

**ARCHAEOLOGICAL SURVEY AND SETTLEMENT PATTERNS  
IN THE REGION OF 'IRĀQ AL-'AMĪR, 1996  
A PRELIMINARY REPORT**

by

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'Irāq al-'Amīr is situated on the west bank of the Wādī as-Sīr, about 17 km west of Amman and 29 km east of Jericho. This region includes a megalithic Hellenistic monumental building (Qaṣr al-'Abd), an ancient village, scattered ancient structures, and a large number of man-made and natural caves on a steep cliff. 'Irāq al-'Amīr is situated about 4 km upstream from the confluence of the Wādī as-Sīr with the Wādī al-Kafrayn (Wādī Bahhath). The Wādī as-Sīr descends from the high Transjordan plateau, which is located about 6 km upstream from 'Irāq al-'Amīr. Under the auspices of the Mādabā Plains Project, the first season of a new archaeological survey took place in the region of 'Irāq al-'Amīr and the Wādī as-Sīr between July 20 and August 31, 1996 (for the first survey, see Villeneuve 1988; 1989 and Will 1989). The survey was directed by the author on behalf of La Sierra University. Taysir 'Attiyat was the representative from the Department of Antiquities.

### **Research Background**

A large number of surveys have taken place along the wadis in central and northern Jordan. For example, in the al-Maqārīn reservoir area on the Yarmuk river, a Jordanian team found 31 ancient sites (Kerestes *et al.* 1978), and along the Wādī Kufranja the 'Ajlun-Kufranja Valley survey team identified more than 200 archaeological sites (Greene 1995). The surveys and excavations in the Wādī al-Yābis recorded a large number of archaeological sites, especially Chalcolithic and Early Bronze (EB) I settlements (Palumbo 1992; Palumbo, Mabry and Kuijt 1990). Most of the sherds collected from Tall adh-Dhahab belong to

either the Iron Age or the Hellenistic period (Gordon and Villiers 1983). The survey along the Nā'ūr-Dead Sea Highway discovered a couple of dolmen fields and some sporadic ancient remains along the highway and near Tall al-Hammām (Coughenour 1986). During the three seasons of the Ḥisbān regional survey, the team located 152 sites within the Wādī Ḥisbān and the plateau area (Ibach 1987). These surveys have provided valuable data to help trace the settlement history in the wadi region in central Jordan.

On the other hand, 'Irāq al-'Amīr and its environs were visited by early travellers and scholars beginning with C. L. Irby and J. Mangles (1823) in 1817. E. M. de Vogüé (1864) explored and described this area in 1864, followed by F. de Saulcy (1870) in 1868 and C. R. Conder (1882; 1889) in 1881. H. C. Butler (1910) conducted archaeological soundings at Qaṣr al-'Abd and its surrounding constructions during six days. Glueck (1939: 153-56) also explored and described 'Irāq al-'Amīr. In 1961 and 1962, P. W. Lapp (1962a; 1962b; 1963; 1975; 1993; N. Lapp 1989) directed archaeological excavations at the village of 'Irāq al-'Amīr, the Qaṣr al-'Abd, and the Square Building. R. Brown (1979) excavated inside and outside of the Qaṣr al-'Abd during one month in 1976, and the Department of Antiquities in Jordan carried out subsequent excavations and restoration of the Qaṣr al-'Abd (Sauer 1979). Excavations were resumed in 1976-1982 by Will, Larché, Villeneuve, and Zayadine (Villeneuve *et al.* 1981; 1982 and Will 1989), and this French-Jordanian team excavated at the village, the Qaṣr al-'Abd, and their sur-

rounding areas.

The preceding survey shows that in the 'Irāq al-'Amīr region archaeological expeditions have been centered on the Qaṣr al-'Abd and the village of 'Irāq al-'Amīr. As far archaeological surveys are concerned, the vicinity of 'Irāq al-'Amīr, especially the area of the Wādī al-Kafrayn and the Wādī Shu'ayb, appears to have been neglected. An exception to this generalization is the survey of François Villeneuve (Larché, Villeneuve and Zayadine 1981; 1982; Villeneuve 1988;1989) who explored 10 km from the village of the Wādī as-Sīr to the al-Ghawr. This survey took place in the narrow band along the Wādī as-Sīr and the Wādī al-Kafrayn, and recorded a total of 147 sites. On the other hand, Raikes (1965) explored part of the Wādī Shu'ayb and the Wādī al-Kafrayn, but his examination was limited to only four ancient ruins. Also noteworthy are the surveys of the Wādī Shu'ayb and the as-Salt region, which produced settlement data of 20 and 44 sites respectively (de Vaux 1938; Wright, Schick and Brown 1989).

In general, the French survey may provide information on settlement histories along the Wādī as-Sīr and the Wādī al-Kafrayn. Yet, this survey took place in the period between 1981 and 1984, and thereafter modern settlements have rapidly encroached upon ancient remains in the 'Irāq al-'Amīr region. In recognition that this modern development will continue in the region, we are compelled to systematically document and provide a detailed record of the rich archaeological heritage in the vicinity of Irāq al-'Amīr. This urgency is particularly the case for prehistoric sites and remains which were not incorporated into the French survey (cf. Ji 1997a; pers. comm. with Villeneuve). Furthermore, no survey work has ever focused on the settlements in the hilly area and wadis (e.g., the Wādī al-'Amīr and the Wādī an-Nār) between the Wādī as-Sīr and the Wādī

Shu'ayb, which should have been closely associated with those at Irāq al-'Amīr.

Hence, any inferences about settlement history in the region of Irāq al-'Amīr and the Wādī al-Kafrayn would be premature without archaeological data on this region which lies to the west and north of Irāq al-'Amīr and the Wādī al-Kafrayn. Recent technological and methodological advances in Jordanian archaeology also lead us to undertake a follow-up study to the French expedition's survey along the Wādī as-Sīr and the Wādī al-Kafrayn. As Mattingly (1997: 216) points out in his reports for the al-Karak Resources Project, archaeologists can now establish precise coordinates for sites by means of the Global Positioning System (GPS). In addition, *the Madaba Plains Project Survey Manual* (Herr and Christopherson 1996) is now available for practically all archaeological surveyors, and it has been widely adopted as the main guide for collecting survey data by many ongoing project groups in central Jordan, for example, the Dhibān Plateau Project (Ji and 'Attiyat 1997), the al-Karak Resources Project (Mattingly 1997), the Mādabā Plains Hinterlands Survey Project (Boling 1989; Christopherson 1997a; 1997b; Cole 1989; Younker 1991), and the Wādī ath-Thamad Project (Daviau 1997). The use of this manual is quite advisable not only because of its usefulness for data collection on a wide range of archaeological and environmental features, but for its convenience as a means of coordinating the various survey records (Mattingly 1997: 216).

### Research Methodology

The archaeological survey of 1996 was designed to: (1) document the occupational history and settlement pattern of the vicinity of Irāq al-'Amīr and the region between the Wādī as-Sīr and the Wādī Shu'ayb from the prehistoric period to the present; (2) accurately establish the location of each site

by plotting it on a map; (3) examine each site in order to describe, photograph, and when feasible, sketch its visible archaeological features and significant characteristics; (4) collect artifacts, especially representative sherds, from each site; (5) trace the development of the Wādī as-Sīr, the Wādī al-Kafrayn, and the Wādī al-'Amīr as routes of trade between the Jordan Valley and the Transjordan plateau; and (6) compare settlement patterns of the 'Irāq al-'Amīr region with those of the Mādabā Plains.

In 1996 two different field strategies were implemented within a 5 km radius of 'Irāq al-'Amīr. They were random square survey and site survey. The random square survey adopted the random square survey method that has been developed by the Mādabā Plains Project (Cole 1989: 51-52). It obtained representative characteristics of the region surrounding 'Irāq al-'Amīr in a thorough examination of randomly chosen 200 x 200 m parcels within a 5 km radius of the site. The 1 square km grid of a 1:50,000 scale Universal Transverse Mercator map was used to identify 1,962 basic sampling areas which have the major fraction of their 40,000 square meters contained within the 5 km radius of 'Irāq al-'Amīr. Each of the 1,962 squares was assigned a sequence number and 50 randomly selected sequence numbers composed the list of random squares to be visited. To take advantage of the larger 1:25,000 scale, the actual positions of the random squares were established on older Palestine regional topographic maps produced in 1958. Global Positioning System was used to increase the precision with which selected parcels were located.

The site survey was designed specifically to search for new archaeological sites in the survey area. The survey team recorded various features of each site and made sketch maps for some selected sites. Off-site features (e.g., agricultural installations, cisterns, tombs, quarries, terraces, water chan-

nels, caves) were also located and documented. At the same time, surface soil was collected at some selected sites for geological studies. A major effort, however, centered on the collection of pottery sherds and artifacts at each site. As noted above, the *Madaba Plains Project Survey Manual* was the main guide for these efforts, although it was supplemented by other survey procedures offered by Bintliff and Snodgrass (1985), Shaw and Jameson (1993), and Portugali (1982).

## SURVEY RESULTS

### 1. Random Square Survey

According to the random square survey, the 'Irāq al-'Amīr region was densely settled during the Byzantine and Early Islamic (Umayyad-Abbasid) periods, and there is evidence of continuity between these two periods. Of the other periods, the Chalcolithic-Early Bronze, Iron II-Hellenistic, Roman and mid-Islamic (Ayyubid-Mamluk) periods appear to have more than token representation, but the Middle Bronze (MB), Late Bronze (LB), and Iron I periods are virtually unrepresented.

In detail, diagnostic Chalcolithic and EB pottery sherds came from five squares (10%), and possible Chalcolithic and EB body sherds were found at 10 squares (20%). Diagnostic MB, LB, and Iron I pottery appeared in only one random square each (2%). Although possible Iron Age body sherds were collected at 10 random squares (20%), diagnostic Iron II sherds were found at two squares (4%) and Iron II/Persian pottery came from four squares (8%). Three random squares (6%) appear to have distinctive Hellenistic pottery sherds, and another three (6%) contained possible Hellenistic body sherds. Diagnostic Roman pottery was found in three squares (6%), and possible Roman body sherds were attested to at 11 squares (22%). Seven squares (14%) contained diagnostic Byzan-

tine pottery; 10 squares (20%), Early Islamic pottery. Twenty-five squares (50%) had possible Byzantine body sherds and 16 squares (32%) possible Early Islamic body sherds. Twenty-one sites included both Byzantine and Early Islamic pottery, which shows a continuous settlement history in the survey area. Diagnostic mid-Islamic pottery came from three squares (6%).

Of special interest is the comparison of the preceding data with the Tall al-'Umayrī hinterlands survey data (Cole 1989; Christopherson 1997a). According to the data from this survey, Iron Age and Byzantine pottery come from about 80% of the 100 random squares, with Roman from about 75%. The difference between the 'Irāq al-'Amīr region and Tall al-'Umayrī region is striking when we observe that in the 'Irāq al-'Amīr region only three random squares contain diagnostic Roman pottery. Although both areas were most densely occupied in the Byzantine period, the distribution of Byzantine pottery appears broader and denser in the Tall al-'Umayrī region than in the 'Irāq al-'Amīr region. Another marked difference between the two survey regions is the sparsity of Iron I pottery in the 'Irāq al-'Amīr region: Iron I pottery was attested to in only one square of the 50 random squares (2%) in the 'Irāq al-'Amīr region, while it came from nine squares of the 38 random squares (24%) visited by the 'Umayrī survey team in 1984 (Boling 1989; Cole 1989). Yet, the 'Umayrī data may be misleading since no Iron I pottery was collected from 40 random squares recorded in 1989 (Christopherson 1997a). Overall, it seems apparent that ancient settlement in the 'Irāq al-'Amīr region is less dense than the Tall al-'Umayrī region.

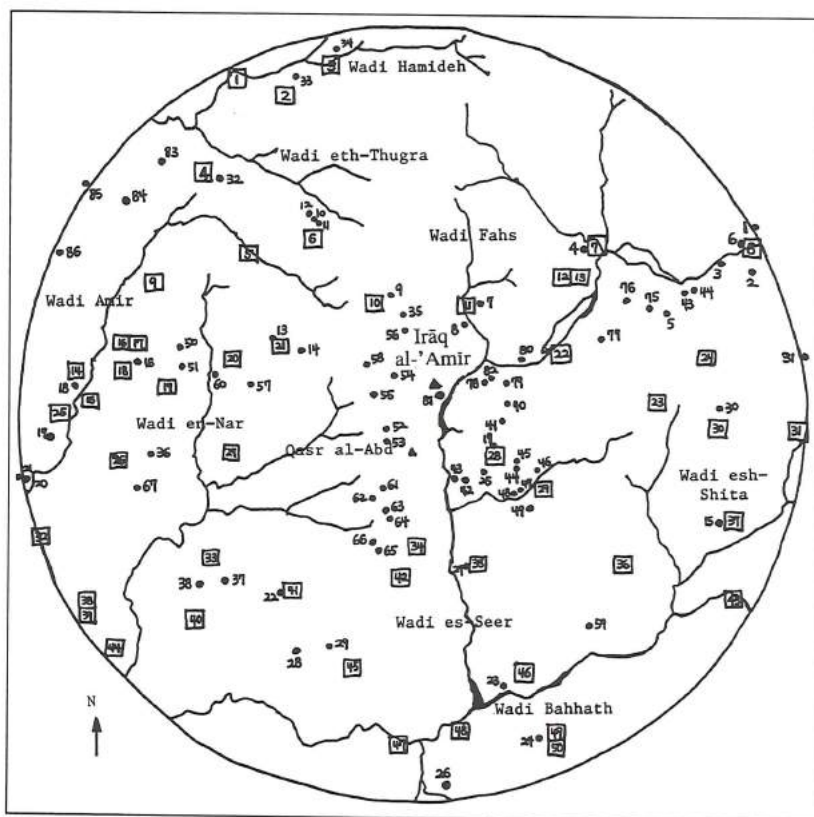
In terms of modern landuse, some 53% of the area surveyed remains as pasture and uncultivated land, which may indicate approximately half of the survey wadi sites are unsuitable for agricultural settlements. Grain fields, vegetable crops, and orchards

and vineyards account for some 39% of the land use in the visited random squares. The remaining 8% of the area surveyed is currently in use for roads and buildings. This leaves less than 1% of the total area for archaeological sites. In the Tall al-'Umayrī region, pasture and uncultivated lands accounted for about 35% of the area surveyed, and some 50% is utilized for cultivation (Cole 1989; Christopherson 1997a). Thus, a summary of landuse by percentage of the visited random squares gives the impression that the 'Irāq al-'Amīr region is primarily a pastoral and horticulture zone. Given this landuse pattern of the region, it is hardly surprising to note that ancient settlement in the 'Irāq al-'Amīr was less dense and less extensive than in the region of Tall al-'Umayrī.

## 2. Site Survey

As we survey the settlement patterns of the 'Irāq al-'Amīr region, it is convenient to think of the survey area in terms of the seven regions (Fig. 1). Five of the seven regions follow more or less north-south orientation along the Wādī as-Sīr (upper and lower), the Wādī ash-Shita, the Wādī an-Nār, and the Wādī al-'Amīr (Wādī al-Jeriah). The other two regions lie mostly east-west along the Wādī al-Kafrayn and the Wādī Ḥamidah (Wādī al-Buqei). The hills and ridges are dissected by these wadis. The regions along the Wādī al-'Amīr, the Wādī Ḥamidah, and the Wādī an-Nār are often rocky with difficult to work soils. They cover a much less promising region than the regions of the Wādī as-Sīr and the Wādī al-Kafrayn with their fertile soils and perennial water sources. The following presentation will proceed for the most part with reference to this regional division.

In 1996, the surveyed area included the west part of the 5 km radius of 'Irāq al-'Amīr, bordered on the north by the Wādī ath-Thughra, on the south by the Wādī al-Kafrayn, and on the east by the Wādī Faḥṣ



1. Survey of the 5 km Radius of 'Irāq al-'Amir. Random Squares and Archaeological Sites.

and the Wādī as-Sir. The surveyed area also extended some 500 m beyond the east side of the Wādī as-Sir bed and 500 m south of the Wādī al-Kafrayn bed, and included the region within 3 km upstream from the Wādī ath-Thughra along the Wādī Ḥamidah. Eighty-six new archaeological sites were recorded in the survey area that has been investigated so far. Seventy of the 86 sites contained ancient pottery.

The sites include 13 tells and village ruins, 10 cave settlements, three ancient campsites, 16 cemeteries, 10 farmsteads, 11 watch-towers, seven watermills, and two potential religious hermitages. Most of these settlement sites are spread over relatively narrow areas on hilly ranges along

the wadis. The survey team also examined many cisterns, wine- and oil-press complexes, reservoirs, dams, quarries, and cultivation terraces.

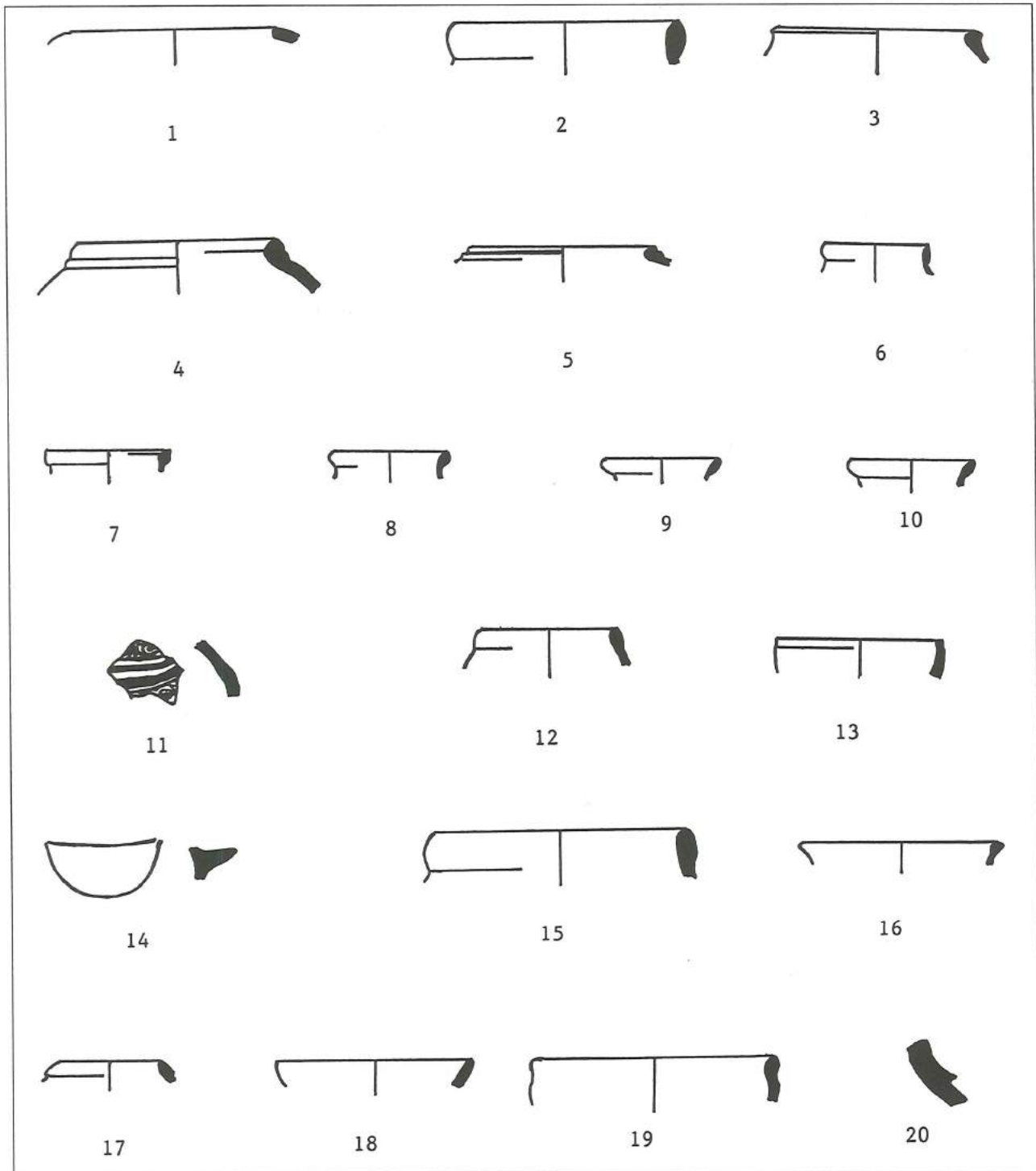
Figure 2 summarizes the number of ancient sites with diagnostic pottery according to their regional distribution. In general, we observe a strong chronological correlation between the results of the site survey and those of the random square survey. Of the 86 sites surveyed, 17 sites are attributed to the Chalcolithic or EB periods, the earliest periods represented in the surveyed area. So far, the MB and LB periods are represented in the survey by two and three sites each, and Iron I by four sites. Fifteen sites are attributed to Iron II, and in many cases,

Region	C/EB	MB	LB	Iron 1	Iron 2/Per	Hell	Rom	Byz	EIs	MIs	Site Total
as-Sir	3	1	1	0	2	1	2	6	1	1	16
as-Sir	8	0	0	2	3	7	0	11	6	3	33
al-Kafrayn	3	1	1	1	4	3	4	6	3	2	6
ash-Shita	1	0	0	0	0	1	0	1	1	2	3
an-Nār	0	0	0	0	1	2	1	2	3	1	11
'Amir/Thughra	2	0	1	1	5	0	1	3	7	3	15
Ḥamidah	0	0	0	0	0	0	0	1	1	1	2
Site Total	17	2	3	4	15	14	8	30	22	13	

2. Distribution of Diagnostic Pottery by Region.

occupation seems to have continued into the Persian period. The settlement in the Hellenistic period is relatively widespread as it is represented by 14 sites. Roman remains were recorded at eight sites, but the survey team collected possible Roman body sherds at 22 sites. Evidence of occupation in the

Byzantine and Early Islamic periods is extensive: Byzantine and Early Islamic pottery is found at 30 and 22 sites respectively. In many cases, occupation at these Byzantine sites appears to have spanned all of the Early Islamic periods. Mid-Islamic pottery was collected at 13 sites (Fig.3).



3. Some Selected Examples of Pottery.

No.	Provenance	Date/Type	Descriptions
1	Abū'Unayz	EB storage jar	hand-made, light reddish brown (2.5YR5/4) (E, I*), light reddish brown (2.5YR5/4) core, many large and small white inclusions, diameter 10.5 cm
2.	Abū'Unayz	Iron I storage jar	wheel-made, pale red (2.5YR6/2) (E, I), gray core (5YR6/1), numerous white small inclusions, diameter 11.5 cm
3.	Abū'Unayz	Iron II krater	wheel-made, reddish yellow (5YR6/6) (E, I), reddish yellow core (5YR6/6), some white and gray small inclusions, diameter 10 cm
4	Abū'Unayz	Iron II cooking pot	wheel made, pinkish gray (5YR6/2) (E, I), dark gray core (2.5YR4/0), numerous small to medium white and gray inclusions, diameter 10 cm
5	Abū'Unayz	Iron II cooking pot	wheel made, pinkish gray (5YR6/2) (E, I), gray core (5YR6/2), many small to medium white and gray inclusions, diameter 9 cm
6	Abū'Unayz	Hellenistic jar	wheel-made, pale brown (10YR6/3) (E, I), pale brown core (10YR6/3), few small white inclusions, diameter 5 cm
7	Abū'Unayz	Hellenistic jar	wheel-made, pale brown (10YR6/3) (E, I), pale brown core (10YR6/3), many small white and gray inclusions, diameter 6 cm
8	Abū'Unayz	Hellenistic jar	wheel-made, light reddish brown (2.5YR6/4) (E, I), light reddish brown core (2.5YR6/4), few small gray inclusions, diameter 6 cm
9	Abū'Unayz	Hellenistic jar	wheel-made, light red (2.5YR6/6) (E, I) (E, I), gray core (2.5YR5/0), very few medium gray inclusions, diameter 5.5 cm
10	Abū'Unayz	Hellenistic jar	wheel-made, light red (2.5YR6/6) (E, I) (E, I), light red core (2.5YR6/6), very few small gray inclusions, diameter 6 cm
11	As-Sa'āda	mid Islamic body	hand-made, pale red (2.5YR6/2) (E, I), pale red core (2.5YR6/2), light reddish brown decoration, light reddish slip, no inclusions, width 4 cm
12	As-Sa'āda	mid Islamic jar	wheel-made, pink (7.5YR7/2) (E, I), pink (7.5YR7/2), some small gray inclusions, diameter 6.5 cm
13	As-Sa'āda	mid Islamic bowl	hand-made, pale red (2.5YR6/2) (E, I), pale red core (2.5YR6/2), light reddish brown decoration, light reddish slip, no inclusions, diameter 8.5 cm
14	Al-Muwayna	EB ledge handle	hand-made, pale red (2.5YR6/2) (E, I), gray core (5YR5/1), no inclusions, width 6 cm
15	Al-Muwayna	Iron I storage jar	wheel-made, very pale brown (10YR7/3) (E, I), very pale brown core (10YR7/3), many small white and gray inclusions, diameter 12.5 cm
16	Al-Muwayna	Iron II bowl	wheel-made, very pale brown (10YR7/3) (E, I), dark gray core (2.5YR4/0), many small white inclusions, diameter 10 cm
17	Al-Muwayna	Iron I cooking pot	wheel-made, light reddish brown (2.5YR 6/4) (E, I), dark gray core (2.5YR4/0), few small white inclusions, diameter 5 cm
18	Al-Muwayna	Iron I bowl	wheel-made, light reddish brown (2.5YR 6/4) (E, I), gray core (5YR5/1), many small white inclusions, diameter 10 cm
19	Al-Muwayna	Iron I bowl	wheel-made, very pale brown (10YR7/3) (E, I), gray core (5YR5/1), many small white and gray inclusions, diameter 12 cm
20	Al-Muwayna	Iron I collared-rim jar	wheel-made, very pale brown (10YR7/3) (E, I), very pale brown core (10YR7/3), few small gray inclusions, length 3.3 cm

\*E:exterior; I:interior.

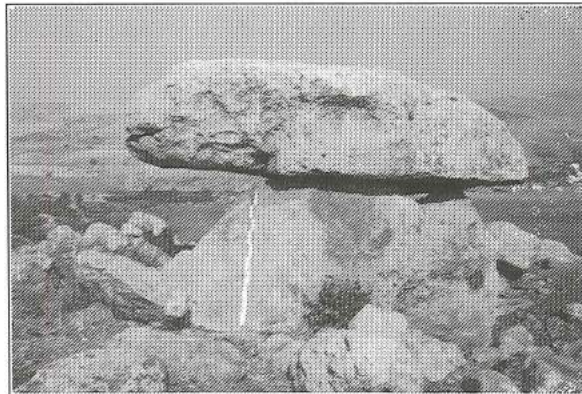
3. Pottery Descriptions.

From the geographical point of view, in the regions of the Wādī as-Sir and the Wādī al-Kafrayn, there was substantial population in the Byzantine period. The Chalcolithic-Early Bronze, Iron II-Persian, Hellenistic, and Early Islamic periods are attested to at about 10 sites each, and thus appear to have witnessed a decline in settled population when compared with the Byzantine period. The settlement abatement is also apparent during the Roman and mid-Islamic periods. On the other hand, it seems necessary to suggest that through the ages, the settlements in the regions of the Wādī al-'Amīr, the Wādī an-Nār, and the Wādī Ḥamīdah appear to have been less dense and less extensive than in the regions of the Wādī as-Sir and the Wādī al-Kafrayn. The only possible exception is the Islamic period. If one judges from the data on hand, Iron II was marked by the appearance of some new settlements throughout the regions of the Wādī Amir, the Wādī an-Nār, and the Wādī Ḥamīdah. These regions seem to have been reused intensively during the Byzantine and Islamic periods. The Hellenistic and Roman periods may have had a slight decline in population. In short, settlement sites appear to cluster mainly in the regions of the Wādī as-Sir and the Wādī al-Kafrayn. In these regions settlement evidence is noticeably strong during the Chalcolithic, EB I, Iron II, Persian, Hellenistic, Byzantine periods. The regions of the Wādī al-'Amīr and the Wādī Ḥamīdah seem to have had relatively dense population in the Iron II, Persian, and Islamic periods.

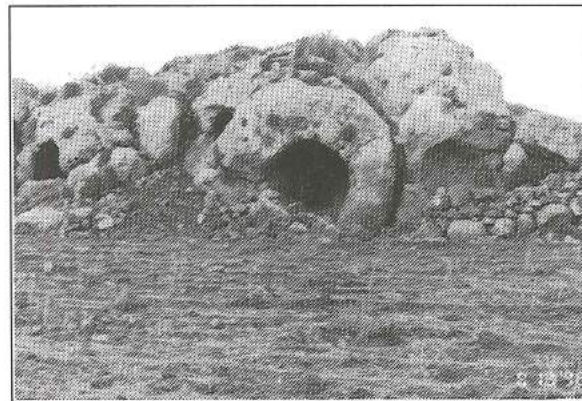
### 3. Major Chalcolithic and Early Bronze Sites

The survey data on the Chalcolithic and Early Bronze periods were dealt with in detail elsewhere (Ji 1997a; 1997b). Since space limitation do not allow us to repeat such data, we include a brief summary of important finds. Among many fortunate finds resulting from the survey are two

Chalcolithic/Early Bronze cemeteries which contain a large number of rock-cut chamber tombs and no less than 15 dolmens (Sites 40, 41, 44, 45, 46, 48, 53, 61, and 66). Many dolmen fields have been found in the Jordan Valley, the Wādī Ḥisbān, Amman, and the Transjordan plateau. Yet, the discovery of dolmen fields in the Wādī as-Sir area fills in the geographical gap between the Jordan Valley and the Amman region. A characteristic feature of the Wādī as-Sir dolmen fields is their association with many Late Chalcolithic and Early Bronze I rock-cut chamber tombs (Ji 1997a; Figs.4 and 5). Conder (1889: 125-33, 164-65, 196, 221-27) already observed a parallel phenomenon in the Wādī Ḥisbān and the southern Mādabā Plains a century ago. Yet, the intensive cultivation and growing population in the Wādī Ḥisbān region have probably destroyed these dolmens. Hence, our dolmen fields seem to be one of rare ar-



4. A Dolmen at Site 44 (looking northeast).



5. Rock-cut Chamber Tombs at Site 41 (looking southwest).



chaeological sites still containing both dolmens and rock-cut chamber tombs *in situ* in central Jordan.

#### 4. Major Iron Age, Persian and Hellenistic Sites

Khirbat al-Ḥassān (Site 20; PG: 216.1/146.1; Fig. 6) is a fortified Iron II, Roman, Byzantine and Early Islamic settlement site, and the debris on a promontory spreads over an area of about 60 x 80 m overlooking the Wādī al-'Amir. The slope rises steeply on all sides except for the north where the hill joins a ridge. Ruins of a substantial building complex at the highest point of this mound gives the impression of a small acropolis. The ruins at the acropolis indicate a single building which measured about 15.5 m (east-west) by 15.6 m (north-south). Constructed with large boulders (40-75 cm), some sections of this central building stand 1.2 m high. The defensive walls are built of large, rudely shaped stones, and are still about 1 m high on average and 1.2 m thick. Inside the walls of the enclosure are the ruins of numerous wall lines built against its sides. A couple of individual structures are discernable, yet most of them are filled with tumbled stones. Parallel interior wall lines on the west side of this site suggest that this section may

have been used for animal pens in ancient times. A city gate is still visible on the north side of the ruin.

Khirbat ath-Thughra (Site 32; PG: 218.4/150.1) is a fortified LB II-Iron I, Iron II, Byzantine-Islamic, and possibly Hellenistic settlement site situated on a saddle on a north-west-southeast oriented ridge dividing the Wādī al-'Amir and the Wādī ath-Thughra. The precise dimensions and outline of this site are difficult to determine because a late Ottoman village and modern settlement at this site have badly disturbed ancient remains. Yet, ancient settlement appears to have encompassed an area which measures no smaller than 60 x 100 m. Along the northern part of this site are the remains of massive ancient fortification walls and a possible city gate, still standing about 1.5 m high. Inside the city wall are several courses of exterior building walls with a large number of associated inner walls. A wine-press carved in bedrock on the north-west side of this site consists of a main vat and an attached small basin. There are several caves with entrances enclosed by stone walls. At least two cisterns have been cut into limestone bedrock: one on the north side of this site and the other on the south side. At the eastern side is a large circular depression about 3 m in diameter and 50 cm deep, which may suggest



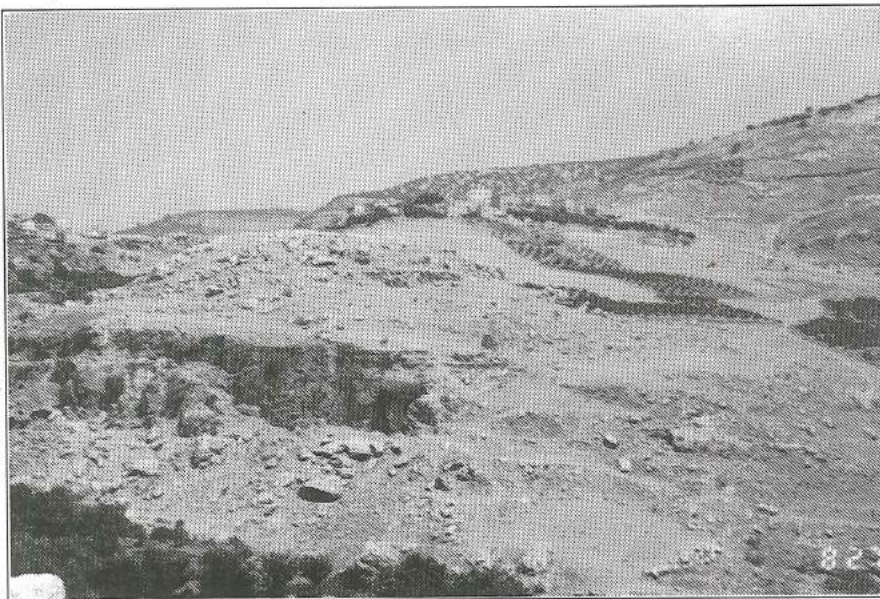
6. Khirbat al-Ḥassān (Site 20; looking south).

the existence of a water system or a large cave. Although the matter is open to further study, there is reason to believe that Khirbat ath-Thughra was a fortified agricultural settlement associated with a trade route which leads from the Wādī al-Kafrayn to the region of Māḥiṣ and Amman via Khirbat al-Ḥassān and the Wādī al-'Amīr.

Khirbat al-Farāwīt (Site 28; PG: 219.6/143.9) is an unoccupied settlement site on the summit of a gentle hill near 'Ayn al-Farāwīt. It appears to have prospered during the Iron II, Hellenistic-Early Roman, and Byzantine-Early Islamic periods. The mound on which this ruin is situated provides a clear overview of approaches along the Wādī al-Kafrayn from the Jordan Valley to 'Irāq al-'Amīr and Nā'ūr. The probable latest phase of ruins at this site is fairly well preserved, with relatively thick defense walls standing several courses high. Inside the defense walls are compartment walls dividing the ruin into six large separate sections. A central building appears to be located on the west side of this site. Its dimensions are about 15 x 25 m, and it appears to have been subdivided into three rooms. Near the northwest corner of this site is a potential gate. Possibly there is an ancient road along the northern part of the city wall leading down the perennial water spring.

Tall Abū-'Unayz (Site 26; PG: 221.5/142.3; cf. Raikes 1965) is a medium-sized ancient ruin atop a natural hill. The top is extremely rocky, which makes it difficult to distinguish the ephemeral remains of walls. Yet, city walls are visible around the site, and many inner walls are clearly discernable as well. It is not improbable that a casemate defense system protected this site. A city gate appears to be located in the northeast side of the ruin, and a possible road ascends its northeastern slope. A winepress carved in bedrock is found on the northwest side of this site. A large number of Iron II and Hellenistic sherds were collected on the northeast side of the ruin. Byzantine sherds are scattered mainly inside the city walls and in a rectangular structure built outside of the city wall on the southeast slope of this site. This site overlooks the Wādī as-Sīr and the Wādī al-Kafrayn, providing a commanding view of the route from the Jordan Valley to 'Irāq al-'Amīr and Nā'ūr. Khirbat al-Farāwīt is visible to the northwest and Rujum al-Musattarah and 'Irāq al-'Amīr to the north. The combination of a strong fortification system and a command over the ancient trade roads seems to define the nature of this site.

Al-Muwayna (Site 79; PG: 222.2/147.5; Fig. 7) is an Ottoman and modern village on



7. Khirbat al-Muwayna (Site 79; looking northeast).

a steep-sided promontory immediately east of 'Irāq al-'Amīr, covering an area of about 200 x 300 m. It is located along a track which leads north from the Wādī al-Kafrayn along the east bank of the Wādī as-Sīr. Al-Muwayna has a commanding view to the east, south, and north, but visibility to the west is obstructed by a ridge about 100 m higher. The late Ottoman and modern settlements have completely obscured all indications of ancient occupation except for pottery sherds. Numerous sherds are scattered in the vicinity of the present-day settlement, particularly on the east and south terraces, where they have been carried by erosion and recent building activities. Although it is a provisional view, the site location, topography, and associated pottery combine to suggest that Muwayna represents one of the rare EB settlements which remained in continuous use from early Iron I to the Hellenistic period without an occupational gap. Some of these sherds appear to belong to early Iron I that has not yet been attested to in the survey area except at Khirbat ath-Thughra and Tall abū-'Unayz.

Site 81 (PG: 221.6/147.3) is a building complex located about 100 m east of the village of 'Irāq al-'Amīr and includes a large number of rock-cut installations. This site

contains a variety of pottery from the EB, Iron II, Hellenistic, and Byzantine periods. Although the relation of this site to Qaṣr al-'Abd and 'Irāq al-'Amīr awaits further research, its location about 50 m east of the village of 'Irāq al-'Amīr suggests Site 81 may be treated as part of the settlement at 'Irāq al-'Amīr.

### 5. Major Roman, Byzantine and Islamic Sites

Khirbat as-Sūr (Site 67; PG: 217.5/145.9) is a massive Hellenistic-Byzantine fort on the flat top of a ridge west of 'Irāq al-'Amīr (Fig. 8). It shows evidence of continuous occupation during the Early Islamic period. Although Conder (1889: 66, 156) and later the French survey team (Ville-neuve 1988:280-82; 1989:58) mentioned this site especially in conjunction with the origin of the name of the Wādī as-Sīr, no systematic survey and excavation have ever been conducted at this site. Khirbat as-Sūr is a well fortified site with heaps of rudely-cut stone and numerous foundations covering about 200 x 400 sq. m. A massive defense wall which measures more than 2 m thick and remains standing up to 2.5 m surrounds the site. The acropolis includes a large rectangular building with many small



8. Khirbat as-Sūr (Site 67; looking southwest).

inner walls. Remains of another large building complex is also visible south of this acropolis, and several large cisterns located in the middle of this site seem to have been the main water source for this site. It is apparent that Khirbat as-Sūr was a very important site during the Hellenistic, Roman, and Byzantine periods and thus deserves further investigation and study.

Al-Bardūn (Site 76; PG: 223.3/148.1) is a modern village on an ancient site situated on the east bank of the Wādī as-Sir, about 2.5 km north of 'Irāq al-'Amīr and about 300 m east of al-Baṣṣa (cf. Larché, Ville-neuve and Zayadine 1981: 342). A large number of Roman and Byzantine pottery sherds, as well as with some Early Islamic sherds, have come from the surface of this site. The ruins at this site have been largely obliterated by construction of late Ottoman and modern facilities. There is much evidence showing that residents of the Ottoman village have removed most of the ancient walls from their original places while building their houses. Ancient occupational remains, however, are still evident inside the modern village. Some wall lines, constructed with ancient large well-dressed stones, are preserved up to 10 courses high. There is a rectangular oil and wine-press carved into bedrock, now destroyed and filled with debris. The survey team noted two circular-shaped rock installations of large well-dressed stone which gave the impression that they were used for grinding grain or pressing wine and oil. The Byzantine and Islamic sherds are collected mainly from inside the modern village, which indicates the wall remains and rock-cut installations were built during the Byzantine and Islamic periods. The concentration of EB and Iron II sherds, however, is found in mass on the slope south of the hill on which the Byzantine village was probably located.

About 100 m west of al-Bardūn is a Byzantine cemetery (Site 75; PG: 224.0/148.5) in which about 20 robbed-out tombs are lo-

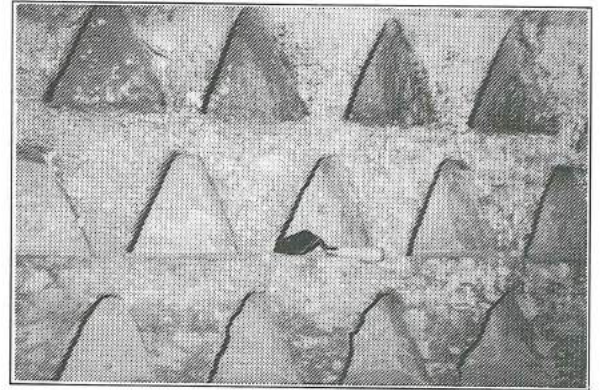
cated. Each tomb has a rectangular shaft cut into bedrock with two ledges to bear covering slabs above the burial vault. Each also has two side chambers at the bottom of the shaft. It should be noted that the same type of Byzantine tomb with Byzantine pottery (Site 3; PG: 224.9/149.2) is also found near al-Baṣṣa in the survey area. A recent salvage excavation on the south side of Site 3 also revealed an EB IV cemetery of shaft tombs with a Byzantine cave-church and several rock-cut Byzantine tombs (Waheeb and Palumbo 1994: 57).

In conjunction with these finds are two possible Byzantine monasteries or hermitages (Sites 2 and 77; PG: 225.3/149.0 and 223.3/148.1) carved through steep cliffs on the southern slope of the Wādī as-Sir. Local residents call Site 2 "Mu'llaqat ad-Dayr" which means "the hanging place of the monastery." Site 77 is composed of two man-made caves with several rock-cut installations and a plastered cistern inside them.

Conder (1889: 94-96; Larché, Ville-neuve, and Zayadine 1981: 342; Villeneuve 1988; 1989) visited Mu'llaqat ad-Dayr and provided a detailed and precise description, and the survey team saw it essentially as Conder described except for a couple of detailed features. This site is an impressive rock-cut three-story hermitage consisting of two parallel chambers with windows and doors all cut in the rock of the cliff. The first floor was 2 m high; the second floor, 2.6 m high; and the third floor, 2 m. The first floor is entered by a door 0.7m x 1.55 m wide and consists of two parallel rooms without any windows. Each room of the three floors is 2.9 m x 7m, and the rock wall between is about 90 cm thick with two doorways through it. The survey team could find possible traces of a vertical ladder hewn into the wall at the northwest corner of each floor. About 800 equal lateral triangular niches were carved into the inside walls of this hermitage: on the first floor,

niches are arranged in six tiers; on the second floor in seven tiers; and on the third floor in eight tiers (Fig. 9). Each niche is 22 cm high, 25 cm wide at the base, and 22 cm deep. They are about 36 cm apart from center to center. The function of these niches is not known for certain, but they may have cradled skulls of monks, lamp lights, or pigeons. In front of the hermitage is a rock-cut courtyard about 6 m wide and 3.5 m deep, and there are traces of rock-cut stairs leading up to the hermitage from the valley. On the east and west of Mu'llaqat ad-Dayr are caves which appear to have formed similar hermitages or dwelling caves.

Dūr al-Hadlūli (Site 16; PG: 217.5/147.6) is an unoccupied settlement site about 2 km northeast of Khirbat al-Ḥassān, on a small hilltop on the east bank of the Wādī al-'Amīr. It enjoys a commanding view of the Wādī al-'Amīr and of Dūr Jarī'ah to the southeast. Byzantine and Early Islamic sherds dominate the pottery assemblage from this site. Late Ottoman building ruins measuring about 60 x 60 m spread over the site. Many ancient wall lines, however, can be traced with confidence. Most of the remaining ancient stones are unworked, but some have been roughly squared. There is a



9. Triangular niches inside Mu'llaqat ad-Dayr (Site 2).

cistern in the middle of the settlement, which seems to have been reused at least once, probably during the late Ottoman period.

At Dūr al-Hadlūli, there are at least four caves used for habitation. A first cave is located about 30 m southeast of the cistern and oriented toward the south (Fig. 10). It measures 6.6 m long, 6.4 m wide, and 1.8 m high. Remains of side walls and a front with a doorway at the entrance of this cave suggest earlier use as a dwelling. The construction style seems earlier than those late Ottoman houses at this site, which may indicate this cave was used for habitation during the Islamic period. Around the cave is a 15 x 17 m stone enclosure still standing 1 m



10. A Cave at Dūr al-Hadlūli (Site 16; looking north).

high with a 3.7 m wide gate. Three additional caves are found with well-built entrance structures similar to those of the first cave in appearance. It is thus evident that in the survey area, caves have been commonly used as dwellings. A related discovery is that caves were also attractive living facilities in the region of Tall al-'Umayri and Tall Ḥisbān (James 1976; LaBianca 1991; Mitchel 1994: 99). In ancient central Jordan, local residents appear to have settled in such caves during the winter when growing grain and migrated with their flocks to more distant pastures during the summer months (LaBianca 1991). Likewise, at Dūr al-Hadlūli the surrounding area does not provide good farm land, although there are some modern terrace walls on the eastern slope of this site. A plausible suggestion, then, is that Dūr al-Hadlūli is a Late Byzantine and Early Islamic cave settlement associated with some scattered houses, and the settlers engaged in animal herding rather than farming.

Dūr Jāri'ah (Site 17; PG: 216.4/146.5) is situated on a steep ridge, overlooking the Wādī al-'Amir and a track from Khirbat al-Ḥassān to Khirbat ath-Thughra. On the basis of pottery, Dūr Jāri'ah appears to have been occupied during the Early Bronze, Roman, Byzantine and Early Islamic periods. Foundation remains indicate a 15.5 x 17.0 m rectangular building situated on a prominent hill with good visibility in all directions. Visible to the northeast are the ruins of Khirbat ath-Thughra and Dūr al-Hadlūli, and to the southeast, Khirbat as-Sūr. The walls of the building are constructed of three parallel rows of unhewn limestones filled with smaller fieldstones. No inner partitions are visible. A late Ottoman house of two rooms is built on top of this building and covers most of the southern half of the earlier structure. During the Byzantine and Early Islamic periods, the building at Dūr Jāri'ah may have served as an outpost fortress for the settlements at Dūr al-Hadlūli

and Khirbat ath-Thughra.

Khirbat 'Ayn-Qrāda (Site 57; PG: 218.9/147.4) is located in what is now horticultural land. It contains a heavy sherd scatter, many buried or at least partially buried walls, and rectangular structures. The entire site has been disturbed by field clearance and by the robbing of stones from the ancient limestone block structures. There is a large ancient cistern just to the south corner of this site, and about 11 cupholes and basins are cut into the bedrock around the cistern. A large inhabitable cave was found at the northeastern part of the site as well. Although identifiable sherds collected at this site date to the Persian-Hellenistic, Byzantine, Early Islamic, and mid-Islamic, Khirbat 'Ayn-Qrāda seems to be a predominantly Islamic site which began to prosper in the Byzantine period. This site should be referred to in connection with the Wādī an-Nār as it is located on the plateau immediately east of this wadi. What seems to be an Islamic building composed of a 5 x 12 m rectangular room and a 4 x 4 m square room is located on the east side of this site. There is no evidence of defence walls at this site.

Khirbat as-Sa'āda (Site 31; PG: 225.9/147.9) is an impressive Islamic site on the ridge above the western slope of the Wādī ash-Shita. It lies in the path of rapid urban development, and bulldozers have already threatened this site. Numerous features are visible on the surface. These include rectilinear buildings, city gates, defense walls, and various wall lines. The largest and best preserved of the structures presents a central building complex, possibly a residence of the governor. Various size rooms make up this building, and its walls are constructed of two to five rows of large stone blocks. Adjacent to this central building is a large settlement cave that has been completely filled and obscured by boulder tumble. It is not improbable, however, that this is not a cave but part of a reservoir that was the

main water source for the settlement. About 10 m to the north are the remains of another small rectilinear building complex characterized by quoin and pier walls. At the northwest corner of this site are ruins of a watch-tower measuring about 3 m x 17 m. The northern defense wall lines are very faint, barely exposed above the surface of the ground. A city gate is noticeable, however, in the middle of this wall line. Another gate located on the western wall appears to lead toward the central building. On the southern side of this site are the partially standing remains of another large building complex that measures about 12 x 35 m. It is similar in construction style to the central building complex. While several additional walls can be traced in this site, the overall plan of other buildings cannot be determined without further investigation.

Al-Baqi' al-Gharbi (Site 34; PG: 220.0/151.5), located on the gentle slopes immediately north of the Wādi Ḥamīdah, appears to be a large Islamic building complex. This site overlooks the Wādi Ḥamīdah to the west and is still in a good state of preservation. This site is divided into two segments by a ca. 45 m long stone-lined wall. Many wall foundations and a large room measuring ca. 2 x 5 m are noted in the northern segment of this site. It is probable that this section of the site was used for habitation. In contrast, the southern segment lacks any building remains, is relatively flat, and appears to have been used for animals. The most characteristic feature of this site is a large building comprised of three to four rectangular rooms. This central building is located in the eastern part of the southern section and measures about 21m x 25 m. A gateway measuring 2.8 m wide was noted on the east side of the site. Further to the east, a round structure about 6 to 7 m in diameter, commands a good view of the entire building complex. Although the ruins themselves are scanty and obscured by the modern farming activity, this structure seems to

have been a watch-tower associated with this site. Parts of the foundation walls still stand about 30 to 50 cm high, and the walls are one to two courses thick. Early and mid-Islamic pottery is predominant at this site with some sporadic Roman and Byzantine body sherds.

The survey team recorded seven water-mills along the Wādi as-Sir (Sites 3, 6, 68, 70, 71, 72, and 73). A growing consensus among the scholars is that most of the water-mills in Transjordan were originally built during the Mamluk period, and they were reused during the late Ottoman period (Gardiner and McQuitty 1987; Greene 1995; McQuitty 1995; Rogan 1995). The survey team collected Byzantine sherds scattered around some of these watermills, but failed to find any mid Islamic pottery.

#### **Settlement Patterns: A Preliminary View**

In regard to the Chalcolithic and EB periods, it appears that there was both sedentary and pastoral occupation of the area during the late Chalcolithic and EB periods, especially during the EB I period (cf. Ji 1997a). Chalcolithic and EB sherds collected at Tall abū-'Unayz, Khirbat as-Sa'āda, al-Muwayna, and Sites 24, 47, and 59 may provide some evidence for this sedentary life-style. The small, camp-like sites and caves, particularly Dūr Jārī'ah, Site 1, and Site 63, are probably remnants of temporary, pastoral settlements. Sherds of the late Chalcolithic and EB IA periods seem evenly scattered over these sites, but the EB II-III periods are poorly represented in the survey area except for Site 47. There is also a large number of rock-cut chamber tombs and dolmens probably dated to the late Chalcolithic and EB I period. All these sites, except for Dūr Jārī'ah and Site 18, are located in the regions of the Wādi as-Sir and the Wādi al-Kafrayn. Hence, the survey area appears to have been substantially occupied during the period from the late Chalcolithic to the EB IA periods, and a sharp decline in

population occurred in the EB II-III periods. This suggestion certainly corresponds to the facts that 'Irāq al-'Amīr and Qaşr al-'Abd include only EB IA and IV pottery, and a recently-excavated tomb at al-Başşa is dated to the EB IV period (Lapp 1962a; 1963; Waheeb and Palumbo 1994).

Turning to the Iron Age, we tentatively propose that there was a sharp drop in the level of settled occupation in the survey region in the MB and LB periods. There is no definite MB period pottery collected in the survey area. The exceptions are the two sherds found at Khirbat al-Farāwīt and Site 59, both located near the Wādī al-Kafrayn. LB sherds were collected at Khirbat ath-Thughra, Tall abū-'Unayz, and al-Badrūn.

A characteristic feature of the 'Irāq al-'Amīr region is the scarcity of Iron I settlements. (cf. also Villeneuve 1988: 272-74) Given that sedentarization reached its apex during LB II and early Iron I in the Transjordan plateau and the Jordan Valley (Ji 1995; 1996; 1997c; 1997d), the sparsity of Iron I pottery and of settlement in the survey area is somewhat surprising. Provisionally, this fact may point to the absence of early Iron I settlement intensification similar to that in the Transjordan plateau in the 'Irāq al-'Amīr region. In the survey area, it is not improbable that Iron Age sedentarization took place in early Iron II, a process which continued to the Hellenistic period. The exceptions to this generalization are al-Muwayna and Khirbat ath-Thughra which contain a large amount of early Iron I pottery.

Iron II and Persian settlements appear almost certainly located on the high hills along the Wādī as-Sīr, the Wādī al-Kafrayn, and the Wādī al-'Amīr. For example, 'Irāq al-'Amīr, al-Muwayna, Tall abū-'Unayz and Khirbat al-Farāwīt are situated at high points lined up along the Wādī as-Sīr and the Wādī al-Kafrayn. They are all fortified settlements and visible to each other. The Iron Age inhabitants appear to have ex-

perienced tremendous labor on the city walls and towers, which implies security was one of their major concerns. This is also true in the Wādī al-'Amīr region where Khirbat al-Ḥassān and Khirbat ath-Thughra are located. The Wādī as-Sīr and 'Irāq al-'Amīr are, of course, currently the best agricultural land in the area and were most likely so in the Iron II and Persian periods. However, Iron II and Persian sites in the regions of the Wādī al-'Amīr and the Wādī al-Kafrayn (e.g. al-Ḥassān, ath-Thughra, abū-'Unayz, al-Farāwīt, and Sites 22, 83, and 86) are strategically located for defense, yet do not provide a very good situation for agriculturally based settlements.

Therefore, one may take this Iron II settlement pattern and suggest the existence of road systems of the period connecting the Jordan Valley with 'Irāq al-'Amīr and the Transjordan plateau, particularly along the Wādī al-Kafrayn and the Wādī as-Sīr (cf. Larché, Villeneuve and Zayadine 1981). This suggestion seems plausible, since to the south of 'Irāq al-'Amīr, there is a line of sites at which Iron II-Persian pottery were collected. This line stretches in a south-north direction from the confluence of the Wādī as-Sīr and the Wādī al-Kafrayn to 'Irāq al-'Amīr and al-Muwayna. This proposed trade route and defense system may be related to "the plateau fort" at the mouth of the Wādī al-Kafrayn (Prag and Barnes 1996). According to Prag and Barnes, this fort is dated to Iron II and seems to have been built for some strategic reasons. This being the case, our findings and the plateau fortress indicate the strategic importance of the Wādī al-Kafrayn and the Wādī as-Sīr in Iron II, and the survey team may find further traces of Iron Age settlements along the Wādī al-Kafrayn in the future survey seasons. This route appears to have been intensively reused in the Hellenistic, Roman, Byzantine, and Early Islamic periods.

The Hellenistic period was apparently one of increased population and prolife-



ration of settlements in our survey area, although this period witnessed light occupation in central Jordan (Ibach 1987: 168-70). Yet, considering the extensive settlement of 'Irāq al-'Amīr during the Hellenistic period, it is hardly surprising that three of our 50 random squares produced Hellenistic pottery, and 13 sites were associated with the Hellenistic period. A general impression, however, is that most of these Hellenistic settlements (e.g. Tall abū-'Unayz, Khirbat al-Farāwit, al-Muwayna, Rujum al-Musattarah and Site 81) are noticeably centered in the narrow areas located along the Wādī as-Sīr and the Wādī al-Kafrayn, and in the immediate vicinity of 'Irāq al-'Amīr. There seems to have been continuous occupation in this area from Iron II to the Hellenistic period. During the Hellenistic period, a couple of new fortresses and public buildings (e.g. Rujum al-Musattarah and Site 25) were incorporated into the already existing Iron II and Persian trade route and defense system. If the number of sherds collected from this time frame is any indication, then many of the cities in the area of the Wādī ath-Thughra and the Wādī al-'Amīr were abandoned during this period, and the population was small. It is not improbable that urban habitation did not extend beyond the hilly ranges west and north of the Wādī as-Sīr and the Wādī al-Kafrayn. There are no urban sites from the Hellenistic period of any significance in the regions of the Wādī al-'Amīr and the Wādī an-Nār, although Khirbat as-Sūr and Khirbat ath-Thughra would be an exception to this generalization. Accordingly, to see the full picture of the urban settlement history in 'Irāq al-'Amīr and its vicinity, we note that during the Hellenistic period, when 'Irāq al-'Amīr prospered, most of its vicinity remained sparsely occupied. This fact leads to a suggestion that in the Hellenistic period, the Tobiades settlement in this region was probably restricted to a narrow valley along the Wādī as-Sīr and the Wādī al-

Kafrayn, and the immediate vicinity of 'Irāq al-'Amīr, more or less isolated from its neighbors.

The Roman sites are rather evenly scattered over the survey area. Yet, the overall impression is that settled population levels were relatively low in the Roman period, as shown by pottery evidence. In contrast to the Roman period, there must have been a substantial settled population in the Byzantine period. A glance at the settlement pattern for this period shows that many Roman sites remained in use, and Byzantine sites spread throughout the survey area. The pattern may show a concentration of Byzantine sites in the Wādī as-Sīr area, but this does not appear to be significant, since many of the sites in the western part of the survey area (e.g., as-Sūr, ath-Thughra, 'Ayn Qrāda, Sites 22, 51 and 85) have visible, impressive architecture that might be dated to the Roman and Byzantine periods. The most architecturally significant of these sites is Khirbat as-Sūr, a substantial fortress site that was originally built in the Hellenistic period (Villeneuve 1988). Now, however, most of the stones from the ancient structures at this site have been used for the terrace walls. In addition, the settlement pattern shows the concentration of many small cave settlements and rock-cut installations (e.g., Sites 1, 2, 9, 49, 53, 62, 63, 77 and 78) in the Wādī as-Sīr area. Two possible hermitages were also found in the survey in addition to two cemeteries used in conjunction with al-Badrūn. A puzzling feature of the survey area is the absence of Byzantine churches except for the one found at al-Baṣṣa. The Christian population settled and built churches in virtually all areas of Transjordan during this period. Further surveys in the region may shed some light on this question.

Although there are very few Early Islamic remains at 'Irāq al-'Amīr and its immediate vicinity, there is, nevertheless, abundant evidence for both sedentary and pastoral ac-

tivity in the survey area during this period. In the area of 'Irāq al-'Amīr and its immediate vicinity, most of the impressive Byzantine sites were abandoned during the early Islamic period and remained unoccupied continuously in the mid-Islamic period. Some Early Islamic sherds are collected at al-Badrūn, Rujum al-Musattara, and Site 49, but they are very few in number. The most significant Byzantine sites (e.g., 'Irāq al-'Amīr, Qaṣr al-'Abd, al-Muwayna, Khirbat as-Sūr) lack any substantial ceramic and architectural evidence of the Early Islamic period. Thus, it may be stated that in the Wādī as-Sīr area, the Early Islamic settlement pattern cannot be treated in conjunction with the Byzantine period. In contrast, many impressive Early Islamic sites are situated along the Wādī al-'Amīr, the Wādī an-Nār, the Wādī Ḥamīdah, and the Wādī al-Kafrayn. For example, a large number of Early Islamic sherds are found with architectural remains at Dūr al-Hadlūla, Dūr Jarī'ah, Khirbat al-Farāwit, Khirbat ath-Thughra, al-Baqī' al-Gharbī, Khirbat 'Ayn Qrāda, Site 59 and Site 84. In many cases, Early Islamic pottery is found in association with camp sites and cave settlements like Sites 9, 24, 51, and 63.

There was a continuous decline of settled population in the mid-Islamic period, with 13 sites bearing evidence of occupation. The settlement pattern for this period is similar to that of the Early Islamic period except that the regions of the Wādī al-'Amīr and the Wādī an-Nār were no longer densely occupied. A first cluster of mid-Islamic sites is located in the region of the Wādī Ḥamīdah and the Wādī ath-Thughra; a second cluster is in the region of the Wādī al-Kafrayn and the Wādī ash-Shita. Impressive mid-Islamic sites are Khirbat as-Sa'āda on the east edge of the plateau west of the Wādī ash-Shita, al-Baqī' al-Gharbī on a flat-topped hill overlooking the Wādī Ḥamīdah, Khirbat 'Ayn Qrāda and Site 84 in close proximity to the Wādī an-Nār and the Wādī

al-'Amīr respectively, Site 59 and Site 24 overlooking the confluence of the Wādī as-Sīr into the Wādī al-Kafrayn. No distinctive mid-Islamic structures and sites are noted along the Wādī as-Sīr. To recapitulate, mid-Islamic sites appear more frequently in the regions of the Wādī Ḥamīdah, the Wādī ath-Thughra, and the Wādī al-Kafrayn than the regions of the Wādī as-Sīr and the Wādī al-'Amīr. The population may have been confined mainly to the ridges and hills of the Wādī al-Kafrayn and the northern extremity of the survey area.

### Conclusion

If we were to summarize the evidence documented above it would be in terms of the coherence between the results of the random square survey and that of the site survey. A provisional suggestion is that the Byzantine and Early Islamic periods showed a substantial population in the region of 'Irāq al-'Amīr and the Wādī as-Sīr. Chalcolithic-Early Bronze, Iron II-Persian, Hellenistic, and mid-Islamic pottery were collected at more than 10 different sites and some random squares. Thus, the survey area may have witnessed high settlement intensification during the Byzantine and Early Islamic periods and low settlement intensification in the Chalcolithic-Early Bronze, Iron II-Hellenistic, mid-Islamic, and possibly Roman periods. Settlement abatement followed each of these settlement peaks.

It would appear from the foregoing investigation that the population in the survey region was concentrated in different regions in different periods. There are a number of settlement sites which appear to have been associated with the region along the Wādī as-Sīr and the Wādī al-Kafrayn during the Chalcolithic-Early Bronze I, Iron II-Persian, Hellenistic, and Byzantine periods. The concentration of settlements appears to have been gradually shifted from the Wādī as-Sīr to the regions of the Wādī Ḥamīdah, the

Wādī ash-Shita, and the Wādī al-Kafrayn during the Islamic period. The Wādī al-'Amīr region has remained rather sparsely occupied through the ages except for the Iron II, Byzantine and Early Islamic periods.

The results of one season of fieldwork are not specific enough to identify the settlement patterns and occupational history of the 'Irāq al-'Amīr region. Therefore, until more detailed studies of our pottery are conducted and further finds are made in the region, the foregoing suggestions which rely on one season of field work needs to remain tentative. More extensive data collection and hypothesis testing will be undertaken in the future as our research and expedition

continue in the region of 'Irāq al-'Amīr, the Wādī as-Sīr, the Wādī al-Kafrayn, and the Wādī Shu'ayb.

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