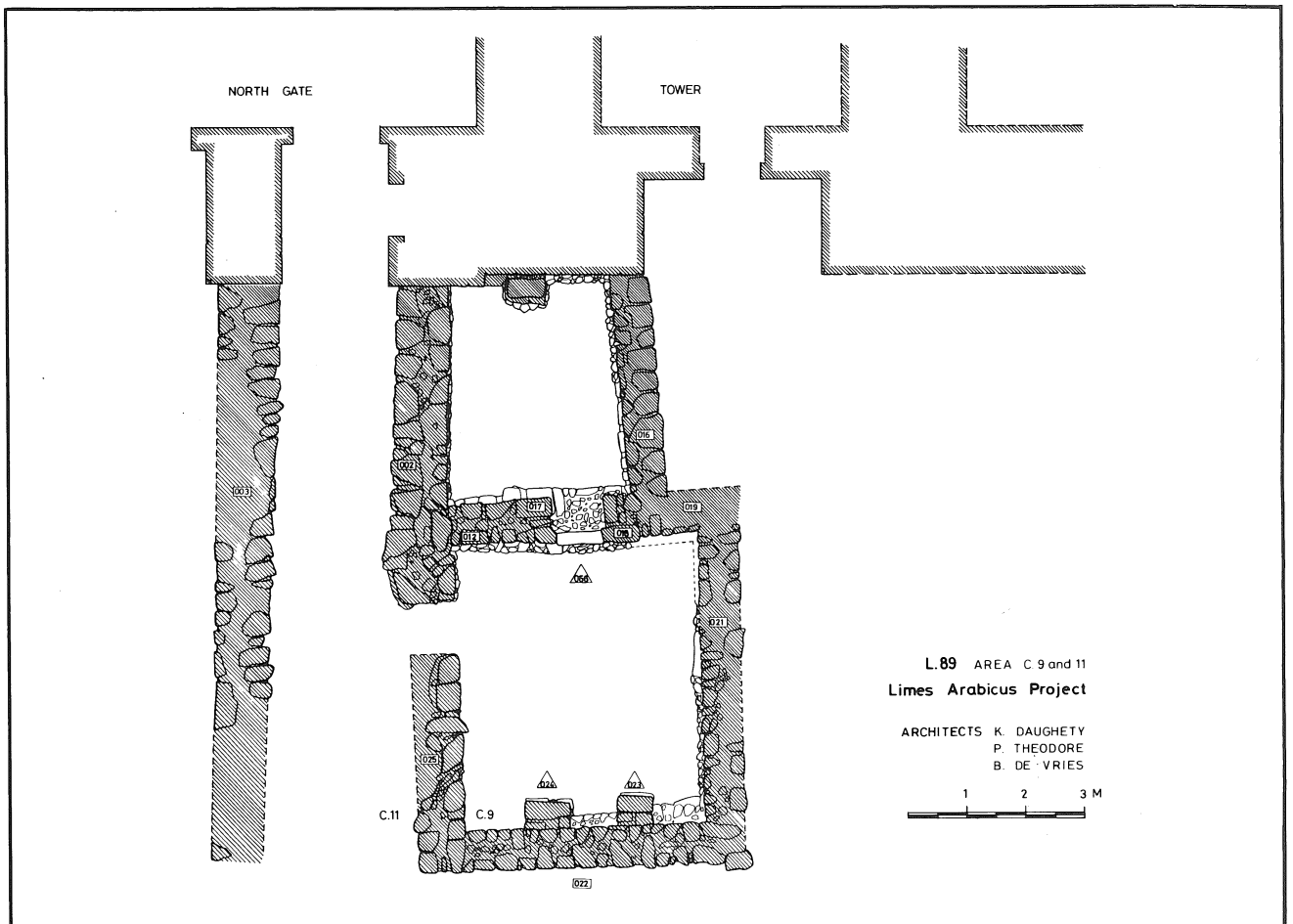


Fig. 10. Plan of the Late Byzantine domestic complex erected between the eastern portal of the north gateway and its eastern interval tower.

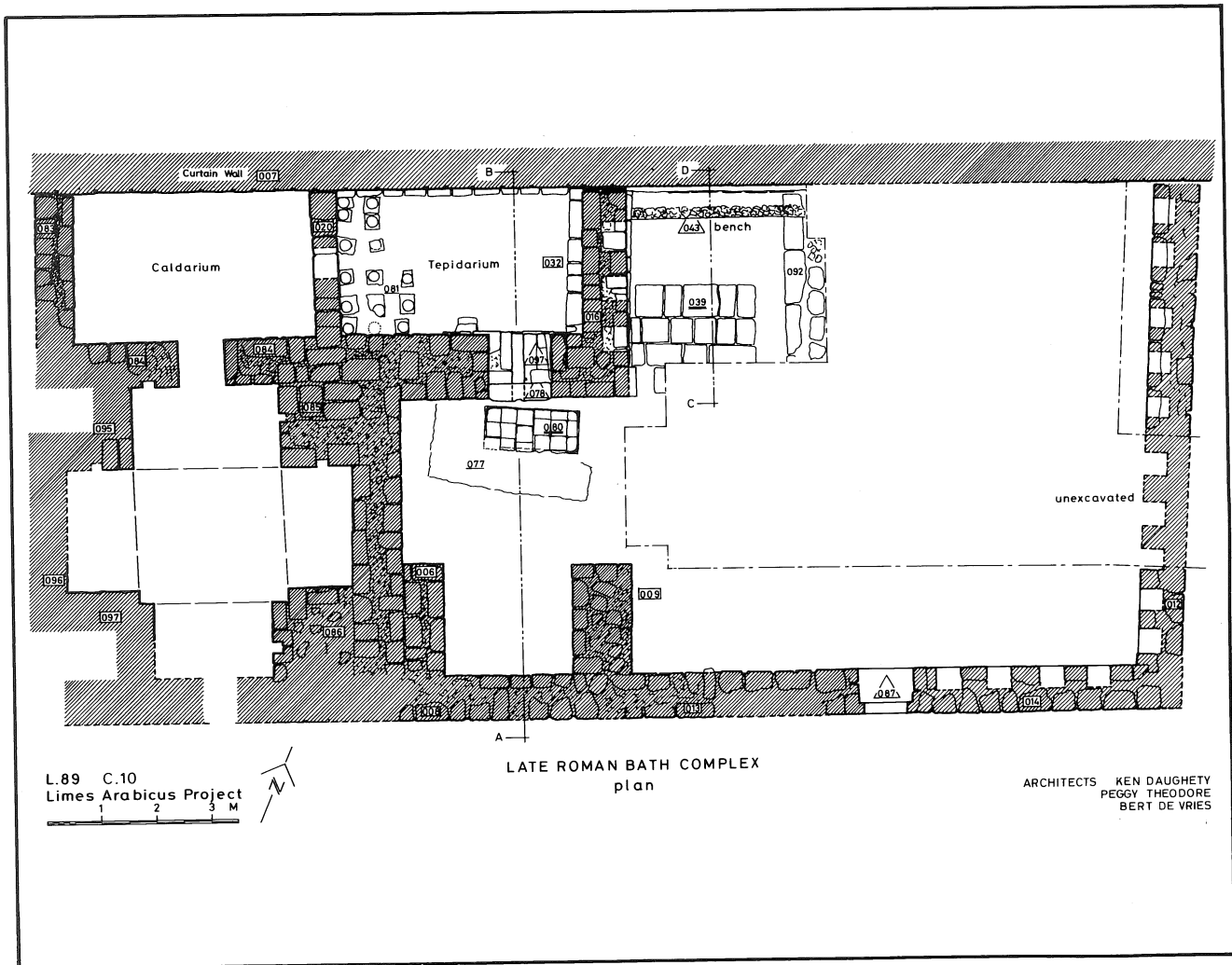


Fig. 11. Plan of the Late Roman bath complex built against the north curtain wall of the legionary fortress.

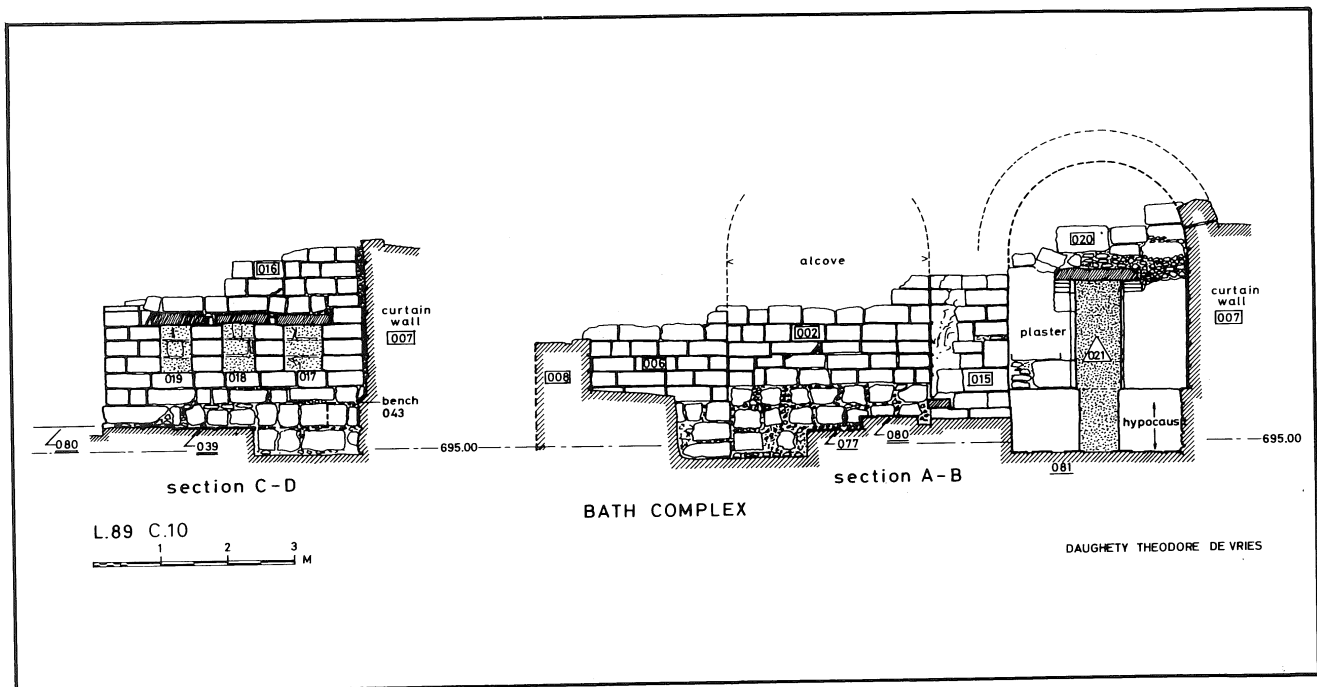


Fig. 12. Sections through the Late Roman bath complex.

rooms (N.1, 3) were completely excavated in 1987. The third (N.2) was finished this season.

All three rooms were constructed after the 363 earthquake atop the foundations of earlier Late Roman walls. Excavation of N.2 in 1989 exposed more of this Late Roman stratigraphy. Although their complete stratigraphic profile was recovered, the lack of conclusive structural or artifactual evidence leaves the function of the rooms problematical.

H) *The Reservoir (Area O)*

A circular depression in the northwest quadrant of the fortress (Fig. 2) had been identified as a reservoir through excavation in 1987. The reservoir was apparently dug in the Early Byzantine period (Strata 5-4) and cut through earlier Late Roman structures. The roughly circular (ca. 5 m. in diameter) reservoir wall was constructed of dressed limestone blocks laid in courses; the wall was sealed with plaster (Fig. 13). Ringing the interior of the wall were the remains of a staircase descending into the reservoir. Half the reservoir was completely excavated in 1989. Evidence suggested that the reservoir had been largely cleaned out and reused as a lime kiln, perhaps in the Late Byzantine period. The lack of silt but presence of several air pockets suggest that the reservoir was intentionally backfilled in a single operation, also probably in the Late Byzantine period.

Soundings of the Lejjūn Vicus

A) *The East Vicus Building (Area P)*

Three major structures have been located in the extramural settlement east and southeast of the fortress. Two of these were excavated in 1989. The east vicus building (Fig. 14) is a large structure (62 x 47 m.) with rooms built around three sides of a large courtyard (40 x 35 m.).¹⁴ Surface sharding in 1987 suggested that the build-

ing was occupied in the Late Roman and Early Byzantine periods. In 1989 a series of nine soundings (P.1-9) was laid out to examine this structure. The goals were to determine its occupational history and its function as part of the extramural settlement.

The range of five rooms along the south side are quite monumental in size. The central room of this range measures 12.30 x 9.70 m. while the side rooms average 12.30 x 6.50 m. Two of these rooms were excavated (P.1, 7). The rooms were roofed by limestone arch springers that carried oblong roofing slabs. Both rooms yielded a simple stratigraphic sequence of two plaster or lime mash floors, suggesting a relatively short period of use.

The western range consists of smaller rooms opening into the courtyard. Three of these rooms were excavated (P.2, 5, 6). These rooms were built of ashlar limestone. Two of the rooms (P.5, 6) contained drains. The drain in P.5 was lined with ceramic roof tiles; that in P.6 was associated with a cement floor and emptied into an L-shaped, plastered trough within the room. It may have served as a latrine or bath.

Pottery from all parts of the complex was homogeneous, dating to the Late Roman and beginning of the Early Byzantine periods (i.e. third/fourth centuries). There was practically no evidence of post fourth century use of the complex, apart from some stone robbing. The function of the structure remains problematic. The monumentality of the southern range of rooms suggests that the building may have been designed with some official purpose in mind, perhaps as temporary headquarters while the legionary fortress was under construction in the late third or early fourth century. After completion of the fortress, the building may have been reused for other purposes in the fourth century. One suggestion is that it served as

14. For a brief description and plan drawn from surface observation, cf. Bert De Vries, 'The

el-Lejjun Water System', p. 411 and Fig. 72, in Parker, *Interim Report*.

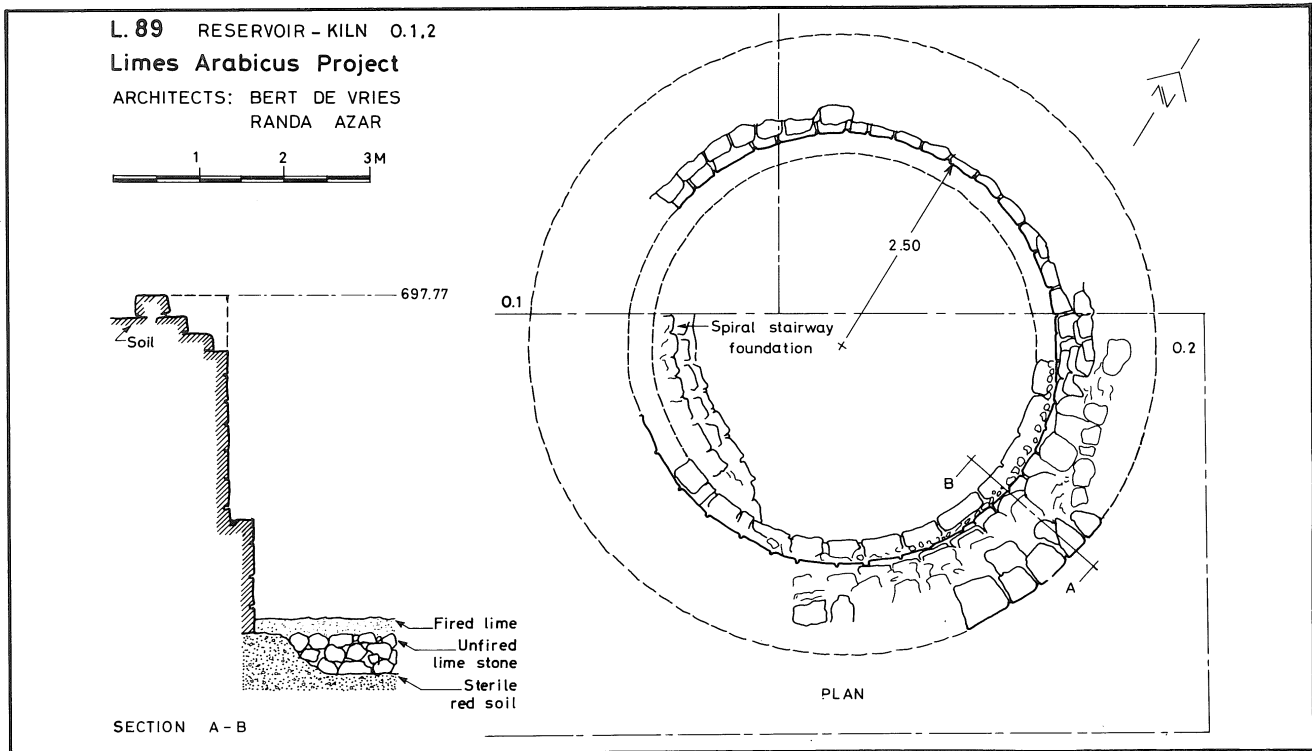


Fig. 13. Section and plan of the reservoir in the northwest quadrant of the fortress. The Early Byzantine reservoir had been cleaned out and reused as a lime kiln, possibly in the Late Byzantine period.

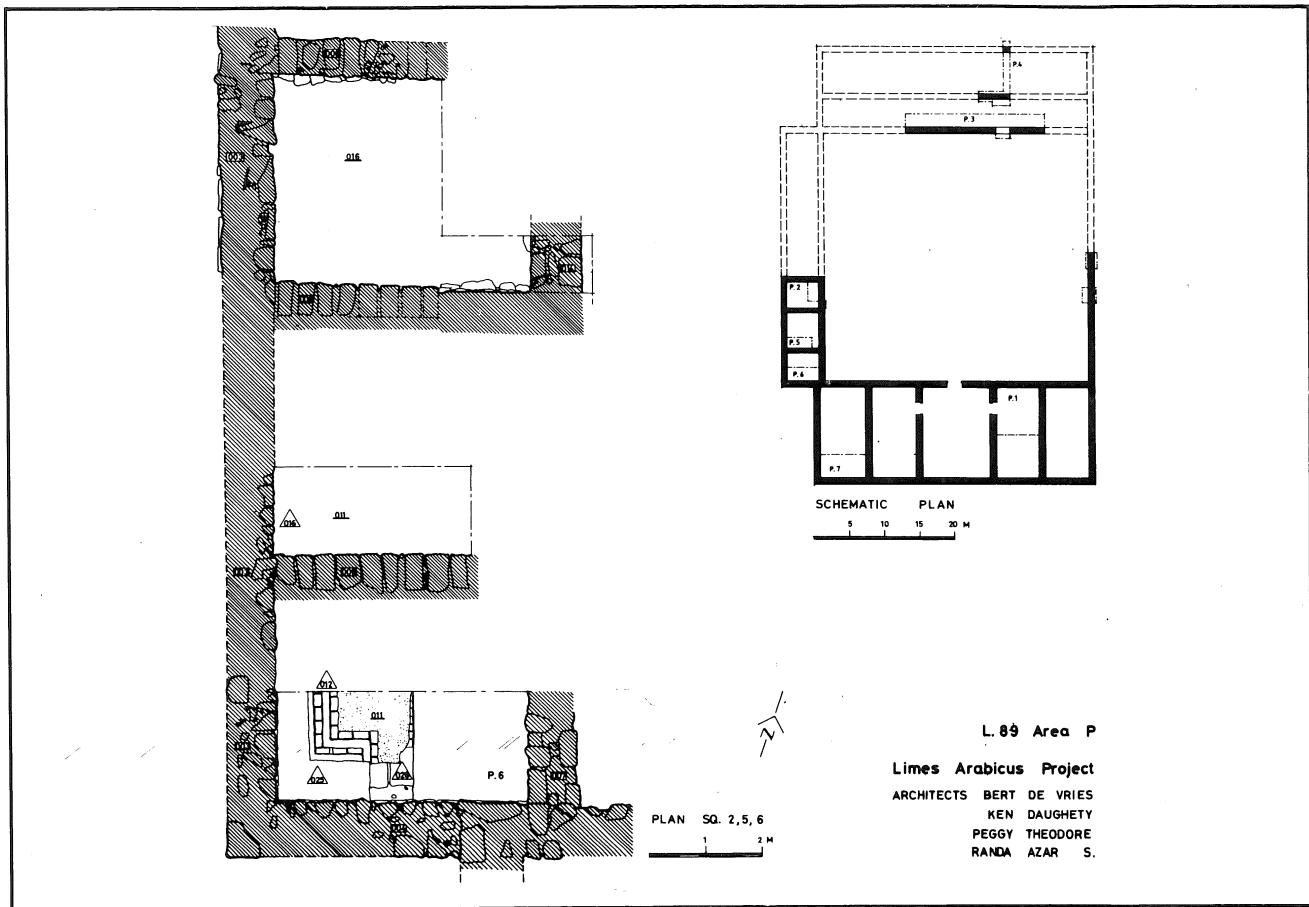


Fig. 14. Plans of the East Vicus building. Plan on the left shows details of the western range of rooms (P.2, 5, 6).

a caravanserai, but further analysis is needed.

B) The Roman Temple (Area Q)

Southwest of the building excavated as Area P is another larger structure visible on the surface. Analysis of the surface pottery and other remains suggested it was a temple occupied in the Late Roman and Early Byzantine periods, suggestions subsequently proven by excavation. A series of twelve soundings (Q.1-12) was laid out to examine the structure (Fig. 15). The principal goals were to date the building, recover its architectural plan, and shed some light on the issue of religion among the population at el-Lejjūn.

The temple consists of a walled courtyard, or *temenos* (ca. 40 m. N-S x 35 m. E-W). The *temenos* was entered through a gateway 3.20 m. wide in the north wall (Fig. 15). An arcade, apparently consisting of arches springing from piers, extended around the interior of the *temenos* on the north, east, and west sides. Small rooms (ca. 3 m. square) were built in the north-east and southeast corners of the *temenos* (and presumably in the other two corners as well).

Located on the central N-S axis of the *temenos* was a podium (16.25 x 10.40 m.) that served as the platform for the temple. The podium was completely filled by basalt and limestone cobbles to a depth of 0.60 m. The podium was approached by a staircase on the northern end, which in turn gave access to the porch and *cella* (Fig. 16). Because the temple had been heavily robbed, there was no evidence to determine whether the porch had once supported columns. Enough remained to show that the *cella* was constructed of ashlar limestone masonry and had been roofed with ceramic tiles. The *cella* was entered from the porch through a doorway 3 m.

wide. Behind the podium was a niche approached by two steps and built into the south wall of the *temenos*. The niche may have once contained an altar or statue.

The construction of the entire temple complex was dated to the end of the Late Roman period (Stratum 6) based on pottery from its foundations. Thus it was built in the same period as the legionary fortress (ca. A.D. 300), presumably for the garrison. Interestingly, the temple appears to have witnessed very little subsequent use and may not have been completely finished. It appears to have been thoroughly robbed shortly thereafter, perhaps even prior to the 363 earthquake. This opens the question of whether the temple was so quickly abandoned because of the conversion of the Empire to Christianity in the fourth century.

Soundings of the *Castellum* of Da'jāniya (Area T)

In previous seasons the project has conducted limited soundings at three smaller fortifications. These include the *castella* of Khirbet el-Fityān and Qaṣr Bshīr and the fortlet of Rujm Beni Yasser.¹⁵ This season the *castellum* of Da'jāniya was selected for soundings. The fort is located ca. 75 km. south of el-Lejjūn, 12 km. east of the *via nova Traiana*, and just west of the modern Desert Highway. Initially surveyed by the author in 1976, Da'jāniya yielded surface sherds that suggested occupation from the early second to the early sixth centuries A.D. A coin found on the surface was dated to A.D. 308-310.¹⁶ A survey team led by P.W. Freeman visited the site in 1985 and 1986. They published a new plan of the site and reported finding two more coins of the fourth century A.D.¹⁷

Da'jāniya is one of the largest *castella* in Jordan. The fort (Fig. 17) represents an

15. For these results, cf. Parker, *Interim Report*, p. 429-495.

16. Parker, *Romans and Saracens: A History of the Arabian Frontier*, p. 93-94, with earlier bibliography on the site.

17. I am grateful to P.W. Freeman for sharing his report in advance of publication; cf. Freeman, 'Recent Survey Work in Southern Jordan', *Acta of the XIV International Limes Congress* (Vienna: Osterreichische Akademie der Wissenschaften, forthcoming.)

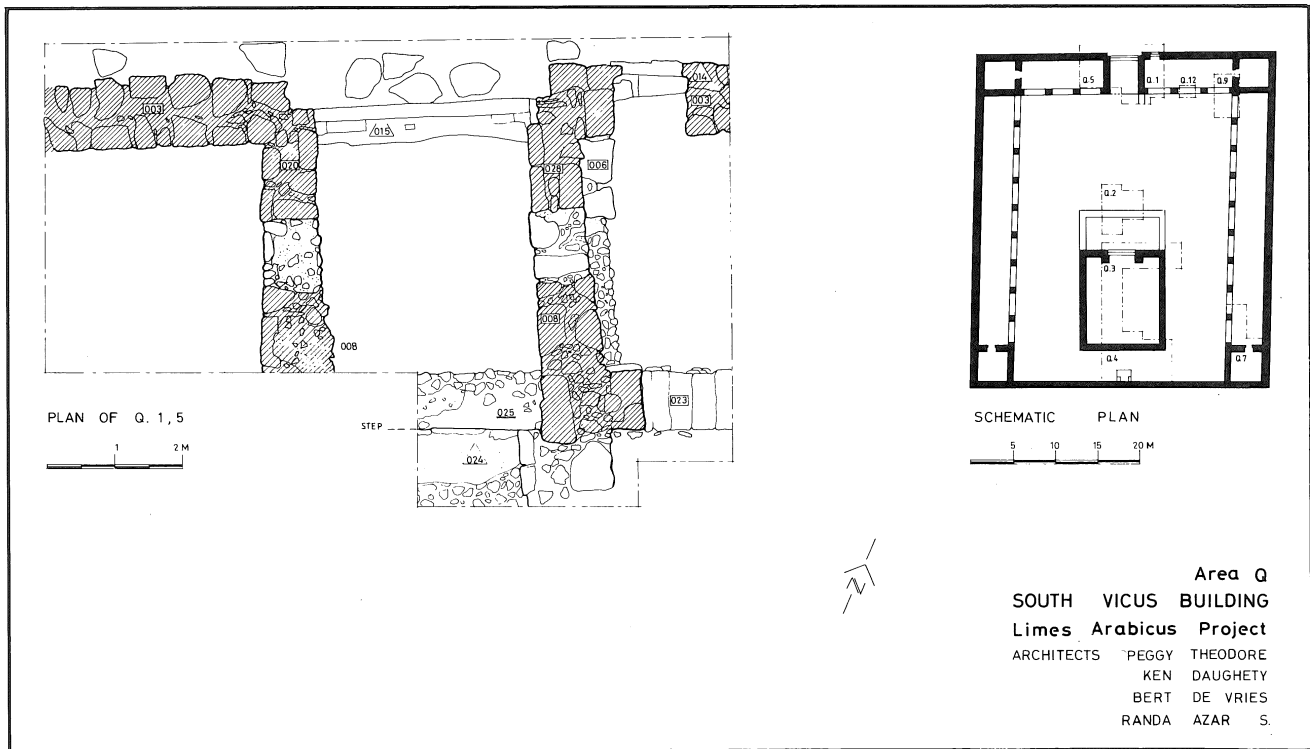


Fig. 15. Plans of the South Vicus building, identified as a Late Roman temple. Plan on the left shows details of the entrance into the *temenos*.

important intermediate type (ca. 100 m. square or 1 ha.), much smaller than a late legionary fortress (ca. 4.6 ha.) but considerably larger than typical Arabian *quadriburgia* (ca. 50 m. square or 0.25 ha.). It is situated on the so-called “outer” or desert road running east of the *via nova Traiana*. The fort was built largely of basalt with limited use of limestone. Square towers project from the angles and at intervals along the walls. Two main gates are located in the southeast and northwest walls; a smaller postern with its vaulted roof still intact (Fig. 18) is located in the southwest wall. The internal buildings are fairly well preserved and include a centrally located *principia* (Fig. 19), reservoir, barracks, and other structures.

The fort was targeted for excavation for several reasons. First, Da‘jāniya appears to have been erected earlier than most other forts of this sector, perhaps even about the time of the Roman annexation of Arabia in 106. Therefore the soundings might supply evidence about the date of construction and the frontier in the second and third centuries, a period still little known due to the fact that most

Roman forts excavated thus far in Jordan date from the late Empire. Second, the coins and pottery from the surface suggested that some evidence recovered would be contemporary with that from the other excavated forts of the fourth and fifth centuries and thus add to our knowledge of this period. Third, what kind of unit garrisoned the fort? The enclosure of ca. 1 ha. was sufficient for a cohort of 500 men in the early Empire or a cavalry vexillation of the late Empire.

A series of soundings was laid out to address these and other problems. These included soundings of the main enclosure wall (T.4), the *aedes* in the *principia* (T.1), a two room suite in an apparent barrack block (T.2, 3), a two room suite against the interior of the northeast enclosure wall (T.6, 7), and a structure in the extramural *vicus* (T.5). Most of these soundings reached bedrock or sterile soil by the season’s end. Definitive chronological conclusions await closer analysis of the numismatic and ceramic evidence. But a few points may be presented here.

The sounding of the enclosure wall revealed that it was founded directly on the

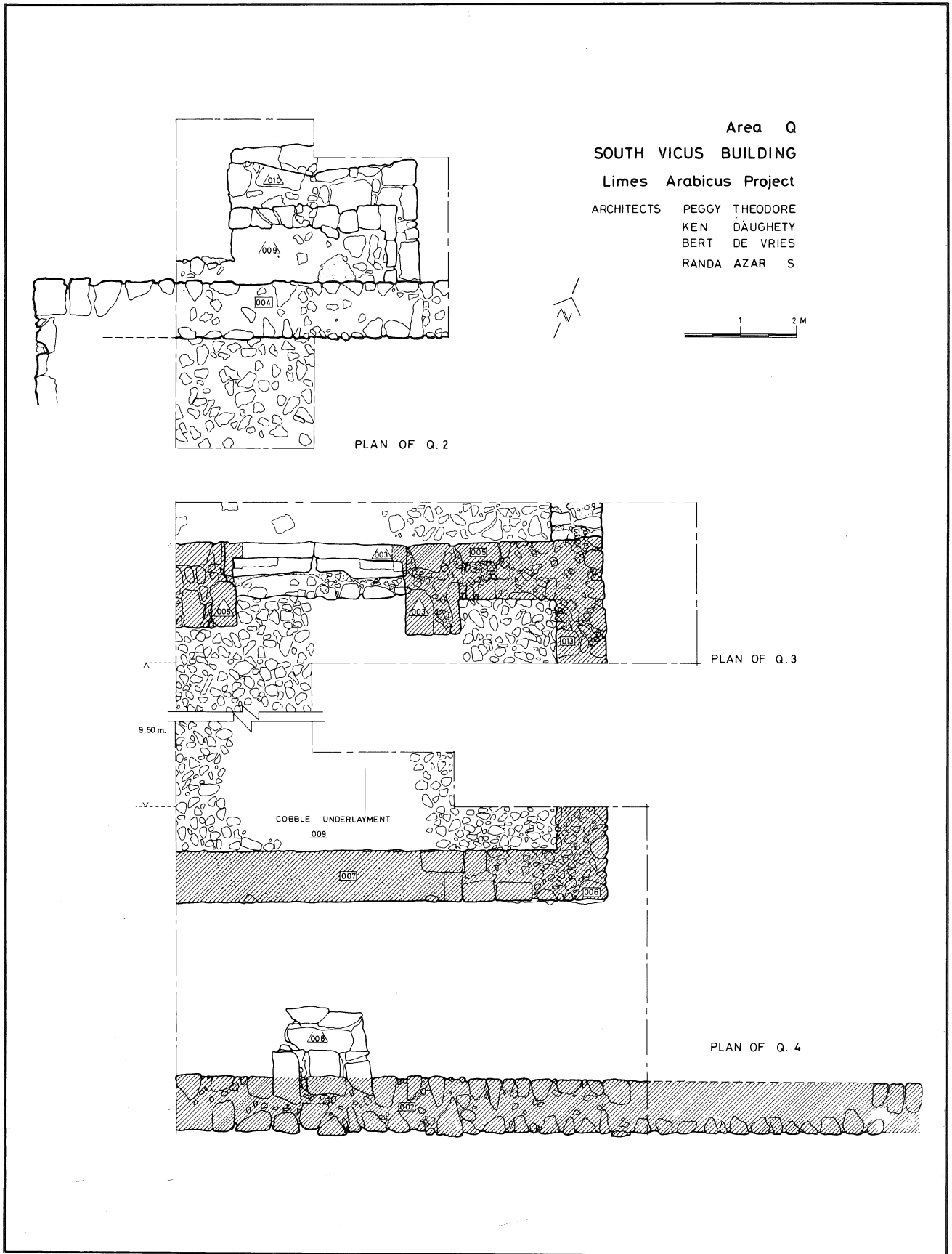


Fig. 16. Detailed plan of elements of the Late Roman temple, including portions of the staircase foundation (Square Q.2), entrance to the *cella* (Square Q.3), and rear *cella* wall and rear *temenos* wall (Square Q.4) with niche approached by two steps (marked as Q.4:008).

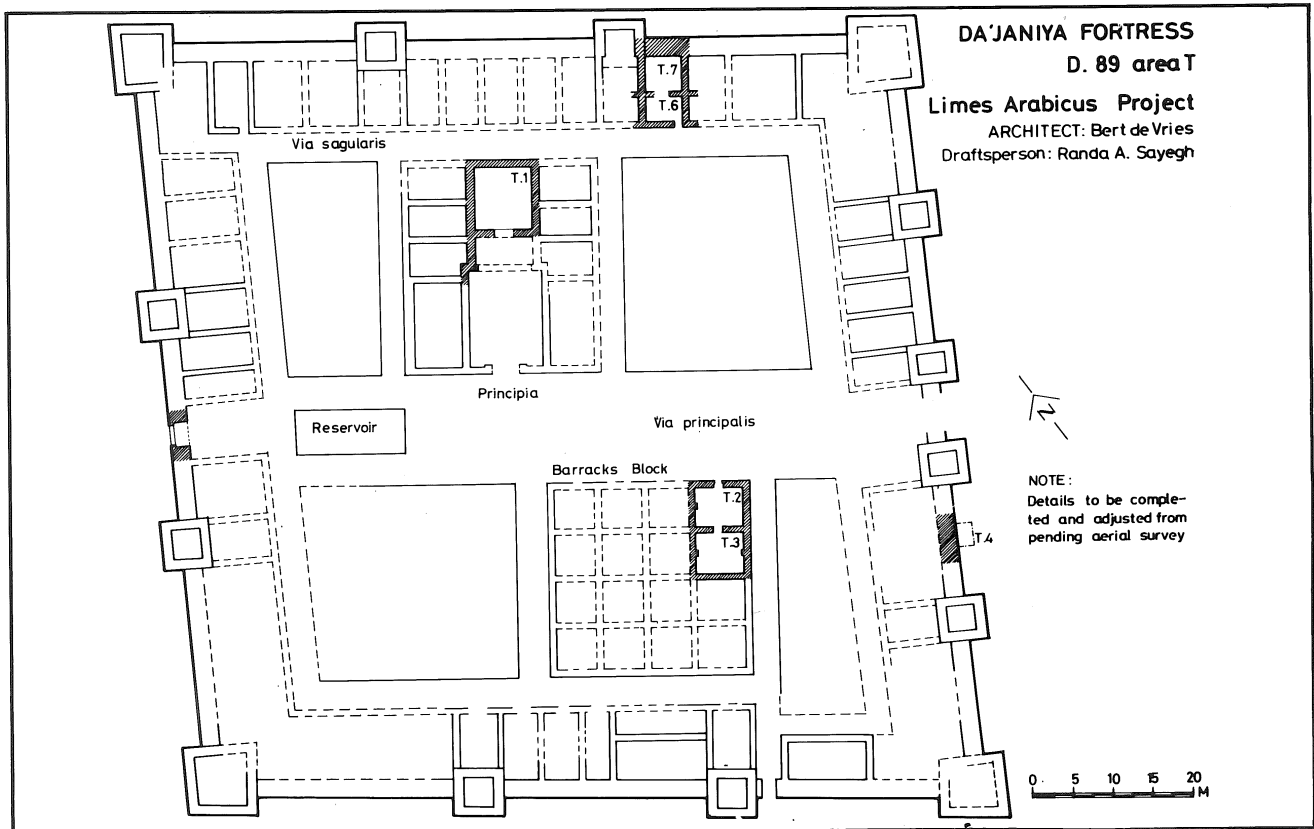


Fig. 17. Plan of the Roman *castellum* of Da'janiya.

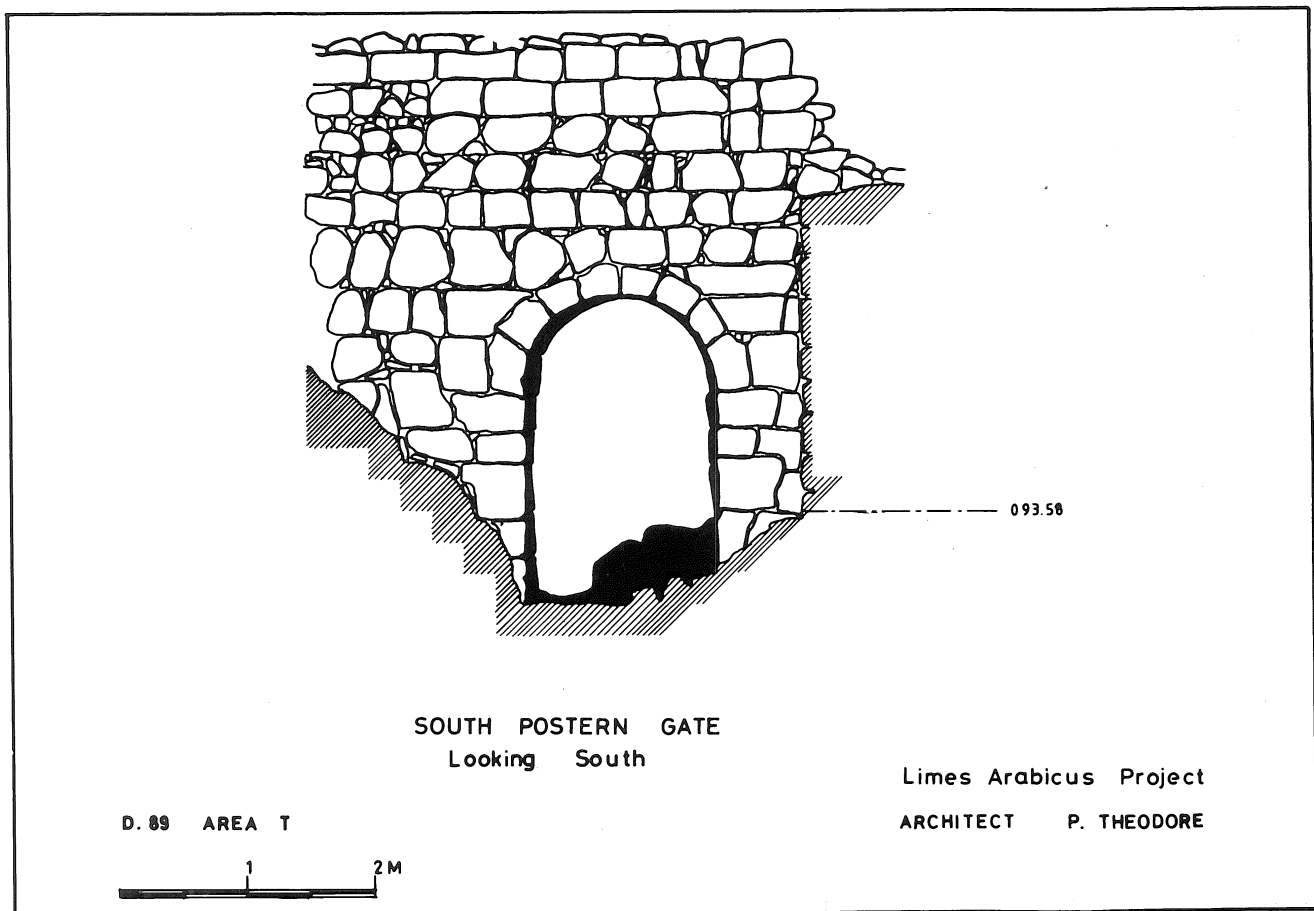


Fig. 18. Elevation of the south postern gate at Da'janiya.

basalt bedrock, without evidence of a foundation trench. The barrack rooms (T.2, 3) yielded a rich corpus of artifactual evidence, including pottery and faunal remains. Clearance of the room on the northeast enclosure wall revealed that it was in fact subdivided into two rooms (T.6, 7). There was no evidence to support the suggestion that this room was one of several stables in this range, as originally suggested by Brünnow and von Domaszewski. Excavation of the rectangular structure in the *vicus* (T.5), originally identified as a tower by Brünnow and von Domaszewski, instead revealed a building containing the *in situ* foundations of three circular grinding mills and several apparent storage installations (Fig. 20). Associated pottery suggested its use was contemporary with that of the adjacent fort.

Historical Conclusions

The fifth season of the project focused on three principal areas: the Lejjūn legionary fortress, the Lejjūn *vicus*, and the *castellum* of Da'jāniya. Although definitive conclusions await closer analysis of the evidence, a few salient points may be advanced here.

It seems clear that the Roman military buildup east of the Dead Sea was in response to increased pressure by nomadic Arab tribes on this sector of the frontier. This pressure seems to have been the result of political, military, technological, and (perhaps) environmental factors.¹⁸ The Roman response to this pressure was multi-faceted, involving extensive military construction, introduction of new military forces, and thorough reconstruction of the regional road system. In fact, a case could be made that this response was something akin to "overkill" in modern military parlance. The massive fortification of el-Lejjūn, for example, with curtain wall foundations two meters deep and housing

an infantry force of ca. 2,000 legionaries, seems odd when one remembers that the enemy were nomads mounted on camels and horses who lacked any significant siege capability. Given the Roman's well deserved reputation for standardization, it was as if el-Lejjūn (and its presumed 'twin' fortress to the south, Udhrūḥ) were constructed according to a plan sent out from the imperial capital without much regard for local security considerations. Eventual recognition of this "overkill" may explain why the legionary garrison at el-Lejjūn was reduced by ca. 50% so early after its establishment (i.e., by A.D. 363). Perhaps the local Roman commanders realized that greater dispersal of forces in smaller units would be more effective against the mobile but lightly armed enemy.

Unfortunately, only a small amount of military equipment was recovered from the fortress. But what has appeared suggests radical change from the heavy legionary infantry of the Principate. Several iron projectile points suggest the soldiers used bows and small javelins. Seven iron bolt heads designed to be fired from a *ballista* (a large cross-bow manned by a small crew of soldiers) have also been recovered. In short, virtually all the weapons found at el-Lejjūn are missiles. No swords or any other weapons for hand-to-hand combat were found, nor was any defensive armour recovered. The prevalence of missile weapons is in accord with the accounts of fourth century warfare farther north along the eastern frontier in Mesopotamia by the contemporary historian Ammianus Marcellinus.

Considerable evidence about the Roman military diet has also been obtained from the paleo-botanical and faunal remains. The species exploited seem similar to those consumed by the population at civilian sites in the region. What remains unclear is to what degree (if any) the garrisons supplied their own needs from the *territor-*

18. For a detailed discussion, cf. Parker, *Romans and Saracens*, p. 135-143; Parker, 'History of

the Late Roman Frontier East of the Dead Sea', in Parker, *Interim Report*, p. 793-811.

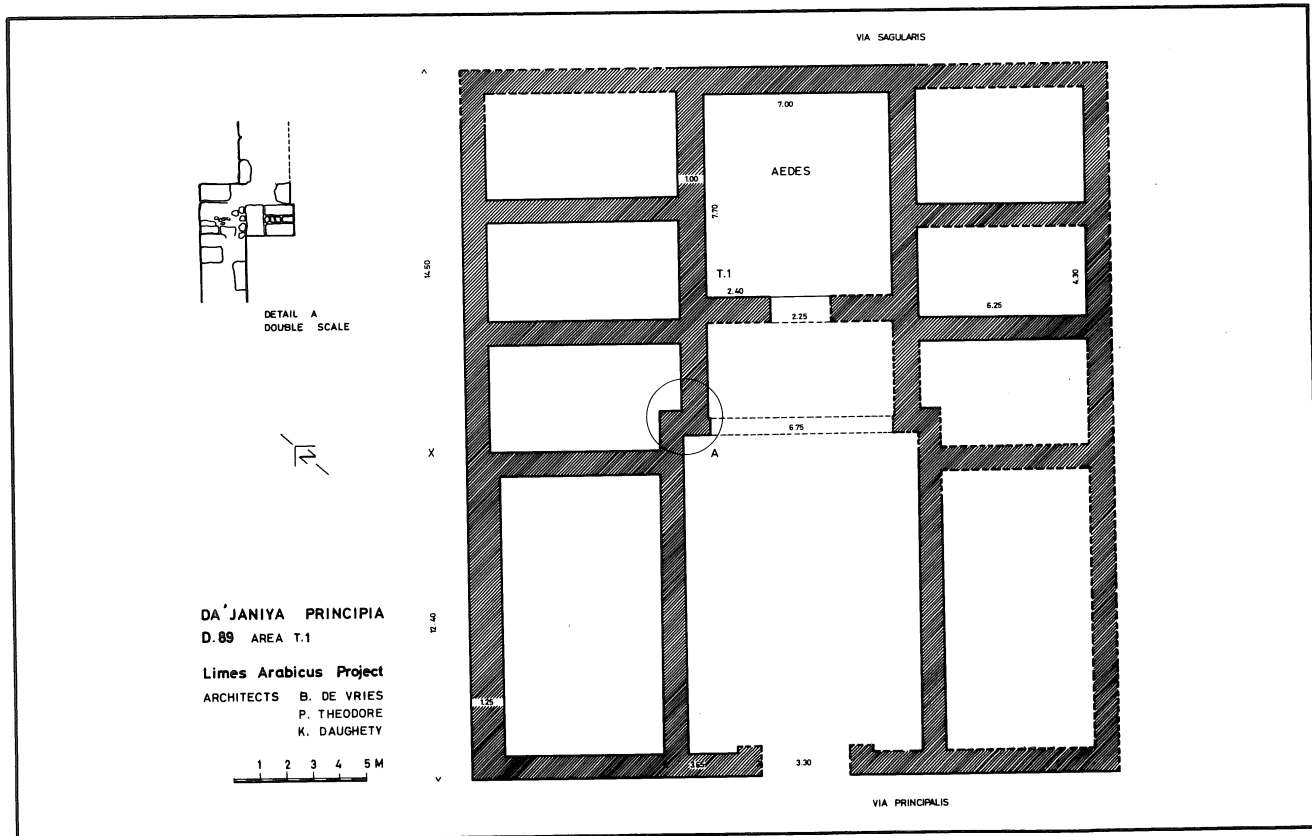


Fig. 19. Plan of the *principia* of the *castellum* of Da'janiya.

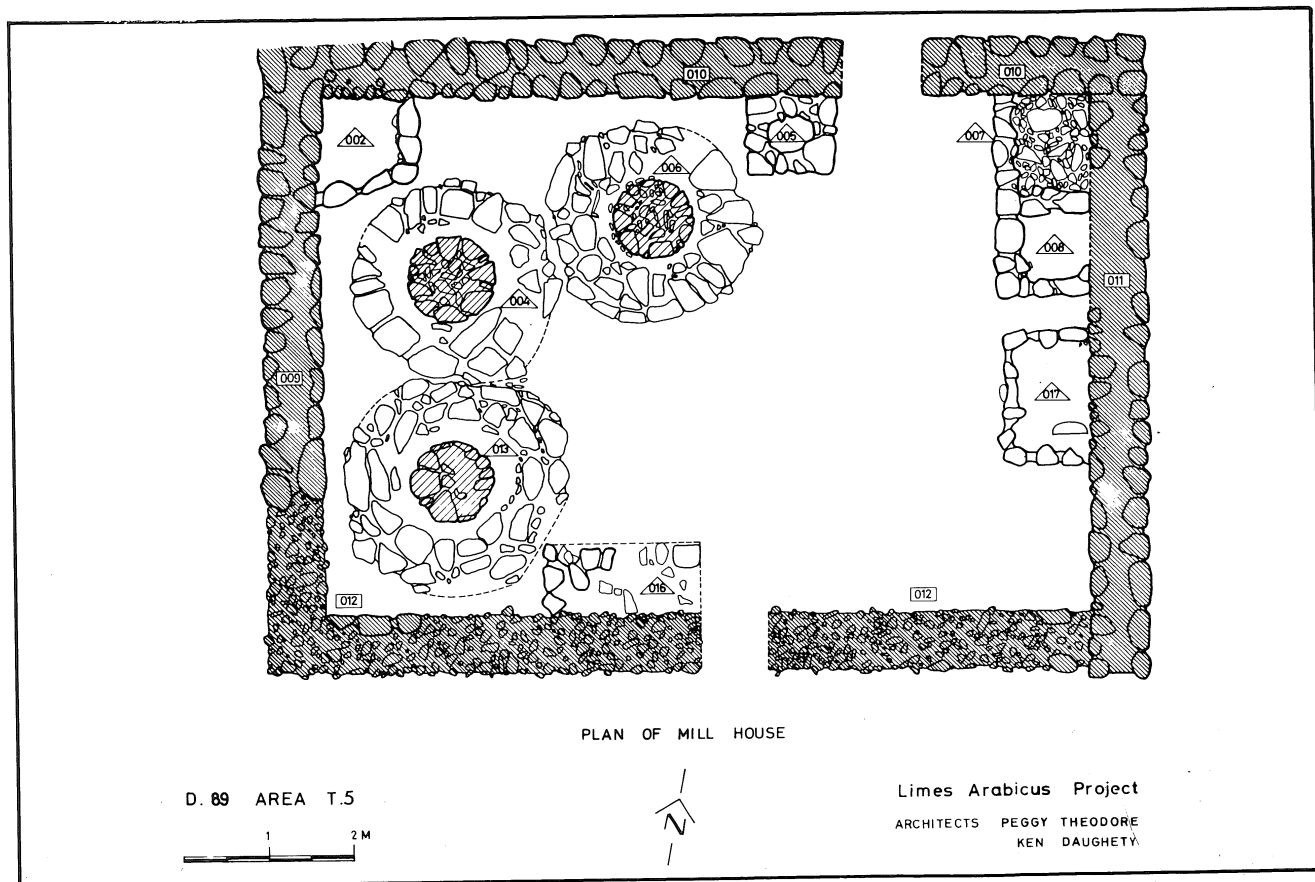


Fig. 20. Plan of the mill house in the *vicus* of Da'janiya. Note the foundations of three circular mills in the western half of the building.

ia of their forts.¹⁹

The fifth season provided more evidence for the abandonment of the *vicus* long before the fortress. Excavation of the two buildings in the eastern *vicus* suggests both were abandoned by the late fourth century. This corresponds to the history of the *mansio* in the western *vicus*, which was destroyed by the earthquake of 363 and never reoccupied.²⁰ Perhaps the reduction of the garrison by the late fourth century permitted the inhabitants of the extramural settlement the opportunity to move within the fortress. There is some evidence of families living within the walls by the fifth and sixth centuries.

The 1989 season also lent further support to the notion of a shrunken, run-down garrison by the early sixth century. This includes the abandonment of the

principia, several rooms in the barracks, the animal stockyard in the northeast quadrant, and several rooms directly adjacent to the *via principalis* by the early sixth century. The discovery in 1987 of a human corpse in one of these rooms facing the *via principalis*, a major thoroughfare through the fortress, suggests that military discipline was especially lax by the early sixth century. This evidence supports the interpretation advanced previously, that the legion at el-Lejjün and many other garrisons were demobilized *ca.* 530 by Justinian.²¹

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19. For preliminary analyses of dietary evidence, *cf.* Patricia Crawford, 'Food for a Roman Legion: The Plant Remains from el-Lejjün', p. 691-704, and Michael R. Toplyn, 'Sampled Faunal Remains from the el-Lejjün Barracks', p. 705-721 in Parker, *Interim Report*.

20. Patricia Crawford, 'A Building in the West

Vicus of el-Lejjün', p. 385-398 in Parker, *Interim Report*.

21. For a detailed discussion, *cf.* Parker, *Romans and Saracens*, p. 149-155; Parker, 'History of the Late Roman Frontier East of the Dead Sea', in Parker, *Interim Report*, p. 819-823.