

PRELIMINARY REPORT ON THE SOUTHERN HAURAN SURVEY, 1985

by

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INTRODUCTION

Following on a preliminary reconnaissance in May, 1984, a joint survey organized by the Department of History and Archaeology, American University of Beirut, and the Department of Ancient History and Classical Archaeology, University of Sheffield, undertook a first season of fieldwork in June, 1985.¹

The Survey Area

The boundaries of our survey were the village of Şabha in the west and that of Deir el-Qinn 42 km. to the east. The northern and southern limits were the Syrian/Jordanian border and the Tapline road (10-25 km. apart). This comprises an area of some 650 sq. km. in north central Jordan. The major settlement in this region, our home base for the survey, and the main focus of our attention throughout the fieldwork, is the ancient/modern village of Um el-Quţtein.

The survey area (Fig. 1) is in the centre of the lava lands straddling the border territory between Syria and Jordan. Much of the region is strewn with volcanic rocks, and basalt is the primary building stone. The soil is light and sandy but potentially

fertile and, where cleared of its boulder covering can, has and is being farmed. Rainfall is slight (a little over 150 mm) but sufficient most years to support a cereal crop. The land, however, slopes from NNE to SSW by some 250 m with the sharpest incline noticeable in the north. Since this continues the slope of the region contiguous with Jebel el-Druze in southern Syria, it offers the opportunity to channel and conserve the waters of the often considerable winter and spring rains.²

Until recently it was possible for surface water collected in that way to support the settled population (*ca.* 3,000) of Um el-Quţtein. Now, after several years of reduced rainfall, the population there and in the neighbouring village depend largely on the water piped in from the Azraq oasis some 60 km. southeast. The traditional water collection and filtration system has been allowed to deteriorate. Consequently the village reservoirs are often empty or contain only a trickle of run-off water which is used exclusively for watering the numerous flocks of sheep and goats common to the region. The southern, boulder-strewn region, though criss-crossed by tracks, has no more than an occasional isolated building, only a few of which are

1. The team consisted of David Kennedy (co-director: archaeology and epigraphy), Henry MacAdam (co-director: epigraphy), Philip Freeman (archaeology), Ian Robinson (surveying), Derrick Riley (aerial photographic interpretation), James Wilson (ceramics, liaison); we also benefitted from the advice of Rob Falkner (ceramics). The British Institute at Amman provided much of the field equipment and the loan of its Landrover. For this, and for his friendly advice and characteristic hospitality, we are indebted to the Director of the Institute, Dr. Andrew Garrard. For granting permission and organizing our accommodation at Um el-Quţtein, and for lending his kind support and assistance, we are happy to record our thanks to Dr. Adnan Hadidi, Director General of Antiquities of Jordan. Finally we must thank

the people of Um el-Quţtein who treated us with touching courtesy and great hospitality. The Director of the local school made over two of its classrooms for our use; the teacher of English, Mufleh Rahal, was an invaluable source of advice and assistance; the Commander and personnel of the nearby police post were helpful and generous. Financial support was shared. Sheffield: the British Institute at Amman for Archaeology and History, the Craven Committee (T. W. Green Fund), Hugh Last and Donald Atkinson Fund, and the Meyerstein Fund; Beirut: The Arts and Sciences Research Committee and the University Research Board.

2. See most conveniently S. Helms, *Jawa*, 1981, p.146, Fig. 65 for rainfall and land configuration in the region.

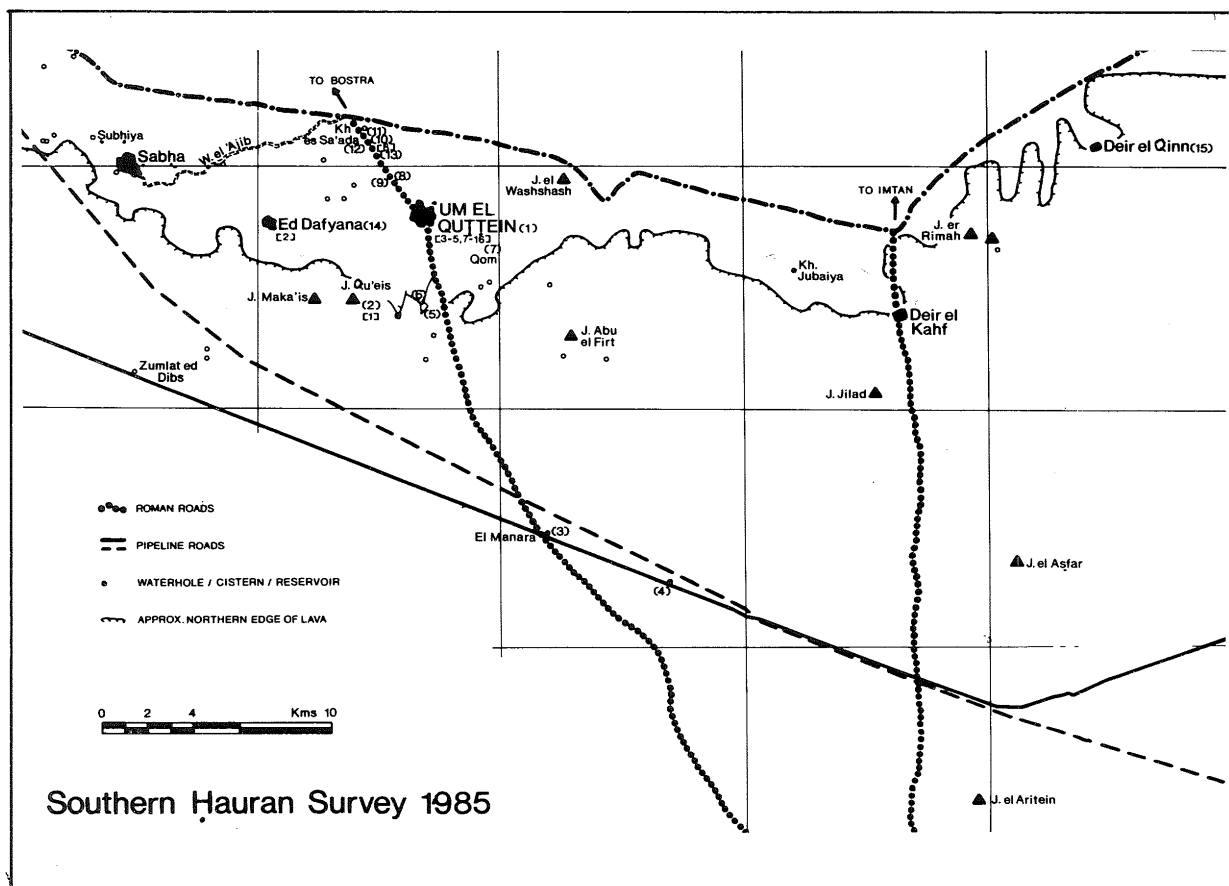


Fig. 1 Southern Hauran Survey 1985: survey area and sites examined.

farms. These were usually associated with water sources: *ghadirs* in wadi courses or depressions, and cisterns; occasionally we noted an open, made reservoir. It is worth noting that many volcanic "bubbles", i.e. hollows in the volcanic rock formed by pockets of air, provide ready-made water collection basins wherever the natural slope of a hillside leads into them.

The modern settlements are peopled almost exclusively by former bedouins, no longer nomadic, with a small admixture of Druze families. Many of the latter are now second or third-generation descendants of families who moved into the Jordanian Hauran from southern Syria during the disturbances in the early Mandate period. Apart from the few professional people in the villages, all of the inhabitants depend for their livelihood on the produce of their flocks and their crops of wheat and barley. Individual families often hold pieces of arable land in two or more areas around their village; animals are grazed exten-

sively on stubble or the sparse natural growth of the open range land some kilometers in any direction from the villages.

Selection of the Survey Area

Ancient remains are to be found throughout the Hauran, most obviously the ruins of villages and towns occupied by local Arabs who set up their inscriptions in Nabataean and Greek. From the fourth century on their houses and funerary inscriptions demonstrate clearly the influence of Christianity: incised crosses are a common motif on both. Churches, chapels, monasteries and convents are also common and some villages the size of Um el-Quttein and even smaller could boast one or more of each. Some villagers lived in extremely well-built houses, two or more storeys high. Most important of these settlements is Um el-Jemal 25 km. west of Quttein. The largest of these ancient towns, it has numerous well-preserved buildings; the current programme of excavation has con-

firmed occupation from Nabataean through Umayyad times and possibly beyond.³ The site of the ancient town is no longer occupied, but the inhabitants of the nearby modern village recently have begun to farm the surrounding land much more intensely. The consequence of that is the almost total disappearance of any traces of ancient land use.

Um el-Quttein is about half the size of Um el-Jemal, and was the second largest of the ancient towns in the Jordanian Ḥauran (Pl. XXII,1). Its distance from the *Via Nova Traiana* in antiquity, and its remoteness from Amman in modern times, has made it less accessible to visitors and scholars, respectively. The Princeton Expedition made Quttein its camp in late December, 1904, noting that Dussaud and Macler had previously visited the site in 1901. Nelson Glueck visited it in 1937; Sir Aurel Stein passed through in March, 1939; Gerald Harding was there in the mid-1950s. The site was visited briefly by Siegfried Mittmann in 1966, and more recently by Geoffrey King in 1981. All of the above without exception visited other sites in the area. Additional evidence can be found in the pages of accounts written by casual travelers and amateur archaeologists.⁴

Despite the considerable size of the ancient town (now almost completely encapsulated by the modern settlement), it must be emphasized that Quttein itself and its satellite villages in the area, are poorly preserved when compared with the extant remains of Jemal. The nucleus of the modern village (which dates back only to 1929) sits astride the ancient town; indeed, the

earlier modern settlers lived in many of the ancient buildings, and some of their descendants still do. The Druze who had once exercised proprietorial rights there were removed to Syria in the early Mandate period. They literally took much of the town with them; several of today's inhabitants reported how former villagers recalled the Druze demolishing some of the finer buildings for the superior masonry therein and then carting it away to build their new villages in Syria: this was especially true of al-Mugheyar, slightly more than 5 km. away. The considerable ruins reported and photographed by the Princeton Expedition, including tall towers, large churches and even a sizeable monastery, are now difficult to locate. Indeed, we could not confidently identify the site of *any* of the towers. The Princeton Expedition did publish a plan of the monastery/convent, a plan of three churches (but no chapels) and a detailed plan of one major house consisting of two distinct storeys. No other buildings then extant were planned, and no complete, overall plan of the site was drawn (as had been done for Jemal and Bostra). This, then, has become a primary objective: to preserve by means of accurate plans and drawings the visible remains of ancient structures among the extensive ruins and modern superstructures, and to plot these individual structures on an overall site plan. This is now a very good time to initiate such a project. Many families who originally lived in and among the ancient houses have since moved into modern, cement-block dwellings on the periphery of the village. Thus exploration and planning can proceed with a minimum of distur-

3. B. DeVries, "Research at Umm el-Jimal: 1972-1977", *BA* 42 (1979), p.49-56; *idem*, "The Umm el-Jimal Project: 1972-1977", *ADAJ* 26 (1982), p.97-116.

4. *PAES*, II.A.2, p.137-42; III.A.2, p.116-21; R. Dassund and F. Macler, *Rapport sur une mission scientifique dans les régions désertiques de la Syrie moyenne*, Paris, 1903, p.434; S. Gregory and D.L. Kennedy, (eds.), *Sir Aurel Stein's Limes Report*, Oxford (BAR, S272), 1985, p.259ff; N. Glueck, *Explorations in Eastern Palestine, IV*, *AASOR*, p.25-8 (1951), p.24f; G.L.

Harding, *Antiquities of Jordan*, Guildford, 1959, p.148; S. Mittmann, *Beiträge zur Siedlungs- und Territorialgeschichte des Nördlichen Ostjordanlandes*, Wiesbaden, 1970, p.201-7; G. King, 'Preliminary report on a survey of Byzantine and Islamic sites in Jordan, 1980' *ADAJ*, 26 (1982), p.94; Gerald Harding's unpublished field notes, now on file in the Jordanian Department of Antiquities, throw further light on the site. Most useful of the 'amateur' archaeologists was L.W.B. Rees, 'The Transjordan Desert' *Antiquity*, III (1929), p.398.

bance to the present inhabitants.

The second, and in many ways rather more important, objective is to undertake an integrated, multi-period study of the town, its satellite villages and hamlets, the road network and the economic basis of the communities in the region. Clearly the datable evidence from the site points to the Nabataean, Roman and early Islamic periods as the high-tide mark of continuous settlement and prosperity with a noticeable break in habitation between the Abbasid age and the First World War. Nevertheless, the presence of flints, surface pottery of earlier and later periods and the "kites" in some outlying fields are all indicative that human habitation of the area was for a longer period than the more striking surface remains indicate. A test trench or sondage within the village would establish some clear stratification and do much to clarify the sequence of ceramics so far collected. It would also help to clarify the chronology of some undated buildings and allow a comparative chronology of occupation with other sites in the area, e.g. Um el-Jemal and Khirbet es-Samra.

The availability of aerial photographs taken during and after the Second World War is an additional and very important factor in our survey. Despite the poor quality of some, the major features of the landscape as it was in the early days of resettlement are evident, especially around Quttein. There is the prospect that the currently decayed field systems identifiable on the photos were planned in antiquity. They might yet be located on the ground, and perhaps dated in relation to the nearby and equally ancient road systems. The preliminary results of such an investigation are set forth in part III below.

The ancient name of Um el-Quttein is not known, and the same may be said for the sites of Deir el-Kahf, Deir el-Qinn, Dafyana, Şabha and even Um el-Jemal itself. Epigraphy may ultimately provide the answer to this.

II. THE VILLAGE AND ITS SURROUNDING AREA

The Plan of the Town

At Um el-Quttein itself a start was made in producing for the first time a plan of the ancient remains. With the assistance of an aerial photograph it was possible to locate the large complex of buildings which Butler had termed both a monastery and convent. The King survey had failed to identify it, since only the outline of the ancient buildings remains. Most of the churches and chapels previously reported were noted, and several previously unidentified buildings were traced (Pl. XXII, 2). The task is far from easy: modern rebuilding by Druze workmen not only utilized the available ancient building material and often the shells of ancient structures, but the construction techniques employed closely followed the ancient patterns. In some instances it is virtually impossible to differentiate between ancient and modern from superficial examination alone, and the skills of a professional architect will be needed to make the distinction. Those undertaking the recent excavations at Um el-Jemal made the very same observation.⁵

The Roman Fort

An important new discovery is that of a probable Roman fort underlying a portion of the modern town. Previous visitors had remarked on the then broad "depression" which ran from east to west and divided the town into northern and southern sectors. The smaller, northern area, just south of the largest reservoir, displays a more regular outline than the southern sector. Both the Princeton team and later Aurel Stein remarked on the traces of walls. Close scrutiny of an aerial photograph revealed most of the outline of a rectangle (ca. 156 × 120m.) which can still be traced in many places on the ground (Pl. XXIII, 1). Excavations would be necessary to settle the matter but the shape and size, the possible "rounded" corners and the probable open-

5. DeVries, *op. cit.* (1982), p. 105.

ings in the middle of each short side and about a third of the way along the long sides are highly suggestive (Pl. XXII, 1). The area enclosed is some 4.5 acres/1.86 ha. and if our supposition is correct this would represent one of the larger forts in Roman Arabia. Excluding the much larger "legionary" fortresses at Lejjun (11.4 acres/4.6 ha.) and Udhruh (9.8 acres/3.96 ha.), only the *castrum* at Humeima (7.3 acres/2.95 ha.) and the newly discovered but enigmatic military site at Um Ubtulah (ca. 32 acres/13 ha.) are larger;⁶ that at Da'ajaniya is a little smaller (2.47 acres/1 ha.). Most of the well-known Roman forts in Jordan are late in date — Severan or later — and are relatively small: Qasr el-Hallabat (0.14 ha.), Qasr Bshir (0.26 ha.), Qasr el-Azraq (0.57 ha.), Qasr el-Ba'ig (0.16 ha.), Deir el-Kahf (0.38 ha.), Khirbet el-Fityan (0.52 ha.), Qasr Useikhin (0.05 ha.), Qasr 'Uweinid (0.20 ha.).⁷

On the basis of the evidence set out above for the presence of a fort at Quttein we might add that the location of the town on a major trade artery between southern Syria and the Wadi Sirhan, its strategic location between the *Via Nova Traiana* and the Severan predecessor of the *Strata Diocletiana*, and the traces of a made Roman road obviously linking Quttein and Bostra add additional weight to the hypothesis that a fortified garrison was stationed here soon, if not immediately, after the annexation of the Nabataean kingdom. We also note that nearby Um el-Jemal, although a caravan city, was garrisoned and the *burgus* of A. D. 372 surely had an antecedent.

At Quttein the military area seems to have become a civilian settlement (perhaps in the peaceful fifth and sixth centuries), and the later buildings actually straddled the walls of the former fort. If the *cohort* we have identified as *III Augusta Thracum equitata* (see below) was responsible for the dedicatory Latin inscription, it is also worth noting that the block on which the text was inscribed was found, re-used, in a church/monastery (Pl. XXII, 2) in the north-west corner of this possible *castrum*. A fort of this size is quite suitable for housing a part-mounted *cohort* such as that attested, and the inscribed block itself is too large and heavy to have been moved very far from its original position.⁸

Epigraphy

Within Quttein twelve previously unpublished inscriptions (some fragmentary) were found and recorded: four are Nabataean, seven Greek and one is a bi-lingual Nabataean-Greek. All but one are funerary and undated; the exception is a complete building inscription in Greek dated to A. D. 265 precisely. Of the fourteen inscriptions published by the Princeton survey only two were located; of the three reported by Stein we saw two; and of the eight recorded by Mittmann (who saw one of those read by Stein but not published until much later) we noted four.

The Latin military text published originally by Dunand and revised by Mittmann (see above) was examined again. We have argued elsewhere for a new and corrected reading of the numeral: the unit in question is not the *cohors I* but, probably, the

6. Um Ubtulah is one element of a fortification system surveyed by B. MacDonald, *Classical Views* n.s. 3 (1984), p. 219-234. None of these forts described by him appears to be Roman in origin, but were most likely re-occupied by troops outstationed for shorter or longer times. Likewise the Roman plan of the legionary "camp" at Bostra has not yet been identified, though stamped military roof tiles have been found in and near the large (ca. 400 m²) area outside the northern wall of the city which is thought to be the camp. The legionary camp (if ever there

was such) at Aqaba has never been identified.

7. The fort at Diyatfeh (*PAES*, II.A.5, p. 340-342) in the eastern foothills of the Jebal Druze in southern Syria fits the pattern of its Jordanian counterparts.

8. The military unit in question is attested in Syria in A. D. 88 and again in 156/157, i. e. before and after the creation of Provincia Arabia. If it is the unit connected with the Quttein fort, the fort most likely antedates its transfer back to Syria.

cohors III Augusta Thracum equitata.⁹ Two other Latin inscriptions were recorded in the survey area. One, a broken building inscription (undated) was found amongst the ruins at the summit of Jebal Qu'eis (4 kms. south-west of Quttein) and records a *Vexillatio leg(ionis) III Cyr(enaicae)* (Pl. XXIII, 2). The other is the text on part of a milestone drum found to the north-west of Quttein and datable to *ca.* A.D. 300¹⁰

The Roman Road

The presence of milestones amongst the ruins of Um el-Quttein had long ago indicated a road or roads in the vicinity. Quttein lies on the most direct route from the Roman provincial capital, Bostra to the Azraq Oasis. Quttein was thus the first major stop on an important caravan route which led from southern Syria via the Wadi Sirhan into the interior of the Arabian Peninsula and eventually to the Persian Gulf. The Roman road directly north from Azraq to Imtan via Deir el-Kahf was long known to have been joined by this age-old road, locally regarded as Roman, coming to el-Azraq from Bostra and Quttein. An inscription from el-Azraq now confirms this latter Roman road, naming Bostra and an intermediate post (Basiensis — but not to be identified with Quttein, see below) and giving the mileage from each to Azraq.

The survey examined the areas south-east and north-west of Quttein for likely traces of this road. In the south-east some outlines of what was probably just a cleared track (characteristic of desert roads) was followed ten km. to el-Manara (Basiensis) just north of the Tapline road. No milestones were discovered along this stretch. El-Manara itself is certainly Roman (see below) and provides a useful clue on the ground to the use of this "road" in the Roman period. North-west of Quttein we expected to find much the same situation. By contrast, the Roman road in this sector,

previously unreported, is unmistakably clear. Several hundred metres of the boulder foundation of a road some 6 m. wide and running broadly parallel to the modern track were discovered, measured and photographed (Pl. XXIV, 1). In appearance it is identical to the remains of the *Via Nova Traiana*, long stretches of which are visible just west of Um el-Jemal and these too some 5.5—6 m. wide. Positive proof that the road was constructed in Roman times was provided by the discovery of the milestone noted above, found lying quite near the road about two Roman miles north-west of Quttein. The presence of a made road running south-east of Bostra at least as far as Quttein testifies to the importance of the latter in the later Roman period.

Brief searches were made to the north-east, east and west of Quttein for any evidence of the "roads" which must have linked the village to its neighbouring communities in the Roman era. No milestones, nor anything certainly ancient was found. An equally brief search was made for traces of the *Strata Diocletiana* just north of Deir el-Kahf, and this also proved unsuccessful. Both areas will be re-examined in a future season.

Survey of Nearby Sites

In addition to examination of the remains at Um el-Quttein and a preliminary assessment of its water supply system (two large reservoirs and a score of roofed cisterns of various sizes, some obviously ancient), we examined ancient remains at 14 sites in the survey area. Most of these were in the vicinity of Quttein, as shown on the map. They ranged from "kites" south of Quttein (5) and a prehistoric settlement site to the east (6) to the much more substantial remains at Deir el-Qinn (15) and Deir el-Kahf (16), both military sites on the north-eastern edge of the area; Dafyana (14), three kms. west of Quttein boasts substantial remains of private homes dat-

9. D.L. Kennedy and H.I. MacAdam, "Latin Inscriptions from Jordan, 1985", *ZPE* (1986), p. 231-6.

10. Both of these, and an additional fragment of a Latin inscription from Qaşr el-Azraq, are published in the article announced in note 9 above.

ing to the Roman era and yielded another Greek stele; Khirbet es-Sa'ada (11) is a much damaged site just south of the Syrian border, the extensive ruins of which (broadly contemporary with Quttein) appear to have served as a stone quarry over the centuries.

In the south, following the Roman road toward Azraq, a brief visit was made to el-Manara (3). A scatter of masoned blocks and a re-used (now abandoned) but obviously ancient *birket* (water tank) are all that is to be seen of the small Roman military post known from two Latin inscriptions. From these the name of the site, *Basienisa*, is derived; it seems to have been the object of building work in A.D. 334 — the provision of a *receptaculum aquarum*.

Finally, we were fortunate to establish good relationships with the local inhabitants, who shared their homes with us and allowed us to observe (and sometimes to participate in) activities then in progress. Since the harvest (wheat and barley) was then underway, we learned much about the farming practices in that locality, partly traditional and partly modern. These observations of the living village should help us understand better the life of that same town in the first eight centuries A.D.

III. ANCIENT FIELDS NEAR UM EL-QUTTEIN

Travellers in the Southern Hauran in the earlier years of the present century reported very extensive remains of fields, which they considered to be ancient.¹¹ The clearance of land for modern cultivation has resulted in the disappearance of most of these traces of former agriculture, but it is probable that patches of ancient fields still survive in many places. This report summarises the results of a preliminary examination of the remains of this type near Um el-Quttein.

Two sets of air photographs were used to guide work in the field, a series at a

scale of about 1/30,000, taken by the Royal Air Force in 1946, which covers all the land in this region, and two photographs at a scale of about 1/10,000, taken by Hunting Air Survey in 1953, which cover an area near the village and to the south. The Hunting photographs are much more satisfactory than those by the Royal Air Force because of their better definition. Since these photographs were taken at a time when less land was in cultivation than at present, it was thought that many of the field boundaries they show might be ancient.

Objectives and Method of Survey

The first objective of field work was to locate the 'desert kites' south of the village, which were shown on the photographs, and some presumed ancient fields near them. The walls of a large kite were found without much difficulty, and near it was a small patch of fields which corresponded with those on the Hunting survey. It was noticed that the stones in the walls of the kite were light grey because of their covering of lichen. These walls were almost certainly ancient, perhaps prehistoric. The stones bordering the presumed ancient fields were of a similar appearance, but most recent fields, that is, those not shown by the Hunting photograph (Pl. XXV), were bounded mainly by piled stones, with little or no lichen covering; they appeared to have been built fairly recently. The colour of the stones thus gave a rough and ready method of separating old and new walls or piles of stones, though it could give no indication of the age of the old walls.

The presumed ancient fields are of two types: narrow parallel strips, with a length to width ratio of at least 5 to 1, and approximately rectangular fields, with a length to width ratio between 1 to 1 and 3 to 1 approximately. Many of the modern fields are also planned in parallel strips, which is a possible source of confusion in the interpretation of the air photographs.

11. *PAES*, I, *passim*; Rees, *op. cit.*, p. 398; cf. D.L. Kennedy, *Explorations on the Roman*

Frontier in North East Jordan, 1982, Oxford (BAR S134), p. 331-5.

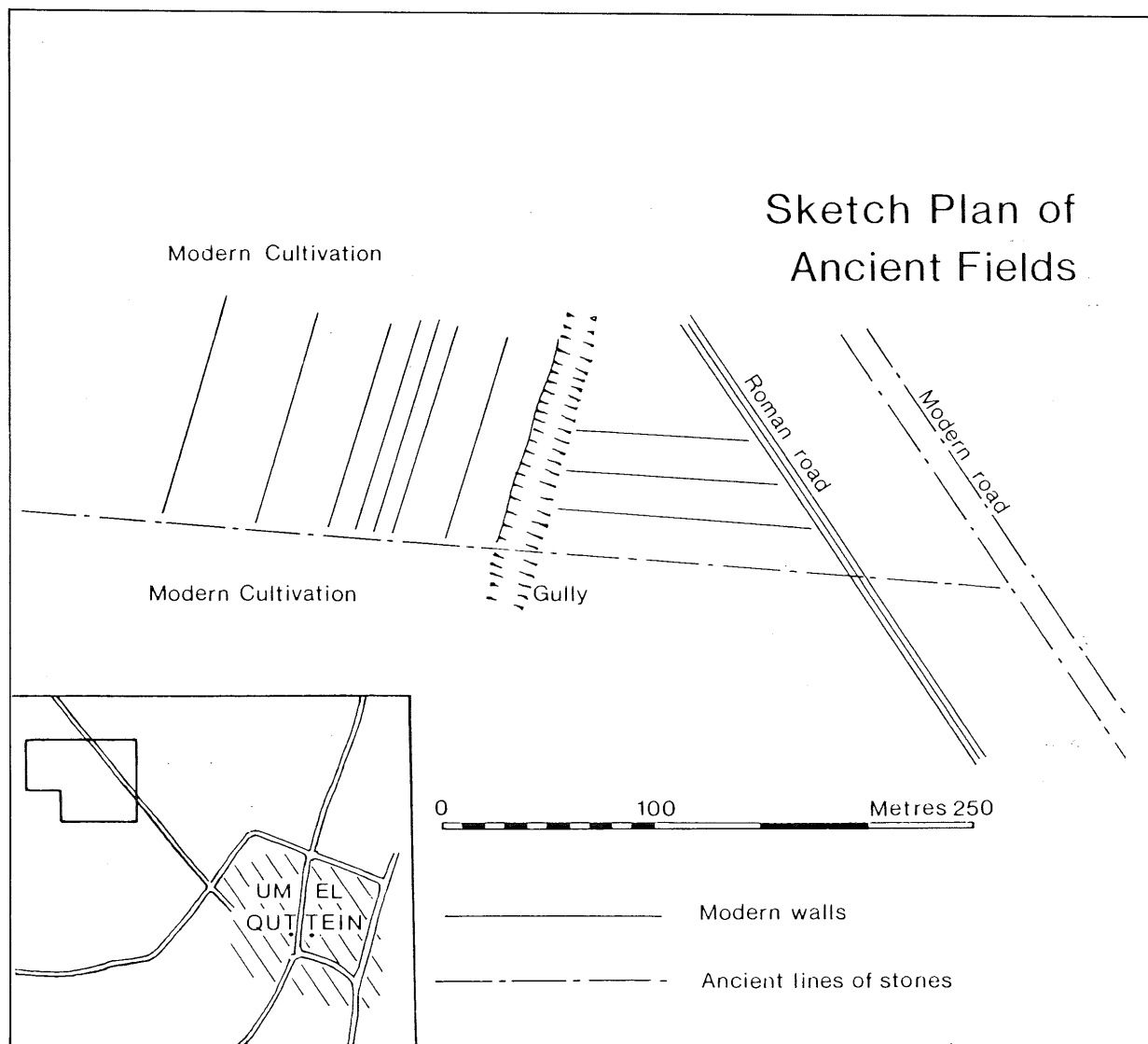


Fig. 2 Southern Hauran Survey 1985: sketch plan of ancient fields to north-west of Um el- Quttein.

Table 1 Widths of ancient strip fields near Um el Quttein. Measurements in metres taken from centres of the stony banks which bounded the strips.

<i>Width</i>	<i>No. of strips</i>
Under 10 m.	3
From 10 to 14 m.	10
From 15 to 19 m.	5
From 20 to 24 m.	2
From 25 to 29 m.	1
From 30 to 34 m.	1
From 35 to 39 m.	1
From 40 to 44 m.	1
From 45 to 49 m.	1
Over 49 m.	1

The narrow strip fields were given more attention than the rectangular fields, because the latter were not recognised as ancient until the end of our stay.

Patches of fields which could be classed as ancient with a fair degree of certainty were found at three places: about 3.5 km. south, about 3 km. west (Pl. XXIV, 2) and about 1 km. north west of the village. The widths of 22 strips were measured (see Table 1). Eleven proved to be from 9 to 11 m. wide and the remainder varied over a range of widths from 13 to 50 m.

The soil near Um el-Quttein contains many rocks and large stones, which must be removed before it can be ploughed. The modern farmers pile stones at the edges of the fields and, in some cases, also in central heaps. The ancient farmers also must have had to clear their land in this way. It was therefore surprising to find that the surface of the ancient fields is now covered with almost as many rocks and stones (see Pl. XXIV, 2) as the patches of land in a virgin condition, which had no signs of either ancient or modern cultivation. The ancient fields could not have been cultivated in the state in which they are now found, and, in fact, the piles of stones along the edges of ancient fields and the central heaps in some of them were evidently the results of ancient clearance. It is probable that there has been a considerable loss of soil, amounting perhaps to about 30 cm., which has exposed stones formerly buried below the surface. This is a matter worthy of further examination, because if the loss of soil is continuing, the long term effects will be serious. Wind action may have carried away this soil at times when it was dry and had been loosened by the trampling of

sheep and goats.

The second main objective was to find evidence of the date of the ancient fields. This is not an easy thing to do, unless they can be shown to be associated with a dateable structure, such as an ancient farm or other construction. The relationship of the fields with Roman roads was thought to be the most likely source of information, and possible roads were therefore followed to the east, south, west, north west and north of Um el-Quttein. Only on the north west was Roman work in a road identified with certainty (above), the massive foundations, 6.5 m. wide at the site shown on Fig. 2, of the road leading to Buşra (Bosra). Its stones were light grey with their covering of lichen. A patch of ancient fields adjoined this road at a point about 1 km. from the village. Their boundaries were not aligned on the road, as might have been expected if it had been in existence before the fields were made, but met it at an angle of about 40° (see plan). It is therefore possible that the fields here were already in existence when the road was built. It may be conjectured that the origin of these fields was in the early Roman or Nabataean periods, though this may be straining the evidence. In general, there is no reason to doubt that the fields were cultivated by the ancient inhabitants of Um el-Quttein, and went out of use after the village was deserted, but this could not be proved.

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