

# Archaeological Survey of the *Limes Arabicus*: A Preliminary Report

by

by S. Thomas Parker

(Figs. 1 – 3)

## Introduction

The annexation of the Nabataean kingdom by the Roman Emperor Trajan in A.D. 106 brought yet another province, called Arabia, within the Roman Empire. To defend this new province, which essentially consisted of modern Jordan, the Sinai, and extreme southern Syria, the Romans followed their customary procedure and developed a *limes*, or fortified frontier, similar to others in the Empire. The *limes* consisted of a number of camps, forts, and watchtowers, which were linked together by a system of roads. Stretching southward from the provincial capital of Bostra (modern Bosra, now in southern Syria), the *Limes Arabicus* extended through Jordan to 'Aqaba (ancient Aila) on an arm of the Red Sea. All told, it defended some 360 kilometers (225 miles) of frontier. Although some scholars had

studied this *limes* as early as the late nineteenth century, no fully comprehensive survey of the entire system had ever been conducted.<sup>1</sup> In addition, despite the large number of excavations conducted within Jordan over the years, not a single site within the *limes* has ever been excavated.<sup>2</sup> This is especially notable when one realizes the amount of attention other *limites* have received, especially in Britain, Europe, and Syria.

In view of the limited state of knowledge about the *Limes Arabicus*, the author resolved to conduct a new archaeological survey of the system. The permit for this work was kindly issued by the Department of Antiquities of the Hashimite Kingdom of Jordan. The project received the institutional sponsorship of the American Schools of Oriental Research and was aided by its affiliate in Amman, the American

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1. By far the most important work was done by R. Brünnow and A. von Domaszewski, *Die Provincia Arabia*, 3 vols. (Strassburg: Trübner, 1904-09). Although the work of these two great scholars is monumental and provides much significant data, they were hampered by the lack of any ceramic typology in dating. They were also unable to cover the southern sector of the *limes*, from Ma'an to 'Aqaba, or about 100 kilometers of frontier. See also R. Brünnow, «Die Kastelle des arabischen *Limes*»; *Florilege Mis de Vogüé* (1907) 77 ff. The groundwork for the Roman road system in this area was developed by P. Thomsen, «Die romischen Meilensteine der Provinzen Syria, Arabia, und Palestina», *Zeitschrift des Deutschen*

*Palaestina-Vereins* 40 (1917) 1-103. Of some value for the study of the *limes* is the survey work of Nelson Glueck, *Explorations in Eastern Palestine*, 4 vols., (Cambridge: American Schools of Oriental Research, 1934-1951), although Glueck was primarily concerned with Nabataean and earlier period sites. The most important recent discussion of the *limes* is G. W. Bowersock's article, «A Report on Provincia Arabia», *Journal of Roman Studies* 61 (1971) 219-242. See especially 236 ff.

2. The only possible exception might be the recent excavation of Rujm Malfuf, an Iron Age watchtower apparently reused in the Roman period in Amman.

Center of Oriental Research (ACOR). The staff of the survey consisted of S. Thomas Parker of the University of California, Los Angeles, as director, Dr. Frank L. Koucky of Wooster College as geologist, Dr. James A. Sauer of ACOR as ceramic typologist, and Paul McDermott of U.C.L.A. as photographer. Ahmed Odeh and Mohammad Subhi Omari served as the official representatives of the Department of Antiquities.<sup>3</sup> Further part time staff included Scott Rolston, Margaret Langford, Robin Brown, and Mary Witt.

Some of the preliminary work on the project was conducted during a feasibility study in Jordan in June of 1975, funded by grants from the U.C.L.A. Graduate Division and the U.C.L.A. Friends of Archaeology. Further preliminary work took place in June, July, and August, 1976, while the formal survey commenced on August 16 and ended on September 6, 1976. The survey was funded by grants from the U.C.L.A. Friends of Archaeology, the Shell Oil Foundation, the U.C.L.A. Patent Fund, and the Kyle Kelso Fund. The author would like to express his thanks to each of these organizations for their support. For most of the duration of the survey the staff was based at the American Center (ACOR) in Amman. But for several days the base of operations was shifted to the Department of Antiquities caves in Petra and then to 'Aqaba to cover the southern fort sites.

The goals of the survey were primarily twofold. First, a ceramic sample was collected at each *limes* site to provide evidence for the history of occupation at

the site itself and the chronological development of the *limes* as a whole. Second, a topographical analysis of each site was conducted to ascertain each fort's defensibility, potential as an observation post, water supply, and any associated settlements. Also examined was each fort's relationship to the ancient road network, adjacent forts, and surrounding topography. In other words, the function of each particular fort was examined, to determine both the local situation and the overall picture of imperial defence.

The ceramic sample varied greatly in size, depending on the size of the site (which varied from a watchtower ca. 5 meters square to a *castra* of 11 acres) and the amount of surface pottery present. But on average 200 to 400 sherds were taken from each site. In addition to the ceramic collection and topographical analysis, each site was photographed and its architectural plan was studied. Any other surface artifacts, such as glass, tesserae, flints, coins, or other objects, were collected along with the pottery. Besides this material, an apparently new Latin building inscription was found at Qasr 'Uweinid (probably from the Severan period), which will be published subsequently.

The criteria for selecting the *limes* sites to be surveyed were essentially two. First, it was decided to cover as many as possible of the military posts within the system which were larger than watchtowers in size. Thus both legionary camps (or *castra*, at Lejjun and Udhruh) and some 23 auxiliary forts (or *castella*) were surveyed. Since it

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3. I wish to express my thanks to Yacoub Oweis, Director-General of the Department of Antiquities, and to Yusef Alami, the Assistant Director, for their cooperation and assistance in the furtherance of the project.

I also owe a great debt of gratitude to Dr. Sauer, Director of ACOR, who unselfishly furthered the project in all its stages and provided the facilities of ACOR for our use.



was not feasible to include all the watchtowers (which number in the hundreds) within the survey, a sampling of twelve watchtowers was selected for examination. In addition, two caravanserai and two non-military sites from the same period were also surveyed, for a total of 41 sites in all. Second, unlike earlier investigators, we felt the need to cover the entire geographic range of the *limes*, from the Gulf of 'Aqaba to the Syrian border. The only area neglected because of political circumstances was the ca.18 kilometer section from the Syrians border north to Bosra. Besides the forts along the *limes* itself, several advanced posts, located eastwards in the Syrian Desert, were visited and surveyed.

Before presenting the results of the survey, it is necessary to emphasize the preliminary nature of this report. The aim here is to present a summary of the ceramic data from each site, a basic chronological scheme for the development of the *limes*, and some tentative historical conclusions. A forthcoming volume will present the detailed topographical, architectural, and ceramic data from each site, reexamine all the ancient literary and epigraphic evidence, and analyze the *limes* from a historical perspective.

### Results

From the 41 sites covered by the survey team a total of more than 12,500 sherds was collected. These were returned to ACOR in Amman, washed, and analyzed. More than 3,600 from the total number were saved for drawing and further study. The chronological conclusions presented

here are based on the ceramic typology for the late periods of Palestinian archaeology (post 539 B.C.) developed by Dr. Sauer from the excavations at Heshbon in Jordan.<sup>4</sup> Sauer's typology, based on both historical and archaeological evidence, was controlled by associated numismatic evidence. More than half a dozen dated building inscriptions from several of the forts themselves provided a further chronological check upon the ceramic evidence. Without exception, pottery which corresponded in date with the building inscriptions was found at each of these sites.

Sauer's subdivisions of the Roman and Byzantine periods, which are of principal importance for the survey, are listed below:<sup>5</sup>

Early Roman I	63—37 B.C.
Early Roman II	37—4 B.C.
Early Roman III	4 B.C.—A.D. 73
Early Roman IV	73—135
Late Roman I	135—193
Late Roman II	193—235
Late Roman III	235—284
Late Roman IV	284—324
Early Byzantine I	324—363
Early Byzantine II	363—392
Early Byzantine III	392—450
Early Byzantine IV	450—491
Late Byzantine I	491—527
Late Byzantine II	527—565
Late Byzantine III	565—614
Late Byzantine IV	614—640

The following chart lists all 41 sites surveyed, including 37 military sites, two caravanserai, and two sites (Zeinab and Ureiniba) of a non-military nature. For each site the chart supplies its name, site

4. J.A. Sauer, *Heshbon Pottery 1971* (Berrien Springs, Michigan: Andrews University, (1973) 1-7.

5. *Ibid.*, 3-5.

number (for location on the maps), type (watchtower, *castellum*, etc.), any relevant epigraphic evidence listed by date, and the pottery collected (total number of sherds, number saved, and the number assigned to a particular period or periods).

It should be noted at this point what the limitations of this kind of evidence are. The survey method of determining the sequence of occupation at a particular site by surface pottery was proven effective in this area by Nelson Glueck as long ago as the 1930's, but this method is inferior to stratigraphic excavation. This implies caution especially regarding apparent gaps in occupation and other arguments from silence. On the other

hand, the greatest degree of probability of occupation at any site is the latest evidence, which may cover or obscure earlier material.

The abbreviations used in the chart are as follows: Mod—modern; Ott—Ottoman (1516-1918); Ay/Mam—Ayyubid/Mamluk (1174-1516); Abb—'Abbasid (750-979); Um—Umayyad (640-750); Byz—Byzantine; R—Roman, Nab—Nabataean; Hel—Hellenistic; Ir<sup>1</sup>—Iron I, Ir<sup>2</sup>—Iron II; B—Bronze; Chal—Chalcolithic; E—early; L—late; prob—probable; pos—possible; UD—undetermined; CR—*castra*; CL—*castellum*; WT—watchtower; CV—caravanserai; NM—non-military;



No	Site Name	Site Type	Epigraphic	Total	Saved
1	Deir el Kahf pottery tabulation — 20 Mod, 16 Ott, 42 Um, 22 E Byz I—III, 7 LR III—IV, 2 LR I—II, 26 ER II—IV 2 Ir(?), 9 UD, body sherds—2 Byz, 2 LR	CL	A.D. 306 <sup>a</sup> , 367-375 <sup>b</sup>	1,309	150
2	Qasr el Ba'iq tabulation — 5 Mod, — 56 UM, 19 L Byz II—IV, 13 E Byz, 14 LR IV, 8 UD	CL	A.D. 412 <sup>c</sup>	278	115
3	Qasr el Hallabat tabulation — 1 Ay/Mam, 91 Um, 56 L. Byz I—IV, 3 E Byz III—IV, 17 E. Byz I—II, 41 LR IV, 12 LR I—III.	CL	A.D. 213, <sup>d</sup> 529, <sup>e</sup>	660	221
4	Qasr el Usaikhin tabulation — 14 L Byz II—IV, 18 LR II—IV, 5 ER III—IV	CL	—	383	37
5	Qasr el Azraq tabulation — 3 Mod, 23 Ott, 2 Ay/Mam, 7 Um, 34 LR III to E Byz I body sherds, 1 ER III, 1 Ir, 1 UD.	CL	A.D. 326—333 <sup>f</sup>	154	71
6	Qasr el 'Uweinid tabulation — 107 LR IV dominant; pos ER IV—LR body sherds.	CL	—	358	107
7	al-Hadid tabulation — 1 Ay/Mam, 8 E Byz I, 7 LR IV, 177 prob LB.	CL	—	193	193
8	al-Qastal tabulation — 10 Mod, 197 Ay/Mam and E Ott, 28 Um, 12 LR IV to E Byz I, 15 ER, 2 IR <sup>2</sup> (?)	CL	—	490	264
9	Umm el Walid tabulation — 11 Ay/Mam, 16 Um, 14 E Byz I—II, 22 LR III—IV, 26 LR I—II, 10 LR body sherds, 112 Nab, 3 LB(?), 5 UD	CV	—	609	219
10	Qasr es-Za'faran(a) tabulation — 1 Mod, 11 Um, 19 LR I—IV, 70 Nab, 28 Ir <sup>2</sup> , 4 Ir <sup>1</sup>	WT	—	391	133
11	Qasr el Za'faran(b) tabulation — 9 LR IV to E Byz I, 61 Ir <sup>2</sup>	WT	—	70	20
12	er-Rumeil tabulation — 43 Ir <sup>2</sup> , 3 Ir <sup>1</sup>	WT	—	172	46
13	Khan ez-Zabib tabulation — 5 Mod, 41 Um, 10 E Byz I—II, 17 LR/E Byz body sherds, 4 LR I—III, 5 R body sherds.	CV	—	180	82
14	Museitiba tabulation — 2 Mod, 1 Um, 6 E Byz I—II, 10 LR I—IV, 15 Nab, 5 Ir <sup>2</sup> , 7 Ir <sup>1</sup>	WT	—	314	46
15	Qasr Saliya tabulation — 1 Ay/Mam, 3 LR, 28 Nab, 139 Ir <sup>2</sup> , 3 Ir <sup>1</sup>	WT	—	283	174
16	Khirbet ez-Zona tabulation — 12 L Byz I—IV, 41 E Byz I—III, 17 LR IV, 5 Ir <sup>2</sup>	CL	—	326	75
17	Qasr eth Thuraiya tabulation — 1 Ay/Mam, 7 E Byz I—III, 22 LR IV.	CL	—	162	30
18	er-Rama tabulation — 1 L Ott, 10 E Byz I—II, 11 ER IV, 92 Nab, 3 Ir <sup>2</sup> , 2 UD	WT	—	286	119



No.	Site Name	Site Type	Epigraphic	Total	Saved
19	Muhattet el Haj (a) (upper)	CL	—	481	135
	tabulation — 3 Mod, 7 L Mam/Ott, 17 L Byz I—III, 16 E Byz I—IV, 15 LR IV, 2 pos. LR I—III, 12 ER IV, 61 Nab/Er, 2 Ir <sup>2</sup>				
20	Muhattet el Haj (b) (lower)	CL	—	138	35
	tabulation — 3 Mod, 1 Ott, 8 L Byz III—IV, 3 E Byz, 10 LR IV, 10 Nab				
21	Qasr el 'Al	WT	—	216	46
	tabulation — 13 E Byz I—II, 1 prob LR III—IV, 24 Nab, 8 Ir <sup>2</sup>				
22	Qasr Bshir	CL	A.D. 306 <sup>g</sup>	218	74
	tabulation — 40 E Byz I—II, 34 LR IV				
23	Khirbet el Fityan	CL	—	207	56
	tabulation — 2 L Ott, 4 E Byz I—II, 30 LR IV, 1 pos LR II—III, 5 Nab/ER, 11 Ir <sup>2</sup> , 3 UD				
24	el-Lejjun	CR	—	501	140
	tabulation — 3 Mam/Ott, 2 Um, 3 L Byz I, 69 E Byz I—IV, 46 LR IV, 1 pos LR II—III, 9 pos ER IV, 5 pipe fragments, 2 roof tiles				
25	Qasr Abu Rukba	WT	—	197	14
	tabulation — 9 E Byz I—II, 5 LR IV				
26	Qasr esh Shuhar	WT	—	190	28
	tabulation — 1 Ay/Mam, 18 Nab/R body sherds, 9 Chalco/EB				
27	Jurf-ed-Darawish	CL	—	105	17
	tabulation — 2 E Byz I—II, 12 LR II—IV, 3 UD				
28	Qasr el Bint	WT	—	354	55
	tabulation — 14 E Byz I—III, 7 LR III—IV, 3 LR I—II, 5 ER IV, 26 Nab				
29	Da'janiya	CL	—	225	65
	tabulation — 3 Mam/Ott, 14 L Byz I, 21 E Byz I—IV, 15 LR III—IV, 5 LR I—II, 7 UD				
30	Udhruh	CR	—	722	167
	tabulation — 4 Mod, 42 L Mam/Ott, 10 L Byz I—II, 24 E Byz III—IV, 17 E Byz I—II, 7 LR IV, 55 Nab, 8 Ir <sup>2</sup>				
31	Ail	CL	—	494	65
	tabulation — 1 Mod, 3 L Ott, 6 L Byz I—II, 5 E Byz III—IV, 8 E Byz I—II, 9 LR III—IV, 24 Nab, 9 Ir <sup>2</sup> .				
32	'Ain Sadaqa	WT	—	236	50
	tabulation — 4 L Ott, 30 E Byz I—IV, 9 LR IV, 1 LR III(?), 3 Nab, 3 UD				
33	el Hammam	CL	—	162	43
	tabulation — 2 Ay/Mam, 2 Abb, 13 Um, 21 E Byz, 2 ER IV (?), 3 UD				
34	el Mutrab	CL	—	148	36
	tabulation — 2 Ay/Mam, 21 E Byz, 4 ER (?), 3 Chal, 6 UD				
35	Khirbet el Qirana	CL	—	346	110
	tabulation — 1 L Ott, 30 E Byz I to L Byz I, 8 LR III—IV, 7 LR I—II, 57 Nab, 3 Ir <sup>2</sup> (?), 4 UD				

No	Site Name	Site Type	Epigraphic	Total	Saved
36	el Qirana watchtower	WT	—	276	54
	tabulation — 1 L Byz II–III (?), 26 E Byz I to L Byz I, 5 LR IV, 11 Nab, 1 Ir(?), 10 UD				
37	el Quweira	CL	—	167	33
	tabulation — 5 Mod, 4 E Byz I–III, 14 LR III–IV, 8 ER IV(?) body sherds, 2 UD				
38	Khirbet el Khalde	CL	—	422	135
	tabulation — 19 L Byz, 21 E Byz, 31 LR III–IV, 13 LR I–II, 8 ER IV, 35 Nab, 8 UD				
39	Qasr el Kithara	CL	—	422	75
	tabulation — 1 Mod, 48 L Byz, 7 E Byz, 9 LR III–IV, 3 LR I–II, 7 ER IV				
40	Ureiniba	NM	—	162	43
	tabulation — 1 Mod, 1 Ay/Mam, 5 Um, 4 L Byz, 6 E Byz I–III, 8 Byz, 6 ER, 9 Nab, 3 Ir <sup>2</sup> .				
41	Zeinab	NM	—	133	36
	tabulation — 6 E Byz I–III, 18 IR III–IV, 12 ER/Nab.				



## Epigraphic references:

<sup>a</sup>H.C. Butler, *Princeton Archaeological Expeditions to Syria in 1904-5 and 1909* (Leyden: Brill, 1909), III. A. 2, No 228, pp. 126-127.

<sup>b</sup>Butler, III. A. 2, No 229, pp. 127-128.

<sup>c</sup>Butler, III. A. 2, No 21, p. 42.

<sup>d</sup>Butler, III, A. 2, No 17, p. 21.

<sup>e</sup>Butler, III. A. 2, No 18, pp. 22-23.

<sup>f</sup>G. W. Bowersock, JRS 61 (1971) 241.

<sup>g</sup>R. Brünnow and A. von Domaszewski, *Die Provincia Arabia* (Strassburg: Trübner, 1904-09) vol. II. 58.

An examination of the accompanying chart will show the number of military sites occupied in each of the Roman and Byzantine periods. Not included in this chart are four essentially non-military sites: Ureiniba (40), Zeinab (41), and the caravaserai of Umm el Walid (9) and Khan ez-Zabib (13). Also absent is the watchtower of er-Rumeil (12), which produced evidence entirely from the Iron Age. Thus a total of 36 military sites are presented here.

## Historical Conclusions

During most of the Early Roman period (63 B.C.—A.D. 135), Transjordan, with the exception of certain areas such as Peraea and the region of the Decapolis, comprised part of the Nabataean Kingdom.<sup>6</sup> To protect their borders, settlements, and

caravan routes, the Nabataeans constructed a system of small forts and watchtowers, either building new structures<sup>7</sup> or repairing and reoccupying many Iron Age fortifications.<sup>8</sup> Upon the Roman annexation of the Nabataean state in A.D. 106, many of these sites were simply incorporated into the newly emerging *limes* system. In fact, the takeover of these Nabataean fortifications probably provided the initial framework of the *Limes Arabicus*. In the northern portion of Transjordan, the attested absence of Nabataean pottery, first noticed by Glueck,<sup>9</sup> makes this transition more difficult to observe. But the presence of Early Roman I—III pottery from such sites as Deir el-Kahf ((1) and Qasr el Hallabat (3) may indicate the possibility of earlier Nabataean forts and garrisons. In addition, the Romans built a few new forts at the time of the annexation (ER IV), such as Qasr el Kithara (39) in the extreme south. A great amount of attention was devoted to the construction of the main north-south road, or *via nova*, which ran from the provincial capital of Bostra south of 'Aqaba (Aila) and which was completed in A.D. 111. By the end of Hadrian's reign in 138 the province was garrisoned by *Legio III Cyrenaica* at Bostra plus a number of auxiliary units.<sup>10</sup>

During the Late Roman I—III periods (135-284), the number of fort sites gradually increased from nine to fourteen. Some of the former Nabataean forts were expanded or rebuilt and several new forts

6. S.T. Parker, «The Decapolis Reviewed» *Journal of Biblical Literature* 94 (1975) 437-441.

7. Sites 19, 20, 28, 32, 36, 38.

8. Sites 10, 14, 15, 28, 21, 23, 26, 31, 35.

9. N. Glueck, *The Other Side of the Jordan* (Cambridge: American Schools of Oriental Research, 1974) 211; *Deities and Dolphins*

(New York: Farrar, Strauss, and Giroux, 1965) 6.

10. G.W. Bowersock, «The Annexation and Initial Garrison of Arabia» *Zeitschrift für Papyrologie und Epigraphik* 5 (1970) 37-47. M.P. Speidel, «Arabia's First Garrison» *ADAJ* 16 (1971) 111-112.



were constructed, such as the important *castella* of Da'janiya(29), Hallabat (3), and Qasr el Usaikhin (4). It seems that no particular area was emphasized, but that the entire frontier received attention. Although the second century was a period of general peace and stability throughout the Roman Empire, the third century witnessed civil wars, foreign invasions, and considerable anarchy. In the later third century came the meteoric rise of Palmyra in Syria. Palmyrene armies reached as far as Egypt, and must have severely disrupted the Roman army of Arabia as well as the armies of the other eastern provinces. After the defeat and destruction of Palmyra by the Emperor Aurelian (270-275), the Romans were faced with a task of reorganization and reconstruction.

This challenge was met by the Emperor Diocletian in the Late Roman IV period (284-324). A glance at the accompanying chart shows a dramatic increase in the number of occupied fort sites, from fourteen to thirty. Particular attention was paid to the northwestern end of the Wadi Sirhan, a natural migration route from the interior of the Arabian peninsula. Qasr el Azraq(5) joined Qasr el 'Uweinid (6) and Qasr el Usaikhin (7) to form a line to control access out of the Sirhan. Several important *castella* in the central sector of the *limes* were constructed, such as Khirbet ez-Zona (16), Qasr eth Thuraiya (17), Qasr Bshir (22), and Khirbet el Fityan (23). But especially important in this period was the construction of the two great camps (*castra*) at el-Lejjun (24), which was probably garrisoned by a new legion, *Legio IV Martia*, and at Udhruh (30), near Petra.

Throughout the fourth century the number of occupied *limes* sites remained at this high level. The survey suggests that 31 sites were occupied in Early Byzantine I (324-363) and 27 in Early Byzantine II (363-392). This highly developed state of the *limes* is confirmed by the historian Ammianus Marcellinus in the later fourth century, who noted that Arabia was *castrisque oppleta validis et castellis* («filled with strong camps and castles»)<sup>11</sup> The *Notitia Dignitatum*, written at the end of the fourth century, gives us a kind of snapshot picture of the Roman forces garrisoning the *limes* at this time. The protection of the frontier was then the responsibility of two *duces* of Arabia and Palestine. The provincial reorganization of Diocletian had reduced Arabia to northern Transjordan and created a new province, *Palestina salutaris* (sometimes called *Palestina tertia*), which included the Sinai, the Negev, and the southern half of the *Limes Arabicus*. Under the *dux Arabiae* were two legions (III *Cyrenaica* and IV *Martia*) and 19 auxiliary units strung out from Bostra to the Wadi Hesa. The *dux Palaestinae* commanded one legion (X *Fretensis*) and 29 auxiliary units, which were mostly stationed from the Wadi Hesa southward to Aila ('Aqaba).<sup>12</sup> A.H.M. Jones estimated that these enormous forces totaled 35,500 men.<sup>13</sup> It should also be noted that over half the building inscriptions from the *limes* forts themselves date to the fourth century.<sup>14</sup> Thus the literary and epigraphic evidence tends to support the conclusion of the ceramic survey, that the Late Roman IV through Early Byzantine II periods (284-392) were the time of the greatest

11. Ammianus Marcellinus, 14.8.13.

12. *Notitia Dignitatum*, Oriens 34, 37.

13. A.H.M. Jones, *The Later Roman Empire, 284-602*, 3 vols. (Oxford: Blackwell, 1964) III, 380.

14. See the epigraphic references at the end of the site list.

strength and complexity of the *Limes Arabicus*.

The Early Byzantine III period (392-450) marked a steep decline from the number of sites occupied in the previous period, from 27 to 19. This decline continued, though at a much slower pace, through the succeeding Late Byzantine periods down to the Arab Conquest in 636. Both the *castra* sites of Lejjun (24) and Udhruh (30) were abandoned by the end of the fifth century or in the early sixth century. A number of important *castella*, such as Da'janiya (29), Azraq (5), Thuraiya (17), Fityan (23), Bshir (22), el Hammam (33), el Mutrāb (34), and el Quweira (37), were also abandoned about this time. This process of gradual evacuation of the military posts in Arabia may be partially due to the turnover of much of the area to the Ghassanids, who were local vassals of the Byzantines. A slow transfer of power to local Arab phylarchs has also been suggested for Byzantine Syria in the fifth and sixth centuries.<sup>15</sup>

The Sassanid Persian invasion and occupation of the eastern provinces (including Arabia), which began in the Late Byzantine IV period (614-640), provided another blow to the *limes* system. Only a mere seven sites show evidence of occupation in this period, which could equally be due to garrisons of Persian, Ghassanid; or Byzantine soldiers. It was only after great difficulty that the Emperor Heraclius succeeded in regaining the eastern provinces by 628 and reasserting Byzantine control. But the decisive victory of the Arab armies under the banner of Islam at

the Yarmuk river only eight years later marked the death of the *Limes Arabicus*. It is interesting that in the subsequent Umayyad period (640-750) many of the fort sites in the north, towards the Umayyad capital of Damascus, show evidence of heavy occupation. But this Umayyad pottery gives out almost completely south of the Dead Sea.

### Conclusion

Despite its ultimate failure, the *Limes Arabicus* functioned effectively and with only rare failures in defending the long desert frontier for over half a millennium. Its presence secured the benefits for the *Pax Romana* to the inhabitants of Arabia and Palestine and security for the early spread of Christianity. Neither before nor afterwards until modern times was Transjordan so thickly settled as when protected by the *limes*. Thus it is important that the individual fort sites of the system be preserved for future study and excavation. The author commends and encourages the Department of Antiquities in its continuing efforts to protect as many as possible of these well preserved and valuable sites, which are gradually being lost to modern development. Especially crucial for preservation are the two great camps of Lejjun and Udhruh. It is hoped that future excavation will reveal more about this system, which is one of the relatively untouched archaeological treasures of Jordan.

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15. B. Rubin, *Das Zeitalter Iustinians* (Berlin: 1960) I, 274 f. The apparent conversion of the fortress of Qasr Burqu', located well east of the *limes*, from an advanced military post

into a monastic settlement in this period should also be noted. See H. Gaube, «An Examination of the Ruins of Qasr Burqu'» *ADAJ* 19 (1974) 99-100.

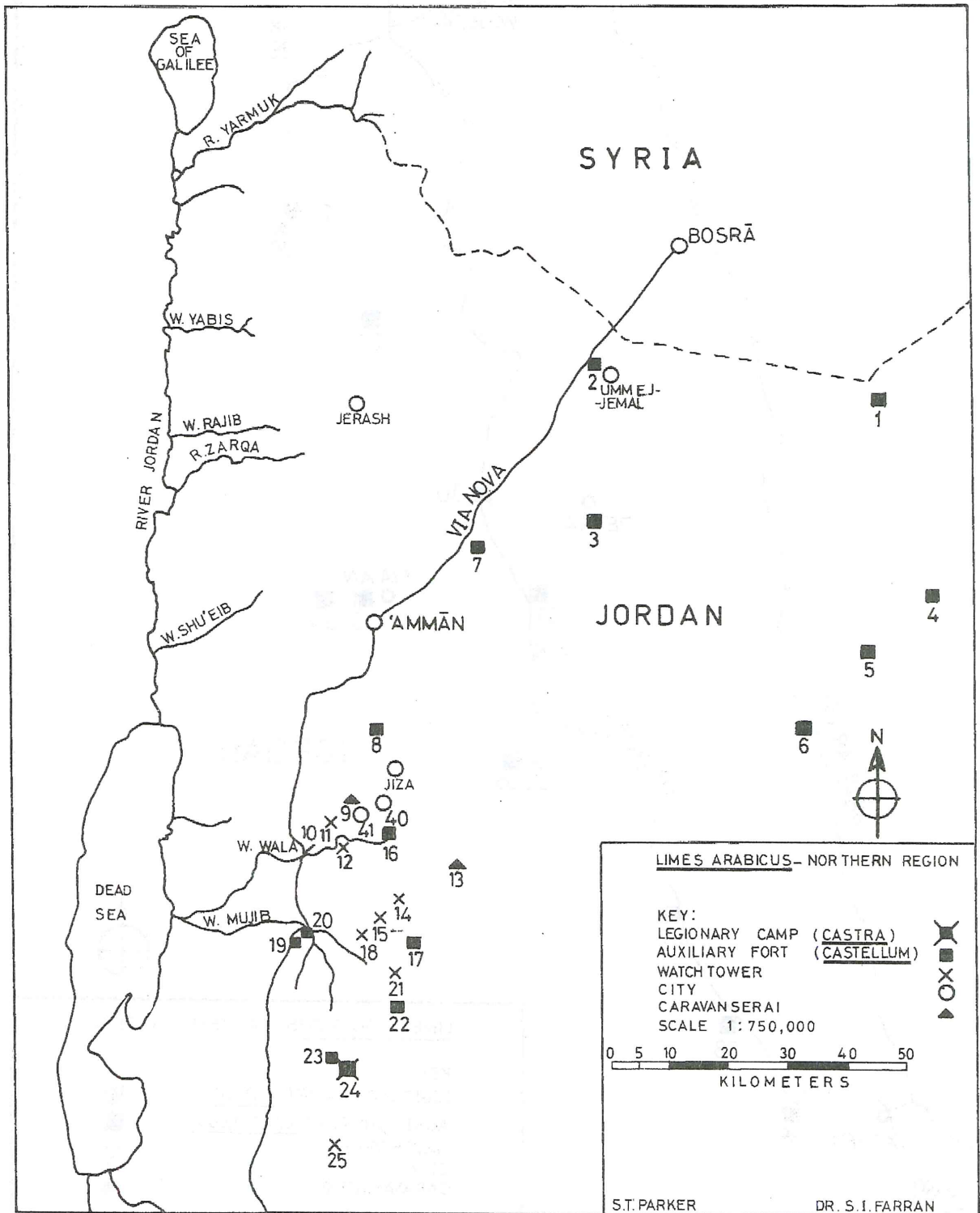


FIG. 1



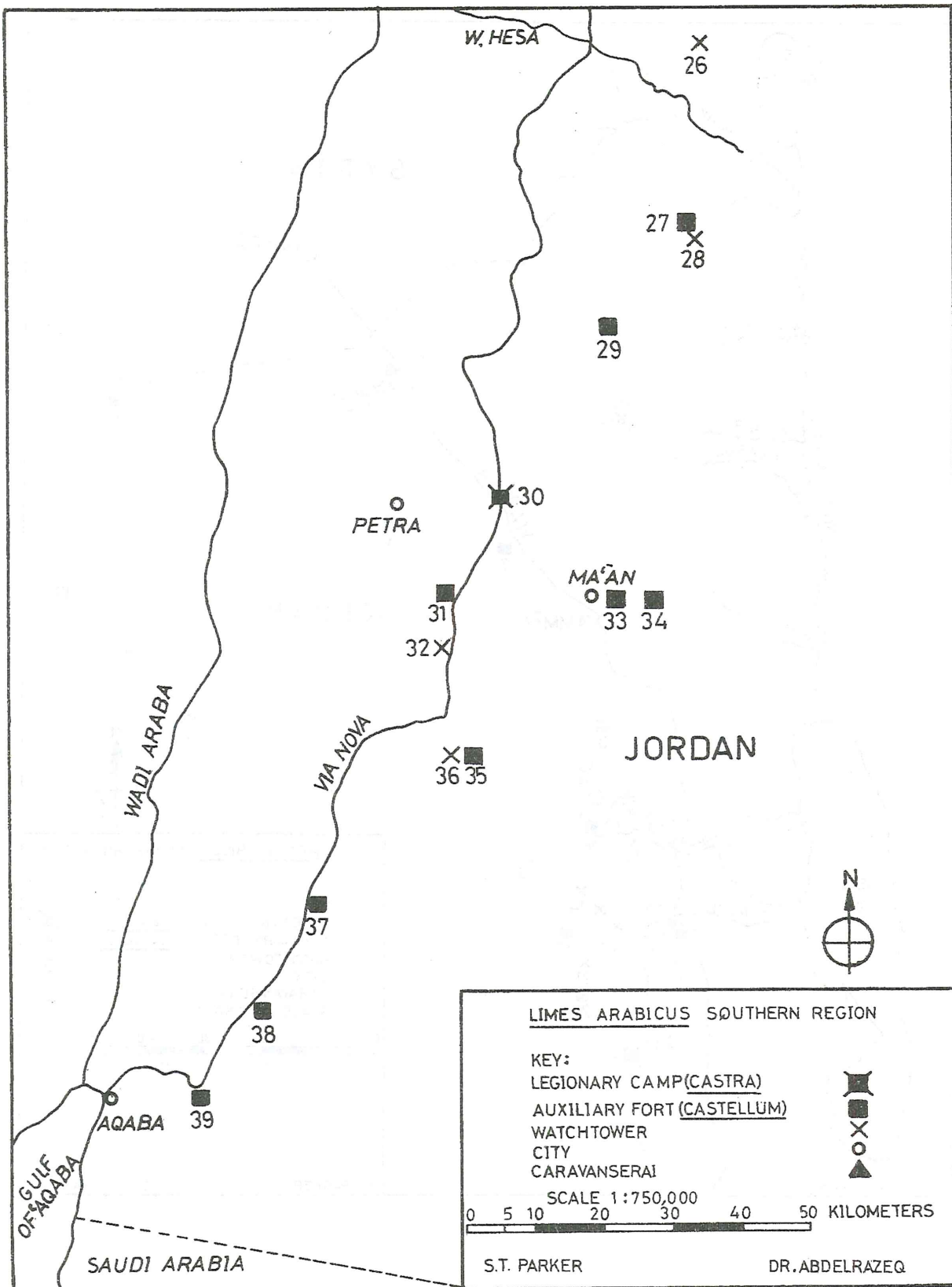


FIG. 2

# LIMES ARABICUS : HISTORICAL DEVELOPMENT

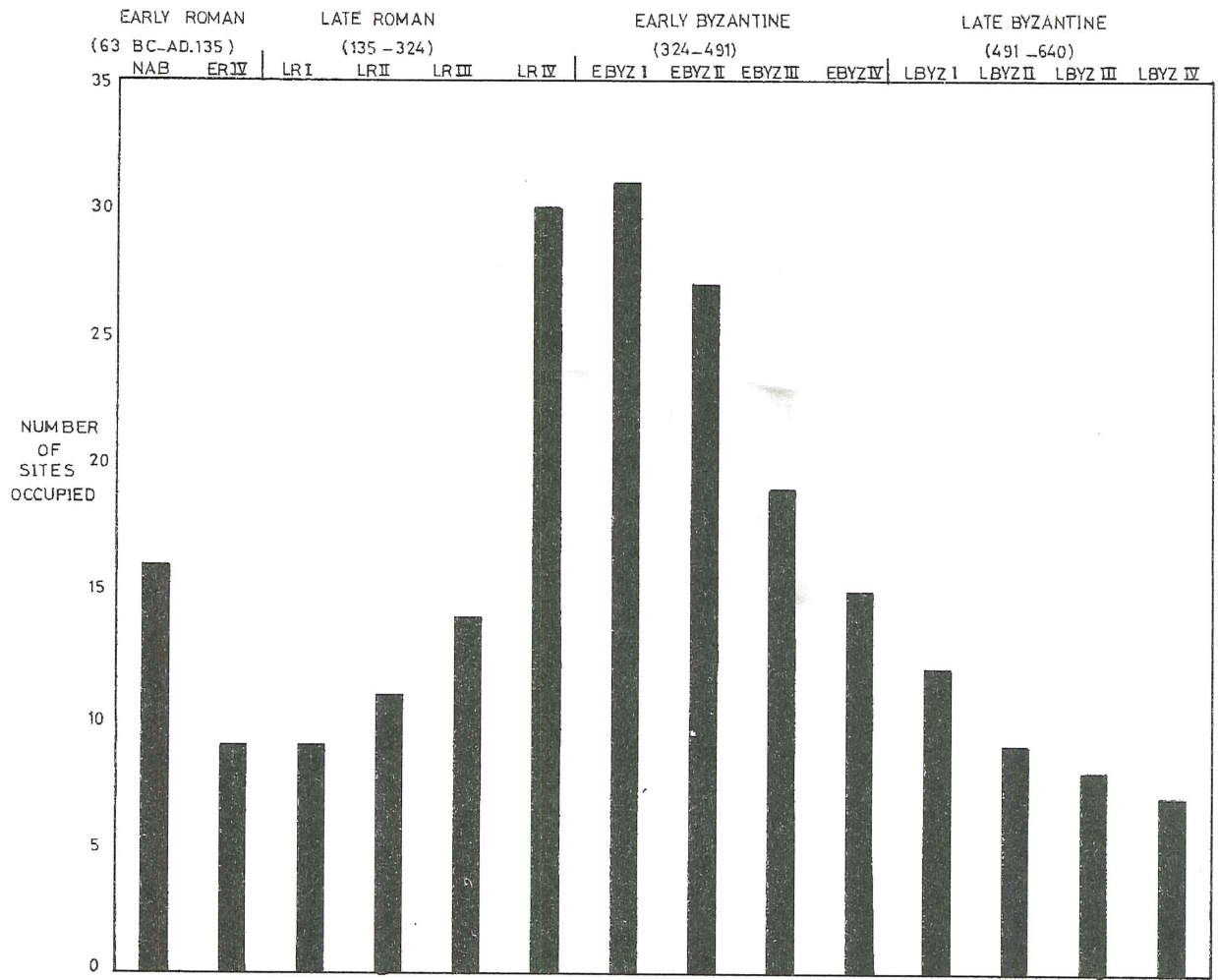


FIG. 3