ANCIENT AMMON

EDITED BY

BURTON MACDONALD AND RANDALL W. YOUNKER

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CHAPTER ONE

REVIEW OF ARCHAEOLOGICAL RESEARCH IN AMMON

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Introduction

The Ammonites, known from both biblical and extra-biblical sources, were an ancient people who inhabited the northern Central Transjordanian plateau (located in the modern Hashemite Kingdom of Jordan) from the latter part of the second millennium B.C. until the middle of the first millennium B.C. Their country was known as Ammon, while their capital was called Rabbath-Ammon, or simply Ammon. They are best known for their numerous encounters with the biblical Israelites. However, they are also important because their territory was astride the major caravan routes that connected Arabia with the major cultural centers of the Fertile Crescent. Occasional references to the Ammonites, therefore, also appear in the ancient records of these early empires.

Modern research in Ammon began in the early part of this century just prior to World War I and has continued up to the present. Because scholarly attention has tended to focus on Ammon's neighbors to the west—Israel and Judah, there has been little attempt to systematically either summarize or utilize the results of the numerous surveys and excavations that have been conducted in Transjordan during the last 90 years. Thus, it seems appropriate to set the stage for the essays in this volume by presenting a brief review of the research that has been conducted on the other side of the Jordan.

Howard Crosby Butler Survey

Some of the first surveys in Ammon in the twentieth century were undertaken by H.C. Butler of Princeton University. In 1904 he provided a detailed study of 'Iraq al-Amir, later the home of the Tobiads, a family who were closely associated with the Ammonites during the

Persian period. Later, in 1907 Butler conducted probably the most extensive survey of the city of ʿAmman up to that time (Butler 1919: 34–62).

Duncan Mackenzie Survey

In 1910 Duncan Mackenzie and F.G. Newton conducted a special study of dolmen and megalithic structures of ʿAmman on behalf of the Palestine Exploration Fund. While some of Mackenzie's hypotheses concerning the dolmen would no longer be considered valid, he does provide some useful descriptions of the Ammon region, including the rujm (large stone towers or forts) surrounding ʿAmman, and the city of ʿAmman, itself (Mackenzie 1911: 1–40).

C.C. McCown

During the spring of 1930 the director of the American Schools of Oriental Research in Jerusalem (later known as the Albright Institute for Archaeology Research), C.C. McCown led a field trip for the school that included Transjordan.

McCown's party entered Ammon via the Wadi as-Sir past the ruins at ʿIraq al-Amir and Qasr al-ʿAbd and the village of Wadi as-Sir. McCown noted that the road between the village of Wadi as-Sir and ʿAmman passed by frequent ruins, many of them of the semi-megalithic character common in the region (1930: 12). He visited several of these, spending more time at "Rujm, or Qasr al-Malfuf." McCown notes that,

> This "stoneheap" or "castle of the cabbages", a circular megalithic wall now piled full of stones, has been shown by Mackenzie to be one of a series of megalithic buildings forming a chain of residences and forts (ibid.).

McCrown followed Mackenzie's mistaken dating of these structures to the Chalcolithic-Early Bronze Age, although recent work now suggests dates in the Iron II Age for most of these structures (cf. Younker 1990b; Kletter 1991).

After visiting the later period ruins at the ʿAmman Citadel the party headed north to Yahûz, passing additional "megalithic monuments" like those west of ʿAmman. Near the path, two or three miles from Yahûz they saw two megalithic gilgels. The tour continued north of ʿAmman focusing on the late period remains at Yahûz,

Khirbat Khau, Khirbat al-Hallabat, Khirbat as-Samra, Medwar Nol and Mar Alyas.

De Vaux and Benoit Surveys

Probably the first modern survey of the Ammon region is that of R. de Vaux and P. Benoit who explored the region of Salt and the Baqʿah Valley in the late 1930s (de Vaux and Benoit 1938). These data were used to construct a historical geography of the region (de Vaux 1941).

Albright Exploration

W.F. Albright, the leading American Orientalist of his time, made several trips during the late 1920s and in 1931 to Transjordan that took him along the borders and into the heartland of Ammon. During his initial trips he traveled along the Jordan Valley, up to about where the Zarqa (Jabbok) river empties into the Jordan. He later traveled to ʿAmman and along the Zarqa River, via Ruseifeh. Of special interest are Albright's site identifications and historical conclusions (Albright 1926: 39–49; 1929a: 10–14; 1933: 29; also see comments by Glueck 1937: 14).

Nelson Glueck Survey

The first major survey in this region was that of Nelson Glueck, an American rabbi and scholar, who included this region in his general survey of Transjordan conducted between 1932 and 1947. His survey of Ammon proper was undertaken during the summer of 1937 during which he documented at least 149 sites within or along the edges of the ancient Ammonite borders (1939: 151–251).

Two of the most significant results of Glueck's research were his claims that the Ammon region was unoccupied between *ca.* 1900–1300 B.C. and that the Ammonites had constructed a line of forts (the so-called "megalithic towers" or *rujm* unique to the Ammonites) along their borders as early as the 13th century B.C.

Petrie, Pape, and Kiralfy Survey

For a week or two after the 1938 season at Gaza Petrie, Pape and Kiralfy investigated the Ammonite tableland. Actually, Petrie notes that it was Pape and Kiralfy who explored the countryside while he (Petrie) guarded the camp (Petrie 1952: 39). The sites which Pape

documented included Umm Sweiwina, Al-Hemraniyeh, Al-Malfuf (and associated ruins), Sweifiyeh, Small Tower (Site no. 9), Khirbat Ronak, and Khirbat as-Sar (1952: 39–41).

German Surveys

Since Glueck's foundational survey German scholars have conducted a number of additional surveys, most with the object of attempting to further define the southwestern and southern line of Ammonite "border forts." These were areas that Glueck's survey did not cover thoroughly.

During September of 1957 Hartmut Gese explored and described a series of sites between the Wadi as-Sir and Na'ur which he believed were border forts (*Grenzfestungen*) on Ammon's western frontier. These sites (some of which Glueck had already documented) included al-Qasr, Kh. Kursi, Kh. Kursi ash-Sherqiyeh, Qasr ar-Ronaq, Qasr as-Sar, al-Qasr II, Qasr at-Tabaqe, Kh. at-Tabaqe and Kh. ad-Dra (Gese 1958).

R. Hentschke attempted to extend the list of Ammonite border forts in his report on a dozen additional sites southwest of 'Amman, between Qasr as-Sar and Na'ur (Hentschke 1958, 1960). Fohrer rounded the corner on Ammon's southwest border by describing an additional 13 sites in the area south of Na'ur (Fohrer 1961). Graf-Reventlow's survey was conducted eastward of Fohrer's study area, along the presumed southern border of Ammon. He, too, found a number of fortress-like sites with quantities of Iron Age pottery (Reventlow 1963). Stoebe added a few more sites between Rujm Fehud and Qa'afur (1964; 1966). The last of this series of German "Ammonite border" surveys was von Rabenau's work between Kh. Bishara and al-Yaduda (von Rabenau 1978).

Hisban Survey

Most recently there have been a number of modern, intensive surveys conducted in Ammon by American scholars. These have attempted to improve on previous surveys by employing modern statistical methodologies. The Hisban regional survey, carried out in conjunction with the Andrews University Hisban excavations, was begun in 1973 and continued during the 1974 and 1976 seasons. The survey, which includes territory on the southwest portion of ancient Ammon, documented 148 sites, many of which were occupied during the Bronze and Iron ages, that is, during the time of the Ammonites (Ibach 1987: 9, 33–39).

Umm ad-Dananir Survey

The Umm ad-Dananir Survey, conducted in 1978 by P. McGovern, concentrated on a 52.5 ha. area on the northwest side of the Baq'ah Valley, extending from Jabal al-Hawayah and Jabal al-Qesir on the west to Rujm al-Henu and Rujm al-Hawi on the east (McGovern 1986; 1987). Seven archaeological sites were documented within this relatively small area, six of which indicated occupation during the time of the Ammonites (LB-Iron II periods). Over 30 tombs dating from the Late Bronze Age and Iron Age I were also discovered; three were excavated.

The Sahab Survey

Between August and September, 1983, M. Ibrahim directed a survey of a 192 square kilometer region around Tall Sahab. One hundred and thirty-one sites were recorded. While there was some evidence for Middle and Late Bronze Age occupation in the area, settled occupation during these periods was definitely sparse. Occupation increased, however, during the Iron Age, especially at Zumlat al-'Alya, Abu al-Hayyat, and ad-Dabayba, all of which served as secondary sites to Tall Sahab. A network of forts and hilltop watchtowers seem to have been introduced at this time. The area seems to have been abandoned at the end of the Iron Age and was not reoccupied until the Ayyubid-Mamluk period (Gustavson-Gaube and Ibrahim 1986: 283–86).

Madaba Plains Project Survey

The Madaba Plains Project, an outgrowth of the Hisban Project, began a regional survey within a 5 km radius of Tall al-'Umayri, a key site located 10 km south of 'Amman, during the 1984 season. Additional survey work was carried out during the 1987 and 1989 seasons. To date, over 115 sites have been documented, nearly 75% of which indicate occupation during the time of the Ammonites (Iron I and II periods) (Geraty *et al.* 1986; 1989; Boling 1989: 188; Younker *et al.* 1990).

Ar-Rumman Survey

From May 21 to June 18, 1985, Robert L. Gordon Jr. and Ernst Axel Knauf conducted an archaeological survey in the vicinity of ar-Rumman in conjunction with excavations of Abu Thawwab, a Pottery Neolithic and Early Bronze Age site (Gordon and Knauf 1987:

289–98). Although primarily interested in earlier sites, Gordon and Knauf did record a number of sites that were apparently occupied during the Late Bronze and Iron Ages. These sites include Jabal Abu Thawwab, ar-Rumman South, ʿAyn al-Mayita, Khirbat Abu Thawwab, at-Tall (Jabal at-Tuweim), Rujm Shubeil, Jabal Shubeil, Haud Umm al-Jihash, al-ʿUdhma, Wadi Salihi West, Haud Umm Kharruba, Haud Abu Billana I and II, Wadi Rumman West, Wadi Dulani Talʿat ar-Ruz, and Abu Zibne (1987: 295–97).

Archaeological Survey of Greater ʿAmman

The Archaeological Survey of Greater ʿAmman (ASGA) was initiated in 1988 as part of the Cultural Resource Management (CRM) Project sponsored jointly by the Department of Antiquities of Jordan and the American Center for Oriental Research (ACOR) in ʿAmman. Its purpose was "to collect archaeological data on successive hinterland settlement systems in the region of Rabboth-Ammon/Philadelphia," and "to compile a comprehensive inventory of antiquities sites of all period within the boundaries of Greater ʿAmman. . . ." Sites included Wadi Mirbat, Erjan, Kh. Erjan, Ar-Rwaq, Jabal Nayfeh, Wadi Mishilla, Tareq, Nuwayjis, Rujm Beider, Rujm Mudawarra, ʿUmayri W., Swewineh, Jabal Zuhur, Shmesaini, Qutnah, Rujm Qutnah, Marka, Khilda, Khilda S, Rujm Brekkeh, Kharabsheh, Sports City Site, Kh. Othman, Qasr Khilda, Khirbat Fahd, Dayiat Rashed, Wadi Ayn al Beida, Tia al Ali, Khirbat Salameh, Um an Nafet, Jubeihah, Kh. Muslim, Qasr Umm Rujm, Kh. Hleileifeh, and Umm Zweitineh (Abu Dayyah; Greene; Hassan; and Suleiman 1991).

Archaeological Excavations in Ammon

Italian Excavations at ʿAmman

The earliest full-scale archaeological excavations in Ammon were initiated at the ancient Ammonite capital, Rabbath-Ammon, by an Italian team led by G. Guildi in 1927. This project was continued by R. Bartoccini during the years 1929–33. However, nothing significant from the Ammonite period was reported (Bartoccini 1930: 15–17; 1932: 16–23; 1933–34: 10–15).

Sahab Tomb A

In 1929 villagers of Sahab, located 11 km southeast of ʿAmman, discovered a tomb ("Sahab Tomb A") which they subsequently cleared

of almost all its contents. Archaeologists were, however, able to recover the lid of an anthropomorphic coffin and a few sherds from the Iron Age (Albright 1932: 295–306).

'Amman Tomb A

For a number of years after World War II excavations in Ammon were limited to incidental finds and salvage digs, mostly of tombs, necessitated by the steady growth of 'Amman, Transjordan's capital. The first of these salvage projects was the clearance of "'Amman Tomb" discovered during digging of foundation trenches for a building on the north side of Jabal Jofeh. The contents of the tomb were dated to the Iron II period and included pottery, a horse and rider clay figurine, and a seal with the inscription "[belonging] to 'Ilyashu" (Harding 1945: 67–74; Henschel-Simon 1945: 75–80).

'Amman Tomb B

A second tomb was found at about the same time, "'Amman Tomb B", "on a lower edge of the hill, immediately below" 'Amman Tomb A (ibid.: 73). It contained pottery that was dated to the eight century B.C., as well as a rectangular marble palette, a limestone *khol* palette, and a bone pin (Harding 1945: 74; Henschel-Simon 1945: 75–80).

Sahab Tomb B

A few years later, the police post in the village of Sahab notified the Department of Antiquities in 'Amman that another tomb had been discovered on the north-western edge of the village (which, itself, stood on an ancient tall). "Sahab Tomb B," which was excavated by Hasan 'Awad al-Qutshan and reported by L. Harding, contained pottery and objects dated to the eight and seventh centuries B.C. (Harding 1948: 92–103; see comments by Dajani 1970: 29).

The Meqabalein Tomb

Two years later, Assistant Inspector of the Department of Antiquities Ibrahim Abu Jaber, discovered an Iron Age tomb in the village of Meqabalein, a few kilometers south of 'Amman. It was cleared by L. Harding, who discovered a number of new Iron Age pottery forms, as well as a number of interesting objects, including another horse and rider figurine, weapons, jewelry, metal vessels, a mirror, etc. (Harding 1950: 44–48).

ʿAmman Tombs C

The Meqabalein find was followed a short time later by the discovery of yet two more tombs in ʿAmman, ʿAmman Tombs C and D. ʿAmman Tomb C was located about 8 m north of a Roman Tomb on Jabal ʿAmman. The finds, which included pottery, jewelry, an alabaster palette, a shell from the Palestinian coast, and a clay figurine shaped as a hermaphrodite deity, were dated to the eighth and seventh centuries B.C. (Harding 1951: 37–40).

ʿAmman Tomb D

The second tomb, ʿAmman Tomb D, was found on the north slope of Jabal al-Qalaʿah (citadel hill). The tomb was completely cleared before objects were brought to the Department of Antiquities and no description of the tomb, itself, is given (Harding 1951: 37–40). The pottery which was recovered suggests a use period of about 880 to 760 B.C. (see Dornemann 1983: 62).

The Adoni Nur Tomb

The Adoni Nur Tomb (later designated as ʿAmman Tomb N by Dornemann) was discovered half way down the southern slope of Jabal Qalaʿah, across from the Roman Theater. Based on pottery typology and paleography, the tomb was dated to the middle of the seventh century B.C. A considerable number of objects were found in this tomb. These included jewelry, weapons, glass, alabaster vessels, three "Assyrian" clay coffins, and 11 seals, one of which was inscribed with the name of the presumed owner of the tomb, Adoni Nur (Harding 1953: 48–75; Tufnell 1953: 66; Landes 1961: 78; Dornemann 1983: 47).

The ʿAmman Airport Structure

In 1955, while the R.A.F. was expanding the aerodrome northeast of ʿAmman, a bulldozer uncovered the foundations of a 16 m square building. L. Harding, who was informed of the discovery just as he was leaving the airport for England, assigned his technical assistant, Mohammed Saleh, to conduct a salvage excavation (Harding 1956: 80). The layout of the structure as well as some of the finds indicated the building served as a temple. The artifacts found among the ruins were dated to the Late Bronze Age (Harding 1958: 10–12). Two additional excavations were later conducted at this site (see below).

The Dayr ʿAlla Excavations

In 1960 Dr Henk Franken initiated the Leiden Expedition to Dayr ʿAlla. Located near the mouth of the Zarqa River (biblical Jabbok) in the Jordan Valley, Dayr ʿAlla would seem to be outside the borders of Ammon as delineated in biblical literature. However, inscriptional material and pottery from the Iron IIC period (sixth century B.C.) suggest that during this period, at least, Dayr ʿAlla had closer connections with the upland Ammonites to the east, rather than with Israel to the west or Moab and Edom to the south (Franken 1960, 1961, 1962, 1964, 1969).

The most spectacular find at Dayr ʿAlla was a ruined building (sanctuary?) of the ninth century B.C. with an inscribed plastered wall, the so-called Dayr ʿAlla Plaster Texts, which record a prophecy of Balaam the son of Beor, an individual also known from the Bible (e.g., Numbers 22–24). Currently a debate exists over whether the script and dialect are Aramaic or Ammonite (Aufrecht 1989: xxiv). If the latter, it would be the earliest Ammonite inscription. Franken's project should be credited for being one of the first multidisciplinarian archaeological projects east of the Jordan (van der Kooij and Ibrahim 1989).

Al-Meqabalein Tomb

Although the details have not been published, A. ʿAmir reports that in 1964 a tomb in Al-Meqabalein (the second such tomb) was cleared by the Department of Antiquities. The finds, which are kept at the Jordan Museum, include an iron and bronze mirror, pottery figurines, and rings. According to ʿAmir the material is similar to the Iron Age materials previously found in tombs at ʿAmman and Sahab (ʿAmir 1973: 74).

ʿAmman Tomb E

In 1966 two additional Ammonite tombs were reported in ʿAmman, ʿAmman Tomb E and the Jabal Nuzha Tomb. R. Dajani located ʿAmman Tomb E at the foot of Jabal al-Joffeh, about 300 m east of the Roman Theater (Dajani 1966: 41–47). Over 150 intact pottery vessels were recovered, most similar to those found in the other ʿAmman tombs and Sahab Tomb B. Objects include shells, marble polishing stones, jewelry, one bronze nail, a bronze mirror, and a clay shrine. Based on the pottery and objects, Dajani dated the tomb to the eighth–seventh centuries B.C.

Jabal Nuzah Tomb

The Jabal Nuzha Tomb was found east of the UNRWA school, on the land of Hassan Tashley. One hundred and sixty pots were recovered from this tomb which Dajani dated to between 1300 and 1150 B.C. (Dajani 1966: 48, 49). More recent analysis, based upon an increased amount of comparative material, has led Dornemann to suggest a lower date in the Iron I period (Dajani 1966: 48; Dornemann 1983: 31). Nevertheless, this tomb provides important evidence of the earlier period of Ammonite occupation.

Hennessy Excavations of ʿAmman Airport Structure

Also in 1966 J.B. Hennessy conducted an additional excavation at the ʿAmman Airport structure in hopes of clarifying the stratigraphic picture, the architectural phases, and the relationship of the "temple" to possible associated remains. Hennessy was able to discern three building stages and to refine the date to the end of the LB II period, *ca.* 1300 B.C. (Hennessy 1966a; 1966b). Of special interest was the occurrence of Mycenaean pottery (Hankey 1967).

ʿAmman Citadel Excavations

In May, October, and September of 1968 several small excavations were conducted at the ʿAmman Citadel (Jabal al-Qalaʿah), the site of ancient Rabbath-Ammon, capital of the Ammonites, now located in the heart of modern ʿAmman. Excavations on the lower terrace were directed by F. Zayadine. Most of the surface remains were from the Hellenistic and Roman periods, although four double-faced sculptures from the Ammonite period were found in secondary use in a probe trench. Stratified pottery from the ninth to sixth centuries B.C. and a late Iron II ostracon were also found (Zayadine 1973: 27–28).

Rudy Dornemann, Ida Suliman, and Fawzi Fakharani co-directed additional probes in Area IV–VII on the south side of Citadel Hill in September of 1968. Although none of the walls excavated in this area could be securely dated, large quantities of sherds from Iron II were recovered. Dornemann continued his soundings in 1969 on the north side of the hill in Areas I–III. Here he was able to recover several stretches of the ninth century B.C. outer fortification wall along with other finds (Dornemaan 1983: 89–103).

Tall Hisban Excavations

In July, 1968, S. Horn with R. Boraas launched the Andrews University Expedition to Hisban. After the 1971 and 1973 seasons, L. Geraty

took over as director leading the project through two more field seasons in 1974 and 1976. Excavations revealed occupation in Iron I and Iron II (Geraty 1975; 1983). Tall Hisban was probably outside the Ammonite sphere of influence during the earlier part of its existence (Iron I period), but both biblical data and inscriptional evidence recovered from the site indicate that the settlement was in Ammonite hands during the Iron II period (Vhymeister 1989: 9; Cross 1975; but see Hübner 1988 and Kletter 1991).

The Hisban expedition is also notable for being the first major American multidisciplinary project in Jordan, employing a variety of specialists and conducting a number of additional projects in conjunction with the dig, including a regional survey, environmental survey, paleobotanical research, zooarchaeological research, ethnoarchaeological research, and a food system survey (see King 1983: 193; LaBianca 1984b).

A new phase of excavations were initiated by LaBianca and Ray in 1996 (Younker *et al.* 1997). Subsequent seasons were undertaken in 1997 and 1998. The major discovery of these new excavations is an Iron Age moat.

Rujm al-Malfuf Excavation

The first attempt to stratigraphically excavate one of the so-called "Ammonite towers" was made by R. Boraas in 1969 at Rujm al-Malfuf North (Boraas 1971). Surprisingly, the soundings indicated occupation no earlier than the Roman period (based on *terra sigillata* ware—first century B.C. to second century A.D.). This finding was quite a surprise to scholars who assumed these were part of a unified Ammonite defense system from the Iron I period. Acknowledging the "'un-Roman' look of the architecture," Boraas suggested two possible explanations: (1) the Romans cleared (in a "most meticulous" fashion) and used a previously existing structure—presumably from the Iron Age; (2) or less skilled, local workers were used to construct these substandard structures in Roman times (1971: 44, 45).

However, Khair Yassine reports that Langer de Polacky, on behalf of the Dept. of Antiquities of Jordan, returned to Rujm al-Malfuf North where Boraas had originally found stratified debris no earlier than the Roman period. New probes by de Polacky found sixth–fifth century B.C. ceramics from the lowest levels of the tower (Yassine 1988: 17; see also Shea 1981: 109). Thus, this structure may be classified as Ammonite, but from a later period.

Sahab Tomb C

In 1970 Dajani published an article on the excavation of a third tomb at Sahab, "Sahab Tomb C" (Dajani 1970: 29–34; Dornemann 1983: 38). As with Sahab Tomb B, this new tomb was reported to the Department of Antiquities by the local police. The earliest pottery was dated to the 14th century B.C., while remains from Iron I and Iron II (late ninth century B.C.) were also recovered. Pottery forms included imported and imitation Mycenaean wares. Objects of interest included two ostrich eggs, the first Late Bronze Age tomb in East Jordan to contain them.

Khirbat al-Hajjar Excavation

Additional evidence for an Iron Age dating of the so-called "Ammonites towers" was obtained in 1972 when H.O. Thompson excavated a small, but strategically located tall SW of ʿAmman known as Khirbat al-Hajjar. Excavations revealed that the site was first occupied in the Iron I period (12th–10th centuries B.C.), abandoned for approximately 300 years and reoccupied in the Iron II (seventh–sixth centuries B.C.). During the latter period a small circular tower and a perimeter wall were constructed on the site (Thompson 1972; 1977). This provided the first excavated evidence for an Iron Age date for the towers, albeit in the Iron II, rather than Iron I.

Rujm al-Malfuf South Excavation

Later in that same year Thompson excavated Rujm al-Malfuf South, a circular megalithic structure with a diameter of about 13 m (Thompson 1973). Again, this site showed evidence of occupation as earlier as the Iron I, although the tower was not built until the Iron II period, during the seventh–sixth centuries B.C. (1973: 50).

Tall Siran Excavation

Also in 1972 H.O. Thompson conducted a campaign at Tall Siran, located on the campus of the University of Jordan a few kilometers northwest of downtown ʿAmman. Although the site had been badly eroded, a number of cisterns were cleared which contained material from the period of the Ammonites. The most notable find was a bronze bottle containing grain and bearing the first complete Ammonite inscription to be found. Although there is some controversy over the precise date of the inscription, and the function of

the bottle, it does mention two Amminadabs who each ruled as king over the Ammonites (Thompson 1973a).

Tall Sahab Excavation

In yet another project begun in 1972 M. Ibrahim conducted excavations at Sahab, the ruined town about 12 km southeast of 'Amman, which was already noted for its Iron Age tombs. Remains from the Early, Middle and Late Bronze Ages were recovered from the tall, as well as occupational levels from Iron I and II. Of special significance is the evidence for cultural continuity between the Late Bronze and Iron I periods, since this is the period when the Ammonites emerge in the land. Also of interest was the recovery of "collar rimmed" store jars and "pillared" houses, items that have been previously ascribed as "ethnic markers" of the neighboring Israelites, rather than Ammonites (Ibrahim 1972; 1974; 1975).

Meqabalein Cave Excavation

In June of 1973 A. 'Amir excavated a cave near the ruins at Meqabalein, a few kilometers south of 'Amman. Many of the sherds dated to the Iron Age "when the Ammonite[s] were at their Zenith (1200–600 B.C.)." 'Amir also describes two megalithic "watchtowers" which sit among the ruins, structures similar to those found on other "Ammonite" sites ('Amir 1973: 73–74). This cave, along with the tomb cleared by the Department of Antiquities in 1964 ('Amir 1973: 74) and the tomb which Harding reported in 1959, brings the total of Meqabalein tombs to three.

Rujm al-Mekheizin Excavation

Continuing his work on "Ammonite towers," Thompson excavated Rujm al-Mekheizin in 1973. Located NE of 'Amman, this structure was square (12.2 · 12.25 m) rather than round, although Thompson still interpreted it as an Ammonite tower. As with the other sites, sherd evidence indicated a possible Iron I occupation in the area, although the structure, itself, was not constructed until the seventh/sixth centuries B.C. (Thompson 1984).

'Amman Airport Structure Excavation, 1976

Because of persisting questions about the function of the 'Amman Airport Structure, L. Herr decided to conduct additional soundings

in 1976. He noted that paucity of domestic artifacts and the presence of burnt human bones, as well as the presence of a possible cremation pyre (Herr 1976; 1983a; 1983b). He suggested that this structure served as a mortuary structure; based on certain historical and cultural considerations Herr suggested that it may have served the Hittites as a crematorium (1983: 227–29).

Tall Mazar Excavation

In 1977 K. Yassine initiated four seasons (1977–81) of excavations at Tall Mazar in the Jordan Valley. The excavations were conducted on both the main tall and in an associated sanctuary/cemetery area. On the tall architectural remains were found in five strata which dated from the eighth to the fourth centuries B.C.E. The central feature of each stratum consisted of a large public building of some sort. Generally these buildings appear to have served as residencies for important officials—perhaps the governor.

Four hundred meters northwest of the tall was a 1,200 square meter area which was occupied during the 11th/12th centuries B.C.E. The central feature of this period was a large "open court sanctuary." After this sanctuary was destroyed toward the end of the tenth century the area was abandoned until the fifth century when it was used as a cemetery. At least 84 graves have been excavated. Inscribed seals from the Iron II period have prompted the excavator to suggest that Tall Mazar was under Ammonite control during this time (Yassine 1982; 1983b; 1984a; 1984b).

Tall Abu Nseir Excavation

In 1981 Khaled Abu Ghanimeh of the Department of Antiquities of Jordan supervised the excavation of Tall Abu Nseir, located 4 km north of Sweileh, overlooking the Baq'ah Valley. The brief published report indicates that two square "towers" were located on the site along with a large north-south wall, some tombs (two of which were excavated and dated to the eighth–seventh centuries B.C.E.) and a winepress (dated to the Byzantine period). Stratigraphic excavation of the western tower indicated that it was built on bedrock sometime during the eighth/seventh centuries B.C.E. (Abu Ghanimeh 1984: 305).

Tall Safut Excavation

In 1982 D. Wimmer commenced excavations at Tall Safut, 12 km NW of downtown 'Amman. In addition to a Middle Bronze Age

glacis, Wimmer has uncovered Middle Bronze and Late Bronze pottery, an LB defense wall around the perimeter of the site, and Iron I and II levels. Of special interest is the apparent smooth transition from the Late Bronze to Iron I periods, with no destruction level evident. Other finds of interest include a bronze and gold figurine (possibly a tutelary deity), an iron military standard, and a Late Babylonian seal impression (Wimmer 1987a; 1987b). Work at Safut has continued into the 1990's under the direction of Wimmer.

The Umm Udhayna Tomb

Also in 1982 an Ammonite tomb was discovered at Umm Udhayna just east of the Amra Hotel in ʿAmman and about 400 m southwest of Rujm Umm Udhayna, an Ammonite round tower. Hifzi Haddad excavated the tomb under the direction of A. Hadidi. Numerous finds dating from the eighth to the fourth centuries B.C. were recovered. These finds included much silver and bronze jewelry (bracelets, rings, earrings), bronze mirrors and boxes, bronze fibulae, a bronze caryatid censer, an Ammonite inscribed seal (see Abu Taleb 1985), iron swords, daggers, and arrow-heads, pottery and at least 15 skeletons. Hadidi assumed that the tomb originally belonged to one of the Ammonite ruling families (Hadidi 1987: 101–20).

Jabal Akhdar Excavation

In 1983 the Department of Antiquities, under the supervision of Fawzi Zayadine, Hifzi Haddad and Taysir ʿAtiyyat, excavated a rectangular megalithic structure (13 · 16 m) on Jabal Akhdar, immediately south of Jabal ʿAmman (Zayadine 1985: 152; Khouri 1988: 23). Stratigraphic excavation indicated that the structure was originally built in Iron II (eighth–seventh centuries B.C.), although it had been reused in Hellenistic, Late Roman and later times. Because of its megalithic construction, strategic location and date, the excavators designated the original structure as an "Ammonite tower" (ibid.).

Khilda Fortress A Sondages

Although still unpublished, Jim Sauer conducted some brief sondages west of ʿAmman at a site known as Khilda fortress A, a large rectangular structure measuring 34 · 45 meters. The ceramic evidence indicates a seventh century B.C. date for the founding of the fortress (Yassine 1988: 17; Khouri 1988: 23). Excavations of two tombs near Khilda A by Khair Yassine also support an initial Iron II occupation

of the site which extended into the Persian period (Yassine 1988: 11–31).

Tall al-ʿUmayri Excavation

In 1984 L.T. Geraty, L.G. Herr, and Ø.S. LaBianca launched the Madaba Plains Project. The author as co-director joined them in 1989. In addition to the survey (noted above) this project undertook excavations at Tall al-ʿUmayri under the direction of L. Herr. Seven seasons of excavations (1984, 1987, 1989, 1992, 1994, 1996, 1998) in five fields have produced stratified remains from the Early Bronze III/IV, Middle Bronze IIC, Late Bronze, Iron I and II periods. The most significant finds from these periods include an EB IV domestic quarter, an Iron I fortification system (including a rampart and casemate wall), and an Iron II "citadel." A seal impression mentioning the Ammonite king Baalis (sixth century B.C.) was found in the area of the citadel. Another seal carries the cartouche of the pharaoh Thutmoses III, although it dates from a time well after the pharaoh reigned. Numerous other finds have been recorded as well. Recent analysis of the Iron I ceramics suggests that the site may have been occupied by the Reubenites for awhile, although the site clearly was Ammonite during Iron II (Geraty 1985; Geraty *et al.* 1986, 1988, 1989, 1990; Herr *et al.* 1990; Herr *et al.* 1996; Younker *et al.* 1990; Younker *et al.* 1993, Younker *et al.* 1996; Younker *et al.* 1997). The discovery of a Late Bronze Age building in 1998 has raised the possibility of Ammorite occupation (Herr, personal communication).

Rujm Salim Excavation

In 1987 Lorita Hubbard and L. Herr excavated Rujm Salim in conjunction with the Madaba Plains Project. Located on a bedrock outcropping, overlooking rich agricultural fields, this site was apparently an agricultural farmstead during the late Iron II/Persian periods. Cisterns and cupmarks were found in the immediate vicinity (Geraty, Herr, and LaBianca 1988).

New Excavations at ʿAmman Citadel

A joint expedition of the Department of Antiquities and the École Biblique was conducted by F. Zayadine, J.-B. Humbert and M. Najjar in July 1988 to survey the water system on the north side of the Ammon Citadel and to expand excavations on the Lower Terrace begun in 1968 and 1973. This team concluded that the cistern was

part of the water system of the "Ammonite Iron Age period or earlier." The Lower Terrace excavations uncovered what the excavators believed to be the courtyard of an "official building" of the Ammonite period, along with several adjacent structures and a stretch of a street which ran along the inside of the city wall. An Ammonite clay figurine bearing the *atef* crown was found in this area. Additional structures were uncovered in squares farther north. Other finds included a good quantity of Iron II red burnished pottery, figurines, and Phoenician-styled blue glass vessels (Zayadine *et al.* 1989).

Tall Jawa South Excavations

In 1989 R.W. Younker and M. Daviau began excavations at Tall Jawa south. Work continued at the site for several seasons under the direction of M. Daviau (1992, 1993, 1994, 1996). This site was apparently an important Ammonite city during Iron Age II. Excavations revealed occupational levels from the Iron I and especially Iron II periods including various buildings and houses inside a casemate wall (discussed more fully in this volume, below). Numerous food preparation objects were found in two houses. A small ceramic figurine of a crowned, bearded male evokes the limestone busts found in Ammon. The latter are generally understood to depict Ammonite kings. Subsequent seasons uncovered a possible Iron II chambered city-gate, and an important late Iron II building, perhaps of a governor. The city was destroyed during the late Iron II (perhaps during the early sixth century B.C.). Numerous arrowheads and javelin points were found in the destruction debris (Younker *et al.* 1990).

Tall al-Dreijat Excavation

That same season R.W. Younker and Lorita Hubbard conducted a single season of excavation at al-Dreijat, a possible Ammonite "fort" located southwest of 'Umayri. The site is strategically located on a high hill with an excellent view in all directions. Excavations revealed a large rectangular structure built of flint "megaliths." The site was apparently built originally during the late Iron II period, but was reused and remodeled in later periods (Younker *et al.* 1990).

Tall Nimrin Excavation

Also in 1989 David McCreery and James Flanagan began excavations at Tall Nimrin, west of 'Amman. Pre-excavation surface sherding yielded approximately 41,000 sherds from Early Bronze IV,

Middle Bronze, Late Bronze?, Iron I? Iron II and later periods. Excavation from the 1989 and 1990 seasons penetrated Middle Bronze and substantial Iron II occupation levels (Flanagan and McCreery 1990; De Vries 1991: 265; Flanagan, McCreery and Yassine 1992). Excavations conducted during 1993 uncovered at least five phases of Iron Age occupation/activity, dating from the tenth century to the sixth century B.C. Remains from the Persian period were also found (Flanagan, McCreery and Yassine 1994). The 1995 seasons uncovered an additional Iron I phase (Iron IC) (Flanagan, McCreery and Yassine 1996). Nothing concerning the ethnic or political identity of the Iron Age occupants has yet been reported.

Khirbat Salameh Excavation

The first survey of the site appears to have been that of Mujahed Muheisin in 1976 (report on file with Department of Antiquities; see Lenzen and McQuitty 1987: 201, n. 4). The site was surveyed again in 1983 by Lenzen and McQuitty (1984: 295; 1987: 201). The survey noted simply a structure approximately 20 · 20 m with pottery dating from the Hellenistic to the Roman periods.

In 1984 limited excavations were conducted by Lenzen and McQuitty in two areas (I and II) (Lenzen and McQuitty 1987: 201). They reported a layer of debris was reached which contained a large number of animal bones and potsherds from the sixth/fifth centuries B.C.

This picture was modified in 1992 when more extensive excavations of Khirbat Salameh were initiated by Pierre Bikai, director of the American Center of Oriental Research. Some earlier walls were found which appear to date to the Iron II period, possibly toward the end of the Assyrian period (Bikai 1993: 521, 526).

Bikai interprets the Iron II Age structure as the central feature of an agricultural site whose fortunes ebbed and flowed with the larger regional economic picture. Bikai suggests that the increase of farmsteads around ʿAmman during the latter part of the Iron II Age was the result of disruption of normal trade routes through the Persian Gulf and the use of alternate routes through Transjordan that led to temporary economic expansion in the region around ʿAmman (ibid.).

Tall Jalul Excavation

In 1992 Randall Younker and David Merling initiated excavations at Tall Jalul in conjunction with the Madaba Plains Project (Younker

et al. 1993; Younker *et al.* 1996; Younker *et al.* 1997). Additional seasons were undertaken in 1994 and 1996. To date, occupational and/or activity remains have been recovered from the tenth to fourth centuries (Iron I to Persian period). The most significant architectural remains include a stretch of Iron I wall (Field C), at least four phases of an approach ramp and outer gatehouse on the north side of the tall which date to Iron II (ninth–eighth centuries B.C.E.), several buildings from Iron II (seventh–sixth centuries B.C.) including parts of some domestic buildings, a pillared building, and a tripartite building. Some architectural remains date to the Persian period (Field C). Several typical Ammonite figurines (e.g., horse and rider figurines) and Ammonite seals dating from the seventh–sixth centuries have also been found, suggesting that the border of Ammon extended at least this far south during this period

Wadi az-Zarqa/Wadi ad-Dulayl Excavations and Survey
The Wadi az-Zarqa/Wadi ad-Dulayl Project was inaugurated in October, 1993 (Palaumbo *et al.* 1996). Among the sites surveyed were at least nine Iron II sites, including Khirbat aj-Jamus and Tall al-Birah. The latter site is the only true tall in the region. Its size and prominent location overlooking the Zarqa River suggests that it must have played an important role in controlling activities and movements between the Jordan Valley and the eastern fringes of the Ammonite kingdom.

EXCURSUS

SALIENT FEATURES OF IRON AGE TRIBAL KINGDOMS

ØYSTEIN LABIANCA

Much recent scholarship has been devoted to trying to grasp and describe the distinguishing characteristics of the social organization of the ancient Iron Age kingdoms of the Southern Levant such as the Israelites, the Ammonites, the Moabites and the Edomites (Frick 1985; Gottwald 1979; Herr 1998, others). Recently, we (LaBianca and Younker 1995; Younker 1997c) have argued that a fundamental

feature of their social organization was that they never ceased to be essentially kin-based or "tribal." Our point was to argue that despite the emergence of "kings" in these societies, and the reference to them as "kingdoms", these were fundamentally tribal societies or "tribal kingdoms."

What, specifically, do we mean by this? In our previous article we emphasized the capacity of tribal ideology to accommodate both sedentary and nomadic types of livelihoods. We also showed how tribal ideology could operate at the super-tribal level of "kings" and "kingdoms." In the following few paragraphs, I would like to take the argument a bit further by positing ten hypotheses summarizing the salient features of such "tribal kingdoms."

One, their tribal social structure was intimately linked to their way of obtaining food. The peoples who founded the kingdoms of Israel, Ammon, Moab and Edom were, by and large, range-tied shepherds and land-tied farmers. Throughout their histories, the extent to which one or the other of these two pursuits were emphasized by a given household or cluster of families was determined by local climatic and landscape conditions and by changing opportunities for involvement in local and regional trade. The organizational principle that facilitated adaptive shifts in either the direction of pastoral or agricultural pursuits was tribalism—an ideology based on the idea of claimed descent from a common ancestor with possibilities for manipulation to accommodate shifts back and forth between land-tied and range-tied pursuits at the level of either individual households, groups of households, or whole communities.

Two, is the presence co-existence of land-tied and range-tied agricultural regimes. The economic pursuits of most people were either centered on land-tied production of cereals and tree fruits, or on the production of meat and milk on the hoof by means of range-tied husbandry of sheep and goats. While households specializing more in one or the other of these pursuits co-existed in the same villages and hamlets, the proportion represented by one or the other pursuit would vary considerably from one village to the next. This proportion might also vary considerably over time within a particular household, hamlet, village or region.

Three, their tribal affiliations were based on generative genealogies. By means of manipulation of claimed ancestors, individuals and households were able to affiliate with named groups and sections within the larger tribes. Such generative genealogy permitted indi-

viduals and households, as well as larger social units, to split, subdivide, or coalesce, depending on economic opportunities or conflicts arising within a given social unit. Given sufficient external threat, it also permitted coalescing of tribes into supra-tribal entities to form kingdoms.

Four, their pre-monarchical tribal social structure was not extinguished by the rise of kings. While the rise of kings involved introduction of a transient, supra-tribal layer of bureaucratic organization, it did not extinguish the pre-monarchical tribal social order. Instead, this order accommodated itself to the new supra-tribal monarchical order. Such accommodation was facilitated in part by the mechanism of generative genealogy, which allowed tribes to coalesce in order to form increasingly wide-ranging bonds of cooperation and allegiance. The persistence of the tribal order is reflected, in part, in the continued association of particular tribes with their traditional tribal territories throughout the monarchical period. It was also reflected in residential proximity of kindred and patterns of cooperation and conflict throughout the period.

Five, the emergence of supra-tribal polities did not produce dimorphic social structures on par with those in Egypt and Mesopotamia. Whereas in Egypt and Mesopotamia, the rise of supra-tribal polities in the form of centralized states led to a division of society into two realms—urban elite and rural tribesmen—no such pronounced division of society occurred in the Iron Age kingdoms of the Southern Levant. While a nascent form of such division may have emerged in certain major urban centers, it was by no means on par with that found in Egypt and Mesopotamia. To the extent that it did occur, it would have been in Cisjordan more than in Transjordan. This is because predation on rural tribesmen by urban elites could be done with less risk of resistance in Cisjordan due to its more favorable agricultural conditions.

Six, tribal hinterlands were administered from fortified towns. Administration of hinterland tribal territories was centered in fortified "towns" usually consisting of a cluster of administrative buildings located on the top of a hill of some sort and surrounded by ramparts and/or walls and protected by a moat and entered by gates. To varying degrees, each major town had an administrative bureaucracy consisting of a cadre of bureaucrats whose role it was to administrate the economic affairs of the surrounding hinterland tribes. The existence and extent of power of such bureaucrats can be ascertained

from the study of instruments of delegated power, such as stamp seals and related artifacts.

Seven, most people lived in the rural hinterland beyond the towns. As the daily lives of most members of these ancient kingdoms were caught up in activities related to the quest for food, people lived in small villages and hamlets surrounded by agricultural lands and pastures. Villages and hamlets consisted of various configurations of houses, caves and tents, depending on the conditions of production in various geographical regions. As a general rule, the more "risky" these food production conditions were, whether due to the vicissitudes of climate, trade, or politics—the greater the fluidity of rural settlement patterns. Cycles of sedentarization and nomadization appear generally to have been more pronounced in Transjordan than in Cisjordan. In Transjordan, such cycles become more pronounced as one moves southward from Ammon, to Moab, into Edom.

Eight, is the presence of heterarchical power structures. Power relations within each of these Iron Age tribal kingdoms are best described as being counterpoised rather than ranked within some scalar hierarchy. Thus it was possible for there to be several political centers of gravity within each kingdom, each center basing its power on a different political resource. For example, one center may be politically powerful because of its location on the junction of two or more intersecting highways. Another may base its power on being a processing and distribution center for certain agricultural products. And a third may base its power on its being the home of an important religious service or shrine. Such structures stand in sharp contrast to the scalar hierarchies associated with the hydraulic societies of Egypt and Mesopotamia. They also are more consonant with the egalitarian ideals of tribal societies.

Nine, is the presence of overlapping territorial units. Consistent with the existence of heterarchical power structures would be overlapping territorial units. The boundaries separating different local level political units would best be described as fuzzy and fluid rather than clear and fixed. The reason for this is that the economic activities engaged in by one group may be such that they can easily co-occur with those carried out by another. For example, one clan may be primarily pastoral, another primarily agricultural, thus both would stand to benefit from the one overlapping the other as pasture animals belonging to one group would be allowed to graze on the stubble fields claimed by another.

Ten, is the maintenance of milititias. A cadre of trained soldiers was maintained in order to protect the interests of each tribal kingdom. These soldiers relied on herds of camels or horses and on arms made of iron as instruments of warfare.

Conclusion

To these salient features, others will no doubt soon be added. The intent, of course, is to stimulate discussion and field research to either confirm or reject any or all of them, hopefully in order to replace each hypothesis with a better one.

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CHAPTER TWO

AMMONITE TERRITORY AND SITES

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Introduction

Information on Ammonite territory, boundaries, and sites comes from three sources, namely, the biblical text, epigraphic material, and archaeology. The biblical information, as we shall see, is not a seamless garment. The epigraphic material, though meagre, is, nonetheless valuable. The archaeological information is open to question as the position of various commentators makes clear. The researcher must, nevertheless, develop a hypothesis that describes the Ammonite "homeland."

The Biblical Data

The information that the Bible provides on the Ammonite "homeland" is in the context of Israelite territorial possessions and interests east of the Jordan River. Since this information is from an Israelite point of view, we ought not to expect that it be either complete or sympathetic to the Ammonites. The biblical writers will, thus, present what they know about Ammonite territorial possessions from an Israelite perspective. In other words, they will have an Israelite agenda. Thus, the biblical information that is relevant for the present purposes will be both partial and biased as far as Ammonite interests are concerned.

Numbers 21:24, Deut 3:16, and Josh 12:2 state that the Ammonite boundary is at the Jabbok (= Wadi az-Zarqa) while Deut 2:37 indicates that the land of the Ammonites is in the upper region of the Jabbok and associated hill country where its towns are located (fig. 2.1). (The boundary of the Ammonites is said to be strong [Num 21.24—NRSV]). Rabbah, "the royal city" (2 Sam 12:26), would have

been one of these towns. Aroer, Minnith, and Abel-keramim were other Ammonite towns (Judg 11:33).

Deut 2:18–19 provides very general information on the Ammonite "homeland" when it states that after the Israelites cross over the boundary of Moab at Ar, they will approach the frontier of the Ammonites.[1] This text indicates that the territory of the Ammonites is located north of that of Moab, that is, north of the Arnon (= Wadi al-Mujib) (Num 21:13; 22, 36).

Judg 11:13, part of the Jephthah narrative (Judg 10:6–12:7), is more specific relative to Ammonite territorial possession when it states that the Ammonites considered their land to extend "from the Arnon to the Jabbok and to the Jordan." This is the region which is referred to today as *al-Balkha* (the Belqa) (Geraty and Running 1989: 3). It is about 85 km (from the Arnon to the Jabbok) by about 35 km (from the Jordan River to the desert).

The former inhabitants of the land of the Ammonites were the Rephaim but the Lord, that is, Yahweh, the God of the Israelites, destroyed the Rephaim before the Ammonites so that they could dispossess them and settle in their place (Deut 2:21). (The Ammonites called the Rephaim "Zamzummim" [Deut 2:20].)

The biblical writers express two attitudes relative to Ammonite territorial possessions: 1) the book of Numbers states that the reason why the Israelites did not conquer Ammonite land is because the boundary of the Ammonites was strong (21:24); and 2) the Deuteronomist states that the reason why the Israelites did not take possession of Ammonite land was because the Lord had given that land to the descendants of Lot (Deut 2:19; see also 2:21).[2]

The territory of the Ammonites, whatever its boundaries and extent, was not a static entity. There are indications that the Ammonites were an aggressive people who sought to enlarge their holdings.

Judges 3:12–13 states that King Eglon of Moab, in alliance with the Ammonites and the Amalekites, attacked and defeated Israel and

[1] The location of Ar (of Moab) is unknown. Karak, Rabbah (south of Wadi al-Mujib), Khirbat al-Misnaʿ (M.R. 223767), Khirbat al-Mudayna (M.R. 330768) (on Wadi al-Mujib), and Khirbat al-Baluʿ (M.R. 244855) are among the sites which have been identified as its location (Mattingly 1992a: 321). In Deut 2.9, however, Ar appears to be a synonym for Moab.

[2] It ought to be noted that the same reason is given as to why the Israelites are not to take possession of either Ammonite or Moabite territory (Deut 2.9). See Gen 19.30–38 on the origin of the Moabites and the Ammonites.

then took possession of the city of palms, that is, Jericho (Deut 34:3). The Amalekites, nomads of southern Palestine, are certainly out of place in the narrative (de Vaux 1973: 118). It is possible that the Ammonites were involved with Moab in this incident. De Vaux thinks, however, that the association of Ammonites with Moab here may be redactional (1973: 118).

In the introduction to the Jephthah story (Judg 10:6–12:7), the Ammonites are said to have "crushed and oppressed the Israelites . . . that were beyond the Jordan in the land of the Amorites, which is in Gilead" (Judg 10:8).[3] This oppression extended north of the Jabbok to Jabesh-gilead (Judg 10:17) which is generally associated with Wadi al-Yabis.[4] The Ammonites are, moreover, said to have "crossed the Jordan to fight against Judah and against Benjamin and against the house of Ephraim" (Judg 10:9). Finally, according to 1 Sam 10:27–11:11, Nahash, king of the Ammonites, oppressed the Gadites and the Reubenites living beyond the Jordan and besieged Jabesh-gilead (1 Sam 11:1–2). Thus, there are indications of competition on the part of the Ammonites on the one hand, and Israelite tribes, on the other, for territory, especially east of the Jordan River. Moreover, the narratives in question express the biblical view that the Ammonites took opportunities to expand their territorial holdings.

Judges 11:33 ends the account of Jephthah's battle with the Ammonites (Judg 10:6–12:7) by stating that "he inflicted a massive defeat on them from Aroer to the neighborhood of Minnith, twenty towns, and as far as Abel-keramim. So the Ammonites were subdued before the people of Israel." The passage provides information on three Ammonite sites, namely, Aroer, Minnith, and Abel-keramim. It also makes the very general statement that Jephthah defeated "twenty towns" of the Ammonites. Aroer, Minnith, and Abel-keramim are probably intended to be numbered among these "twenty towns."

Judg 11:33 does not indicate the direction in which Jephthah was

[3] The term "Amorite" is a general rather than a specific designation for the pre-Israelite inhabitants of the land. The terms "Canaanite" and "Amorite" occur in the Old Testament with the same meaning (Noth 1960: 141, n. 1, 162; see also Sayce and Soggin 1979: 113–14).

[4] Jabesh-gilead is invariably located north of the Jabbok and in association with Wadi al-Yabis. Tall Abu al-Kharaz (together with its twin site Tall al-Meqbereh) and Tell al-Maqlub are the sites which are most often sited as its location (Glueck 1951: 214–15, 268–75; Simons 1959: 315; Ottoson 1969: 195; Rowley 1970: 92; Aharoni 1979: 34, 288; Lemaire 1981: 44–45).

travelling when he is said to have defeated the Ammonites. Therefore, we do not know if the sites named are listed in any particular direction of the compass. It is partially for this reason that Aroer, Minnith, and Abel-keramim cannot be identified with any confidence. Despite this fact, they are generally placed in the district to the west of ʿAmman (Aharoni 1979: 265; Boling 1975: 208) and tentatively identified, as will be indicated below, with a variety of present-day archaeological ruins. Such attempts are, however, precarious since it is not known if the text in question dates to the Iron I or Iron II period.

The toponym "Aroer" means "juniper" (Koehler and Baumgartner 1958: 735; Rowley 1970: 17). Such is of little assistance in locating the site since trees of this species are found throughout central Transjordan.

The Aroer in question here is not the one on the edge of Wadi Arnon, contrary to the position of Glueck (1939: 247–49). It is rather the Aroer which is "east/toward/facing"—depending on the translation—Rabbah, that is, Rabbath-Ammon (Josh 13:25). Although it cannot be definitely located, a number of commentators have proposed suggestions.

Abel (1967, II: 250) locates Aroer northwest of ʿAmman at ʿArgan or 7 km east of the capital city at Khirbat as-Safra. Several commentators place it at Khirbat al-Beder (map coordinates 238.5/156.6), a tell 5 km north of the ʿAmman Citadel (Mittmann 1969; 1970; de Vaux 1973: 124–26; Hübner 1992: 133, 135 [with a question mark]; Alhstrom 1993: 407–08). Other places proposed for its location include Khirbat as-Smesani (As-Semsaneh) (Kallai 1986: 252, n. 323) or As-Sweiwina (As-Suwewinah) (Glueck 1939: 247). Simons (1959: 120, 299) is probably correct when he states that its location is unknown.

Relative to the location of Minnith, Eusebius knew of a place called Maanith four miles from Esbus (= Heshbon) on the way to Philadelphia (= ʿAmman) (*Onom.* 132.1–2). De Saulcy (1853) proposed Umm al-Qenafid, located on a high hill at the beginning of Wadi Hisban. However Schultze, followed by Ibach (1987: 24), who collected Iron I and Iron II/Persian sherds at the site, and Younker (1992: 842), opt for Umm al-Hanafish/Umm al-Basatin (map coordinates 232/137), *ca.* 6 km to the northeast of Hisban at the intersection of an ancient route, for the location of Minnith. Most scholars think that the site cannot be identified (Simons 1959: 299; Ottosson 1969: 172; de Vaux 1973: 126; Hübner 1992: 135–36).

The toponym Abel-keramim means literally "pasture/meadow of

the vineyards" (Gray 1902: 3314; Rowley 1970: 1) and would thus seem to refer to a place where vines were cultivated. Such a designation is too general, however, to help in its precise location since vines can be grown in a number of areas in the central Transjordanian plateau.

Eusebius locates Abel-keramim about six to seven Roman miles from Philadelphia at a place called *Abela* (*Onom.* 32.15). A site by this name is presently unknown in the area.

Abel-keramim is sometimes located in a general fashion in the hilly district of the northern al-Balkha (Simons 1959: 299; Ottosson 1969: 172). Attempts to be more precise result in the choice of Na'ur (map coordinates 228/142) (Abel 1967, II: 37, 233–34; Aharoni 1979: 429, with a question mark), near Na'ur (Redford 1982: 119), or Khirbat as-Suq (Alt 1936: 112 n. 2), all on the way from Philadelphia to Hisban, as candidates for its location. Mittmann (1969: 75), de Vaux (1973: 126), and Ählström (1993: 408) identify it with Kom Yajuz, 3.5 km north of Khirbat al-Beder, which, as indicated previously, they identify with Aroer. There is, however, no archaeological support for this latter identification. Recent archaeological findings have led to the identification of Abel-keramim with Tall al-'Umayri (Redford 1982a and b), Sahab (Knauf 1984; Kafafi 1985: 17; Hübner 1992: 132–33, 141, with a question mark), and Tall Jawa (South) (Younker 1997). It can, thus, be concluded that the site cannot at present be identified with any certainty.

There are a number of other biblical references to Ammonite sites: 1) Jazer (Num 21:24; 1 Macc 5:8); 2) Rabbah (Deut 3:11; Josh 13:25; 2 Sam 11:1; *et passim* [= Rabbath-ammon, "the royal city"] {2 Sam 12:26}); 3) "the water city" (2 Sam 12:27); 4) Ai (Jer 49:3); and 5) Heshbon (Jer 49:3).

Jazer and its villages are said to be Amorite (Num 21:32; 32.1, 3), Gadite (Num 32:35; Josh 13:25; 21:39; 2 Sam 24:5; 1 Chr 6.81), Moabite (Isa 16:8, 9; Jer 48:32), and Ammonite (1 Macc 5:8). Relative to Jazer as an Ammonite site, the NAB and NJB translation of Num 21:24b indicates that the site marked the Ammonite boundary/frontier. (The NRSV and REB, however, translate the text as "for the boundary of the Ammonites was strong" and "where the territory became difficult" respectively.) If the translation is correct, the site would have been, at least for a time, in Ammonite territory. Moreover, Josephus associates the city of Jazer with the Ammonites during the time of the Maccabean Wars (*Ant* 12:329).

Jazer is said to be in Gilead (1 Chr 26:31). This does not help greatly in locating the site since the region of Gilead included territory both north and south of Wadi Jabbok (Deut 3:12–13; see Simons 1959: 28; Abel 1967, I: 276; Ottosson 1969: 83; 1992: 1020; Baly 1974: 219; Aharoni 1979: 37). Similarly, the association of the site with the Amorites, the Gadites, and the Moabites is not of great help in its location. While the areas that these groups once inhabited can be indicated in a general manner, their precise boundaries are uncertain.

Eusebius places Jazer ten Roman miles west of Philadelphia, 15 from Heshbon, and at the source of a large stream which flows into the Jordan (*Onom* 264–65). The crusader Marino Sanuto notes that "the brook Arnon rises on Mount Pisgah, and enters Jordan below Jaazer" (1897: 33).

Several sites are proposed as the location of Jazer. Among these are: 1) Beit Zerah (Conder 1889: 91); 2) Khirbat Jazzir (Driver 1909: 563; Abel 1967, II: 357; Gray 1967: 134; de Vaux 1967: 135; Simons 1959: 119–20; Boling and Wright 1982: 344; Budd 1984: 246; Boling 1985: 25; Peterson 1980; 1992); 3) Khirbat/Qasr as-Sar (Seetzen 1854–55; Merrill 1881: 484; Van Zyl 1960: 94 [or near Na'ur]; Aharoni 1979: 437 [with a question mark]; Kallai 1986: 268 [or another site slightly to the west in the region]; Kasher 1988: 28, n. 12); 4) Khirbat al-Sireh (Landes 1956: 37; Van Zyl 1960: 94); 5) Khirbat al-Yadudeh (Schultze 1932: 68; de Groot 1934: 149; Noth 1935: 248, 250, note 2; 1944: 32); 6) Yajuz (Oliphant 1881: 223–35; Cheyne 1901, 2: 2340–41) or Kom Yajuz (Cohen 1962: 806).

There is some supporting evidence for the identification of Jazer with a number of the sites listed above. Khirbat Jazzir (219/156) is, nevertheless, the best candidate for its location. It is situated 4 km south of As-Salt at the head of Wadi Su'eib which flows into the Jordan River. It, thus, fits Eusebius' description of Jazer's location. 'Ayn Jazer is located less than 1 km from Khirbat Jazzir. It could be the Byzantine Azer which preserves the biblical name and which Eusebius associates with Jazer (de Vaux 1967).

From a toponymic point of view, biblical Jazer and Khirbat Jazzir are related. Moreover, de Vaux (1967) reports ceramics from both the Iron and Hellenistic periods at the site. In the words of Peterson, "little doubt remains that the Levitical city Jazer is Khirbat Jazzir" (1992: 643).

Rabbath-ammon is invariably identified with the 'Amman Citadel/

Jabal al-Qala'ah (map coordinates 238/151), located in what is today downtown 'Amman (see, for example, Simons 1959: 3, 334, 450, 453; Bright 1965: 325; Abel 1967, I: 277; II: 424–24; Aharoni 1979: 441). Its size, that is, *rabbah* (= large) appears to have been the origin of its name (Gray 1902: 3318).

Joab fought against Rabbah of the Ammonites and took "the royal city" (2 Sam 12:26). Moreover, in a report about the incident to David, he claims that he took "the water city" (2 Sam 12:27). The latter was probably a section of the city that supplied it with water. It was apparently separated from the upper city, that is, the citadel area, or the city proper (Abel 1967, II: 434). It most likely had its own defences (Simons 1959: 334). Ras al-'Ayn, southwest of the 'Amman Citadel/Jabal al-Qala'ah and at the source of Wadi az-Zarqa, is an excellent candidate for its location.

Ai, which means, "ruin," is said, in the Jeremian oracle against the Ammonites, to be "laid waste/despoiled" (49:3). Its condition causes the prophet to implore Heshbon to "wail." It should, thus, be associated with the latter site and in its vicinity. However, no Ai east of the Jordan is known.

Instead of "Ai is laid 'waste/despoiled,'" of the NRSV and the REB respectively, other translations read "the ravager approaches" (NAB) and "Ar has been laid waste" (NJB). Thus, Ai here could be a common name rather than a toponym (Holladay 1989: 368). Assurance is impossible (Bright 1965: 325).

The site of Heshbon appears on numerous occasions in the Hebrew Bible (Ferch 1989). In most cases, and indeed in the first reference (Num 21:25), it is associated with the Israelite defeat of Sihon, an Amorite king, whose city it is said to be (Num 21:26) and in which he ruled (Num 21:34). It is one of the towns which the Reubenites are said to have rebuilt (Num 32:37). However, it is associated with the tribe of Gad in the lists of Levitical cities (Josh 21:38; 1 Chr 6:80). Heshbon does not appear in the Mesha Inscription and, thus, it would seem that around the mid-ninth century it was not considered a Moabite possession. Biblical references, namely, Isa 15:4 and Jer 48:3, however, identify it as a Moabite city. On one occasion, in an oracle against Ammon, it appears as an Ammonite possession (Jer 49:3). It is apparent that it changed hands through time.

Heshbon, on the basis of the biblical data, can be located in a general manner on the central Transjordanian plateau (Deut 3:10; 4.43; Josh 13:16) east of the Jordan River between Wadi al-Mujib

(Arnon) in the south and Wadi az-Zarqa (Jabbok) in the north (Deut 2:24; Josh 12:2). In most occurrences, it is west of both the territory of the Ammonites (Josh 12:2) and "the wilderness of Kedemoth" (Deut 2:26). Heshbon is related to such well-known and confidently identified sites as Medeba (= Madaba) and Dibon (= Diban) (Num 21:30). From the biblical sources, nothing more definite can be posited about its location.

Eusebius places Heshbon, which in his day was called Esbus, in the mountains of Gilead *ca.* 20 miles from the Jordan across from Jericho (*Onom.* 253:1–6). The Talmud locates it at *Housban/Hesban* (Neubauer 1868: 21). From a toponymic point of view, there is no doubt that the modern village and associated tall of Hisban bear the biblical name. The question is whether the biblical name has remained at the same site down through the centuries or has it migrated to modern-day Tall Hisban from another location? Tall Hisban (elev. 895 m) is situated in a rolling plain. It is *ca.* 9 km north of the modern town of Madaba and *ca.* 20 km south-west of ʿAmman.

Andrews University excavated Tell Hisban for five seasons from 1968–1976 (Horn 1969; 1972; Boraas and Horn 1969; 1973; 1975; Lugenbeal and Sauer 1972; Sauer 1973; Boraas and Geraty 1976; 1978; 1979; Geraty 1983a and b; 1992; 1997; Geraty and Merling 1994; Ibach 1987). Baptist Bible College continued the excavation of a Byzantine church at the site in 1978. As a result of this work, the excavators uncovered no remains, other than some Late Bronze Age sherds, earlier than the Iron Age I period (the 12th–11th centuries) when there was probably a small, unfortified village supported by an agrarian-pastoral economy at the site (Geraty 1992: 182; 1997: 20). Although there is evidence of the site's habitation during the tenth–eighth centuries, the best-preserved Iron Age remains date to the seventh–sixth centuries. The archaeological record indicates "a general prosperity and continued growth, probably clustered around a fort" (Geraty 1997: 20–21; see also Geraty 1992: 182). This settlement may have come to a violent end (Geraty 1992: 182; 1997: 21). There is no evidence for occupation during the Persian period but the site was reoccupied in the Late Hellenistic period. Habitation at Hisban continued throughout the Roman and Byzantine periods (when it reached its zenith) (LaBianca 1989: 264–67; Geraty 1992: 182–83; 1997: 21).

A problem with the location of biblical Heshbon at Tall Hisban is the apparent discrepancy between the biblical account of the

Israelite capture of the site from the Amorite king Sihon (Num 21:21–35; see also Deut 2:26–35) and the archaeological evidence at the tall. The site's conquest as narrated in the Bible would have taken place (according to the later traditional dating) around the end of the 13th and the beginning of the 12th centuries B.C. As noted above, however, the archaeological evidence does not support the location of an Amorite capital city at Tall Hisban in either the Late Bronze or Early Iron Ages.

A solution to the problem might be found in the fact that the majority of literary critics agree that the prose segment of Num 21:21–35 belongs to a late, Deuteronomistic stratum of the Pentateuch while the poetic portion (vv. 27b–30) originally had nothing to do with the conquest of Heshbon (Miller 1983: 124). Thus, from a literary critical point-of-view, the narrative is either legendary (van Seters 1980: 117–19; Timm 1989a: 94–95, 1989b: 175) or anachronistic (Miller 1983: 124). Furthermore, it must be noted that the biblical writers may have set their narratives at sites that were known to them and their readers. Such was the practice of the writers of the Palestinian Targumim of the Pentateuch (McNamara, 1972: 34; Alexander 1974: 5).

Most commentators identify Tall Hisban with biblical Heshbon (Noth 1935: 248; 1944: 51, 53; 1968: 240; Simons 1959: 117, 121, 298, 449; Van Zyl 1960: 92; Abel 1967, II: 348–49, 424; Ottosson 1969: 86; Baly 1974: 233 note 11; Peterson 1977: 622–24; Aharoni 1979: 436; Boling 1985: 25; Geraty and Running 1989: ix; Miller 1989: 28; Timm 1989b: 175; Knauf 1990; Lemaire 1992: 68* [with a question mark]). There are, however, a few scholars who look for biblical Heshbon at another site, for example, Jalul (Horn 1976; 1982: 10, 11; Ibach 1978; Boling 1988: 47) or understand Heshbon as more than the name of a "city" but primarily as the name of a region (Merling 1991). Despite these dissenting voices, it appears almost certain that the biblical site of Heshbon is to be identified with Tall Hisban. This certainty is based on textual, toponymic, and archaeological grounds.

In summary, the Hebrew Bible provides no definitive information on the territory and boundaries of the Ammonites. It only informs us that the territory of the Ammonites was located in the upper reaches of the Jabbok and that this river formed its boundary. The towns of the Ammonites are located in the hill country in the vicinity of the upper Jabbok. With the exception of Rabbah (and its asso-

ciated "water city") and Heshbon, it is impossible to identify any of them with certainty. The extent of Ammonite territory is indicated in a general fashion as extending from the Arnon to the Jabbok and to the Jordan. There are indications that the Ammonites acted to extend their territory to the west of the Jordan as well as to Jabesh-gilead in the north. And after all this is said, we must still emphasize the temporary character of Ammon's boundaries. These boundaries fluctuated according to various influences, opportunities, and/or pressures. Ammon, for example, moved its boundaries farther to the west, south (west), and/or north (west) as favourable opportunities presented themselves. On the other hand, Ammon's territory shrank under less favorable circumstances.

Ammonite Epigraphic Material

Ammonite epigraphic material such as inscriptions, seals, and ostraca can be important indicators of Ammonite territory. Due to their provenance, they can provide information about the areas the Ammonites inhabited. However, caution is needed here since a script can be used outside its "homeland" and inscriptions, seals, and ostraca are frequently found far from their places of origin. A good example of this is the Akkadian cuneiform tablet found at Tawilan in Southern Jordan (Bennett and Bienkowski 1995: 67–68). Moreover, there is frequently disagreement among scholars as to ethnicity of a particular script. The Dayr ʿAlla plaster texts are a good illustration of this point (Lemaire 1997).

A number of inscriptions point to Ammonite presence in the area of ʿAmman. These include three royal inscriptions, namely, the Citadel, Theatre, and Statue, plus the Tall Siran Bottle and an engraved cup.

The Citadel Inscription, found in 1961, is on a large stone slab measuring 24 · 19 centimeters. It is fragmentary and presently consists of eight lines of writing which are generally dated to the beginning of the eighth century (Millard 1991: 141; Israel 1997: 106; but see Cross 1969 for a ninth century date). It was probably originally a monumental inscription. The text refers to an Ammonite king who received instructions from the Ammonite god Milcom to carry out the building of some "structures/entrances," possibly parts of the citadel or even a temple, along with Milcom's curse against those

who are hostile toward the king or who defile the structure(s) along with his blessings promised for the "structures/entrances" and those who frequent them. Zayadine goes so far as to see the text as a dedicatory inscription of a temple to Milcom. He locates it on the middle terrace of the citadel where the Roman temple of Hercules now stands (Zayadine 1986: 19).

The Theatre Inscription, measuring *ca.* 87 cm long and 5–17 cm wide, was also discovered in 1961 in the excavation of the Roman theatre. It bears two lines of writing including the words *bn'mn/n'* ("Ammonites"). Scholars are fairly unanimous in dating it to *ca.* 600 B.C. (Millard 1991: 141; Israel 1997: 106).

The Statue Inscription is one of several statues found in ʿAmman. It has an inscription consisting of two lines on its pedestal which Zayadine reads as "Yerahʿazar, son of Sanib." The latter is mentioned about 730 B.C. in the Assyrian annals of Tiglath-pileser III (Luckenbill 1926: 287–88; Pritchard 1969: 282). Because of this, Zayadine concludes that the statue bears the name of two Ammonite kings (see Aufrecht 1989: 106).

The Tall Siran Bottle, excavated on the campus of the University of Jordan in northwest ʿAmman, bears an inscription which was made for Amminadab, son of Hissal-el, son of Amminadab, each titled "king of the Ammonites." An Amminadab of Ammon is listed by Ashurbanipal among the kings who paid tribute at the start of his reign, about 667 B.C. (Weippert 1987: 99). He is believed to be the grandfather of the Amminadab for whom the bottle was made. Scholars date the inscription to around 600 B.C. (Zayadine and Thompson 1989: 170; Millard 1991: 141).

Finally, a cup found in an Iron II tomb at Khirbat Udhayna in southwest ʿAmman is engraved with the name of its Ammonite owner (Hübner 1991: 30–31). It is also dated to the sixth century (Israel 1997: 106).

A number of seals also provide evidence relative to the Ammonite "homeland." One tomb in ʿAmman yielded the simple seal of Adoninur, servant of Amminabad, who was probably the king of Ammon mentioned by Ashurbanipal. A Baalis seal impression, that is, a *bulla*, was found in the excavation of Tall al-ʿUmayri (Herr 1985; Younker 1985). Baalis was an Ammonite king during the time of Nebuchadnezzar, *ca.* 580 B.C. (Weippert 1987: 101).

Finally, ostraca, designated as Ammonite and dated to the seventh–fifth centuries B.C. (Jackson 1983; Cross 1986; Aufrecht 1989; Hübner

1992; Israel 1997), have been uncovered in the excavations of Tall al-Mazar (Yassine and Teixidor 1986), Tall al-'Umayri, and Tall Hisban (Cross 1975; 1986). Moreover, the excavations at Khirbat Umm ad-Dananir and Sahab have produced pottery sherds engraved with Ammonite personal names in a fragmentary condition (Israel 1997: 106). These ostraca provide information relative to places associated with the Ammonites.

The five inscriptions mentioned above provide evidence of Ammonite presence in the 'Amman area, especially in the region of the Citadel, from the beginning of the eighth-sixth centuries B.C. Moreover, the seals and ostraca point to Ammonite sites or at least presence from Tall al-Mazar, north of Wadi Jabbok, to Tall Hisban in the south during the period from the seventh–fifth centuries B.C. But, as indicated at the beginning of this section, caution is advised when considering a site such as Tall al-Mazar as Ammonite on the basis of epigraphic material alone.

Archaeology

Researchers, using the results of archaeological surveys and excavations, have attempted and are attempting to flush out the picture that the Bible and epigraphic data paint relative to the territory and boundaries of the Ammonites. Attention is now turned to the results of these attempts. Here, again, it must be noted that just as is the case for epigraphic material, it is often impossible to determine whether or not a pottery sherd is Ammonite, Moabite, Gileadite, or Amorite. This is also true for other artifactual material, for example, architecture. In other words, at the present state of research, the ethnicity of archaeological material is difficult, if not impossible, to determine.

Glueck, as a result of his biblical studies and explorations in Eastern Palestine in the 1930s, concluded that the north-south extent of Wadi az-Zarqa marked the western boundary of the original Ammonite kingdom. He thought that this kingdom consisted of the small, fertile strip on the east side of the wadi and extended to the desert. He extended the territory of the Ammonites to the south of 'Amman to such sites as As-Sweiwina and Rujm Wasiyeh. The Ammonite towns, in his opinion, were located in the broken upland district on the east side of Wadi Jabbok. He would allow for some westward expansion

of the territory, especially in the ʿAmman district, to include at least the *malfuf* ("cabbage") towers since he thought that they were integrated into the defense system centering upon ʿAmman (1939: 246–47).

Glueck's position on the Ammonite "homeland" was generally accepted for decades. In keeping with this position, German scholars (for example, Gese [1958]; Hentschke [1960]; Fohrer [1961]; Graf-Reventlow [1963]) conducted, in the late 1950s and early 1960s, a number of surveys, especially southwest of ʿAmman, with the object of defining more precisely the Ammonite borders in the area. Gese, the first of these German archaeological surveyors, following upon Glueck's lead, emphasized that the *malfuf* towers formed a chain or a line of "border forts" (*Grenzfestungen*) between Ammon and the Israelite tribes (1958: 57). Hentschke (1960), Fohrer (1961), and Graf-Reventlow (1963) followed Gese's lead. Each surveyed a small section of the "line" from Wadi as-Sir to Naʿur and Rujm Fehud. Thus, they outlined what they believed to be the southern and southwestern Ammonite borders which, they thought, were lined by these "forts."

There is much more data available presently on the Ammonites than that used by Glueck and the surveyors mentioned in the previous paragraph. This is due to the fact that beginning in the 1970s, excavations at such sites as Abu Nuseir (Abu Ghanimeh 1984); the ʿAmman Airport Structure (Herr 1983; Hennessy 1989); the ʿAmman Citadel (Zayadine *et al.* 1989; Humbert *et al.* 1989; Humbert and Zayadine 1989; 1992; "Ammonite" towers (for example, Rujm al-Malfuf North [Boraas 1971] and South [Thompson 1973], Rujm al-Mekheizin [Thompson 1975; 1984], and Kilda [Yassine 1988; Najjar 1992; 1993]); tombs in ʿAmman; al-Dreijat (Younker *et al.* 1990); Khirbat al-Hajjar (Thompson 1972); al-Meqabalein; Rujm al-Henu (Clark 1983; McGovern 1993: 146; 1986; 1983; 1980: 64); Rujm Selim; Sahab (Ibrahim 1972; 1989); Tall Dayr ʿAlla (Franken 1969; 1992a and b; 1997); Tall al-Hammam (Prag 1991); Tall Hisban (Horn 1969; 1972; Boraas and Horn 1969; 1973; 1975; Lugenbeal and Sauer 1972; Sauer 1973; Boraas and Geraty 1976; 1978; 1979; Geraty 1983a and b; 1992; 1997; Geraty and Merling 1994; Ibach 1987); Tall Iktanu (Prag 1989a and b; 1990; 1991); Tell Jalul (Herr *et al.* 1994); Tall Jawa (Younker *et al.* 1990; Daviau 1992a and b; 1993a and b); Tall al-Mazar (Yassine 1983; 1984a and b; 1986; 1988; McCreery and Yassine 1997); Tall Nimrin (Dornemann 1990;

Flanagan and McCreery 1990; Flanagan, McCreery, and Yassine 1992); Tall Safut (Wimmer 1985; 1987a and b; 1992; 1997); Tall Siran (Thompson 1973b); Tall al-ʿUmayri (Geraty, *et al.* 1986; 1988; Herr 1989; Younker *et al.* 1990; Herr, *et al.* 1991a and b); and Umm ad-Dananir (McGovern 1980; 1983; 1986; 1987; 1989; 1992; 1993: 145–46) provide a great deal of information about the Ammonite "homeland." Moreover, surveys, mostly by Americans, for example, McGovern (1986; 1987;) in the Baqʿah Valley northwest of ʿAmman; Simmons and Kafafi (1988; 1992) in the area of ʿAyn Ghazal along Wadi az-Zarqa between the modern cities of ʿAmman and Zarqa; Ibach (1987) in the Hisban region; and the Madaba Plains Project in the vicinity of Tall al-ʿUmayri, south and southwest of ʿAmman (Geraty, *et al.* 1986; 1987; 1988, 1989a and b; Herr 1989; Younker *et al.* 1990; Herr *et al.*, 1991; 1994), are shedding new light on the Ammonite "homeland."

Sauer (1985), Kletter (1991), Herr (1992), and Hübner (1992) make use of data from the above-listed excavations and surveys, or at least that available to them at the time of their writing, together with the results of biblical and epigraphic studies, to present a picture of the Ammonite "homeland." Their presentation is particularly relevant for the late Iron II period. Sauer and Herr generally agree on an expanded Ammonite territory. Kletter and Hübner, however, describe a much more restricted "homeland," both chronologically and territorially.

Sauer describes the growth of Ammon especially during the period beginning with its status as a vassal of Assyria, then Babylonia, and then Persia (1985: 212). He finds the support for Ammonite expansion in the archaeological record in the form of what he terms Ammonite materials such as pottery, inscriptions, sculpture, and tombs in the region of ʿAmman as well as at such sites as al-Meqabalein, Sahab, Khirbat al-Hajjar, Tall Siran, Tall Hisban, Baqʿah Valley, Tall Dayr ʿAlla, Tall al-Mazar, and Tall as-Saʿidiyya. He concludes that during the late Iron II-Persian periods the Ammonites extended their territory as far west as the Jordan River, towards the north into the Baqʿah Valley, and southward as far as Tall Hisban (1985: 212–13).

Herr (1992) thinks that it is now possible "to say" something about the Ammonite boundaries, from a chronological as well as a territorial point-of-view. He applies the terms "Ammon" and "Ammonite"

to an apparent ethnic entity of the central Transjordanian plateau that is best defined during the late Iron II period. He thinks that aspects of material culture and epigraphic remains suggest a coherent, unified "nationality" separate from other groups nearby. Where distinctive elements of this culture are found in excavations they, according to Herr, are localized to the region north of Madaba and Jalul and south of Wadi az-Zarqa. Thus, this Ammonite culture is present at such sites as ʿAmman, especially the Citadel; Sahab; Tall Dayr ʿAlla; Tall Hisban; Tall al-Mazar; Tall Safut; Tall al-ʿUmayri; and Umm ad-Dananir. Specifically, Herr posits that the southern boundary of the Ammonites was in the Madaba-Jalul region. He admits, however, that further excavations, which are just beginning at Jalul, are needed. He states that there is none of the typical Ammonite pottery south of this region in the Iron Age tombs at Mount Nebo, for example. The northern boundary of this "Ammonite" ethnic entity would have been, according to Herr, the natural barrier of Wadi az-Zarqa (1992: 175). He admits, however, that the history of settlements in the hilly region between the Baqʿah Valley and Wadi az-Zarqa is still not well known and that further archaeological survey work, followed by excavations, is necessary to elucidate settlement patterns during the first millennium B.C. in this region. In the Jordan Valley, Herr identifies the "Ammonite" corpus of late Iron II pottery at Tall Dayr ʿAlla while there is little of this pottery at Tall as-Saʿidiyya just a few kilometres to the north. Still farther north, at Pella, for example, there are no "Ammonite" pottery forms. Herr concludes that just as for the southern boundary, the northern boundary of "Ammonite" ceramic forms is well defined. According to Herr, to the east, this "Ammonite" culture extended unbroken to the desert while to the west it stopped at the Jordan River since very little of this ceramic corpus has been found at Jericho (1992: 175). On the basis of the dating of the Ammonite script and pottery, he dates this "Ammonite" cultural group to the late Iron II period (1992: 175). He finds it difficult to go back much before the Iron II period.[5]

[5] Daviau's recent excavations at Khirbat al-Mudayna and survey explorations of the region surrounding the site may be throwing some light on the Ammonite-Moabite border in the south (Daviau 1997). Daviau's preliminary conclusion is that Khirbat al-Mudayna may lie in Moabite territory while Rujm al-Heri, a heavily fortified settlement site located around 5 km to the northeast, may be Ammonite. She bases her conclusion on the pottery collected at sites in the region and the nature of these sites which she calls forts (1997: 225–27). See below, chapter 10.

Kletter (1991), starting with a reassessment of Glueck's and, subsequently, the German position that the Rujm al-Malfuf buildings were Ammonite fortified towers built as a defense line for the early Ammonite kingdom, has reviewed the scholarly positions on these "towers." He has studied their number, function(s), and dates. He concludes that these buildings represent "more or less, the area of the Ammonite settlement and therefore the borders of Ammon during the Assyrian period" (1991: 43), that is, from around 734–732 B.C. to 630/620 B.C., when the Assyrian power in the west declined (1991: 36). These borders, according to Kletter, were compact, well defined, easy to defend (except on the eastern side), and it seems that "the same borders defined the kingdom of Ammon for a long period" (1991: 43; see his map on p. 40).

Hübner locates the Ammonite territory in the western segment of the central Transjordanian plateau, north of a line from Hisban to Mount Nebo as far north as Wadi az-Zarqa which he posits, citing Deut 3.16 and Josh 12.2, was its most probable northern boundary in the Old Testament period (1992: 11, 139 n. 4). Margaret al-Warde, the iron producing area to the north of the Jabbok, was not a part, according to Hübner, of the Ammonite territory (1992: 150). Specifically, he sees the southern border of the Ammonite state as being probably north of Hisban, Elealeh, Khirbat Masuh, and Umm al-'Amad or south of al-Yaduda, Tall Jawa, and Sahab (1992: 141). The western border in the Iron Age was, he posits, in the west of the Transjordanian plateau in the upper part of Wadi al-Bahhat or Wadi as-Sir. Settlements in this area included Umm al-Qanafid, Khirbat al-Hajjar, and Rujm al-Kursi (2280.1533) (1992: 142). Hübner extends Ammonite territory northwestward to include the Baq'ah Valley, including Rujm al-Hinu (2284.1655) and Rujm al-Hawi (2282.1652), but he does not know just where the Ammonite border in the northwest and west of the hinterland of the Baq'ah Valley was located. He posits that the territory of as-Salt, Khirbat ar-Rasune, and Khirbat Gel'ad were often in Gileadite-Israelite hands (1992: 145). He thinks that it is likely that Wadi Umm ad-Dananir, which goes in a northerly direction from Khirbat Umm ad-Dananir (2273.1659), and, later, the upper segment of Wadi ar-Rumman was the boundary between Gilead and Ammon (1992: 145). Khirbat ar-Rumman, according to Hübner, was most likely an Ammonite border location (1992: 145). The beginning of the steppe or the desert was, in his opinion, the "boundary" of Ammonite territory in the east (1992: 146). In summary, according to Hübner, Ammon was

around 40–50 km (north-south) · around 25–35 km (west-east). The total territory was, thus, around 1300 square kilometres. Ammon's neighbours were Moab to the south and the southwest; Israel to the north and the northwest; (and in the northeast the territory of the Aramaeans?) (Hübner 1992: 146; see also his map pp. 330–31).

Conclusions

It is evident that there is little archaeological and epigraphic support for the biblical statement that the territory of the Ammonites extended "from the Arnon to the Jabbok and to the Jordan" (Judg 11.13). The best that can be done is to look at the evidence from the above, two-mentioned sources plus the Bible, and see the Ammonite territory as comprising a small area such as that which Glueck, Kletter, and Hübner envision or a somewhat expanded territory such as that which Sauer and Herr posit. This latter position comes closest to Judg 11.13.

There is little firm evidence for the identification of Ammonite sites with the exception of Heshbon, Jazer, and Rabbah. More data is needed in order that convincing locations for Aroer, Minnith, and Abel-keramim be set forth.

From a chronological point-of-view, the information that we have about the Ammonites is best seen in the late Iron II period when Ammon was a vassal state of Assyria. There is the possibility that this situation extended in time to the subsequent Babylonian and Persian domination of Transjordan. Little can presently be convincingly stated about the Ammonites during either the Iron I or early Iron II period. The Bible is, therefore, most probably describing the Ammonites as the biblical writers knew them during the late Iron II Age.

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CHAPTER THREE

CENTRAL JORDANIAN CERAMIC TRADITIONS

GLORIA LONDON
Burke Museum of Natural History and Culture

Introduction

Pottery of Iron Age date in central Jordan demonstrates both continuity with Late Bronze Age traditions as well as significant changes in form, finish and fabrication techniques. As the manufacturing technology changed, so did the vessel shapes and surface treatment. These developments occurred throughout the area of ancient Jordan and Israel at different times in different places during the span of the Iron Age. In common with most areas, the general region known as Ammon presents a challenge to characterize in terms of ancient ceramic traditions and political boundaries. The two do not invariably overlap or co-vary. Although there have been numerous archaeological excavations in the region yielding large quantities of pottery, a relatively small number of sherds has been sampled mineralogically or otherwise to determine if the material was made in the region or brought from afar. Pottery production locations evade detection.

For these reasons, it remains unknown which pottery types can be considered made in Ammon before or during the era of an Ammonite entity mentioned in the Hebrew Bible. Archaeologists often assume that the bulk of pottery excavated at a site was of "local" origin, but the term is ambiguous, at times implying that the pottery was made at the site, at a nearby site, or some place in the region as opposed to articles of long distance trade. In the absence of adequate mineralogical testing to confirm local origin, the following discussion addresses only the broader regional ceramic traditions of central Jordan. One advantage of not attributing specific wares to the Ammonite area and treating the central Jordanian region rather than Ammon specifically, is that we avoid associating and identifying pottery with people and political or social entities.

Pottery starts, of course, as clay in the ground. It is first excavated and prepared, then shaped into containers, dried, fired and distributed. The goal here is to follow the work schedule of a potter rather than present a typological treatment of the final forms. The ceramic potential, traditions and technologies precede evidence of the manufacturing techniques in use during the Late Bronze and Iron Ages in central Jordan.

Ceramic Potential of Central Jordan

Raw Materials for the Potter: Clay, Water, and Fuel

For the geologist, the characterization of clay differs dramatically from a description of clay offered by a potter. For the latter, the primary concern is whether or not he/she can fashion pots from a particular clay rather than the mineralogical analysis of the clay components preferred by the geologist and archaeologist. Designation as a "good clay" implies that the potter possesses a technique suitable for shaping the clay into pots. A "bad clay" refers to a material unworkable for a particular potter, although it may well be suitable for another potter who uses a different manufacturing technique.

A variety of local clays, available in central Jordan and elsewhere in the country, still supplies Jordanian potters to this day (London and Sinclair 1991). Clays amenable for wheel-thrown pottery are used by professional crafts people who sell pottery at markets and road side stands (Homès-Frederiq and Franken 1986: 249; London and Sinclair 1991). Other potters work with local clays to fabricate wares for household use (London and Sinclair 1991: 421; Merschen 1985). McQuitty (1984) documents the use of local clay for constructing ovens. At least some, if not all, of these clay sources were available and exploited at different times in antiquity. It was not imperative to import clays or pots to Jordan.

Clays in both Jordan and Israel tend to be in secondary deposition; that is, rather than finding clays adjacent to their parent rocks, the clay beds predominate along stream beds and depositional pockets far from their origins. As a consequence, wind blown and water lain clay deposits create a raw material mixed with an assortment of rocks and debris. The latter can be detrimental to pottery production and at times required potters to exert special effort in prepar-

ing the clay prior to its use, over and above the normal removal of unwanted large rocks, leaves, roots, etc. Potters will usually carefully prepare the raw material, but to create a clay suitable for wheel throwing often requires more work than for clays used in hand building techniques. To create a clay for throwing pots on a fast moving wheel for example, it was necessary to clean the clay by extracting most of the non-plastic inclusions. More often, rather than investing in elaborate time and water consuming cleaning procedures, potters in Israel and Jordan learned to work with the clays almost as they found them in nature. Although potters and their assistants would have always removed the largest of the undesirable elements, their primary strategy was to develop pottery making techniques suitable for lean clays, i.e., those rich in non-plastics (rocks and minerals). Among the advantages in using the heavily tempered clays are relative ease in attaching accessories, drying, firing, and a durable product. Disadvantages include thick walls often lacking decoration.

Painting the surfaces of untreated or marginally prepared clays is risky since the pigment cannot be absorbed by the non-porous rocks and minerals. The solution to this problem involves the application of a slip layer to cover the surface prior to painting. This simple measure or precaution succeeded as long as the slip adhered to the vessel wall, which was not always the case. To adhere well, a slip should ideally consist of the finest clay particles identical or similar to the clay of the pot. Coloring agents can be added judiciously to the slip. Even if the slip is a good match for the pot, if the clay and water used by the potter during the manufacturing contain salt, the slip can flake off, removing the overlying painted pattern as well. As pottery dries, the molecules of water migrate to the surface of the pot where they evaporate. Along with the water, salts naturally present in the raw material also reach the surface where they are deposited rather than evaporated. Salt creates a barrier layer know as scum, or bloom, which separates the slip from the clay wall. To prevent a salt deposit from interfering with slip adherence, potters had no choice but to scrape away the surface salt-rich thin layer of clay.

This extra procedure both enhanced slip adherence and provided a suitable surface to paint. To scrape the surface of the vessels without removing so much clay that the walls of the vessel were weakened, required a skilled potter. Excessive scraping resulted in a collapsed pot. In contrast, almost anyone could paint the surface.

Consequently, in place of fine, well executed designs, if a sloppy pattern covers a large part of the vessel surface and if quantity of decoration exceeds the quality of the design, it is possible that marginally skilled painters were responsible rather than professionals. Such a situation characterizes exported Cypriot White Slip milk bowls (London 1986). In contrast to earlier examples displaying well executed and fine line patterns, later White Slip wares made for export exhibit crowded, busy, and thicker lines painted by inexperienced learners. Painted pottery was not the norm in ancient Jordan and Israel, but given the nature of the raw materials and the society, the potters worked with what was available to create usable, durable, low-cost, utilitarian pottery and luxury wares.

Importance of Water

Without a reliable water source, potters cannot work. Ancient potters in Jordan, Israel, and throughout the Levant, had no alternative but salt-rich clays and water. They overcame the shortcomings of the local material by scraping the surface of drying pottery to remove the salt deposit. In removing the salt deposit, potters simultaneously scraped away excess clay and created a thinner walled pot and a surface receptive to paint. By scraping away excess clay, the potters resolved several problems simultaneously: thinner walls create a lighter, more elegant form, less likely to crack during drying and firing; and removable of the salt or scum deposits allows a slip and painted decoration to adhere and be visible. When the potters failed to remove the excess clay and salt deposit from a pot, their problems multiplied since each step of the manufacturing process influences the next stage of work. Unless the salt deposit was removed, the slip and paint could not adhere well. Even if the paint adhered, the presence of salts on the surface create an overall whitish or graying background which masked the painted pattern by reducing its visibility or making it less sharp and colorful. In addition, by scraping drying pots at precisely the right time, the clay particles on the surface become aligned in such a manner that when fired correctly, a burnish sheen can result.

Given the problems potters confronted, there is little wonder that much of the terminal Late Bronze and Iron Age pottery lacks painted decoration. Nor is it by chance that a manufacturing technique involving scraping or "turning" to thin the walls coincides with the return to burnished surfaces. In contrast with earlier pottery, Late

Bronze Age wares are often described in negative terms as heavy, thick, and poor in shape and decoration. In the absence of scraping and thinning the walls, heavy, thick pottery, lacking graceful lines and decoration, results.

In view of the above, the most significant problem with the Late Bronze Age pottery was the failure to thin the vessel wall. Failure to do this led to a number of undesirable consequences, including: (1) thick "s" cracked bases; (2) heavy walls; (3) salt accumulation on the surface; (4) poor slip adhesion; and (5) poor paint adhesion and low visibility (Franken and London 1996). The end result was an industry in need of improvement.

Outside impetus was not essential for potters to eventually learn to resolve the problems presented by the raw materials. One benefit from scraping away excess clay is that the surface becomes compacted due to the pressure of the scraping tool. If the clay is neither too wet nor too dry when scraped, and if the pot is fired to an appropriate temperature in the kiln, the result will be a burnished sheen due to the compacting and aligning of the clay particles. Although initially the burnished sheen was an unintentional bonus, the act of turning or scraping the exterior wall created a surface suitable for slip and paint adhesion or it created a burnished shiny veneer. Perhaps once the potters realized that both outcomes were feasible, they chose burnished surfaces over painted slips. At the time of paint application, the pattern may have been well executed in sharp crisp lines, however, carefully rendered lines can melt into drip lines if the kiln temperature becomes too high. Burnished surfaces are always compacted, but they are not necessarily shiny. To achieve the sheen requires a kiln temperature which is high enough to cause it to appear, but not so high as to eradicate the sheen.

Fuel for the Kiln

Fuel availability to fire pottery in ancient Jordan was not necessarily problematic since kilns can be fired using a variety of organic materials, such as pine cones, wood, dung, bark, etc. In northern Jordan, a rural potter still uses dung cakes to fire her pit kiln (London and Sinclair 1991: 421) as is commonly done elsewhere in the world (London 1981: 194). Dung may have been collected and used for kiln fires in antiquity. Rather than burning large quantities of fuel, kiln firing can be a 12 hour process which maximizes small amounts of precious fuel. In Cyprus, for example, among traditional rural

potters who fire jugs, cooking pots, etc., wares are stacked in the kiln at 7:00 a.m. and left there for 24 hours. The big roaring fire, however, is of short duration, based on observations of over 30 firings. Initially the fire is a drying fire, comprised of the smallest twigs, for several hours until the pots are thoroughly dried. Gradually, slightly larger pieces of wood are placed in the firebox. Not until between eight and ten hours later are a few large logs, *ca.* 15 cm in diameter, added for two or three hours only (London 1989c: 224).

Just as the Cypriote potters wisely utilize limited fuel resources, so did the ancient potters. Since traditional potters are responsible for collecting and transporting their fuel, often on their backs, it is most advantageous to maximize fuel use. Potters prefer to transport clay to make more pots instead of fuel. As a result, vast quantities of wood were not required to fire most wares. This is perhaps evident in the firing colors of the ancient wares. Archaeologists often describe pottery as "poorly fired." Fuel conservation could be one cause of the darkened cores found in the walls if the potters chose to stop the firing once the pottery was durable but not fully oxidized. Other factors contributing to the darkened core and partially fired wares, are the inclusion type as well as the surface treatment (Franken and London 1995: 218). Burnished wares lose their sheen when fired too high for too long, thereby limiting firing time and temperature. Finally, painted designs can drip and discolor as a result of overly high firing. As a result, there were numerous reasons for the potters to minimize the heat.

Another efficient use of fuel involves maximization of the kiln space for each firing. This requires that potters store drying pottery until there is enough to fill a kiln. Normally potters make and accumulate pots of all sizes and shapes to fill every part of the kiln interior. Alternatively, one potter might share a kiln with another potter. An arrangement of this type happens regularly during the pottery-making season, especially between potters who specialize in a single category of pots. For example, potters who concentrate on labor intensive small composite decorative pieces share a kiln with a potter who produces large quantities of ordinary, less time consuming utilitarian forms for daily use. At the end of the season, when no potter has enough dry pots to fill a kiln, but the autumn clouds threaten, several potters might share a kiln. Another space saving practice involves stacking small pots inside larger containers to maximize space (London, Egoumenidou and Karageorghis 1989: 62).

Transportation and Distribution of Pottery

Rather than the lack of fuel or clays, transportation of pottery to Jordan was both a problem and an inspiration. Although fragile pottery can be transported over considerable distances, geography did not facilitate easy access to Jordan. Throughout the Levantine coastal strip, pottery production was a feature of the economy, as was the importation of the decorated and specialty wares from Cyprus, Greece, and Egypt. Ornamental ceramics, especially from the Aegean which specialized in painted pottery, provided ancient Israel and Lebanon with a source of luxury wares on a regular basis, at least until the end of the second millennium B.C.E., when the local "Philistine" painted pottery replaced the Aegean imports. Throughout Cyprus and Greece, clays of vastly different qualities contribute to a thriving local ceramics industry (Matson 1972). In contrast, the clays of the Levant and Jordan, found largely in secondary deposition, do not offer the versatility of the Aegean raw materials.

Neutron activation and petrographic analyses confirm the presence of imports to Israel, where pots could arrive by ship and then be dispersed to their final destination on land. However, the geographic location of Jordan required a long, arduous land route for the friable pottery and its contents. As a consequence, there was considerable incentive to create a local ceramic tradition of fine wares as well as utilitarian forms. To access Jordanian markets, merchants not only transported the wares from considerable distances, but also sustained the increased risk and cost of moving a highly breakable commodity of relatively low intrinsic value. There is no question that some imported pottery did reach Jordan from the Mediterranean, Egypt, and Saudi Arabia. Evidence for this includes the well-known luxury wares found at the ʿAmman Airport (Hankey 1974; Herr 1983), Sahab (Dajani 1970; Ibrahim 1987: 76), Madaba (Harding and Isserlin 1953), Pella (Smith, McNichol and Hennessy 1983: 65; Knapp 1989), Tall Abu al-Kharaz (Fischer 1991/2; 1995: 103), Dayr ʿAlla (Franken and Kalsbeek 1969: 245; Franken 1992: 112), Tall as-Saʿidiyya (Pritchard 1980; Tubb 1988) and elsewhere. Leonard (1987: 261) notes that the Mycenaean pottery in Jordan is 1000 km from its source.

This is not a complete list nor does it include all of the wares brought from Israel. For example, petrographic analysis of a biconical jug found at ʿUmayri suggests that it differs substantially from the rest of the repertoire and could represent an import from Israel

where biconical vessels are more common (London, Plint and Smith 1991: 430). Imported pottery from the east, such as the "Assyrian Palace ware," has been recorded at numerous sites throughout Jordan (Yassine 1984: 68), and other wares were probably brought from this direction as well. In his assessment of the distribution of painted "Midianite" ware made in northwest Arabia and found sparingly in Jordan, Parr (1982: 129) concludes that this pottery was not "deliberately and methodically traded." This is despite the natural north-south route through Jordan to Arabia. The relative dearth of imported decorated wares implies that geography encouraged or necessitated local pottery production in Jordan.

At times, ancient potters in ancient Jordan excelled. Wares belonging to the chocolate-on-white tradition represent some of the finest local products of the mid-second millennium B.C.E. in Jordan and Israel. Several hundred years later, if not the pottery itself, the Iron Age I cooking pot tradition known in Israel was transmitted from Jordan (Franken and Kalsbeek 1969: 119–22). To compensate for the geographic constraints limiting the importation of pottery, the local ceramics industry met the challenge by creating both luxury and common wares. At present, we are just beginning to learn about the movement of material culture across the Jordan River in both directions (Knapp 1989; Goren 1996: 63). There is no reason to assume that the movement and exchange of technology and communication was entirely in one direction or dominated by either.

Ceramic Traditions

At any given time in antiquity, it is likely that more than one pottery making technique was in practice for the construction of pots found within individual assemblages. The presence of different manufacturing techniques in excavated pottery from a given site does not necessarily imply competition among potters or workshops. Diverse potting techniques co-exist for many reasons—these can include: different properties of the clays; special demands of cooking versus table and fine ware; unique requirements for large versus small containers; and requirements for finishing techniques.

Franken (1995: 99) describes a single ceramic tradition within any archaeological period as comprising all aspects of contemporaneous pottery production—from clay procurement to manufacture, deco-

ration, drying, firing and distribution. An archaeological assemblage can consist of more than one tradition, as is the situation for cooking pots which often differ from the rest of the repertoire in clay, inclusions, fabrication, firing, and distribution. A single tradition can be widespread or restricted to a small number of people or workshops. More than one tradition can co-exist. Specific types can be fashioned using more than one technique within an archaeological period and ceramic tradition, as is the situation for bowls, cooking pots, juglets, etc. Each technique, possibly representing different workshops and raw materials, can facilitate the identification of regional production centers. For our purpose, the goal is to identify and describe the numerous co-existing pottery making techniques and traditions used by potters working in the central Jordanian plateau during the Late Bronze and Iron Ages. Most techniques continued in use throughout the period, although towards the end the practice of turning pottery became less prevalent than previously. It is the coincidence of fabrication technique, shape, clay, and surface treatment that allow one to identify the work of different contemporaneous production sources.

To define the central Jordanian Late Bronze and Iron Age ceramic traditions requires the assessment of complete or reconstructable pots and sherds. The analysis of whole vessels enables one to search for evidence of all aspects of manufacture. Several detailed studies are available or in progress for pottery excavated from the region of central Jordan and Jordan Valley. Such studies include those from Pella (Knapp 1989), Tall al-ʿUmayri (London 1991a; 1995), Tall Dayr ʿAlla (Franken and Kalsbeek 1969; Franken 1992; Vilders 1988: 1992a), Baqʿah Valley sites (Glanzman 1983; McGovern 1986), and Tall as-Saʿidiyya (Vilders 1991; 1992b; 1992c; and 1993). All sites are within a distance of 100 km or less. The preliminary technological studies of pottery excavated at Lahun and Busayra, south of the central Jordanian plateau, especially contribute to the basic understanding of Late Bronze and Iron Age techniques of fabrication within the region (Homès-Fredericq and Franken 1986: 154–71; van As and Jacobs 1995). Given the current state of research and publication, one cannot know precisely which pots were made in the region of Ammon. It is, however, possible to document what has been found in the region and describe the manufacturing techniques and clay whenever possible, as well as the contemporaneous pottery found outside the Ammonite region.

During the Late Bronze and Iron Ages, similar pottery making techniques were in practice in both Jordan and Israel. This was due to the dictates of the raw materials, the demands of the clientele, and the desired repertoire. Regional variations potentially arise in particular rim forms, overall vessel proportions, potters' marks, and details of the surface treatment. How then can one distinguish between regional variations and minor temporal differences, especially given the practice of comparing and contrasting superficial attributes of vessel form by subjective means? Rather than chronological differences between pots found in the Jordan Valley and the central Plateau of Jordan, rim and handle shapes could reflect different regional workshops. Sparse imported objects, which may or may not have been curated for decades or more and therefore represent an earlier time frame, cannot provide an accurate date. For this reason, it is difficult to compare pottery found at different sites in terms of precise chronological distinctions.

It is more useful to note similarities or differences between entire assemblages found at different sites. In doing so, the Tall Dayr ʿAlla late second and early first millennium pottery has links with pottery in Israel (Franken and Kalsbeek 1969: 176, 245). Dornemann (1983: 31) concurs for tomb and other deposits from the central plateau. For Iron II pottery from Tall al-ʿUmayri, Herr (1995) notes that while certain forms find parallels in Israel, others are restricted to the plateau and Jordan Valley and still others are more limited to the plateau alone. One element of the research is to note similarities region wide, but the chronological significance of the similarities and, especially the differences, remains open to speculation.

In dealing with Late Bronze and Iron Age pottery traditions covering hundreds of years, the borders of Ammon were not necessarily constant or well defined as demonstrated by Kletter (1991) and MacDonald (1994: 52 and 59). While the northern boundary of Ammon is the Wadi Jabbok/az-Zarqa, the eastern boundary is the desert, and the western boundary is the Jordan River and Dead Sea based on generalized biblical accounts (MacDonald 1994: 9). These borders may have shifted in terms of political and economic entities. It is feasible that pottery used in the Jordan Valley sites, while made in a manner similar to that used on the plateau, was the product of different workshops than those supplying the plateau sites. To move utilitarian pottery made in the central plateau area down to the Jordan Valley sites seems impractical given its fragility and the

nature of the terrain. Sites located in the extremities of the region may have economic ties with their neighbors and received pottery from adjacent communities. For the Late Bronze Age deposits at Tall Dayr ʿAlla, 70–75% of the pottery was made of a local clay, i.e., the banded clay containing quartz sand, iron oxides (Franken 1992: 106–8; 113), and does not come from the central plateau, the later center of Ammon.

Before assigning chronological significance to the presence/absence of a specific technique and vessel form, it is useful to characterize the manufacturing techniques represented in different sites and then compare the techniques from site to site. This approach allows one to incorporate manufacturing techniques in assessing assemblages rather than relying on form and finish alone. One eventually can learn where a technique originated or at least whether it appears earlier in one region than another. There is little reason to assume that any single new technique will suddenly replace all others. For an unfamiliar method to dominate, it first must be proven effective. The range of choices available to potters is not unlimited since potters are closely restricted by the available raw materials. A newly introduced manufacturing technique initiated at one site will not necessarily appear simultaneously at a nearby site, especially if it involves a different clay recipe from that in use. The same applies for wares found in Jordan versus Israel. While it is possible that separate and distinct ceramic traditions characterized Israel and Jordan, ceramic traditions might have overlapped despite topographic barriers, while not appearing in each region simultaneously.

Raw Materials: Clays and Inclusions

The limited nature of published reports of clay and inclusion analyses only allows one to conclude that clays were available to ancient potters. These clays, largely in secondary deposition, normally included non-plastic inclusions. The latter were part of the clay. Potters had the option of extracting some or all of the non-plastics and then working the clay or, conversely, they could add inclusions. Often it is difficult to determine if the non-plastics were native to the clay or added. An exception is grog, made by crushing pottery into small pieces for use as an inclusion. Very fine grained voids from organic material suggest that plants and/or dung were added intentionally.

The angular carbonates found in cooking wares were purposely combined with the clay to create a ware suitable for reheating as evidenced by the sharp angles and recent ethnographic evidence (Crowfoot 1932).

Other inclusions include quartz, chert, basalt, calcite, limestone, foraminifera (fossils), shell, shale, grog, and organic materials. And iron oxide. This list will undoubtedly be expanded as future tests are conducted. The precise combination of manufacturing technique and clay recipe will help to define individual ceramic traditions.

Pottery Production Locations

Archaeologists rarely find evidence of pottery manufacture. Without chemical or mineralogical tests, they cannot characterize pottery as "local" unless one assumes that the bulk of pottery found at a site was of necessity made at or near the site. This argues for the presence of pottery workshops at or near every sizable site. Were this the situation in antiquity, one might expect archaeologists to find and excavate kiln sites regularly, yet this is not the case. Where are the kilns, and why have archaeologists identified so few pottery production locations given that pottery is the single most abundant artifact found in excavations?

One explanation for the dearth of manufacture sites relies on the location of industry outside the major tall sites and inside the confines of rural settlements. Since excavations tend to concentrate at large sites, the paucity of kiln sites can be attributed to the choices archaeologists make in selecting sites for field work. Until small sites in rural settings are investigated in detail, pottery production locations will remain scarce, especially if pottery was produced solely in villages rather than in major settlements. Whereas talls are usually thought to be cities of large size and, therefore, inappropriate locales for pottery production, for the most part the latter is not valid. The majority of excavated sites in both Israel and Jordan are small (although there are a few exceptions) and contain a minimal area devoted to domestic structures in contrast to the space allotted to public buildings, royal enclaves, religious structures, and open spaces (London 1992). The implication is that under normal conditions, few people lived at the tall sites and as a result, pottery production may

not have been part of the regular work carried out there, especially if pottery was produced in or near the household courtyard.

To make pottery, one needs clay and water readily available. Since water is a necessity for any community, villagers living near water as well as clay could have produced pottery during the dry summer months. Seasonality of the ceramics industry contributes to its invisibility in the archaeological record. Pottery can be made by craft specialists working in the courtyards of their homes where they shape the forms and fire the kiln (London 1989b: 76–8). It is feasible that pottery was produced in many domestic rural settings, yet the remains are minimal or invisible due to the multi-functional use of courtyard space. During the wet season, there might be no trace of pottery making tools or raw materials in the courtyard where pottery is produced for only part of the year. Once pottery production ceases all together and the pottery production location changes, kilns can be dismantled for the reuse of the stones and bricks, thereby eradicating evidence of a once thriving industry (ibid.).

Manufacturing Techniques

Equipment: Work Surfaces, Turntables, Wheels and Clays

When compared with pottery of the 16th century B.C.E., many wares of the late second millennium B.C.E. lack the elegant lines, thin walls, and sophistication characteristic of certain Middle Bronze Age ceramics. To a large extent this reflects the return to the use of a slower moving work table in contrast to the fast wheel. For whatever reasons, society could no longer accommodate a labor-intensive, pottery industry which required highly skilled potters using a clean plastic clay to throw pottery on the wheel.

From the perspective of making pottery, to throw pots on a fast wheel requires a clay with minimal inclusions, preferably very small in size. Throwing enables a potter to make pots faster. It, therefore, can be more cost efficient than the use of a slow turning work surface. The difference between fast and slow rotating wheels or work surfaces involves the use of either one or two hands on the clay and not simply rotational speed. To throw a pot requires that two hands are free to form the shape and create a thin walled vessel from the

start. The heavy weight of the wheel used to throw pots allows it to continue to rotate due to momentum rather than continuous pressure applied to the wheel. Once the wheel starts rotating, it spins due to the combined weight of the clay and wheel. The speed of the fast wheel, which can rotate around its axis some 60 times per minute (Franken 1992: 149), necessitates the use of a plastic clay devoid of large inclusions.

Table 1

Clay	*Manufacturing Technique*	*Surface Treatment*	*Drying and Firing*
Lean clay	Pinch pot Coils Slabs Molds Turning Cone/hump throwing	Accessory pieces Slips Paint Burnish Applique (Incised patterns)	Protected area, but less care than plastic clays needed
Plastic clay	Throwing Cone/hump throwing	Paint Incised patterns Rouletting	Controlled, draft-free space for slow drying

Potential uses of lean versus plastic clays. Although accessory pieces, such as handles, spouts, molded decorations, etc. adhere best to lean clays, at times potters applied them to plastic clays. For example, Iron Age thin-walled small bowls and cups with an almost vertical wall known from a tomb in Madaba, thrown from a cone of plastic clay, have splayed handles on the rims to minimize detachment from the thin rim (Homès-Fredericq and Franken 1986: 164). Although feasible, incised patterns on lean clays run the risk of dragging large inclusions along with the tool.

In contrast, the slow-moving turntable lacks momentum and is unsuitable for throwing a pot. Once the potter stops pushing it, the turntable will soon stop rotating unless a potter or assistant applies constant force to the turntable with one hand. Most clays in Israel and Jordan are lean or short clays containing abundant rocks and minerals. Such clays would be ripped apart if worked on a fast moving wheel, although some lean clays can be rendered suitable for wheel throwing by partial elimination of the inclusions. Clays treated in this way would not necessarily result in a plastic clay, but one suitable for wheel-thrown manufacture.

Since every decision made by the potter influences each successive step in the production of a pot, the use of plastic clays has its consequences with regard to the drying, firing, and final appearance of the vessel. Plastic sticky clays can be painted, but are less amenable for the application of accessory pieces such as handles and spouts. Accessory pieces tend to detach during the drying and firing stages. This reflects, in part, the drying properties of plastic clays. Inherent in a clay body with minimal inclusions is a dense wall that can inhibit an overall, even drying process. As a clay pot dries, it shrinks. Plastic clays shrink more than lean clays. The surface of plastic clays can dry faster than the interior wall thus causing warping, cracking, and detachment of handles and spouts. The latter can occur if the accessory and vessel dry at different rates. Franken (1993/4: 48) presents numerous solutions for handle attachment problems. Use of lean clays avoids this risk because of the rock, mineral, and organic inclusions that serve to open the vessel wall and provide a conduit for the evaporating water thereby making drying relatively uncomplicated. However, to dry pottery made of a plastic clay requires ideal conditions, namely, a sheltered space devoid of drafts, sun, and severe temperature changes. To successfully use plastic clays almost necessitates a workshop organization that provides space for preparing the clay, shaping the pots, drying the pots and storing them before they are fired. An organized industry of craft specialists who could afford the luxury of ample storage space would have been responsible for the production of wheel-thrown wares.

Table 2

First Stage	*Second Stage (if necessary to create a desired shape)*
Pinch pot	Add another pinch pot bowl to create a closed vessel
Slabs	Coils
Molds	Coils; join 2 molded pieces
	Turning
	Throwing
Coils	Turning
Turning	
Cone or hump-throwing	
Wheel throwing	

Late Bronze and Iron Age manufacturing techniques and production stages prior to final surface treatment.

To avoid the risks and requirements of plastic clays, potters could work with a lean clay, either as found in the ground or altered in some way, for example, as by removing the largest inclusions. Other rock and minerals could then be added (known as non-plastics, tempering material, inclusions or grits) or the clay could be used without further manipulation. Special case wares, such as cooking pots, required the addition of suitable inclusions to accommodate vessel use and repeated heating and cooling of the pots while in use. Most ethnographic accounts of traditional potters worldwide reveal a preference to use clay unaltered from the earth. Traditional potters add only water after extracting the largest rocks (London 1991b: 189). This was probably the most common situation in antiquity. Van As and Jacobs (1995: 24) conclude that the ancient potters of Lahun, just north of Wadi al-Mujib in Jordan, used unaltered clays from Wadi Lahun to coil and turn pots on a turntable. Another possibility that allows potters to work with available clays with minimal preparation is to mix two clays together, one lean and one plastic, to benefit from the properties of each, as is the situation among traditional Filipino potters of Gubat (London 1991b: 189 and 204).

In Jordan and Israel during the Late Bronze Age, wheel-thrown pottery was replaced by wares made by several different techniques (as opposed to a single technique). During the MB II zenith of wheel-thrown wares, there were potters who continued to work with a slower moving turntable to create specific forms. The use of the turntable was never lost. The same wheel capable of momentum for throwing pottery can function for techniques requiring a slower moving work surface. A thrower's wheel can be rotated slowly, but a small, light-weight turntable cannot function as a thrower's wheel. Late Bronze Age "Midianite ware" of Northwest Saudi Arabia was possibly made on a large wheel capable of momentum, but without fully utilizing the fast wheel to its potential. Instead, it was used as a slow moving turntable to create small and large containers (Kalsbeek and London 1978: 54). Foster (1959: 112) presents ethnographic data that offers parallel instances of potters who possess a kick wheel, but use it to coil-build pots. Similarly, in ethno-archaeological studies of traditional craft specialists in the Philippines and in Cyprus, potters presented with the possibility of working with a fast wheel, chose not to use it. The wheels were brought in both instances to the communities by well-intentioned potters from other countries. In the Philippines, the foreign potters demonstrated the use of the wheel,

but the vast quantities of time and water needed for clay preparation hindered its use once the foreigners left (personal observation, London 1981 and 1986).

In the literature, the term "hand-made" contrasts with "wheel-thrown" pottery, but these distinctions are ambiguous and misleading for several reasons. It can be argued that all pottery is handmade, perhaps with the exception of mold-made forms. To differentiate between hand- and wheel-made wares by macroscopic observations, is often beyond the means of non-potters and those not trained in ceramic technology. Fine concentric striations are insufficient evidence to identify pots as wheel-thrown. Similar lines can be achieved on a slow moving turntable or even by rotating a pot in the hand. Wares described as "hand-made" can include any technique other than thrown pottery, such as the use of molds, coils, slabs, turntables, or pinch pots. In addition, potters often work with a technique comprising more than one method. For example, traditional Cypriote potters work with coils and a slow moving turntable (London, Egoumenidou, and Karageorghis 1989: 52–56; London 1989c: 222). Instead of working directly on the ground, a table, or wheel head, potters often use a work surface, or "bat" made of stone, bark, wood, ceramic, cork, etc. With the exception of the pinch pots, making a pot entirely in the hand is a technique normally reserved for the smallest containers.

The shift from wheel-thrown to turntable made pottery is not simply a deterioration of the ceramics industry. Wheel-thrown, thin-walled wares have disadvantages other than stringent drying and firing requirements. They are less practical given the ease with which they break. Experimental attempts to break thick-walled, coil-built jars provides an immediate appreciation for the solidity and durability of the containers. Pots made on a turntable of a lean clay could withstand the various falls, knocks, and drops.

However, in other aspects, the Late Bronze Age wares constitute a decline in the ceramics industry in terms of surface treatment and overall workmanship. Painted patterns carefully rendered during previous periods vanish entirely. Thick, heavy wares replace the thin-walled, elegant shapes of the Middle Bronze Age. However, darkened cores in the walls resulting from incomplete oxidation during the kiln firing do not signal a deterioration of the industry. Rather, it represents the prudent use of fuels and manpower (Franken and London 1996: 218). A higher than necessary firing temperature could

at times result in a pocked surface appearance due to the decomposition of lime found in the clay such as in terminal Late Bronze Age wares from Lahun (van As and Jacobs 1995: 17). Whereas, heavy, white firing slips provided an adequate surface for painted potters at the beginning of the Late Bronze Age, towards the end of the Late Bronze Age, the slips became thinner and, if the temperature exceeds 825 degrees Centigrade, the lime in the clay under the thin slip popped, thereby creating a pocked surface. Similar circumstances have been documented previously for the Late Bronze Age wares found at Dayr ʿAlla (Franken and Kalsbeek 1969: 172–74). Many factors contributed to the decision of potters to eventually stop painting pots and reduce kiln firing time (Franken and London 1996).

Techniques of Fabrication

Most Late Bronze and Iron Age ceramic assemblages include pottery made in more than one manufacturing technique ranging from the use of coils, slabs, pinch pots, molds, and throwing. A technique can coincide, at times, with a particular pot type and/or size. The pinch pot technique, although best exemplified by the Neolithic wares such as found at Jericho, remained a useful technique for small pots throughout antiquity. Molds are always ideal for round bottomed and/or large open forms. Slabs best accommodate rectangular containers. Coils and throwing are among the more versatile techniques.

Coiling: To coil-build a pot involves the use of rolls of clay which are added one on top of another, gradually increasing the height of a pot. Often a potter is obliged to wait until one coil dries sufficiently, but not entirely, before the next coil can be added. Coil joins can be smoothed away, but many remain visible on the interior of closed vessels. Potters can also use coils as one step of a manufacturing technique which also involves "turning" or thinning. After creating a flat-bottomed form from clay coils on a turntable, the incomplete pot dries slightly. At the appropriate time, the pot could be returned upside-down to the turntable to scrape away excess clay from the lower body and for base shaping (Figure 3.1, and see below).

Coils can also be applied in a solid mold in a spiral pattern emanating from the center of the mold. Alternatively, potters can place a large circular flat slab of clay in the bottom and up to the edge of a mold and then add coils to increase the height above that of the mold. The latter technique characterizes late second millennium cooking pot manufacture.

Pottery made of coils can sometimes be identified by the coils' joins visible in the cross section of a pot. In such instances, one can measure coil size to compare with other pots from the same site and elsewhere. Direction of the coils can also be ascertained and compared when possible both for pots within and between sites. Coiled pots often have an irregular overall feel when handled. Some coil-built pots break along the coil lines, thereby, providing evidence of their manufacture. Coils are often added to an open form made on a turntable, as described above. The result is a combination technique useful to create open and closed forms. In such vessels made by a combination technique, coil breaks are discernible only on the upper part of the bowl. Coiled shapes include almost all pottery forms, such as jars, bowls, juglets, cooking pots, etc.

Pinch Pots: A ball of clay opened by inserting a thumb in the clay creates an open form in the shape of a hemispherical bowl. To work the clay and open and thin the wall, the potter rotates it in the palm of one hand. The maximum size of the bowl corresponds with the hand size of the potter. This technique is most suitable for small open forms, including miniature vessels, votive offerings, and toys. In the pinch-pot technique, the clay expands outwardly into a bowl form, but it is problematic to control the clay to close the shape. To create a closed pinch pot, such as a juglet, normally requires joining two bowls together and then adding a separately made neck.

Slabs: Similar to coil manufacture, slabs are used to construct large, oversize, and/or rectangular forms. This technique involves the use of individually-shaped rectangular slabs of clay rather than coil rings. Large vats, coffins, storage jars, and baths, given their size and intended use, are most suited for slab manufacture. In a photograph of the coffins from the Raghdan Royal Palace Tombs in ʿAmman, the almost straight pattern of vertical and horizontal cracks vividly reveals slab manufacture (Yassine 1988: 43, Pl. 1). Coffins associated with the Philistine material culture often display rectangular break patterns typical of slab manufacture.

Molds: External and internal supports or molds are useful for the manufacture of large open and closed forms. Mold manufacture is also an efficient way to construct vessels with rounded bottoms. Another advantage is that the mold can serve as a rotating work surface as well. Potters can spin the mold with one hand and work the clay simultaneously.

Cooking pots of the terminal Late Bronze Age were made in a mold and, in contrast to most other shapes, maintain their integrity

into the Iron Age despite developments elsewhere in the ceramics industry. Potters completely lined a fired clay or stone bowl with a thin circular slab of clay. The clay, disc-like shape came up to the rim of the mold. To increase the height and to shape the cooking pot, the potter added a coil(s) and formed into the rim (Fig. 3.2). The point of carination of cooking pots, a natural point of breakage, marks the end of the mold and the first coil join.

Another mold-made form is a wide and heavy bowl of Iron Age I. It has been identified at Dayr ʿAlla and runs from Phase F up to the eighth century when it disappears from the repertoire. Rim diameters range from 40–60 cm and the bowls are twice as wide as their height. A thick circular slab of clay was placed into a mold above which a coil was positioned and shaped into the rim. At first, the bowls were completely burnished, but subsequently this laborious practice was limited to the interior vessel alone. Franken associates this large vessel with the traditional "mansef" or feast bowl used for special occasions (Franken and Kalsbeek 1969: 157–60). Platters of Early Bronze II were constructed in a similar fashion (London 1988: 119). Mold manufacture is one of the best ways to shape large, wide open vessels regardless of time or place.

Turning on a turntable: The technique of turning pottery involves creating an initially thick form that will be thinned or "turned" down at a later stage in the manufacture. In this type of interrupted manufacture, different parts of the pot are completed throughout the course of hours, days, or weeks, depending on the weather and rate of evaporation of the water from the clay. To shape a pot on a turntable versus throwing a pot on a wheel, requires procedures that would leave different evidence in the wet clay.

Potters start by positioning a cylinder of clay on the turntable work surface. They insert a finger or knuckle into the clay to open it and then expand the hole with one hand, while rotating the turntable with the other. During this initial stage of manufacture, *the vessel rim receives its final form*. After cutting off and removing the pot from the turntable, it is set aside to dry. After the walls dry somewhat, the pot is replaced upside-down on the turntable to allow the potter to very carefully scrape away the excess clay. This task requires the skill of an experienced potter to avoid excessive scraping, thereby making a hole in the wall or creating a pot of uneven thickness. The latter would impede the drying stage and result in cracking during the subsequent firing stage. Once the lower exterior body has

been thinned or "turned," a small coil is added to the base to create a ring base. Disc bases are carved directly from the excess clay of the lower body. In the event that the potter accidentally removed too much clay while scraping the walls, the entire base at times was cut away and replaced by a wet clay, heavily tempered with organic material such as dung (Franken 1992: 153). A clay rich in organic material would dry faster than a more dense clay. In order to be worked into the base, wet clay was required. To enable it to dry as fast as the rest of the pot, the use of a heavily tempered material was necessary. For a higher trumpet base, a cylinder was shaped on the turntable to create either an open or solid form that was then applied to the lower body.

Lamps were made from a small lump of clay on the turntable or perhaps from a cone of clay affixed to the turntable. After shaping the body while rotating the turntable, the nozzle was pinched and the lamp was cut off with a thick lower body and set aside to dry. Once the rim was dry enough to allow handling, the potter scraped away excess clay while holding the lamp in the hand. Irregular striations across the base resulted from this operation. They were smoothed away or occasionally left as evidence of the workmanship.

Turned or thrown from a cone. A satisfactory technique to quickly create small vessels, open and closed, or to shape part of a pot made in an interrupted technique, involves positioning a large cone of clay from which a series of pots could be shaped. This best accommodates small bowls, juglets, and accessory pieces that can be shaped one after another without the need to center small amounts of clay for each pot. Another advantage is that the weight of the clay on the wheel helps to maintain momentum between each pot. In this case, a turntable not normally used to throw pottery acts as a thrower's wheel. After shaping a vessel, potters cut it from the cone with a knife or string and allow it to dry.

Throwing: To throw pots on a fast-rotating heavy wheel capable of momentum, requires that two hands be free to manipulate the clay to create the desired shape. This technique, known from earlier times, did not persist into the Late Bronze Age in the region of ʿAmman or, for that matter, throughout most of Jordan and Israel. Rather than the thin-walled thrown pots of the Middle Bronze Age, thick-walled heavy wares predominated as potters returned to the use of coarse lean clays in place of more plastic clays. Not until the Iron Age II did the art of throwing reappear on a large scale, perhaps

as a result of Assyrian influence (Franken 1991: 75 and 80). It was at this same time that cooking pots were first thrown rather than mold and coil built. Throwing involves the use of support potters and assistants who devote extra time to clay preparation. Ultimately, throwing allows a potter to increase production, which can reduce costs in the long run.

With the thrown pottery came changes in the clays and nonplastics. Heavily-tempered, lean clays were replaced by those with smaller inclusions, even for cooking pots which had remained unchanged for millennia in terms of the preferred tempering material. Coarse calcite tempering in cooking pots, a tradition known for thousands of years in the region (Beynon et al. 1986), was replaced by fine grained quartz and calcite when for the first time cooking pots were wheel-thrown and no longer depended on the mold which had influenced the shape for centuries (Franken and Steiner 1990: 107). Cooking pot shape changed from wide and open (mold made) to high and narrow mouthed (wheel thrown). At the present, a precise date for the return to wheel-thrown wares would be misleading. Detailed studies of seventh century B.C.E. wares from central Jordan will eventually provide a date.

Following the general description of pottery production, attention turns to specific aspects of central Jordanian Plateau Late Bronze and Iron Age pottery: the re-emergence of burnished surfaces; collar rim store jars; the return to wheel throwing; and the repertoire, itself. Each of these subjects is briefly discussed below.

Burnished and Slipped Iron Age Wares

Burnished, compacted and shiny surface treatment characterizes certain Iron Age pottery. When did burnish begin, and when did it become a prominent feature, are issues debated in the literature (Holladay 1991) and are of chronological concern for those involved with the construction of pottery typologies. There are no simple answers to these questions because burnished surfaces include many categories. Burnishing, as part of the surface treatment, can be the intentional compacting of the pottery surface that is fired to an appropriate temperature resulting in a sheen.

Kelso and Thorley (1943: 105) record the loss of burnish sheen at 970 degrees Fahrenheit for Tall Beit Mirsim Iron Age wares. My experiments with a European clay resulted in a high sheen when

fired to 750 or 800 degrees. At 850 degrees the surface became less shiny and by 900 degrees the sheen had almost disappeared.

As part of the shaping process, unintentional burnish, as noted above, is a product of surface compacting due to scraping away clay to thin a partially dry pot. If fired correctly, a surface sheen will result. Intentional or not, in both instances a compacted surface will lack a sheen if the pottery is under or over fired. Nevertheless, the pottery was burnished, i.e., the surface particles were rubbed, compacted and aligned in one direction. Intentional or otherwise, the burnish can cover the pot or be limited to a pattern, either on interior or exterior. Interiors might be burnished intentionally to create a smoother, harder surface against which utensils would scrape. Alternatively, the exterior might be intentionally burnished to enhance its aesthetic appeal. Burnishing limited to the mid- and/or lower-exterior surface suggests that it represents a final phase in the shaping and thinning of a pot to remove unwanted clay. Given the wide range of possibilities, variation, and sources of burnishing, it is difficult to pinpoint a date at which it started.

Often an intentionally burnished surface is first slipped. Although one might conclude that it would therefore be easy to distinguish between unintentional and intentional burnishing, i.e., the presence of a slip reveals purposeful burnishing, slips are just as difficult as burnish to discern with the unaided eye. Slipped and burnished (rubbed and compacted) surfaces might lack the burnish sheen due to improper firing. To assess the presence or absence of a slip is not always readily apparent unless the slip is thick and of a different color than the pot. Like burnishing, slips are both unintentionally and intentionally applied. They consist of the finest clay particles, usually made of the same clay as the rest of the pot or another clay that adheres well to the surface. Coloring agents can be added. Slips, thick or thin, can be applied in a number of ways.

Unintentional slips are the result of the final smoothing and finishing stage in the manufacture of certain other pots. After shaping a pot, the potter might dip his/her hands into the container of slurry water used throughout the manufacture to lubricate the clay, and then cover the pot with dripping wet hands-wet with water and the finest clay particles held in suspension-thereby creating a slip layer, intentionally or otherwise. As a result, like burnish, slips present a challenge for non-potters to recognize.

Regardless of the earliest intentional or unintentional slips and

burnishes, there is little reason to assume that they will appear simultaneously throughout a region. The presence of burnish in particular implies a new manufacturing technique rather than a new surface treatment. A change in slip material, for whatever reason, was one factor in the deterioration of painted designs on Late Bronze Age pottery. Without a suitable slip, i.e., with good adhesion, the paint and slip flaked away from the wall. The solution which the potters found involved a change in the manufacture rather than simply a change in the surface treatment alone. The potters thinned and scraped the thick walls to remove the salt deposit that both reduced slip adhesion and masked the true colors of the paint. The thinning process led to an unintentional burnish whose aesthetic value made it a desired feature of Iron Age pottery. While archaeologists discern a new surface treatment, burnish originated as part of the shaping process which contributed to resolving the poor quality wares of earlier pottery. However, it did not become the best solution until all factors came into play, including scraping at the right time of clay dryness, and proper firing conditions and temperatures. In every aspect of the work, each decision taken by the potters influences successive stages of the work. The final product is the result of repeated trial and errors, experimentation, mistakes, and luck.

Iron Age I Collar Rim Store Jars from Tall al-'Umayri

During excavations at Tall al-'Umayri, Douglas R. Clark found around 40 collar rim store jars in an Iron Age I pillared building (Fig. 3.3). This unusually large assemblage merits detailed analysis. In addition to the jars, the well-preserved building contained six bronze weapons, and the disarticulated skeletal remains of two men (Clark 1996: 241). One jar held carbonized barley (Clark 1994: 145). Although a considerable literature exists about collar rim store jars (Esse 1992), they nevertheless have remained unknown in terms of their manufacture and production. Yet, at 'Umayri, the large number of jars enables a systematic study of their manufacture which is currently underway at Walla Walla College. This is the only late second millennium vessel type found in sufficient numbers at the site to allow an assessment of its manufacture. Aspects being examined include the details of the manufacturing techniques and variation and characterization of the clays, evidence of the work of individ-

ual potters, firing technology, and standardization of size and shape. Given its relatively wide distribution, temporal and geographic, diversity of vessel form is predictable. The immediate implication is that, at any given time, the jars were made in different places by different potters, using diverse manufacturing techniques and clays.

For the 'Umayri collection, variety in rim forms, collar (number [1 or 2], shape, size, and position), clay, handles, marks incised in the wet clay, overall vessel proportions and volume differentiate the jars (see Clark 1994: 144; 1997: 65–75 for variety of rim and collar forms). Both, pithoi, i.e., large non-movable storage containers, and smaller jars are present. For Dayr 'Alla, common store jars averaging 40 cm in height, van der Kooij and Ibrahim (1989: 50) conclude that, once filled with liquid or grain, they too would have been too heavy to carry or transport. Esse (1992: 96) inferred that wherever the collar rim store jars are found in quantity, they must have been produced locally given their considerable weight. He also notes that a nearly complete jar from Megiddo weighed over 32 kg when empty. Wengrow (1996), however, views the jars primarily as transport containers. Zertal (1988: 351) assessed the capacity of the jars to hold 150–200 liters of liquid which is three or four times the volume of a regular store/transport jar.

Distribution

Collar rim store jars are well documented in the hill country west of the Jordan River and in northern Israel. In Jordan, examples are known from various sties within the region under discussion. For example, Ibrahim (1978), and more recently Ji (1995), have presented a survey of the jar distribution in deposits associated with public storage or domestic structures rather than in temples, tombs, or royal residencies. For this reason, the jars are rare in the lowlands of Canaan where domestic deposits are rare (London 1989: 44). In contrast, in hill country rural settlements and at non-residential sites characterized by public rather than private architecture, examples of the jars are known. Although some jars are inevitably found in urban settings, this does not negate their primary function as storage containers in rural and public sites. Rather than diagnostic of an ethnic entity, the jars indicate the function of a site, but not the identity of the people who used them.

Characteristics of the Manufacturing Technique

Research on the characteristics of manufacturing technique is still in progress. Thus, a final description is not yet available. It appears, nevertheless, that more than one technique is in evidence. This may be due to the fact that the collection comprises both small and large jars or pithoi. A mobile work surface or turntable was used for the jars, especially during the early stages of the work. The shaping of the jars required a combination of coiling and turning in an interrupted technique of manufacture. It could have taken one or two weeks to complete each jar, but the potters could have worked on more than one simultaneously. If the potters can work on multiple pieces simultaneously, they use their time more efficiently. The lower portion of a small jar with a conical base appears to have been made of the same clay and fired to the same color as collar rim store jar #7. Perhaps this implies that while the collar rim jar was made, other vessels were made as well. The lengthy fabrication would have been necessary due to: (1) the thickness of the walls which would have required days to dry; (2) the relatively modest quantity of non-plastics which facilitate rapid drying; and (3) the step-by-step production of the base, body, shoulder, and rim. In the transitional seasons of spring or late in the fall, when there might be occasional rainfall or a hailstorm, the clay would dry more slowly than during the height of the dry summer season. Following each stage of work, the clay needed time to dry to become sufficiently hard to support the weight of the fresh wet clay added to it. More than one person was probably involved with the shaping, lifting, and moving of each pot given the heavy weight of the clay, especially when wet.

Other than coils, an alternative technique to create pithoi (if not thrown) is with clay slabs set in place in a technique similar to brick construction. Evidence of slab manufacture is normally visible in the grid-like break pattern since pots constructed in this manner tend to crack along the lines of the slab joins, much like the coffins mentioned above. In contrast to this technique, the ʿUmayri pithoi are coil-built, using a turntable. One characteristic of coil-built containers is variation of wall thickness throughout individual pots. For the ʿUmayri pots, vessel wall thickness can vary from 6–16 mm over a distance of only 12 centimeters. To control clay this thick and uneven, to ensure even firing, and to prevent collapse of the clay when wet, demanded skills and procedures not necessary for other vessel forms.

Many variations exist within coil construction. Coils can be long/short, thick/thin, applied on the interior/exterior or on top of each other, and clockwise/counterclockwise. If the adhesion is good, pots will not break along coil joins. Normally, adhesion is not a problem since lean or short clays, i.e., those containing abundant inclusions, are ideally suited for coil work. The inclusions range from fine to large in size and include rocks, minerals, grog, and the voids of organic material. For the 'Umayri jars, the paucity of large inclusions (equal to wall thickness) and the relatively small quantity of non-plastics is striking. Mineralogical testing of the clay underway follows an initial test group which included collar rim jars among others (London, Plint, and Smith 1991: 434).

The Body. Evidence that the jars were built slowly over the course of many days is seen in the wall thickness and the small size and shape (rounded, conical, and flat) of the bases. It was not possible to build a jar all at once from base to rim. Observations of the coils' break patterns, movement of the clay, wall thickness, striations and surface impressions, and finishing procedures, imply that the following steps were undertaken to construct each jar. First, the lower body was roughly shaped into a very thick solid form several centimeters high to which coils were added to increase its height as the clay stood on a turntable or rotating surface. A drying period followed before more coils could be added. This was followed by another drying period. As the jar rose in height, the clay wall tended to expand outward. To prevent excess outward expansion and to help shape the pot, ropes, fibers, and strips of anything organic were tied around the lower body to serve as a soft, exterior support. At a later stage in the work, the ropes, etc. would be removed, but their impressions would remain in the clay, even after it was fired.

The lower body wall of the collar rim jar is uneven and varies widely within individual jars. One of the thinnest areas appears to be at mid-body and/or below the shoulder. This area may well have been shaped by adding a coil that was then thinned and smoothed as the vessel rotated on a turntable. The turntable at this point may have rotated almost like a fast wheel due to the weight of the clay, thereby allowing the potter to create a thin wall of even width. After drying somewhat, another coil was added to shape the shoulder, which is one of the thickest parts of the upper body (for jar #14, the shoulder measures 1.5 cm, whereas the wall below thins to 1 cm

before thickening again to 1.4 cm). As the potter forced the clay to close toward the neck, ripple marks of collaring are discernible on the interior. The potter had little control over the thickness of the shoulder wall. Of greater concern was forcing the clay inwards to narrow the opening for the neck. Additional ropes were wrapped around the upper body, just below the lower handle join of jar #14 to help prevent the clay from expanding outward. Indentations of ropes are clearly visible, as is the coil join below the upper handle attachment. After another drying period, one or two coils were added to shape the neck and rim.

The Rim. Rims are thickened on the exterior. Some collars on the shoulder appear to have been made from the extra clay available after forming the rim. Once the rim was finished and shaped as the vessel rotated, the potter pushed down the excess clay to position it on the shoulder in the form of one or two collars. Only infrequently does the collar appear to lift off the shoulder as if added separately. The last step for the upper body was to add the handles and perhaps impress a mark into them. Thumb impressions can be on the top as well as the bottom of the handles. Some handles clearly were made of clay containing extra organic material to facilitate rapid drying. The challenge was to have the thick handle dry at a rate comparable to that of the drying thinner walled body. Poorly timed drying would cause the handle to detach. One jar from the collection has a large pre-firing design on the shoulder.

The Base. The final stage in the process was to complete the base. Once the rim and entire upper body were finished, the jar was turned upside-down to enable work on the base and lower body. More than one person was needed to lift the jar at this point. Although the rim and upper body were dry enough to support the weight of the jar, the base, which remained closed from all air circulation, remained moist and wet. At the present stage of the research there appears to be evidence of more than one method for finishing the base, but further study is required to clarify the variations. Two major differences are thick versus thin bases. Potters had the option of leaving and using the thick clay of the original base and adding to it, or thinning it, or removing it entirely. For some jars, the evidence is clear that the wet clay of the initial base was cut away to create a hole and then filled with a plug of new clay heavily tempered with organic materials. As the turntable rotated, a thin walled

base was fashioned. An abundance of small rectangular voids from burned-out organics characterizes the new clay and base in contrast to the lower body. On the interior of such bases, one sees slightly irregular wide spirals coinciding with the heavily-tempered added clay. Often the clay looks as if it was worked with quite wet hands. There are significant differences in the wall thicknesses of the lower body and base. For jar #17, the area immediately above the base measures 0.8 cm, while the center point of the base measure 1.5 cm in thickness. Precisely where the wall measures 0.8 cm, there is a slight bulge and a break line representing the new clay "plug" added for the base. Certain smaller jars have a well-turned, extremely thin base, as if rotated upside-down on a turntable. However, there is still a considerable discrepancy and irregularity in the overall wall thicknesses.

To shape other bases, rather than cut through and remove all of the lowermost clay, some original clay was preserved to which additional clay pancakes were added. For yet other jars, whose bases measure over 3 cm in thickness, rather than remove clay, which perhaps had already dried in place, potters added thick layers of additional clay. Above the base, on the interior lower walls of another jar (#18), there are indications of horizontal and concentric striations and rotation to the extent that the voids of non-plastics became clearly oriented in a single direction. Yet, on the exterior, in place of horizontal striations, are oblique strokes and drag marks as if the exterior lower body was treated entirely different than the interior.

One further scenario for creating the base involves the use of a mold. For certain examples, a grainy and rough exterior surface was noted by potter T. Emmerson of Walla Walla College, who suggests that this was intentional to prevent the base from sticking to the mold. The mold would have enabled the potter to rotate the pot, especially during the early stages of base and lower wall manufacture. Initial use of a mold would have allowed the potter to completely finish and smooth the interior base as appears to have been the case in some examples. A mold would also allow the clay of the base to remain thick and wet during the early manufacturing stages until the potter was ready to turn the vessel upside-down to thin and shape the base. Emmerson (personel communication 1996) also suggests that perhaps some bases remain extremely thick (5.6 cm) because the clay became too dry and it was too late to thin away the extra clay.

Significance of the Differences

Given the potentially long period of use that large jars and pithoi can have, spanning 100 years if not more (London, Egoumenidou, and Karageorghis 1989: 70), we perhaps have jars made in successive and/or overlapping manufacturing techniques. Once positioned in a depression dug into the floor, the jars probably were not moved frequently, if ever. A cracked pithos base might have remained in place while a new jar was nestled into the same space. Alternatively, pithoi of the assemblage were all made roughly in the same era, but represent nuances and distinct differences in the techniques and clays used by various potters. Esse (1992: 100) considered the jars as "most likely the product of a specific potting tradition, probably dominated by female potters and, in some cases, spread through exogamy and thus-kin based." While it is possible that diversity in the ʿUmayri assemblage reflects the work of potters who were related to each other in some way, evidence regarding their gender is, at present, lacking.

Repertoire of Ceramic Containers

Late Bronze and Iron Age pottery, known initially from isolated tombs and unstratified deposits, is now better represented at more recently excavated sites (Herr 1995). The work of Lugenbeal and Sauer (1972), who published Hisban sherds immediately after the field work, had a significant impact on Iron II studies in both Jordan and Israel. Dornemann (1983) has compiled representative tomb and non-funerary Late Bronze and Iron Age sherds and pots throughout Jordan, including the ʿAmman area.

Late Second Millennium B.C.E.

At the present, Late Bronze Age pottery remains less well represented in central Jordan in contrast to later Iron Age material. Imported Cypriote and Mycenean wares, the hallmark of the Late Bronze Age, are present, but not in large numbers. Certain painted shapes seem to mimic imports, especially Cypriote bilbils, and painted sherds from unstratified contexts in the ʿAmman Citadel represent

local versions of the Late Bronze tradition of pottery painting (Dornemann 1983: 21–22). As for non-imports, Dornemann (Ibid.: 31ff.), relates the assemblage to that of Israel. Among the Jordan Valley Late Bronze Age material from Dayr ʿAlla, the majority (70–75%) is made of local clays, while Franken attributes the "foreign" pots, which are a feature of the site throughout its history, to people coming to the site from elsewhere to celebrate its sacred significance (1992: 113–4). Characteristic forms include deep bowls, twice as wide as high with a ring base, gentle carination of the shoulder and a rim rolled to the exterior (Franken and Kalbeek 1969: 133). Small, thinner walled bowls are present in a wide variety of rim types. Cooking pots are mold-made which replace the typical Late Bronze flaring rim version.

At ʿUmayri, the typological analysis of the LB I Age pottery reveals a lack of continuity with the Middle Bronze repertoire, as well as few parallels beyond Transjordan, which Herr (1997: 233) attributes to the regionalization of pottery production. He further notes that this is particularly true of the cooking pot, for which he has not identified similar forms elsewhere. Even at our preliminary stage of the research on ʿUmayri Late Bronze Age wares, this supports the idea that cooking pot technology developed differently in Israel and Jordan during this period. Cooking pot rims at ʿUmayri are everted with an exterior ridge and concave interior, perhaps intended to hold a lid (Herr 1997: 236). Jugs include those with flaring rims and some paint. Kraters and carinated bowls are not common, although shallow bowls, often covered with a cream to pink, streaked slip, are representative in contrast to the less often slipped deep bowls (Herr 1997: 234–35).

At ʿUmayri, a painted biconical jug of Late Bronze Age type represents an import to the site, based on petrographic analysis (London, Plint, and Smith 1991: Fig. 23.1:6). This type is most frequent along the Levantine coast (Amiran 1969: 147). An Iron Age I flask with a pie-shaped painted pattern finds a parallel in the ʿAmman Nuzha and a Madaba tomb collection rather than any from Israel (Herr 1991: 243). As for undecorated wares, 13th–12th century deposits which Clark (1994) exposed, include the large collection of collar rim store jars, described above. Rather than repeat the tomb finds, whose date and origin are always debatable, the reader is referred to the study of Dornemann (1983: 31ff.).

Early First Millennia Pottery

Tenth–ninth Centuries: Pottery of the tenth and ninth centuries is not as well documented as the late second millennium B.C.E., at stratified sites in the ʿAmman region. However, outside the immediate region, in the Jordan Valley, at Tall Dayr ʿAlla, Franken and Kalsbeek (1969) describe early Iron Age pottery which is rarely decorated other than the pilgrim flask (Franken 1991: 80).

Eighth Century: For eighth century pottery from the central Jordanian plateau at Tall al-ʿUmayri, Herr (1989: 302) detects antecedents from the tenth and ninth centuries ceramic traditions for certain forms. Other forms, however, display greater similarity to the late Iron II corpus designated as Ammonite. Both wide and narrow mouthed (with globular body) cooking pots are present. The former have thickened rims with a ridge below. Bowls include a category of thin, shallow fine wares which Herr (1989) defines as an "Ammonite plateau form," known from ʿUmayri and the ʿAmman Citadel. Another bowl type is the simple hemispherical form. Kraters with a holemouth thickened elongated rim, characterize ʿUmayri and the ʿAmman Citadel, as does the basin, a form found in abundance at ʿUmayri. Holemouth pithoi with bulbous thickened rims have shoulder ridges (Herr 1989).

Franken characterizes eighth and seventh centuries pottery from Dayr ʿAlla as international in character and strongly related to West Bank ceramic traditions (Homès-Fredericq and Franken 1986: 171–74). Burnished pottery is abundant until throwing became common. Throwing not only produces in a thin-walled vessel, it is also faster than turning and often results a form pleasing to our sensitivities. Potters who did not throw pottery would have not been able to compete with the new technology. But even before the appearance of wheel-thrown pottery, small burnished bowls and cups with straight, nearly vertical walls and handles attached to the cup rims were excavated at Dayr ʿAlla (Phase G). Burnish strokes on the interior and exterior obscure all evidence of turning, and Franken is not convinced that they were thrown despite the thin walls and plastic clay. Made of clays not typically of the Dayr ʿAlla region, Franken notes the abundance of such pots in a Madaba tomb, implying a workshop perhaps in the region of ancient Ammon (Ibid.: 163–64).

Another collection of small, wheel-thrown cups recently excavated at Tall al-ʿUmayri consists of seven stackable cups which were thrown

from a hump and date to the sixth century (Herr et al. 1996: 65; London and Clark 1997: Fig. 16). The cups were cut from the hump with a piece of string, leaving concentric circles clearly visible. Along with the cups were thin walled bowls with triangular-shaped rims, hemispherical bowls, and flat-based lamps. The small ridge below the rim characterizes all of the bowls and cups. Although small in size, the cup walls are thicker than those of the bowls. The flaring-walled bowls display wide-spaced, narrow burnish strokes on the interior.

The first wheel thrown cooking pots at Tall Dayr ʿAlla were excavated in Phase G onwards. In addition, there were wheel-thrown jars and lamps which were thrown from the cone (Franken and Kalsbeek 1969: 145). However, terminal Late Bronze and Iron I–II cooking pots from Tall as-Saʿidiyya were always made from a slab of clay which was pressed into a mold to which coils were added (Vilders 1993: 149–50). In contrast to the Late Bronze Age cooking pot, a turntable was used to finish and smooth the exterior of the Iron Age cookers. This erased evidence of the manufacture (Vilders 1993: 149–50). One consequence of the smoothing procedure is a rounding of the shoulder area, resulting in a less distinct point of carination between neck and shoulder regions. The co-existence of more than one way to make cooking pots implies multiple contemporaneous sources. Vilders (1992c: 77) concludes that four different fabrics and four technological types are represented among cooking pots varying in rim and body shape, with both wide and narrow mouthed versions.

Seventh Century: Excavations in progress at ʿUmayri have enabled Herr (1991; 1995) to identify an Iron Age II assemblage as "Ammonite," in that it seems to predominate within the seventh century boundaries of ancient Ammon as defined in the literary sources. Herr presents a corpus that includes necked jars and holemouth jars with thickened rims curving inward sharply from the body, similar in form to those known in Israel of late Iron II date (Herr 1991: 303; Fig. 3.4:1–7; 8–10). In fact, the seventh century repertoire as currently known, while most comparable to early Hisban pottery, also displays similarities with Tall as-Saʿidiyya in the Jordan Valley as well as sites farther away in Israel. However, another type of necked jar with a narrow opening, triangular thickened rim, and grooves on a nearly vertical neck, known from both ʿUmayri and Hisban, is limited to

the Ammonite plateau of the seventh century (Lugenbeal and Sauer 1972: #428). A similar necked jar, now with a markedly sloping neck, again is characteristic of the Ammon plateau sites in particular (Lugenbeal and Sauer 1972: #433). A handleless small jar with pointed base and thickened rim from ʿUmayri, corresponds to mid-late seventh century material from the Adoni-Nur tomb in ʿAmman. Jars with triangular folded rims of narrow diameter and a larger body than the rim characterize seventh century ʿAmman sites. A short pot with a squat body, triangular rim, high handles and rounded base is another jar form (Fig. 3.4:11). Narrow and wide mouthed jugs have crescent shaped and thickened rims. Cup-like rims are present (Fig. 3.4:12). At ʿUmayri, painted amphoriskoi with incurving rims, a long neck and a single ridge at the upper handle attachment have the stepped base typical of this period (Fig. 3.4:13, 14). The paint, consisting of three sets of three horizontal lines at the rim, neck, and below the handle, compares with a jar known from an ʿAmman tomb (Herr 1991: 304). Dipper juglets with cylindrical bodies, high necks, and slightly thickened rim are of a type known throughout Jordan and Israel (Fig. 3.4:15). Juglets with globular bodies, flat simple rims and everted necks are similar to those from the Jordan Valley sites (Ibid. Fig. 3.4:16). Two more unusual forms from the "Ammonite" citadel at ʿUmayri include a sloping necked decanter and a rhyton in the shape of an animal's head (Fig. 3.4:17, 18).

Along with bowls in a variety of shapes and rims, certain shallow bowls with inset or stepped rims known (Fig. 3.4:19–26) from ʿUmayri, Hisban and ʿAmman are thought to characterize the region of ʿAmman, but not the Jordan Valley sites (Herr 1989; 1991). Another small fine ware bowl with a simple rim and exterior ridges (Fig. 3.5:1–7) is known from the Ammonite sphere, both the plateau and the Jordan Valley (ʿAmman, Hisban, ʿUmayri and as-Saʿidiyya). A bowl with an out-flaring rim and grooves above a slight carination is found exclusively on the Ammonite and Moabite plateau at ʿAmman, ʿUmayri, Dhiban (Ibid.: 305; Fig. 3.5:8). Bowls with a holemouth type of thickened rims are present. A black-burnished, shallow carinated bowl with everted rim and stepped base found at ʿUmayri, is comparable to an example found at Tall Batash in Israel (Kelm and Mazar 1985: 100:4). The latter is considered to be an import from the region of ʿAmman, Herr (1989: 329 no. 25). Plates typical of the Ammonite area display outflaring, simple rims with identical overall wall thickness of rim and body (Fig. 3.5:9–15). Knobs adorn both kraters and bowls (Herr 1991: 241; Fig. 3.5:16, 17).

Cooking pots are of three types with the majority retaining the wide mouth, thickened rim and ridge below, a form that disappears at the end of the seventh century (Herr 1991: 306; Fig. 3.5:18, 19). Two handles extend from the rim to the point of carination or shoulder. Herr (1991: 306) finds comparable shapes throughout Jordan and Israel. A cooker with a smaller mouth, globular body, and two handles rising above the rounded rim, is known from Transjordan only (Ibid.). Finally, necked cooking pots (Fig. 3.5:22, 23) like those found in Israel, lack precise parallels in Jordan. This has led Herr to conclude that local variations co-existed. Further, toward the end of the seventh century repertoire, wide or narrow mouthed hole-mouth cooking pots with multiple grooved thickened rims continue in use (Fig. 3.5:24, 26). Local parallels are found in ʿAmman. Absent during this period is the cooking pot with a marked ridge below the rim. Although common throughout Israel and Jordan from the ninth to seventh centuries, this form vanishes by the close of the seventh century (Herr 1989: 306). The closed, round bottomed, cooking pot with upright rims are less frequent now and in their place is a more squat, wide-bodied pot with a rounded rim lacking a neck and two handles which rise above the rim (Fig. 3.5:27, 28). These pots are known from ʿAmman, Hisban, Sahab, and the ʿAmman Citadel. The disappearance of the open-bodied cooking pot signals the beginning of wheel-thrown cooking pots. The round, closed bodies of the new forms were no longer pre-determined by the shape and size of the mold. Along with the change in shape and method of manufacture was the necessary change in tempering material. Rather than the age-old use of coarsely-ground, angular, large calcite inclusions, finely-grained non-plastics, both carbonates (such as calcite) and quartz were suitable. Another signal of the change in manufacturing technique and inclusions is the firing color. For the first time, cooking pots can achieve the fully oxidized red color. For Iron II cooking pots with fine tempering from Jerusalem (excavated by Kenyon), Franken and Steiner (1996: 106–7) document the "liberation" of cooking pots from coarse calcite tempering. In the Jerusalem sherds, they have traced the shift to wheel-thrown cookers that initially have a thickened rim resembling the old fashioned pots. However, the ridge below the rim was pulled up to the lip to the extent that a small groove remained between the ridge and lip (Ibid.: 1996: 107). As a final change, thin rims became the norm.

Lamps display one pinch, a wide sloping rim, thin walls and a worked ring or disc-like base (Fig. 3.6:1). In addition, possible exam-

ples of closed lamps have been found at 'Umayri (Herr 1989: 309 and 1991; Fig. 3.6:2, 3).

Flat bottomed basins with straight sides and everted rims continue, as do the black-burnished bowls often referred to as "Ammonite" ware (Herr 1995: 618). According to Herr, examples from Tall al-'Umayri illustrate the "Ammonite corpus" representing the Transjordanian plateau and southern Jordan Valley (1991: 214). The earliest appearance of this repertoire, and its demise, remains unclear (Ibid.). Perhaps it did not present itself all at once, but involves the combination of pot types from previous times. Certain forms do continue from the ninth and eighth centuries, while others are new. Although Herr finds parallels to specific shapes in Jordan and Israel, some forms are limited to the Ammonite plateau and Jordan Valley, while still others characterize the plateau alone. Certain shapes found in 'Amman seem to have the best parallels in the Jordan Valley.

As for the repertoire as a whole, Herr notes Sauer's suggestion that the Iron II repertoire continued well after the sixth century. The work of Lugenbeal and Sauer (1972), along with more recent excavations, allows Herr (1991: 242; 1995) to concur with Sauer and provide the evidence confirming continuity of the Iron II repertoire into the Persian Period. Of equal importance is Herr's conclusion (1997: 246) concerning the different developments in Israel and Jordan in terms of pottery repertoires. Whereas a separation has been defined between Iron II and Persian period pottery in Israel, no such division characterizes Jordan, where the late Iron II repertoire continues well into the Persian period. One further inference is that the names that archaeologists devise for ceramic collections are simply labels that transcend historical developments. Continuity of the ceramic tradition is rational from the perspective of the potters who are not inclined to change something that works. Rather than being conservative in nature and unwilling to experiment, potters maintain their tradition for other reasons. Pottery manufacture involves a complex set of choices. Any change in one aspect of the work necessitates changes in each successive operation. Inclusion type and size can require modification of the surface treatment (paint will no longer adhere or a slip might be required; incising might no longer be possible). Another change would be in the firing temperature and length. Finely crushed carbonates can withstand higher temperatures than large, angular calcite crystals. With a new inclusion type or size can come a different shaping technique to build the pot as well. All of

these types of changes occurred to create the new cooking pots. A change in the clay, non-plastics, shape and manufacture of the cooking pots might also signal new developments in the organization of those who made them. While the limited distribution of calcite perhaps restricted their manufacture to a relatively small number of potters with access to the calcite, the use of powdered carbonates and/or locally available materials could signal the involvement of a larger number of potters making cooking ware than previously.

Of the Iron I and II sherds sampled mineralogically by petrographic analysis, a few preliminary statements can be made concerning the origin of the pottery excavated at ʿUmayri and the organization of the ceramics industry. Petrographic samples of sherds from ʿUmayri and nearby hinterland sites reveal that the same clay matrix (Petrographic Group 5 contains fine-grained carbonates, fossils fragments, and an abundance of elongated and aligned voids of burned out organics) characterizes both, Iron Age II large jars from Tall al-ʿUmayri, and large containers slightly later in date from Sites 23 and 34 (London, Plint, and Smith 1991: 436). This again confirms the continuity of the Iron II repertoire, both in terms of vessel form, as noted by Herr (1995), as well as clay matrix, into the succeeding era.

Petrographic Group 2, characterized by quartz non-plastics, includes Iron II vessels of diverse typology from ʿUmayri and nearby Site 34. The types in this group include a large utilitarian vessel, a double ring burnished bowl of good quality, and a narrow mouthed cooking pot (London, Plint, and Smith 1991: 434 and Fig. 23.1:12, 18, and 19). This group is interesting for several reasons. In contrast to the past, cooking pots are no longer fabricated exclusively from a special clay matrix reserved for cookers. The cooking pot represents the new trend: narrow mouth and non-carbonaceous inclusions. The petrographic group contains both large utilitarian shapes as well as a nicely burnished bowl, i.e., both domestic and fine ware appear to have been produced from the same clay. The implication is that the same potters could make black burnished bowls as well as cooking pots and large containers. Finally, the same clay matrix has been identified for two neighboring sites. Although diversity of pottery types made at individual potteries is implied, this does not suggest that one workshop was responsible for all contemporaneous ceramics. A wide-bodied and wide-rimmed Iron II cooking pot from ʿUmayri belongs to Petrographic Group 3, characterized by coarse calcite

non-plastics (London, Plint, and Smith 1991: 434 Fig. 23.1:11). This is the old-fashioned cooker identifiable not only by its rim profile, but by its wide diameter and coarse calcite inclusions.

Mineralogical tests indicate that black burnished bowls could be made by potters who used the same clay to shape other forms. However, not all black burnished bowls fall into this category. For example, two sherds designated as "Ammonite" fine ware and black burnished bowls (London, Plint, and Smith 1991: 434 Fig. 23.1:15 and 16) belong to Petrographic Group 6, an undifferentiated collection of sherds which did not fit into the other categories, but remain largely as unique examples. The two burnished bowls contain a high percentage of quartz, but lack the voids of former organic material. It is conceivable that the quartz-rich matrix used to create the fine, thin-walled bowls is similar to that used for other shapes, with one difference, namely, organics were not included. This suggests that a slightly modified clay was used for the fine ware. It should be noted that the two bowls in this category are finer and feature thinner walls than the Group 2 example. One bowl is carinated with an out-flaring rim decorated with concentric burnish strokes, and the other is a carinated bowl with a simple lip above a slightly inset upper body.

A larger sample of store jars and other shapes from 'Umayri and Hisban is presently underway (London in press). For other Iron Age II pithoi, potters' marks made prior to firing in the wet clay are similar to marks found at nearby Tall Jawa. Petrographic analysis of these jars may explain if traveling potters using different clays moved from site to site or if one clay body represents jars fabricated by one permanent workshop whose wares were widely used. To further learn about the organization of the ceramics industry requires that pottery from Tall Hisban be mineralogically sampled, compared and contrasted with that of 'Umayri and its hinterland sites. Mineralogical testing can address whether the similarities reflect a common source for the pottery, i.e., a workshop which distributed its wares to both sites, or several pottery production locations making superficially similar wares. As for small versus large vessels, decorated versus undecorated wares, some black burnished bowls appear to have been made of the same clay as undecorated larger shapes, while the finest black burnished bowls belong to a separate ware type.

Throughout the Late Bronze and Iron Age, potters confronted

two situations that they successfully resolved. First, they corrected the late second millennium problem of thick-walled, poorly decorated pottery, by creating thinner walled vessels scraped and shaped in part on a turntable. The scraping solution gave rise to burnished surfaces, a significant improvement over cracking, dripping painted patterns masked by a salt layer on the surface of the pot. Burnish sheen that initially may have been an unintentional benefit of the scraping the wall thin, became a desired new surface treatment which potters learned to control and exploit. Continuous burnish and patterned burnish of numerous types were created. For the latter, no individual strokes are discernible, although this might also be a result of clay type. Some clays are more prone to creating a glossy surface, as on the so-called "Samaria ware." Similarly, for the Early Bronze Age "metallic" wares, mass spectrometry tests confirm that the glossy surface technically can be considered as a glaze, yet, since it is applied in strokes, it is not a glaze (Fischer and Toivonen-Skage 1995: 594). Although the Iron Age burnish may have originated unintentionally, it became a highly desirable surface treatment whose development arose from technological changes in production rather than as a whim or copy of earlier pottery.

The return to a slow turning tournette by the potters in the terminal Late Bronze Age reflects larger, more significant issues, than how pottery was made. A slower wheel implied slower production in contrast to a fast-wheel, mass-produced artifact to serve a society able to support professional potters and the demands of wheel-thrown pottery given the limiting nature of the raw materials.

The second major development was the shift in the seventh century, to wheel-thrown wares, long after the burnishing was fashionable. This development allowed for the rapid manufacture of pottery and accommodated the need to produce large quantities of pots (Franken 1993/4: 49). Perhaps, due to the fast wheel, a smaller number of potteries were able to replace pottery production centers. A change almost anywhere in the line of production impacts all subsequent steps, not only how the pots are made, dried, and fired, but also decorated and distributed, including who made the pots and where. This is not to suggest that there was a sudden complete change with the introduction of the wheel. Manufacture of non-wheel-thrown wares continued just as Herr (1995) notes that Iron II shapes in general persist into the Persian period. Techniques often

associated with the Late Bronze Age, such as building pots with coils, slabs, and molds, continue in the Iron Age despite the fast-moving wheels (Franken and London 1995: 219). One technology does not replace another entirely since individual manufacturing techniques often coincide with vessel type, such as coil and slab manufacture for pithoi. The manufacture of cooking pots and the large, wide Mansef bowl represent the continued use of molds to shape wide bodied containers. Coil work continued for jars, large bowls and kraters, but often in combination with a mold or turntable used to facilitate rotating the vessel under construction. Pinch pots were made for toys and other small containers and slabs were used for the largest, bulkiest containers.

There were new shapes, new clays and new surface treatments with the reintroduction of thrown pottery. These co-existed with previous techniques. South of the Ammonite area, in the region associated with the territory of the ancient Edomites, pottery that C. Bennett excavated at the site of Busayra, displays the possible local transition from a slow-moving wheel for turning pottery to a fast-wheel for throwing pottery. Thin-walled bowls containing inclusions characteristic of the region could have been wheel-thrown. Painted patterns using a red and black pigment were developed locally. The dearth of burnishing in contrast to the painted designs, allows one to infer the use of a fast wheel since burnishing was a product of turning and thinning pots made on a slow-moving work surface (Homès-Fredericq and Franken 1986: 169). Wheel-thrown pottery can be made thin initially without the need to rework the lower wall or to cover the traces of the thinning with a time-consuming burnished surface.

Conclusion

To carry out the detailed analyses needed to define local contemporaneous ceramic traditions requires sherds and whole pots in addition to chemical and mineralogical testing. Also needed is a focus on pottery production rather than shape and surface treatment. Burnished surfaces, so characteristic of Iron Age pottery, represent certain shapes and manufacturing techniques rather than simply a desire to create shiny pots. Once a better, faster manufacturing technique became available such as wheel throwing, burnish surface treatment disappears, since it was part of an obsolete system of shaping

pots. Given the distance from the Mediterranean economic centers and the diverse geographic regions within Jordan, one can conclude that ancient society in central Jordan maintained a local pottery industry that not only absorbed innovations from elsewhere, but also introduced new ideas, techniques and improvements of its own.

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CHAPTER FOUR

"AMMONITE" MONUMENTAL ARCHITECTURE

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The so-called Ammonite towers (or *rujm al-malfuf* buildings) are the most characteristic form of monumental architecture in ancient Jordan. Their building material, namely, stone, along with such features as stairs, floors, underground water systems, and fortifications, will also be discussed in this paper.

"Ammonite" Towers

During the last 150 years of archaeological investigations in Jordan, more than 150 buildings have been identified as "Ammonite" monumental structures. Thirty-five of them are circular structures (malfuf tower type) and 122 are identified as palaces (fortress type). A little more than six percent of these structures have been partially or fully excavated. The diameter of the towers varies from 5 (at Hussayn Sport City) to 28.5 (Rujm al-Momany) m, with the most common type being 10 m in diameter. The size of the fortress ranges from 7 m^2 (Rujm Wanany) to more than 1000 m^2 (Rujm al-Kursy). These megalithic structures (figs. 4.1, 4.2) built around ʿAmman have been a topic of discussion among archaeologists and historians since their discovery. However, there is still no general agreement about either (1) their number (without proper archaeological excavations no one can tell for sure whether we are dealing with a real tower/fortresses or with normal building complexes) or (2) date—do they date to the Neolithic (8500–4500 B.C.; MacKenzie 1991: 23, 26–27, 38; Landes 1951: 285–86; 1961: 70), Early Bronze Age (3500–2000 B.C.; Watzinger 1933: 23–24), Iron Age I (1200–900 B.C.; Glueck 1939: 165–67; Landes 1956: 284–85; 1961: 70), Iron Age I–II (1200–721 B.C.; Gese 1958: 56–57; Hentschke 1960: 104; Fohrer 1961: 71; Graf-Reventlow 1963: 132; Homès-Fredericq 1992: 200); Iron IIB–C (721–539 B.C.; Thompson 1972: 62; 1973a: 47, 50;

1973b: 48–50; 1977: 29; 1984: 38; Ibrahim 1974: 12; Muheisen 1976: 9, 10; McGovern 1983: 136; 1986: 9; Ibach 1987: 163–68; Zayadine 1986: 154; Yassine 1988: 17; Younker 1991: 337–38; Abu Dayyah *et al.* 1991: 366; Najjar 1992: 420), Persian (539–332; Yassine 1988: 17), and/or Roman (63 B.C.–A.D. 324; Conder 1889: 111–12, 150, 152–53, 172, 193, 207, 251; Glueck 1970: 181; Boraas 1971: 36–37, 39–41, 43–45) periods? With regards to the function (were these structures fortresses or towers, agricultural facilities, and/or settlements?), many scholars (Conder 1889: 193; MacKenzie 1911: 25–26; Glueck 1939: 166; 1970: 181; Landes 1956: 285; 1961: 68; Gese 1958: 57; Hentschke 1960: 104; Graf-Reventlow 1963: 132; Thompson 1971: 63; 1973: 50; 1977: 29; 1984: 38; Muheisen 1976: 10–11; Shea 1981: 106; Yassine 1988: 18) consider these structures as military installations for providing an advance military defense system. Although Glueck and Yassine are in agreement that these towers were military installations, with their purpose to provide a system of defense for the eastern boundary of the Ammonite Kingdom against its external enemies, Glueck thinks that they were not only constructed but also operated as well by the Assyrians, while Yassine is convinced that these structures were built and operated by local states and not by the Assyrians. Yassine (1988: 17) states that some of the structures, e.g., the Ammonite towers at Khilda, were in use as early as the seventh century B.C. He sees the purpose of the Khilda fortress as being a seat for the military garrison and its commanders. Moreover, he sees it as having served as a public center (1988: 18). Boraas (1971: 44), Thompson (1971: 63; 1973: 50), Zayadine (1986: 155), Younker (1989: 195; 1991: 337–39) and Momani (1996: 93) take different positions. According to them, these structures were not military installations, but agricultural settlements, complexes, and shelters.

The disagreement on the date and functions of the so-called Ammonite towers is due not only to their complexity but to the fact that there is insufficient information derived mainly from surface collection of artifacts and heavy dependence on ceramics with the presumption that the material culture both west and east of the Jordan is the same.

An additional difficulty is the nature of occupation in these towers, where many of them have been in use for more than 2700 years. Rujm al-Malfuf North stands next to the building of the Department of Antiquities on Jabal ʿAmman. Boraas (1971: 43), who dug a test trench at it, dated the site to the early stage of the Roman

occupation in Jordan. Others have given a sixth–fifth centuries B.C. date for the same structure (unpublished report to the Department of Antiquities of Jordan by Langer de Polacky—see Yassine 1988: 17). Rujm al-Malfuf South is now destroyed. A few sherds dated to the seventh–sixth centuries B.C. (Thompson 1973: 45) were found in stratified contexts in soundings at the site. Iron Age I sherds were also found at this site as well as sherds from the fifth century B.C. and later periods.

Cretaz (1986) agrees on dating these so-called Ammonite towers to the Iron IIC period (605–539 B.C.), but takes a different position on the function of the towers. She does accept their military function. However, because of their location on secondary slopes, heads, and beds of wadis—for example, Rujm al-Malfuf, Umm Udhayna, Rujm al-Ḥinu, and Rujm al-Ḥawi, and because of the good view they provide, she thinks that their main purpose was to protect agricultural installations and harvests from nomadic raids, rather than to defend the Ammonite kingdom.

Many scholars are inclined to follow Cretaz and thus to consider these towers as multipurpose structures, that is, both as agricultural and military installations. In peacetime, they were used by an agricultural population as storage quarters. This conclusion is attested by silos, grinders, and counterweights found in them (Najjar 1991: 414; Homès-Fredericq 1992: 193). In wartime, however, they were used as part of the defensive system, either against internal threat, for example, to protect and defend agricultural lands, water sources, and goods against the nomads from the east, as well as to provide stability for local villagers (Cretaz 1986); Najjar 1992: 413), or external enemies to defend the boundaries of the Ammonite kingdom (Conder 1899: 193; MacKenzie 1911: 25); Glueck 1937: 166; Gese 1958: 56; Landes 1961: 66).

A closer examination of the location of these towers and their chronological sequence points toward evolution in their use. There is now more evidence that, at a certain point in the early history of the Ammonites state, towers were built exclusively as military installations. However later, when there was more stability in the region (*pax Assyriaca*) and with the advancement of the institutions of the Ammonite state, non-military buildings were added and the character of not only the original buildings but the character of the whole settlement changed as well. This explains why the towers are clustered in certain areas and why some of them were built in strategic locations (on the summit of hills, where one expects defensive

installations to be) while others were located on slopes and wadi beds. This situation is paralleled in the modern history of Jordan, where military camps and bases expanded into towns and cities, for example, Zarqa, Mafraq, etc.

Building Materials

As a result of the geomorphology of Jordan and its natural division into three distinct zones, namely Jordan Rift, plateau, and the semi-arid zone respectively from west to east, a combination of building materials were used with preference for stone or sun-dried mud bricks. In general, preference was given to the local resources and the most available and cheapest materials were chosen.

Stone as a Building Material

Due to the scarcity of timber in Jordan, various types of rocks, namely, limestone, basalt, sandstone, and igneous rocks, have been used as building material.

Limestone. Limestone of different quality (Mizzi Ahmar, Mizzi Akhdar, and Malake) occurs in numerous stratigrafic levels. Upper Cretaceous age stones are quarried from Irbid, Mafraq, Zarqa, and ʿAmman areas, but the main production of building stones comes from quarries in Eocene limestone deposits in the Maʿan area. These limestones possess, to a great extent, the desirable properties of good quality stone, namely, uniformity, low porosity, permeability, and strength.

Basalt. Basalt, suitable for building, is found in practically unlimited reserves. It occurs as scattered volcanic cones and flows at many locations from the Maʿan area in the south to the Yarmouk River in the north. Basalt deposits are also known in the area along the east side of the Dead Sea-Jordan Rift. In Northeast Jordan, basalt flows cover more than 11,000 km^2 continuously.

Granite. Various crystalline igneous rocks are exposed extensively in southern Jordan and the east side of Wadi ʿArabah. The exposed reserves are practically unlimited.

Chert. Chert occurs in large quantities in northern, central, and southeastern Jordan, and is usually associate with limestone.

Other Building Materials

Brick raw material. Clay, suitable for brick production, occurs in different places in Jordan. It thus forms a broad base for the development of a brick industry. Major clay/shale deposits are located in the ʿAmman area. Clay is also found all along the eastern side of the Wadi ʿArabah-Dead Sea-Jordan Rift and in the areas of the deeply incised tributaries to the Rift. Mud brick houses on stone foundations have been the most characteristic features in the Jordan Rift.

Lime Mortar and Gypsum. Lime production in Jordan has been known since the Pre-Pottery Neolithic period from sites like Bayda, Ghuwayr, ʿAyn Ghazal, and Basta. The limestones were converted into caustic lime and the latter to a slaked lime. Plaster and mortar were prepared out of this lime. Another source of plaster and mortar in Jordan since the Neolithic period was gypsum. A gypsum deposit of the lens type is located in the ʿAmman area, in Wadi al-Huna (tributary to Zarqa River), Wadi al-Hasa, and Wadi al-Mujib.

Masonry

In all the buildings discussed above, locally available stone was the building material. Flint and limestone were used. Because of the tendency of the flint to break into large pieces, it was used to build the towers discussed above. A typical example of this is Rujm al-Malfuf North. Big chert slabs were used in paving the streets inside the Ammonite town at the ʿAmman Citadel. Building blocks were detached from the bedrock by the means of widening the already existing cracks.

Architectural Elements

There is not one excavated site in Jordan in which all the elements of Ammonite monumental architecture are found together. Thus, different architectural elements such as stairs, columns, door, pavements, bathrooms, floors, walls, underground water system, and other various elements from different archaeological sites will be dealt with.

Stairs

Stairs were needed in buildings, particularly in towers with more than one storey. A split/level entrance with stairs was built in Rujm al-Malfuf North for connecting the second with the first and the third levels (Boraas 1971: 38). The steps are of field stones laid on their sloping tops. A flight of steps built in the same manner was found in Khilda (Najjar 1992: 416) connecting the exterior of the tower with the interior. These steps led to a platform at the level of the ceiling of the ground floor. From this platform, two flights of steps were built to give access to the rooms in the square (fig. 4.3) and circular towers. The wall of the latter tower is twice the average width of the wall to make enough room for the stairs.

Floors

Most of the towers discussed above were built directly on bedrock (fig. 4.4) which was leveled and used as a working floor (Najjar 1992: 418). The floor of one of the excavated buildings at the Middle terrace of the ʿAmman Citadel was of a thick layer of lime plaster (Zayadine 1973: 27; Zayadine *et al.* 1989: 362). Plastered, beaten earth and cobblestone floors are also known from the Upper Terrace of the ʿAmman Citadel (Najjar 1997: 7, 17; Momani 1997: 16) and from Tall Jawa (Daviau 1992: 150). One of the most important discoveries at Khilda was a pillared house enclosed within the square structure. The structure and the house are stratigraphically later than the rounded tower (Najjar 1992: 418). It is a four-room style house with a courtyard. A descending stairs leads from the entrance of the structure to the courtyard. The partition walls of this house were constructed by means of placing stacked or monolith piers (fig. 4.5) at certain intervals, then connecting the piers by one row of stone walls which were thinner than the piers. These cupboard-like spaces (*ca.* 90 cm wide) between the piers were most probably used as storage area (fig. 4.6). One such house of almost the same style was excavated at Tall Jawa (Daviau 1994: 185). There is a strong possibility that these were two-story houses.

Underground Water System

Conder (1889: 34) noted an underground water system at the ʿAmman Citadel as early as 1889. Further investigation of this feature has

been carried out since the beginning of the century (Vincent 1912: 149; Dornemann 1983: 90; Zayadine *et al.* 1989: 357). The underground water system consists of a relatively big, plastered water reservoir (*ca.* 700 m^3). A 23 m long passageway carved in the native rock leads from ground level to the reservoir. The difference in the altitude between the entrance of the shaft and the floor of the reservoir exceeds 17 meters. Occupation in the area goes back to the Middle Bronze II and Iron Age periods (Dornemann 1983: 90). Thus, the water system may have been in use during these periods. A very interesting piece of information is provided by Polybus' account, *Histories*, V, 71. According to this account, the 'Amman Citadel was subdued by Antiochus the Great in 218 B.C. only after the access (fig. 4.7) of the besieged to the underground water reservoir was denied. No direct evidence for water channels was found, and whether or not there was a spring inside the reservoir is difficult to prove because the floor is covered by cement.

Phoenician Architectural Elements

Fragments of the so-called Hathor (Zayadine 1973: 28) and Proto-Aeolic capitals (fig. 4.8) along with bases (fig. 4.9) and columns (Najjar 1993: unpublished materials) were found incorporated into later constructions at the 'Amman Citadel. These fragments can be assigned with a great degree of certainly to Iron Age II (Shiloh 1979: vii; Stern 1992: 304). Stone piers (of monoliths or of fieldstones stacked on top of each other) were also uncovered at various Ammonite sites (Najjar 1992: 416; Daviau 1992: 162; 1994: 185) and are attributed to the same class of these architectural elements.

Fortification System

Although parts of casemate walls were uncovered at Tall al-'Umayri (Herr *et al.* 1994: 149), the clearest example of Ammonite fortification system was excavated at Tall Jawa, where more than 50 m was exposed in one area including walls, towers, and buttresses (Daviau 1994: 175, 178). The exterior face of the outer wall was plastered. The use of plaster to seal the outer face of the walls was evident also at two other sites in 'Amman (fig. 4.10), namely, Rujm al-Malfuf (Boraas 1971: 37) and Khilda (Najjar 1992: 416), and one site in Moab, namely Lahun (Homès-Fredericq 1992: 194). The walls of Tall Jawa are of semi-hewn limestone boulders and are 2.5 m thick.

The enclosure wall has insets/offsets (Daviau 1994: 178) or so-called salient and recess (Wright 1985: 182) on its exterior face. A narrow postern has been found in Field E in Tall Jawa (Daviau 1994: 178).

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CHAPTER FIVE

DOMESTIC ARCHITECTURE IN IRON AGE AMMON: BUILDING MATERIALS, CONSTRUCTION TECHNIQUES, AND ROOM ARRANGEMENT

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Introduction

During the past century, archaeologists working in Palestine have demonstrated that the four-room type house (Shiloh 1970: 180) with its variants (Braemer 1982; Holladay 1992a: 308) was the standard plan in use in Iron Age Israel and Judah. While several examples of this type have been found at non-Israelite sites, such as Philistine Tall Qasile (Maisler 1950–51: 76), Negev site Tel Masos (Kempinski and Fritz 1977: Fig. 2) and even in the Jordan valley at Tall as-Sa'idiyya (Pritchard 1984: Fig. 179), it remains certain that this architectural plan was predominantly used in both rural settlements and walled towns of ancient Israel.

This fact has led to an extensive discussion on the part of Shiloh (1970), Wright (1978), Herzog (1984: 77–79), and Holladay (1992a) of the correlation of house plan with a particular ethnic group. More important issues for this writer are the construction techniques and their correlation with the architectural plan, the location of specific domestic tasks, the range of domestic activities carried out within the confines of a house, and the degree to which rural houses and town houses were similar in terms of room arrangement and the functional assignment of space. Whether ethnicity can be correlated with a given set of architectural and functional variables is of lesser concern at present since the archaeological record in Transjordan is only now being revealed to any significant extent (for Moab and Edom, see Bienkowski 1992). For other scholars, such as Shepard (1956), and Childe before her, a culture was represented by a "complex" of artifacts and features "constantly recurring together" (Childe 1929: vi). With this in mind, I will present a limited study of

construction techniques and building plans[1] dating to Iron Age II that may loosely be called "Ammonite."[2] As a result of this study, we may be able to show, on the one hand, which characteristics were ethnically specific and, on the other, the degree to which the Ammonites shared architectural traditions with their neighbors in Syria and Palestine.

The Sites (Fig. 1.1)

Due in part to modern construction and rapid population growth, numerous sites in what was the Ammonite kingdom during Iron Age II have been partially destroyed[3] or built over[4] with the result that evidence for building materials, construction techniques and building design is now preserved in the archaeological record of only a small number of sites. For this reason, among others, our sample will focus on sites located to the south and west of modern day ʿAmman, especially Tall Jawa, where middle (Stratum VIII) and late (Stratum VII) Iron Age II preservation of domestic structures is more extensive than at the ʿAmman Citadel, Sahab, Safut and several small sites within the greater ʿAmman area.[5] Additional evidence from the Iron Age I occupation at Sahab and Tall al-ʿUmayri and from the Iron Age II levels at Tall Jalul near Madaba contribute to our understanding of the evidence at the principal sites.[6]

[1] This paper is a revised version of a presentation to the Annual Meeting of the American Schools of Oriental Research, Nov. 20, 1994, in Chicago entitled "Architectural Traditions in Iron Age Ammon."

[2] A survey to determine the extent of Ammonite potting traditions, undertaken by the author in 1995 and, with the assistance of J.A. Dearman, in 1996, yielded evidence for typical Ammonite features, especially the double disc base, as far south as Khirbat al-Hiri (east of Madaba). Whether cultural and political spheres were co-extensive has not yet been determined.

[3] The remains of Rujm al-Malfuf (south; Thompson 1973) and of Khilda (Najjar 1992) were removed following excavation so that new buildings could be constructed. The situation at Tall Safut was less drastic although it was damaged when the west side was cut into by modern road construction.

[4] The excavations at Sahab were severely limited due to the growth of the modern town (Ibrahim 1974:55), while at ʿAmman the Iron Age remains had been cut into by Hellenistic and Roman period construction (Humbert and Zayadine 1992: 215). At Tall Jawa, construction at the base of the tall brought excavations to an end.

[5] Fortified towers and farmsteads that functioned as food gathering and processing stations are not included in this study (see Kletter 1991; Younker 1989).

[6] The excavations of Iron Age II domestic buildings at Tall as-Saʿidiyya (Pritchard 1985) and at Dayr ʿAlla in the Jordan Valley (van der Kooij and Ibrahim 1989:

Because the number of excavated town sites surrounding ʿAmman is so small (4), this paper will include a detailed description of specific techniques of construction and the resulting building plans as seen at Tall Jawa with reference to parallels from neighboring sites. Such description provides only one basis for identification and classification of various building types. A second source of evidence is the functional classification of artifacts and pottery vessels and an analysis of their distribution on floors that represent discrete phases of occupation and use (Daviau 1993: 51). Since certain houses excavated at Tall Jawa lend themselves to both types of analysis, they will be presented below.[7]

Building Materials and Construction Techniques

In his comprehensive study of building techniques in southern Syria and Palestine, Wright describes the three most widely used building stones, namely, limestone in central Transjordan, sandstone used predominantly in the south, and basalt which is most common in the north and east (1985: 338). A study by Schnurrenberger (in Daviau, in preparation) dealing specifically with central Jordan defines the major components of exposed bedrock as "carbonates . . . and chert" with both chalky limestone and a harder limestone somewhat more resistant to erosion. Chert, being especially common around Tall Jawa, was used in construction primarily in walls built of undressed fieldstone (see also, Wright 1985: 340) where it sometimes equaled 10–15 percent of the total stonework. Chert also was chosen to serve as a moisture barrier between limestone boulders and mud brick superstructure.[8]

Wall stones: Field stones, classed as small to medium boulders, ranged in size from 0.25–0.50 · 0.50–0.75 m on average and were commonly found in both exterior and interior walls. On occasion, stones of 1.00 m and more in length were incorporated into these walls, either tying smaller stones together or used alone to form

80–90) is of special interest even though the cultural and ethnic identity of the inhabitants is not yet clearly defined.

[7] This material is presented with the prior agreement of the publisher that it may also be included in the final report volume (Daviau, in preparation).

[8] Chert was not used in monolithic or stacked boulder pillars although this is not unknown in Palestine. For example, flint "drums" were stacked to form pillars in houses at Beer-sheba (Beit-Arieh 1973: 32).

one-row walls, as at Tall al-ʿUmayri in Iron Age I (Younker; Herr; Geraty; and LaBianca 1993: 220). The largest single stone located in a domestic structure (B800) at Tall Jawa was 4.08 m in length (C17:2). These stones can be described as semi-hewn since the outer surface was dressed or trimmed to form a vertical wall face.

Stairways, doorways, lintels: Dressed stones incorporated into special features within domestic buildings, such as Staircase 43 in Tall Jawa House 800 (Daviau 1994: Fig. 13), ranged in size from small (0.25–0.50 m) to large boulders (0.75–1.00 m). Similar size stones, also carefully dressed, were used at the end of cross walls that separated rooms from one another (C27:7 = W8016), in piers that functioned as doorframes (A83:6), at the end of walls where they formed the jambs of doorways (Doorway B), and at the corner of buildings (B102). This technique was very common throughout Palestine at such sites as Tall al-Farʿah (N), Building 411 (Chambon 1984: Pl. 18), Cabul (Gal 1993: 40–41), Hazor Area A, House 14a (Yadin *et al.* 1960: Pl. VII.1, VIII.3) and Area B, Buildings 3100b and 3067b (Yadin *et al.* 1960: Pl. XIV.1, XVI.1), and in Jordan at Rujm al-Henu (W) where rough field stone walls had dressed stone doorframes (McGovern 1983: 136). Less common is the survival of lintels *in situ* although a few examples at Tall Jawa (Building 700, Daviau, in preparation) and at Baluʿ in Moab (Worschech 1995: Fig. 5) demonstrate that large boulders, comparable to pillars (1.13, 1.55 m in length), were in use spanning the doorways and supporting the upper storey walls.

Mud brick: The second most common building material used in Palestine and Transjordan was mud brick. Characteristically, it constituted the superstructure of walls that had stone foundations (Reich 1992: 5). While structures with collapsed mud brick walls were present at Tall al-ʿUmayri (Younker; Herr; Geraty; and LaBianca 1993: 219) and Jalul (Younker, personal communication), all Iron Age II building walls at Tall Jawa appear to have been constructed entirely of stone on the ground floor.[9] In two buildings (B700 and B800), the walls of second storey rooms were also built of stone. This was apparent in the rockfall that filled the lower storey rooms completely, preserving the walls to a height of 2.00–3.00 meters. Evidence for

[9] Fragments of mud brick (B24:16) that collapsed into a casemate Room (R215) at Tall Jawa suggest that the outer casemate wall had a mud brick superstructure.

a mud brick superstructure has been found in a deep probe into Iron Age I levels at Tall Jawa (Daviau, in preparation), and in the Iron I casemate storeroom at Tall al-'Umayri (Clark 1994: 145). Evidence of collapsed mud brick walls in Iron II structures at Tall Jawa is very limited, seen only in Building 102 where the brick was most probably from second story walls.

Private Structures

Styles of Wall Construction

Boulder-and-chink (fig. 5.1): The most common style of wall construction for private and public buildings at all Ammonite sites in the Iron Age was boulder-and-chink. Such walls, usually dry laid, consisted of various size boulders fitted in place with small cobbles (0.06–0.25 m). No noticeable tool marks were observed suggesting that many of the stones were chosen because of their regular shape and suitability for wall construction (Wright 1985: 340–41) while others were probably hammer dressed (Wright 1985: 344) or trimmed.[10] By contrast, the chink stones appear to have been chosen for their shape, although they vary considerably in size and were, in some cases, exceedingly irregular.

Walls were usually 2-row thick or 2-row with a thin rubble core. At intervals, larger stones would extend through the full width of the wall or would serve as capstones, tying the rows together. This combination of stones of varying sizes had the result of forming irregular courses that alternated medium and large boulders with small boulders and cobblestones (fig. 5.1). In view of this construction technique, the counting of courses fluctuates depending on the place along the wall where the count was made. Walls built of stones all in the same size range are rarely seen in Transjordan although such a wall appears in Area D at Sahab (Ibrahim 1974: Pl. XX).[11]

[10] Lumps of limestone and hundreds of chert tools adjacent to the Inner Casemate Wall at Tall Jawa (Locus A3:23) support this interpretation. My thanks to L.T. Geraty who first made this suggestion.

[11] Braemer (1982: 114) describes this style of construction as a mosaic (Fig. 32a, a wall at Tel Esdar). Even where stones of varying size were utilized, few walls show clearly horizontal courses.

The custom of building walls without mortar, common at Tall Jawa, is parallel to Tall al-'Umayri (Lawlor 1989: 233), Gezer (Field II, Wall 1001; Dever; Lance; and Wright. 1970: 31), Dhiban (Tushingham 1972: 6; Pl. II.1), and Busayra (Bennett 1973: 8). While the major building components at Dhiban[12] and Busayra were more like slabs than boulders, Dever, Lance, and Wright's description of Wall 1001 at Gezer, "built of dry-laid, roughly dressed field stones—sometimes set in crude 'header-stretcher' fashion" (1970: 31), could certainly be applied to the majority of boulder-and-chink walls at Ammonite sites. This is in contrast to the practice at Hazor in the same period where one third of the composition of undressed boulder-and-chink walls consisted of mud mortar (Yadin *et al.* 1958: 46).

Monolithic Pillars (fig. 5.2): A second type of wall construction at Tall Jawa, Tall al-'Umayri, and Sahab consisted of monolithic stone pillars used as room dividers and roof supports in multi-story structures. At Tall Jawa, low connecting walls supported limestone pillars that stood at least 1.50 m above the floor and measured 1.80–1.90 m in overall height.[13] Albright (1943: 56), one of the first excavators to try to explain the function of the connecting units, described them as "packing" to secure the pillars in place.

Stacked Boulder Pillars (fig. 5.3a–c): Large rectangular boulders stacked as pillars and joined together by thinner walls formed of large cobblestones were also in use at Tall Jawa and Tall al-'Umayri. Such walls at Tall Jawa came in a variety of styles: stacked pillars with low connecting walls; stacked pillars with connecting walls standing full height; and a combination of these elements. The stacked pillars stood on average to a height of 1.25 m (for example in Wall 8014 (fig. 5.3a) and were positioned at a distance of 0.50–0.75 m apart.[14] The cobblestone walls that connected such boulder pillars

[12] Winnett assumed that the mud mortar used in the boulder-and-chink masonry at Dhiban had completely disappeared over time and had not remained in the archaeological record (1964: 14).

[13] The same ratio of 1:3 is seen in the Pillared Building at Hazor where 25 percent of the height of a pillar was buried in the floor makeup (Stratum VIII; Yadin *et al.* 1958: 12). Pillars with a total height of *ca.* 1.30 m at Khirbat Raddana (Iron Age I) are an excellent example of the need for capstones to raise the height of these roof supports to the level of the beam holes visible in the side walls of the house, although the excavator suggested a different solution (Callaway 1983: 44–45).

[14] The stacked rectilinear boulders at Sahab appear to represent free-standing stacked boulder pillars that divided the eastern room of Area B house (late Iron Age II) into two equal parts (Ibrahim 1975: Fig. 2). However, these stones may have been merely pillar bases for wooden posts, an interpretation suggested by Bunimovitz (1985: Fig. 5) for the Iron Age I houses at Shiloh.

in Building 800 stood to the same height and, along with the pillars, were capped by large rectangular boulders laid on their long sides for a total height of 1.5 m or more.[15] In certain cases at Tall Jawa, the thickness of the pillars was 0.70 m on average with the boulder-and-chink or cobblestone connecting walls measuring only about 0.30–0.40 meters. This pattern resulted in the formation of a series of recesses between the pillars. The ability to support an upper story was strengthened in the case of Wall 8014 where it was associated with a solid boulder-and-chink wall (W8013) north of Doorway E located in the corner formed by these two walls (Daviau 1994: 185–86).

The most outstanding example of a wall (W3027, fig. 5.3b) that included a monolithic pillar, stacked pillars, and cobblestone connecting walls was uncovered at Tall Jawa during the 1994 season. This is an interior wall in Building 300 that remained standing 1.80 m high and was at least 0.60 m thick. Wall 3027 was founded on bedrock and constituted the east wall of a room (R314) in the middle of a sprawling domestic complex, Building 300 (Daviau 1996: 90, Fig. 7).

Another type of interior wall was built of medium to large rounded boulders (0.40 H 0.60 m) positioned at intervals and joined together by equally thick cobblestone connecting walls (W3005, fig. 5.3c). From the preserved height of these walls (0.40–0.80 m), it is possible that the boulders supported short wooden pillars although no remains have been found in the archaeological record.[16] The large number of examples of pillars with connecting walls at Tall Jawa may help to answer Braemer's questions (1982: 119) concerning the function of these wall units and their construction sequence. It is most likely that the pillars were installed first. Since there is no example of a free standing stone pillar at Tall Jawa, the cobblestone connecting units or walls adjacent to these pillars must have been built immediately following. The function of the low- or half-height units was clearly to support the base of the pillars that were embedded

[15] See the examples from Palestine illustrated by Braemer (1982: Fig. 36b, d; 37b, d, e).

[16] One reason for this lack of organic material is that Tall Jawa was not burned when the Iron Age II buildings collapsed with the result that no charred wood has been preserved. Exactly why Tall Jawa was abandoned, bringing a long sequence of Iron Age II occupation to an end, is not yet known although earthquake damage is a possibility (Dever 1992: 32*).

to varying depths under the floor. Units standing full height had more than one probable function: to add strength to the wall; to form recesses between the pillars; or to support the capstones that surmounted the pillars themselves. The secondary use of these connecting units, especially the lower ones, as benches or shelves does nothing to alter their principal function.[17]

The use of wooden pillars standing full height on stone pillar bases can be assumed for the Iron Age I building at Tall al-ʿUmayri (Clark 1996: 145), for the Area B house at Sahab (Ibrahim 1975: Pl. XXV:1) during Iron Age II, and in a late Iron Age II room (R907) at Tall Jawa. Such bases were a common element of construction in Palestine during the Bronze Age (Albright 1938: Pl. 50) and continued to be used during the Iron Age (Bunimovitz 1985: Fig. 5) although stone or brick pillars were the dominant type of ceiling support.

More than one style of wall construction was present in each of the Iron Age buildings uncovered at Tall Jawa. The best example is Building 300 where a series of walls ran perpendicular to the inner wall of the casemate system. These house walls were all boulder-and-chink except for Wall 3005 that was built of stacked boulders with low connecting walls. While additional interior walls were also boulder-and-chink, several walls were of stacked boulders and cobble connecting units. For the most part, these different style walls abutted one another although Wall 3003, constructed in 2-row boulder-and-chink, continued as Wall 3024 which was formed of one continuous row of flat-topped boulders, probably supporting posts along its length.

The construction of walls of various styles within one and the same building is also evident at Tall al-ʿUmayri and at Sahab where boulder-and-chink was the dominant style but other types of walls were also in use. To a considerable extent, this variety is seen in pillared houses throughout Palestine (Braemer 1982: 118, 119), for example, at Hazor where pillars stood 1.50 m above floor level (Yadin *et al.* 1958: 12) and at Tall al-Farʿah (N) where both boulder-and-chink walls and stacked pillars with quadrangular drums were

[17] While it is possible that certain of these connecting walls were built following a destruction or collapse of an earlier occupation phase, it would be difficult to determine their construction history because by nature they abut the pillars. Since monolithic pillars also appear as elements of walls with stacked boulders and cobblestone units, they may have been recycled. But in their final position, the pillars were an integral part of a single wall.

in use together, for example, in House 440 (Chambon 1984: Pl. 22). However, this particular wall style employing pillars seems restricted to interior walls that divided the main space into discrete rooms and was frequently associated with rooms that had cobbled floors although only two such rooms have been found at Tall Jawa.[18]

At the ʿAmman Citadel, boulder-and-chink walls with semi-hewn boulders were the only style used in the buildings on the Third Terrace (Humbert and Zayadine 1992: Foldout A). The excavators suggest that this may be due to Assyrian influence in the later phase of occupation (Humbert and Zayadine 1992: 248–50) although that was clearly not the case during late Iron II at Tall Jawa where Neo-Assyrian influence was seen in the pottery from Building 800 even though various wall styles were in use together.[19]

Foundations

As part of the building process, the choice of location and the establishment of the footing for house walls depended in large measure on the occupation history of the site. At several Iron Age sites without previous occupation, the walls were footed on bedrock. The limestone itself was cut or levelled to provide a secure setting for the lower wall stones and crevices and depressions were filled with packed clay (seen clearly in Rooms 313, 314, 811 at Tall Jawa). This same utilization of bedrock was apparent at Rujm al-Henu (W) in the Baqʿah Valley north of ʿAmman where bedrock and packed clay served as the primary surface on which walls were footed (McGovern 1983: 136).

With this choice of location for the base of walls, foundation trenches were unnecessary and few have been identified during excavation at Tall Jawa where six major structures were exposed. Only where walls were repaired following collapse of upper storey walls are shallow trenches visible.[20] These were cut to give the builders

[18] Stacked stone discs were used at Tall Hadar (Kochavi 1993: Fig. 2) in a tripartite building with cobblestone connecting walls and floors paved with cobblestones (Kochavi, Renner, Spar, and Yadin 1992: 38).

[19] The pottery of the earlier Iron Age II phase (Room 108) at ʿAmman has strong affinities to the Stratum VIII (middle Iron II) corpus at Tall Jawa (personal observation). My thanks to the excavator, J.-B. Humbert, for showing this pottery to me.

[20] Braemer (1982: 112) also remarked on the shallow foundations of house walls documented for the 186 four-room houses that he studied.

more space to work as they reconstructed the walls above earlier wall lines. In other instances, walls were founded on the underlying debris at the new floor level, without benefit of foundation trenches.[21]

Floor Surfaces

Several different treatments of floor surfaces including beaten earth, earth and lime plaster, bedrock, cobblestone pavements, and flagstone pavements have been identified in Ammonite houses. The choice of surface may reflect both the status of the dwelling and functional necessity. Out of 55 surfaces uncovered or identified in the domestic buildings at Tall Jawa, 71 percent were beaten earth, 5.5 percent were of lime; 11 percent consisted of bedrock with packed earth, 3.5 percent were paved with cobbles (in the casemate wall system, several rooms were paved with cobbles that were in turn coated with plaster), and 9 percent were paved with flagstones.

Beaten earth: Beaten earth floors were probably the most common and have been identified in all rooms with ovens or hearths as well as in rooms with a high percentage of storage jars and equipment. For the most part, these rooms appear to have been roofed, especially in view of their size (3.00 m span or less), the presence of lamps, and their contents.[22] The presence of an oven is usually a sign that a room was roofed (Daviau 1993: 451), especially in view of the cold, rainy winters common on the central Jordanian plateau (storms produced 1.00 m of snow in 1992; 50 days of rain in 1993).

Earth and lime plaster: Certain floor surfaces associated with ovens did not have a simple beaten earth floor. Instead, they made use of a plastered surface, such as Room 302 in its final phase (at Tall Jawa, Stratum VIIIA) where a collapsed ceiling coated with lime plaster was reused as a floor.[23] In spite of this change in the type

[21] An example of this construction technique was seen in Room 102 at Tall Jawa where Wall 1012 sat on a contemporary surface (A3:28; Daviau, in preparation).

[22] A long history of interpretation has suggested that unpaved rooms with beaten earth floors were open courts. This model, popularized by Beebe (1968), has had such force that careful archaeologists can depict Iron Age houses with an unroofed room while referring to ethnographic examples of houses that are completely roofed (Dever 1995: 209).

[23] Another plaster ceiling found in Building 800 at Tall Jawa collapsed into Room 804 but was not reused. This ceiling did, however, indicate that the activities on the upper storey differed significantly from those on the lower storey.

of surface material, the activities in Room 302 appeared to be the same as in the earlier phase when a beaten earth surface was in use. These activities included food storage, food processing and preparation, cooking and a small amount of craft activity. In this instance, the change in floor surfacing material is not indicative of a change in function.[24]

A second room (Room 319) in Building 300 with a beaten earth and crushed lime floor was a corridor with a cooking area. Here the surface supported an inverted storejar that functioned as an oven. Heat from the oven hardened the surrounding soil so that it appeared in large part to be covered with plaster (Daviau, in preparation).

The use of plaster as a coating for upper storey floors is evident in the collapse that filled numerous rooms in Building 300. Another clear example is the ceiling that collapsed in Central Hall 804 of Building 800. This upper storey surface supported few artifacts and appeared to be a high traffic area between two staircases. The amount of collapsed stone above the plaster floor was a clear sign that it had been located in a covered room.

Bedrock surfaces: The use of bedrock was identified in 11 percent of rooms in domestic structures at Tall Jawa. In several cases, it was clear that the depressions and irregularities in the bedrock had been packed with soil to form a more level surface. However, the walls of the rooms had been footed on the bedrock itself and the storejars and pithoi had been set directly on the stone surface.

Cobblestone pavement: Only a handful of rooms at Tall Jawa (R315 and R312A) had cobblestone floors. One of these was a small room (R315) that had been divided into three parallel compartments, probably for a special kind of storage. Since the number of ceramic vessels was small, one might imagine that sacks or baskets were used. The second room (R312A) was one of the largest (3.50 · 4.00 m) in Building 300. In this room, the cobblestone surface was covered with plaster. With time, a beaten earth floor was installed and domestic activities were carried out around a central cooking area.

Flagstone pavement: Floors covered with flagstones appear to have been a sign of high status and were frequently reserved for upper

[24] The formation of lime and beaten earth over pebbles to form a surface in Hazor Stratum III Room 3002 (Yadin *et al.* 1958: 48; Pl. CLXXVII) is not the only sign of an open courtyard. Rather, the size of the room, the thickness of its walls, the size of doorways and the obvious lack of ceiling supports are more telling.

storey rooms (especially frequent in Building 800). The flagstones were installed above a debris layer or a packed earth ceiling. These limestone flags measured *ca.* 0.30 · 0.40 m and 0.10 m thick with the largest being 0.40 · 0.60 m · 10–15 meters. Flagstones of slightly less regular shape were used in the Iron Age I buildings at Tall al-'Umayri (Clark 1996: 241) and at Sahab in Area B (Ibrahim 1974: Pl. XV) and in Area D (Ibrahim 1974: Pls. XVIII, XX). In most cases, rooms with paved floors were built so that the flagstones and cobblestones were embedded in an earthen debris layer or surface (R803).

Functional Interpretation

In each Iron Age domestic structure a variety of styles of wall construction and floor surfacing was found. Attempts to correlate these elements with one another and determine the patterns of choice on the part of the builders and inhabitants is only now underway. Caution must be used when comparing these houses, all found within walled towns, to others known from western Palestine. While the degree of urbanization in Ammon and Israel may have been comparable during Iron Age II, architectural traditions established west of the Jordan in Iron I may have been considerably different. This is especially true of the Palestinian four-room house and its variants whose principal use as a rural house has been the determining factor in the interpretation of its plan and in the functional identification of individual rooms (Holladay 1997a: 338).

The transition from houses built with solid interior walls to buildings that made use of wooden posts or stone monoliths to separate one room from another appears to have occurred during the Late Bronze Age.[25] This change is seen most clearly in the construction sequence of Building 475 at Tel Batash (Stratum VIII–VII) where pillar bases marked the position of wooden posts that supported the upper storey rooms in both Strata VIII and VII (Kelm and Mazar 1982: 9; Kelm and Mazar 1991: Figs. 8, 10). In the case of Tel Batash and several Mesopotamian examples cited by Holladay (1997b: Fig. 5g, h), the pillared room ran parallel to the central hall.

[25] See the examples cited by Holladay (1997b: Fig. 5.g–i). Surprisingly, Holladay shows a staircase in Rooms 1a and 1b of the "tablet Building" at Tall Hadidi where Dornemann reported the presence of ten large vessels.

Most problematic has been the functional interpretation of rooms associated with pillared walls. The use of such posts or of free-standing stone monoliths as the long wall of a narrow stone-paved room became a prominent feature in Iron Age I houses, both in the central hill country and in certain walled towns (Holladay 1997a: 338) of western Palestine. The interpretation by Holladay (1997b: 107) of the low connecting walls between the pillars as mangers and of the paved floors as standings for animals has become the norm for understanding Iron Age houses. Holladay (1997a: 339) uses ethnographic parallels to support his interpretation of the architectural components of pillared rooms. However, this writer will contend that this is clearly not the only way of understanding either the ethnographic material or the archaeological record.

Ground Floor Rooms

Evidence from Tall Jawa: In Building 300 at Tall Jawa (fig. 5.4), six rooms (R302, R303, R305, R306+R320, R315, 318) each had one or two walls formed of stacked boulders. In all but two cases (R305, R318), there were low cobblestone partition walls or connecting units between the pillars. Because these rooms differed in size, shape, and floor surfacing material, no direct correlation could be made between style of wall construction, a particular surface treatment, and a given function. In addition, the location of these pillared rooms varied from one room to another. For example, a pillared room (802) ran parallel to the short end of the central hall in Building 800 (figs. 5.2 and 5.5) while the situation of Room 315 was somewhat different in that it was parallel to the long wall of Room 305. At the same time, Room 315 was not along the side of Building 300 but appeared to be surrounded by other rooms on all sides.

To understand this variability, the value of such a wall must first be considered on purely architectural grounds and only later evaluated in terms of room function. In the case of Building 300, the principal walls were made of two-three rows of limestone and chert field stones in boulder-and-chink construction. With one exception (W3005), walls formed of stacked boulders ran perpendicular, providing secondary support for ceiling beams and separating one room from another. The advantage of such walls was in the "windows" between the pillars that allowed air and light to pass from one room to another. The disadvantage was the reduction in insulation against

heat and cold although the latter was mitigated by the evidence for ceilings above each room and by the number of ovens or hearths in adjoining rooms.

Only in one instance in Building 300 did a room (R315) with a cobblestone paved floor have stacked boulder pillars framing a central doorway. In this case, mud brick or packed mud units (E53:19, 22) stood *ca.* 0.32 m and 0.56 m high connecting the boulder pillars with the side walls on either side of Doorway G. All other rooms with pillars in Building 300 had beaten earth or plaster floors. In Building 800 (Stratum VII), a single paved room had one wall formed of monolithic pillars (R803). What is certain about all of these rooms is that they did not serve as a stable areas for small animals. Missing from the archaeological record are the characteristic accumulation of dung and the windowless or underground room with a packed earth floor typical of traditional stables in Iran documented by Watson (1979: 121, 160).[26] Secondly, the narrow pillared rooms at Tall Jawa (*ca.* 2.00–2.20 m wide), lack the needed size of a standing for a horse (3.00–3.50 m deep) as determined by Holladay (1992/b: 179). And third, entrance into each pillared room was through a kitchen. Holladay himself (1997a: Fig. 2) uses, as ethnographic analogues, two houses in which the entrance to the underground stable was from a central courtyard and one instance where the ground floor stable had a separate entrance. Not one of these houses had the rooms arranged in such a way that animals had to walk through a kitchen area to reach their stable. This evidence suggests that the interpretation of the paved rooms in four-room houses as stables should be re-examined especially when we are dealing with space adjacent to a food processing and kitchen area. To understand the room arrangement in Ammonite houses, we must return to the architectural components of these pillared rooms and their contents in order to determine the function of the architectural space.

Storerooms: Within Building complex 300, two rooms with pillared walls most probably served exclusively as storerooms. In Room 315, there were two parallel lines of cobbles (2.00 m long; E53:11a, 11b)

[26] Watson (1979: Figs. 5.6–5.29) illustrates five examples (20.5 percent) of stables inside a house, eight examples (35 percent) of compounds where the stable had a separate entrance or was outside the house and 11 houses (44.5 percent) where the stable was not shown.

that connected the south Wall (3033) to the stacked pillars in the north wall. These rows of cobbles were found in a state of collapse above the cobblestone floor but appeared to have divided Room 315 into three equal parts, each *ca.* 0.80 m wide. This arrangement, and the cobble surface itself (E53:17), suggests special measures to create a room impervious to intrusion by small animal pests and moisture. The presence of the "windows" in its north wall meant that a certain amount of light and air could circulate between Rooms 315 and R305 on the north side of the pillared wall. In addition, heat could enter Room 315 from an oven positioned immediately north of the eastern connecting unit. These features indicate that dryness was a primary concern and that the intrusion of light and heat was not a problem. Room 315 probably served as a kind of granary for sacks of food stuffs, although in its latest use period a number of ceramic storejars were in the room along with basalt millstones, four iron points and an obsidian arrowhead (TJ 1500).

Pillared Room 306 was a narrow side room off of workroom 302. This small (2.00 · 3.75 m) room, with its beaten earth floor, contained at least 31 ceramic vessels and 42 artifacts. In the adjacent workroom (R302), there was a hearth, a food processing area, and additional storage.

A third storeroom (Room 803) in Building 800 was paved with flagstones and cobblestones and had one pillared wall. Its size and artifact assemblage suggests a room used for domestic activities adjacent to a cooking area. Between the pillars of Wall 8015 were two doorways (C, D), one on either side of Oven C27:63 in Central Hall 804. Artifacts found on the stone pavement of the room itself included five stone mortars, three basalt grinders, two upper loaf-shaped millstones, and two chert pounders, all indicative of food processing activities, specifically the preparation of grains, legumes, and nuts (Daviau 1991). Although in size, Room 803 could have been used as a stable for small animals, its location and contents do not support this interpretation.

In Middle and Late Bronze Age houses (Daviau 1993: 452) the typical storeroom for liquid storage and for the storage of tools and ceramic vessels was a small or narrow room that tended to be dark and cool. This pattern was seen in Room 313 of Building 300 and in Rooms 802 and 807 of Building 800. There was no doubt concerning the function of these rooms since each one was filled with broken vessels, loom weights, food processing tools, and lamps. As

an example, Room 802 contained a minimum of 25 ceramic vessels, 50 artifacts, and a cooking area.

Cooking areas: The location of cooking areas appeared to take into account the position of walls and the direction of drafts. The result of these considerations is that among 20 ovens and hearths identified at Tall Jawa, 85 percent were built up against a wall, ten percent were adjacent to a doorway, and 45 percent were in a corner or protected by a saddle quern set into the floor on its long edge. Of these ovens, only five percent were located in a room used almost exclusively for storage while the remainder were in multi-functional workrooms.

Workrooms: Within Iron Age II houses, large numbers of pithoi (20+ in R303), probably originally filled with wine, oil and water, were located in the corners of large rooms (R302, R303) that also served as food processing and cooking areas. These workrooms where food was processed, prepared, and cooked were clearly demarcated by the range of finds, such as storejars, kraters, bowls, cooking pots, millstones and querns, mortars and pestles, hammer stones of various sizes (chert pounders), lithic and metal blades, animal bones, ovens, and ash. At the same time, these rooms were multi-functional and included the tools of various household crafts, especially those of textile production. Architectural space showed greater variation in size and shape than might be expected, ranging from small rooms (R305, 2.50 · 4.50 m) to extra-large rooms (R804, 4.85 · 8.00 m). Of the rooms in Building 300 that contained ovens, 83 percent were multipurpose work areas. In Buildings 800 and 900 (Stratum VII) a similar ratio was seen with only 20 percent of rooms serving as storerooms rather than workrooms.

Roofed Space

Braemer's careful analysis (1982: 145–53) of the evidence for completely roofed buildings in Iron Age Palestine is supported by ethnographic analogy and is now being recognized by other scholars concerned with domestic architecture (Holladay 1997b: 105). Variation in roof height and the use of clerestory construction was suggested by both Braemer (1982: 149) and Pritchard (1985: 30) although unequivocal archaeological evidence is sparse. At Tall Jawa, the average width of rooms is 1.96–2.46 m wide with the largest room having a width of 4.85 m (R804). All of the rooms exposed in domestic structures were narrow enough to be roofed, even Central Hall 804

with its width of more than 4.00 m was covered, its plaster ceiling having been found where it fell. This understanding of roofed space is important for our interpretation of the archaeological remains and for our image of life in the Iron Age. Clearly, the Ammonites did not design houses with a central workroom open to the sky so that rain and snow, common in the ʿAmman area, would fill the house on the lower storey where a wide range of domestic tasks were performed. In such an open room, clay ovens would be severely damaged by moisture and food stuffs would be ruined.

Secondly, the extensive use of pillars within Building 300 (and B102) argues for completely roofed spaces. This is especially true for the stacked boulder pillars that could not easily withstand lateral shifting of weight but were strong enough to support a roof and even a complete second storey (Holladay 1992a: 309). A roof extending on both sides of the pillared wall would increase the vertical stress on the pillars but reduce lateral stress making them even more stable.[27]

Upper Storey Living Areas

Evidence for upper storey living areas and additional space devoted to domestic activities including cooking, food consumption, religious practices, and the transaction of business was seen in the pattern of collapsed ceilings in both Building Complex 300 and in Building 800 at Tall Jawa. In the case of Building 300, the ceilings were marked by a layer of plaster and with high status ceramic vessels and speciality artifacts. Along with bowls, cooking pots and pithoi, these items include a strainer bowl (V491), a nearly intact red slipped juglet (V360), sherds of a red slipped decanter with two strainers (V377), a white slipped and painted decanter (V309, Daviau 1996: Fig. 6), a basalt tray (Daviau 1994: Fig. 7.2), a miniature cup (V492), the upper half of a female figurine (TJ 1119; Daviau 1996: Fig. 4), and tripod cups,[28] one with petals hanging from the carination just above the base (V358).

[27] See the reconstruction of a pillared building at Tall al-ʿUmayri (Clark 1996: 241) where an unroofed central room is shown. The arguments presented here suggest that such a reconstruction is not in accord with ethnographic examples or with the archaeological record of the vast majority of pillared houses.

[28] Perforated tripod cups are attested as early as the ninth century B.C. at ʿEin-Gev (Mazar, Biran, Dothan, and Dunayevsky. 1964: 10; Fig. 8, Pl. 12A).

In Building 800, fallen flagstones point to stone paved floors on the upper storey. In these rooms also were high status pottery and artifacts. Among the more common ceramic vessels were an Assyrian goblet (V852) of grey-green ware (Daviau 1997), a red slipped, tall-necked juglet (V871), a small decanter (V889) with two handles and a spout. Artifacts included personal possessions such as a *Glycymeris* shell pendant (TJ 1314) and a *Tridacna* shell cosmetic dish (TJ 1471), as well as a red slipped and painted cultic stand (V801 = TJ 674, Daviau 1994: Fig. 11.6), an ostracon (TJ 1071) with three lines of text, a seal (TJ 1128), a basalt mortar bowl (TJ 1338–1339), and a limestone table (TJ 1543). The presence of lamp fragments indicates that these rooms were themselves roofed.

Building Types

Among the six domestic buildings at Tall Jawa in Iron Age II and those at Tall al-ʿUmayri and Sahab during Iron I[29] that show a consistency of construction techniques, there are three very different building plans: a possible four-room style building at Tall al-ʿUmayri; orthogonal buildings; and a rambling complex with party walls between individual units. This is surprising in view of our understanding of architecture as a culturally determined, intentional, and meaningful organization of space (Meijer 1989: 221) to accommodate a given number of well known activities (Schaar 1983: 1). At Tall Jawa, there are striking differences in plan among the domestic buildings, especially between Building 300 (Stratum VIII; Fig. 4) and Buildings 700 and 800 (Stratum VII; Fig. 5).[30]

Building 300: The large rambling complex from Stratum VIII, known as Building 300, had more than 14 rooms surrounding a central cistern. Although this building was used during several occupa-

[29] Due to the limited exposure at Sahab (Ibrahim 1974: Pl. XV, where three paved rooms were exposed from Iron Age I, and Ibrahim 1975: Fig. 2, where eight rooms of the Iron Age II building were excavated), the plans of the Iron Age buildings could not be ascertained.

[30] Among the sites in central Jordan where complete buildings have been uncovered, few houses appear to share the same plan. A "common" plan is possibly that of a long room building represented in the "Ammonite Citadel" at Tall al-ʿUmayri and Building 102 at Tall Jawa which itself had an unusually regular plan. Since these buildings may represent public rather than domestic structures they will be left for a future study.

tion phases, the basic plan was not altered significantly.[31] Most rooms seem to have been only a single storey except for workrooms adjoining the casemate wall (R302, 303) and two rooms on the east side (R313, R314) that appeared to be basement rooms. Along the east side of the complex were three long rooms that ran parallel to the wall of a passageway (R309) and perpendicular to the casemate wall. Three other rooms, also built up against the defense system, were broadrooms.

Both broadrooms 302 and 303 had one long pillared wall. In addition, Room 302 had a short pillared wall as well. The access between rooms was also variable. Room 303 had two entrances into Room 305. Room 302, however, had four entrances: D into Storeroom 306; F into Room 320; E into the Cistern Area; and C into Room 307. No clear pattern is seen in the units which comprise this structure. Indeed, Building 300 may be more than one individual house although the evidence remains equivocal.

Building 800: The most complete plan was seen in Building 800 where a Central Hall (R804) was flanked on all sides by rooms. On the north and northwest of this hall, the walls were boulder-and-chink. On the east and southwest, the walls were formed of stacked boulder pillars; and, on the south, was a wall of monolithic stone pillars, discussed above. On both the east and west sides, there was a stone staircase leading to an upper storey. West Staircase 19 was built between two parallel boulder-and-chink walls that served as the major walls of distinct rooms (802 and 807) while East Staircase 43 had two free-standing support walls which only secondarily formed the ends of neighboring rooms. The closest parallel for this staircase is found at Tall al-'Umayri in Building C where a staircase led down to a basement (Herr, personal communication).[32]

The rooms around Central Hall 804 varied in size and proportion with two rectangular rooms (R802 and R809) and two square rooms (R806, R807). This does not follow the pattern seen at 'Amman Citadel where one building partially exposed in Field A consisted of

[31] In the latest phase, Stratum VIIIA, certain rooms went out of use and were filled with soil and nari carved out of the cistern (Daviau, in preparation).

[32] A comparable staircase at Hazor (Building 3038b, Area B) was built perpendicular to the outer west wall with one free-standing support wall. However, its south side was formed by W4539 of the Citadel and not by an interior wall that served as part of an ordinary room (Yadin *et al.* 1960: Pl. CCIV).

a central court (Cour 101) with rectangular rooms parallel to the long walls of the court. The excavators (Humbert and Zayadine 1992: 258) see here the same Assyrian influence that Bennett recognized at Busayra (1978: 165–71). No comparable building utilizing this well known plan has been identified to date at Tall al-ʿUmayri or at Tall Jawa. This may be an indication of the chronological period of occupation or of the role these towns had in contrast to that of a capital city.

Conclusions

Three observations seem appropriate at this stage in the recovery of Iron Age sites. First, Ammonite architects did indeed employ the same building materials as at other Palestinian and Syrian sites and shared certain construction techniques. Second, the use to which they put these techniques shows unique applications and a tradition of employing several techniques in one and the same building. Finally, the expected building plans, common in Palestine, do not spring immediately to mind; few four room houses or variants of the same appear to be present and these only in Iron I. Instead, Ammonites designed multi-room structures that varied from one another within the same site and during the same period. Over time, new building plans appeared but these also are not well known in the repertoire of Iron Age buildings. Hopefully, future excavations will expose a larger number of domestic buildings in order to identify the range of building plans in use and the precise relationship of such houses to other buildings within a coherent town plan.[33]

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CHAPTER SIX

BURIAL CUSTOMS AND PRACTICES IN ANCIENT AMMON

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Introduction

Even though the number of tombs discovered in Jordan of the Iron Age period is still relatively small, it is possible to draw many conclusions from the available data concerning tomb types, burial customs, and social-religious distinction, in burial practices in ancient Ammon. Burials can reveal more than the level of technology at a particular time. Careful study of burial practices in a certain area may throw light on social behavior and religious beliefs, since burial rites tend to be more conservative and less susceptible to outside influences and changing fashions than other customs of ancient people. Unless there are repeated and frequent occurrences of certain uniform traits relative to burial customs, no absolute rule can be given. But, if each case is studied on its own merits, in the light of the total evidence available, the archaeologist can hope to identify the different burial practices as well as ethnic, social, and religious distinctions.

From periods or areas from which little or no written material has survived, burial practices, religious beliefs, and social behavior must be summarized from material remains, namely, tomb types and their physical characteristics. These have to be studied and analyzed. A specific feature might indicate some special traits, for example, secondary burials and the idea behind them, which may have tried to relate to social behavior. The position and orientation of the body might indicate social or religious distinction. Moslems, for instance, are buried facing Mecca. Beliefs about death and afterlife can be deduced from the way the bodies are arranged. Gifts placed in the tombs and other burial customs observed by the excavators may indicate social differentiation, as can the lavishness of different tombs, such as the pyramid, the mastaba, and the pit grave.

Tomb Types

In the past decade, few Iron Age tombs have been discovered, either accidentally or by well organized excavation, in Jordan. Their types range from natural or artificial caves to shaft tombs, dug in rock or built in soft earth. Other types of tombs include those built of mud brick, stone tombs, and pit graves. From the physical feature of tombs or graves, one can notice the different tomb types people of the Iron Age were using:

1. *Natural Caves.* Natural caves were the most common features used for burials during the Iron Age, especially in the mountain area where there are many natural caves, e.g., Madaba tomb A (Harding 1957), Nebo and Khirbat al-Mukhayyat (Saller 1969). However, few have yet been found in the ʿAmman area.

Sahab Area C Cave (Tomb): This is a large natural cave with entrance facing west. The entrance is narrow and at one time it had been closed by corbeling stones that formed a chimney-like opening at the top. This opening was sealed by a rounded, small slab of stone. The general shape of the cave (Ibrahim 1972 pl. VI, fig. 1) is irregular, but tends to be rounded in the southern part. It measures about 14 m long and 6.50 m wide. The cave becomes narrower in the middle and northern segments. The height ranges from 2.0–0.5 meters. There are a number of benches along the side of the cave. These seem, however, to be part of the floor rather than they were made for obvious reason. The tomb contained eight large burial jars with the mouths removed. Each burial consisted of two jars connected at the neck. The burials were placed in the southern and eastern parts of the cave. Various objects made of pottery, bronze, and iron were found in association with the skeletons (Ibrahim 1972). A few caves of this type were found in Sahab and used for burial purposes.

2. *Artificial Caves.* The people of the Iron Age in Jordan, besides using natural caves to bury their dead, used artificial caves dug in the soft limestone near the rocky area, not far from their towns or settlements. It is possible that these caves were a natural development from the most common type of the tomb in the Bronze Age, that is the shaft tomb, where the builder had to dig in soft limestone. Examples of this type were discovered in several places in the Ammonite area:

Sahab. A large rock-cut cavern, approximately 7.50 m^2, with an

entrance at the northwestern corner by a flight of ten steps, all of which were constructed, and projected for some distance into the cave itself. The whole of the west and part of the east wall of the stairway was built and roofed with four large slabs. The entrance was closed by a large upright stone. The tomb itself was undisturbed until it was opened during excavation. Inside the tomb chamber, no attempt was made to dress the walls. Indeed, it would not have been robed, as the rock here is composed of layers of crumbly tabular and soft limestone, with occasional harder layers of crystalline limestone, one of which formed the roof of the cavern. The eastern corner of the chamber was largely built up to support the roof. The most curious feature of the tomb was a chimney-like construction in the middle of the southwest side that presumably reached up to the original land surface outside. Very fine dust had percolated through the opening and covered half the chamber to a considerable depth, preserving some 135 pots more or less intact. In the other half of the chamber, bones and pottery were laying uncovered on the rock floor.

There was a rock bench, some 30 cm high along the southwest side of the tomb. From here the floor sloped fairly steeply toward the center of the room and then leveled out. As a result, many of the pots and skulls had rolled off the bench onto the floor. The tomb dates to the Iron II period (Harding 1948: 92–102).

Dajani (1968) dug another tomb similar to the one described above. The tomb is a large rock-cut cave approximately 8.20 m long, 4.50 m wide, and 1.80 m high. Entrance to the tomb was from the west side by a flight of several steps hewn in the rock. The walls are roughly cut and no attempts were made to dress the rock surfaces. The most curious feature of the tomb, one which it shares with Sahab Tomb B, is the chimney-like construction near the southeast corner. Reaching up to ground level, along the south side of the cave, there was a rock-cut bench some 50 cm high. The debris that had entered the tomb sloped fairly steeply toward the center of the cave and then leveled off with the result that many of the pots and skulls had rolled from the bench to the floor (Dajani 1968). Another bench on the northern side of the cave was about 1.50 m wide but only 20 cm high. There is no indication that burial remains were ever deposited on it. This tomb is similar to other discovered tombs of the same period. Examples include: ʻAmman Adoni Nur Tomb (Harding 1953), Jabal al-Jofa as-Sharqi (Dajani 1966b), Sahab B

and C (Dajani 1968), ʿAmman D, B, C (Harding 1945); Amman I in the Roman Theater (Harding 1971); and Meqabalein (Dornemann 1970: 460–62). Tombs of a similar type have also been discovered, for example, in Irbid A, Band C (Dajani 1966a), Madaba B (Piccirillo 1975: 199–224), Dhiban J1, J2, J3, J6, J7, J8 (Tushingham 1972: 89). Throughout the Iron Age, communal burial in caves was customary. The other communal burial was the shaft tomb.

3. *Shaft Tombs.* Shaft tombs were also either dug in soft rock or in the earth. A number of these were found in the area of Ammon, for example, within the grounds of the Ragdan Royal Palace in ʿAmman (Yassine 1975; 1988a: 33–46) while many were found outside the area.

Ragdan Royal Palace. In April 1966 the Jordanian Army, while bulldozing the grounds of the Royal Palaces in ʿAmman (Ragdan Royal Palace), came upon what appeared to be ancient ruins. The find proved to be a settlement, dating from the Roman to the Islamic periods. A tomb containing a number of anthropoid coffins was found below one of the complexes. The tomb was cistern-like in shape. Its mouth was 95 cm in diameter while it was 1.45 m deep, 5.50 m long, and 4.5 m wide. The entrance, located at the center of the tomb, was blocked with stones. (A tomb similar to this was found at Khilda, one of ʿAmman's districts [Yassine 1988b: 11–24]). Five anthropoid coffins were found inside the tomb. Four were placed parallel to each other, while the fifth was perpendicular to them. All were in bad to very poor condition. Four were cylindrical, ranging between 45 cm in diameter at the bottom and 65 cm at the top. The length ranged 1.75–2.10 meters. One coffin, because of its condition, was discarded (Yassine 1988a: 33–41, figs. 2–3).

Khilda Tomb 1. This tomb is located some 75 m southwest of Khilda Fortress A (Yassine 1988b: 11, fig. 1). It was dug into the local stone as a shaft grave with a stepped shaft and entrance at the south side. The tomb measures ca. 3.00 m in diameter and 2.00 m in height. The assemblage recovered from the tomb comprised some 12 ceramic pieces. This corpus includes one jug, one small jar, one juglet, three rather carrot-shaped bottles or alabastra, one bowl, and one Attic ware lekythos (Yassine 1988b: 14, fig. 4: 1–9). This tomb was dated to the fifth century B.C.

4. *Built-up Type.* This type of tomb is built of mud brick. It was found at Tall as-Saʿidiyya. It probably dates to the Late Bronze Age

(Pritchard 1980). Another tomb of this type was found at Tall al-Khalayfi (Glueck 1940: 2–18). None have yet been found in the Ammonite area.

5. *The Pit-Grave Type: Plain Interments.* This type of tomb was a pit dug in the ground. No attempt was made to line it with bricks or stones. In the case where stones were used, they were used only on one side of the grave. This type of tomb was found at Tall as-Sa'idiyya (Pritchard 1980).

The use of a particular type of tomb must follow certain social or ethnic and religious practices. The different tomb types were used by different ethnic groups. Nabatean tombs are a clear example of this. The continuity or discontinuity of a tomb type, plan, or shape can be important in determining whether or not population change has occurred.

The body, dressed or wrapped in cloth or matting, was laid on the earthen bottom of the grave pit and covered with earth. Similar graves were found at Mishmar ha-'Emek, Nashonim, Bethany, Sharafa, and Ay 'Arrub, as well as at Akhziv, Hazor Mikmish, and Tall al-Hesi (Stern 1982: 86).

Tall al-Mazar. Grave 1 is situated in E-6 and extended into the east balk. It was cut down 20 cm below the ground level (-249.07 m). The pit is covered with hard brown mud brick soil material. The grave cut also consisted of earlier material of ash deposits mixed with pottery sherds and animal bones. There were no buildings erected along the side of the grave (Yassine 1984, fig. 19: 1).

The burial had a fairly complete skeleton, although the bones were very friable. The dead person was laid to rest in an extended supine position. The head was placed to the east, face up. The skeleton was found with its legs crossed, and the arms folded on the chest. It measures 170 cm and is believed to be that of a husky male adult between 20–30 years old. The mandible, teeth, ulna, and petrous are all robust. Since arrowheads and spear-points were among the mortuary offerings, the assumption is that the dead person was a warrior. There was evidence of a head injury, observed at the right corpus of the mandible, that had healed.

This burial was accompanied by a rich assortment of grave goods. Seven arrowheads (Nos. 64–71; Yassine 1984: 15, fig. 52: 64) were found at the right side of the right arm, stuck together as if jammed into a quiver, now completely decomposed. They were cast lanceo-

late blades with low rounded midrib, rounded. In section, tapering to a point where wood remains still exist. Separate stems do not appear on any of the seven arrowheads (Yassine 1984: fig. 52: 68). The stem is an integral part of the blade rather than a separate element. A small glass was found broken. After removing the skeleton, the glass bottle (No. 60; Yassine 1984: fig. 49: 60), broken into seven fragments, was found adjacent to the right side of the body underneath the right arm. A bronze fibula (No. 155; Yassine 1984: fig. 55: 155), elbow-shaped bow with grooved rings on each arm, was found on the left shoulder. Four spear-points were positioned along the right leg above the knee (Yassine 1984: figs. 53: 103, 106). The quiver, which contained the spears, must have been affixed to the waist belt. The four spearheads are of iron cast and rat-tanged. Thus, the body was fully dressed and joined with its military equipment.

An iron knife had been reported among the grave goods. It was actually found in a remote spot, not at all near the body. It could very well have been displaced sometime after burial. Its blade is slightly curved on both sides. The tang was mostly lost.

A bone, fish-like piece, was encountered among the mortuary objects (Yassine 1984: fig. 61: 11). It was possibly part of a jewelry box embedded through the mouth opening. The eyes consisted of two concentric circles and a middle dot. The body was incised with three straight lines, then an eight-angled line. Three scaraboids (No. 5, 185–186; Yassine 1984: figs. 58: 185–86) were found, all of limestone (chalk). No. 19 was inscribed with two hieroglyphic signs and a falcon with outstretched wings. Scaraboid No. 186 was inscribed with two signs: the falcon and the plum sign. One scaraboid retained no certain traces of an inscription. A stamp seal is of agate in a conical form with rounded top and perforated concave base. The base shows criss-cross lines (No. 182; Yassine 1984: fig. 57: 82). A perforated shell was also found. The pit-grave type is the simplest form of burial. It is, therefore, not surprising that this type is found throughout the neighboring countries in the Persian Period. The form of the grave is not important in this type of burial. At Tall al-Mazar, Graves 4, 6–11, 14–16, 18–22, 24, 25, 27, 46, 48, 50–63A, 64, 67–75, 78–82, and 84 are of this type (Yassine 1984).

6. *Graves lined with stones on one or two sides.* After a pit was dug, its northern side was lined with one course of stones. The body was laid on the earth at the bottom of the grave and covered with earth, possibly a wooden cover was placed at the top of the line of stones.

We would assume that the wood has since decayed and disintegrated, thereby leaving no noticeable traces.

Tall al-Mazar Grave 26: In the middle of the north balk of square D-6, Grave 26 was dug deep into the burial mound 110 cm (-249.10 m) below the surface of the ground. A stone wall was built at the north and west sides of the grave. Since the soil at this side of the grave was very loose, the stone wall was probably built to keep the grave from collapsing. The skeleton was in fairly good condition. The bones, nevertheless, were friable. The uncovering and exposing of the bones was a difficult job, and they did not hold up for drawing or photographing. The skeleton was laid in a crouching position, head to the east, face looking south. The arms were bent up and the fingers were interlocked on top of the chest. The position indicates that this was a female burial. Pottery bowls were found on top of the legs. Graves of this type at Tall al-Mazar are 12, 13, 49, 65, and 66 (Yassine 1984: 30 fig. 46: 3).

7. *Pits Lined with Bricks.* The grave was first dug in the ground, and then lined with a single row of bricks, 40 cm high, laid side-to-side. The body was laid within the enclosure and covered with bricks, or mud clay. Graves 17, 43, and 83 at Tall al-Mazar are of this type.

Tall al-Mazar Grave 17. Cut in the middle of square C-6, 90 cm below the surface and partially into an earlier mud brick material and occupational levels. The grave was lined with upright mud bricks on the north side. The burial has an east-west orientation, head to the east. The body is lying on its right side and the head raised slightly and rested on a mud brick; the face looked down southward; the arms were bent over the chest. The body is 180 cm long and the size of the bones are so large and robust that when the excavator reached the level of the bones, he thought that he was unearthing bones of an animal. Petrous portion left, was 12.5, 8.4, 8.25 mm; right, 12.1, 8.0 mm; diameter of the patella 21 mm; epicodylar breath of the radius 31 millimeter.

The skeleton was in good condition. One interesting and astonishing observation was that a bronze rod was found penetrating the skull from the back of the neck through the front of the mouth. It is not clear whether the penetration was through the mouth or from the back, since the rod tip was broken and lost in antiquity.

The rod's location apparently indicates the cause of the death. The placement of the body on the left side and not in a dorsal

position, unlike the many stretched bodies in the cemetery, might have been necessary due to the protruding rod. A physical anthropological study indicates the burial is of an adult. From the bronze fibula we would expect the body had been fully dressed at burial. Other associated goods were a scarab and a silver finger ring (Yassine 1984: 26–27).

Coffins

A few coffins of different types, datable to the Iron II period, were found in the Ammonite area. The types are Anthropoid Coffins, Jar Burials, and Larnax Burials.

1. *Anthropoid Coffins.* The tomb mentioned above, which the Jordanian Army undiscovered while bulldozing at the Raghdan Royal Palace, was cistern-like in shape. Five anthropoid coffins, as noted above, were found inside the tomb. They were reddish in color and made of backed clay. Crushed pieces of pottery were used as grit. The coffins had four handles on each side. The handles were evidently used in transporting the coffins (Yassine 1975: 75–86; 1988a figs. 2, 3, 5, 6, pl. I, II, III, IV). The coffins depicted in fig. 3, pl. II had sixteen handles at the back, arranged in two rows. These seem to have served as legs to elevate the coffin when it was laid horizontally. A lid was cut out at the place where the head of the corpus would rest. There were four pairs of matching lug handles, on the lid and on the body of the coffin, evidently placed to fasten the two parts together. There were portrayals of the diseased on the exterior of these lids. These portrayals show pointed noses, small and elongated eyes, and eyebrows arranged in such a way as to connect with the outline of the border of the face. The ears were prominent, the lips small and straight, and the beards of pronounced length.

Two coffins had arms placed on their sides. The other two coffins (Yassine 1975; 1988a: figs. 5, 6, pl. III, III) displayed no features on their lids nor were arms present. More than one skeleton occupied each coffin. Some coffins contained two, while others held three. The coffin depicted in Fig. 5 had a curious looking design. I have assumed these to be merely potters' marks. The discovery of anthropoid coffins in the vicinity of ʿAmman naturally leads to a fuller study of this type of coffin in nearby areas. Very few sites have shown this type of practice in Palestine and Jordan. However, from

the evidence we presently have, we can attempt to categorize them as follows: (1) cylindrical coffins with lids modeled in high relief with crossed arms on the lid; (2) cylindrical coffins with lids modeled in high relief and arms modeled at the side of the body; (3) plain cylindrical coffin; and (4) elongated box with rounded ends with lid covering the whole box (Yassine 1975; 1988).

2. *Jar burial.* In this type of burial containers, the skeleton was placed in a shallow broken jar, then put in a trench and covered with earth or wood.

Tall al-Mazar Grave 47. In Square E-A, a large storage jar was found 60 cm below the surface. The jar, half of which was neatly sheared off, lay on its side. Inside was a disarticulated skeleton of a young child (one-two years). Within, on the south side of the jar, there was a line of stones separating this jar burial and Grave 60. The skull in the jar was missing. A fragment of the lower limbs indicates that the child's body was oriented east-west, with the head to the west. Five different beads, along with eight cowrie shells, were found in the jar. This is the only instance where a child was found buried in a jar container. It is believed that if the child is somewhat older than four years at death, it is buried without the jar coffin. The fragility of a child under four years might have been the cause of the use of the clay container (Yassine 1984: fig. 32: 2). This practice seemed to have been used for adults as well at Sahab, though the excavation report is not clear. There is, nevertheless, enough evidence to support such a practice (Ibrahim 1972: 31).

3. *Larnax burial.* This burial consists of a bathtub-like clay box, with one side rounded and one side straight. The bottom of the box is flat. It has two handles on the straight end and one at the rounded end, and is decorated with a rope motif below the rim. The body was laid in the larnax, with its head at the square end. The larnax was found in an earth pit 70 cm below the ground surface. The clay coffin was set upright, and provided with a possible wooden cover. Grave 23 at Tall al-Mazar is of this type (Yassine 1984: 29).

Tall al-Mazar Grave 23. This grave, located in southwest corner of D-5, is of a different type, namely, a pit was dug for an oval larnax. The coffin was placed right-side up and the body positioned in it. The larnax had one rounded and one straight end, and was possibly originally provided with a wooden cover, since impressions were traced in the upper section, adjacent to the edge of the larnax. The larnax measures 98 cm long, 48 cm wide, and 55 cm deep. The thickness of the wall of the coffin is 4 centimeters. It has two handles

at the straight end and one at the rounded one, with a robe motif below the rim. This strip of rope ornamentation ran around the upper part of this wall crossing inside its handles (Yassine 1984: 29, figs. 2, 24).

A clay box of this type was also found in the Adoni-Nur tomb in ʿAmman (Harding 1953). Others have been found at Tall al-Qitaf, near Baysan; at Tall Dothan; Tall al-Farah; and one from Balata (Shechem; Stern 1980: 94). There is one also reported from Bahrain (Glob 1956). A number of this type of burial container were also found lying above the Neo-Babylonian level floors in Ur. The majority of these are clay coffins; some are of copper (Wooley 1962: 55). The body was placed on its right side, in a crouched position, with its head to the east. From the analysis of the protuberantia occipitalis externa, the orbital ridge indicated the deceased to have been a female child, for the small size of the coffin would not have been big enough for an adult (Yassine 1984: 29).

These differences in burial types, in the writer's opinion, do not point to diverse ethnic elements. A study of the cemeteries in neighboring lands indicates that, despite their identical contents, the tombs can be divided into several classes, which nevertheless have quite similar burial practices. The common feature in these burials is that the body was placed in a rectangular grave dug in the ground after being placed either inside two halves of the jar, in a pottery coffin, or in a compartment of stone or brick.

Most of the burials discovered in the Tall al-Mazar cemetery were of the first type B plain interment or simple graves in which the body grave goods have been placed in a trench and then covered with earth. The graves, for the most part, were evenly and equally distributed. Nevertheless, there were exceptions. Some graves were much closer to each other than is usual, slightly superimposed upon another grave, or overlapping one another. These exceptions could have resulted from the death of two persons from the same household (e.g., husband and wife, Grave 2, 3, 28–36, 34, and 35). Graves were dug from the surface, not all by any means from the same horizontal plane, to a depth which varied according to the whim of the grave diggers, from a meter to slightly over one meter (Yassine 1984: fig. 1).

The burial types discussed above provide information in addition to the known types discovered at Syro-Palestinian sites of this period. Those previously identified are, first, the cist-tomb type and, second,

the shaft-tomb type B. The various examples from Tall-al-Mazar may now be added to these types.

Burial Customs

Despite not having statistical quantification to supplement our knowledge of the burial customs, the obvious order, the excellent condition, and the apparent firm rules governing the majority of the 85 graves in Tall al-Mazar, gives us hope of better understanding the burial customs of the people of the fifth century B.C.

There are five types of burials: (1) plain interments (simple pit graves); (2) pits lined with bricks; (3) graves lined with stones on one side; (4) jar burial; and (5) larnax burial.

Burial practices may be summarized as:

(1) burial or mortuary objects to be at the disposal of the dead in the afterlife;

(2) males buried in stretched position, females buried in crouching position;

(3) graves and burials oriented east-west, with the head to the east;

(4) some part of the cemetery area assigned only for female burials (Yassine 1984; fig. 1).

There is no particular preference as to where the funerary objects would be placed, but preference is made as to how many funerary objects were placed near heads, or less often, near the feet, with jewelry and other small personal objects either worn around necks, fingers, or legs, and seals strung to the collar or to the belt: bracelets in arms, anklets on ankles, ring on fingers, earrings on ears, etc.

(5) pets buried with masters (Grave 37);

(6) tools causing the death left in place and buried with the deceased (Grave 17);

(7) in one case, a large size stone placed on the chest of the body (Grave 37);

(8) secondary burial practiced;

(9) marked stones used in association with individual burials;

(10) people buried clothed and wearing jewelry;

(11) copper bronze vessels included in mortuary offerings B bowls of various sizes, some undecorated, others decorated, such as a few ornamental bowls with deigns in relief;

(12) The weapons and numbers of arrowheads uncovered in graves. The favorite weapon was apparently the bow and arrow. Another popular one was the spear and sword;

(13) seals were found made of different kinds of precious stones. Various scenes of hunting animals and religious activities are engraved on the seals. Two inscribed seals have been found;

(14) among the many personal ornaments found in the graves are rings, earrings, bracelets, pendants, and necklaces;

(15) animal bones were also found, indicating possibly that these people believed that the dead should be supplied with food and other necessities for the life hereafter;

(16) no animal or human figurines were among the finds, but maybe some of the pottery vessels had some ritual purpose (as libation);

(17) various utensils used in the preparation of different things were buried in the graves. Obviously, it was important (according to the religious beliefs of these people) that these objects should accompany the dead;

(18) among objects for personal care and for sewing found in the graves are delicate bronze tweezers and needles (Yassine 1984: 12).

Burial Positions and Orientation

The bodies of the males seem to have been in an extended position, while those of the females were in a crouching position. Females were easily identifiable from their rich assortment of feminine articles, e.g., earrings, bracelets, kohl sticks, beads, necklaces, cosmetic shells, and cosmetic pallets. Sole dependence, however, on the grave goods as a means of identifying the sex of the person buried can be risky. It is important, nevertheless, to note that the position of the skeletons coincides with the distinction based on the grave goods. The extended bodies were accompanied by such masculine equipment as swords, spearheads, and arrowheads, while graves having crouching bodies contained articles of feminine use referred to above. This assumption is not entirely agreed upon by physical anthropologists, even though around 70 percent of anthropological analysis coincides with the current archaeological conclusions.

The majority of the male graves lay east-west with head to the east, with an error of a few degrees. Female graves had the same

east-west orientation (head to the east), but there is an exception, especially when a male grave was adjacent to a female grave. In that case, the female grave took its direction from the adjacent male grave.

We have seen that the usual orientation includes the uniformal placing of heads towards the east. This firm rule has an affinity with Tall al-Duwair, near the fosse Temple (Lachish II, pl. 5: 3–5). Isolated graves oriented east-west would be 525, 4007, 4027 and 4026, 4015 (Lachish III: 174); also Megiddo, Tomb 37C.1, Tomb 370 (MT: 79), Tomb 17 (MT: 117), Tomb 232 (MT: 132), Tomb 326 (MT: 133) and Tomb 857 (MT: 134); as well as 75 percent of the tombs of Tall al-Hesi (Coogan 1975: 40). Comparable orientation also occurs at Tall Zeror (Ohata: Tell Zeror III, 1970: pl. XIII) and in Syria, at Deve Huyuk (Morrey 1980: 7). This firm rule governing the orientation of the body and the head, especially among males, must indicate a particular social or religious behavior in burial practices.

Since the burial pits had not been looted or reused, and were found much as they appeared at the time of burial, the value of these finds in providing important knowledge about the burial practices of the people of Tall al-Mazar in the fifth century B.C. cannot be underestimated.

Mortuary Furniture

Males and females buried in the Tall al-Mazar cemetery were about equally supplied with mortuary gifts, suggesting that the position of women was not inferior to that of men. Social distinction between members of the same sex is more evident.

A few of the deceased had copper mortuary gifts. It is possible that Graves 1, 6, 21, 23, and 37 are of those of an elite social status, or belonging to the wealthy (higher) ranks. This observation, however, requires further verification. It is interesting to draw an analogy from the tombs of the nobles of Egypt, Syria, and Mesopotamia, where the most expensive and lavish gift items were found. Mortuary equipment includes copper/bronze and pottery vessels, copper/bronze pins, fibulae, daggers, swords, knives, arrowheads, spearheads, seals, or seal-shaped ornaments, scarabs, scaraboids, and an incredible number of beads of different materials, fashioned as necklaces, bracelets, armlets, belts, and necklaces.

As a rule, the gifts were placed near the heads, or near the waist, or between the knees. Although no traces of clothing survive, the presence of fibulae near the shoulder or around the waist suggests that the bodies were usually dressed when buried. In some cases, an impression of weaving could faintly be discerned in clay under the body. Silver and copper earrings were found only on females. Kohl sticks and shells filled with tiny beads were usually found next to the right ear of females. Beads were usually found around the neck. Stamp and cylinder seals were either on the chest or around the waist (presumably once suspended from the waist belt, commonly worn by males). Generally, arrowheads were placed, also pointing downwards, next to the left or right knee of the males. The position and orientation of these blades coincides well with the type of weaponry. Of all the copper bowls and jars found in situ, the majority were found next to the right side of the male's head, and were sometimes used as covers for pottery jars. Copper bowls were found with females (Yassine 1984).

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CHAPTER SEVEN

THE RELIGION OF THE AMMONITES

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A religion is a system of beliefs and practices by which humans relate themselves to whatever it is they consider to be of ultimate importance. By this definition, religions are human inventions and may be studied like all other human inventions.[1] The study of past religions, especially those of the remote past, is difficult because they are not directly observable. But this problem is not insurmountable if there are enough textual and archaeological materials available for study.[2] It is a more serious matter when there is a lack of materials left by the ancients that directly communicate their religion. Such is the case of the ancient Ammonites. There is no single known text in which they directly communicate their system of beliefs, and there is no single known artifact or feature in an Iron Age archaeological context that clearly and exclusively can be associated with the practice of religion. Therefore, to identify and characterize the religion of the Ammonites, one must rely on meager evidence and comparison of it with evidence of other religion(s) of the Ancient Near East, especially of ancient Canaan.[3]

In the last 150 years, the general character of the religions of the Ancient Near East and of ancient Canaan have been established.

[1] It is interesting that the *Qur'an* (Surah 5:3) states, ". . . This day I have perfected your religion for you . . . and have chosen for you as religion *Islam*."

[2] For methodological issues on the interrelationship(s) of text and archaeological realia, see the important works by Dever (1983, 1987, 1991a, 1991b, 1994a, 1994b, 1994c, 1995, 1996) and Holladay (1987).

[3] The major studies which focus on Ammonite religion are those of Israel (1990), Lemaire (1991–1992, 1994: 142–43) and Hübner 1992: 247–82, to which the following is greatly indebted. There is, of course, an enormous literature on Canaanite religion, especially in relation to the religion(s) of Israel. That material will be used here only in so far as it has a bearing on the religion of the Ammonites or the study of the religion of the Ammonites.

Notwithstanding the continuing vigorous debate on virtually all aspects of the topic, one may sketch Canaanite religion with some clarity.[4] It had two main aspects: sacrificial and non-sacrificial, which interacted with each other at various levels.

The sacrificial cult was usually controlled by priesthood and temple and (perhaps) king and court. Sacrifice is a kind of barter between individual and deity. The individual gives the deity what it wants (the smell of burning fat seems to have been especially popular with Canaanite deities); and then, the deity gives the individual what he or she wants (the usual: health, wealth, happiness, offspring, a bountiful harvest and protection from pain, suffering, sickness, and malevolent spirits). Sacrifice is a mechanistic process. It must be performed *every time, exactly* as the deity wants it, or it will not succeed. By always performing it exactly perfectly, it will (in theory) always be successful. In order to establish sacrificial practice and maintain it according to the specifications of the deity, a guild arises, the members of which are priests, the sacrificial specialists *par excellence*, the guarantors and protectors of sacrifice and its ritual arcana.

Accoutrements of Canaanite sacrifice included texts which told (among other things) of how the gods created and maintain the heavens and earth, and how the gods also established their own cult(s) (thereby validating priestly practice and status). They also included sacrificial paraphernalia such as altars, incense, lavers, shovels, tongs, knives, bowls, and jewellery (amulets and charms); as well as the materials to be sacrificed—plants and animals (including in some cases, evidently, humans)—in short, everything which a priest needed and a deity liked. Special texts and paraphernalia required special poets, artists, artisans, craftsmen, farmers, and herdsmen, all accountable to and dependent on the priests, who grew still more powerful not to say wealthy over time.

In addition to priests, others in ancient Canaan had roles in the maintenance of religion and religious traditions, especially those that were non-sacrificial. Royalty performed rituals of one kind or another, as did the vastly influential corps of sages, wizards, shamans, prophets, cultic prostitutes, professional mourners, oracles, mediums, diviners, necromancers, magicians, astrologers and the like: all of whom were members of the religious establishment.

[4] A fuller sketch with a slightly different emphasis may be found in the excellent treatment of cult by Olyan (1997).

This was professional or public religion, devoted to the deity or deities of a city or city-state as well as the maintenance of everyone under the deity's protection.[5] If the city-state was large enough or powerful enough, several deities might be assumed into a pantheon or hierarchy, a kind of "divine council" of gods, the *bn ʾlm*, such as at ancient Ugarit (L'Heureux 1979; Mullen 1980; Lemaire 1991–1992: 48–49, 1994: 142–43).[6] This "divine council" would rule heaven and earth, but would be led by a head-god, for example, in the case of Ugarit, first by *ʾl* (ʾIl), and then (apparently) by *bʿl* (Baʿal). This head-god would be the patron deity of the city or city-state, a kind of "national" deity.

Popular or "personal" religious belief and practice, though hardly different in its goal to obtain blessing by and nourishment from the deity or deities, operated at a level somewhat different from official religion. Generally, it was less concerned with maintenance of cosmic and political realities than it was with the place and well-being of the individual in these realities. It, too, required gifts to a deity: sacrificial and non-sacrificial offerings and libations, prayers of praise and thanksgiving, and vows of right thought and right action. But the deities, to whom libations, prayers and vows were offered, were not necessarily the high deities of the "state" cults. Often, they were the so-called lesser deities, the patrons of the village, tribe, clan, family and individual, who directed and sustained everyday life.[7] They are best evidenced by theophoric elements in personal names (see below).

No doubt, popular religion also provided for such things as the interpretation of dreams, signs and omens, and was concerned with rites and customs associated with death and the dead (Bloch-Smith 1992a, 1992b). Here too, a professional class of priests, interpreters, astrologers, shamans, wizards, magicians, potion makers, and other intermediaries might be found, all requiring payment for guarantee of success.[8]

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[5] Weippert (1990: 150) uses the terms, "Lokalreligion" and "Staatsreligion," to describe what is denoted here by "official" religion. See the discussion by Smith (1994: 225).

[6] This "collective" of the gods is also found in Phoenician texts (Karatepe 3: 19) and Hebrew texts (Ps 29:1, 89:7).

[7] The scholarly and popular distinction between "high" and "low" deities is a false one (Smith 1994: 225). The issue was the *power* of the deity to accomplish the task asked for by the petitioner. Quite simply, special requests required special deities with special powers.

[8] For discussion and examples of "family" or "popular" religion in Iron Age Israel which likely are analogous to similar phenomena in ancient Ammon, see the

To what extent, then, was Ammonite religion either similar to or different from the other religion(s) of ancient Canaan? First, even before examination of any textual or archaeological data, it must be assumed that Ammonite religion was not *sui generis*, untouched and unaffected by the world in which it existed, any more than any other aspect of Ammonite culture.[9] Sound method requires the assumption that Ammonite religion generally partook of the characteristics of Near Eastern and Canaanite religion(s).

Second, with regard to official or "state" religion, no text contains what could be identified as a temple liturgy; and no evidence of a temple and its paraphernalia have yet been found in Iron Age archaeological contexts. The ʿAmman Citadel Inscription (Aufrecht 1989: no. 59, hereafter *CAI*) has been interpreted as referring to the building of a temple (Cross 1969; Lemaire 1991–1992: 53; Herr 1997: 172), though other interpretations are possible (Aufrecht 1989: 157). Installations that are interpreted as small shrines or "cultic corners" have been found at Tall al-ʿUmayri and perhaps in the palace at Rabbath-Ammon (Herr 1997: 172), but they might better be understood as evidence of popular, not official, religion.[10]

This does not mean, however, that liturgical evidence is entirely lacking. The Tall Siran Bottle Inscription (*CAI* 78)[11] contains what appears to be a petition from or on behalf of the king to an unnamed deity for successful and long-lasting produce. It may, in fact, be a kind of "first-fruits" offering (though not a burnt offering) if the "product" of line one refers to the contents of the bottle (Coote 1980). And there are scenes on seals which contain features which have been interpreted as altars (*CAI* 29, 97), depicting human figures with arms upraised as if in adoration, blessing, or supplication. These interpretations, though possible, are highly tendentious. In fact, no unambiguous evidence exists for the presence of "state-level" cultic practice and functionaries.[12]

excellent discussions of Ackerman (1992), Albertz (1992: 94–103, 186–95) and Smith (1994: 214–27).

[9] This assumption does not obscure recognition of what was *new* (if anything) in Ammonite religion and culture. It simply acknowledges that what was new had to have a preparation, not a vacuum, for it to emerge (Cross 1982: 130).

[10] The evidence from ʿUmayri includes a standing stone with a basin at the entrance to the settlement (Herr 1997: 172).

[11] In the following, Ammonite inscriptions are identified according to the numbering of *CAI* and its continuation, Appendix I in "Ammonite Texts and Language," pp. 195–99 in chapter 8 (below).

[12] It is possible that the designation *ʿbd* + divine name denoted a priest: *ʿbdyrḥ* (*CAI* 9a), *ʿbd'ym* (*CAI* 21a), *ʿbd'(l)* (*CAI* 50, 53, 144: 1, 202), and *ʿbd'dd* (*CAI* 131).

It is also possible that the deities (see below) were perceived as a "divine council." Lemaire (1991–1992, 1994) has called attention to the phrase *bn ʾlm* in the ʿAmman Citadel Inscription (*CAI* 59:6:2–3), arguing that it may have referred to an Ammonite "divine council." This too is a possible interpretation, though others are equally possible if not more probable (Aufrecht 1989: 162–63).

Finally, iconographic elements identified as Ammonite have been assigned religious significance. Anthropomorphic and zoomorphic figurines and images on seals, have been taken to be depictions of deities (Schroer 1987; Keel and Uehlinger 1992; Sass and Uehlinger 1993; Herr 1997). Abou Assaf (1980) and Daviau and Dion (1994) have demonstrated that the so-called Atef-crowned Ammonite statues are of an Ammonite deity, and they are probably correct that the statues represent ʾIl (ʾEl), based on comparisons with iconography of the cults of Egyptian Osiris and Ugaritic ʾIl.

In sum, there is no unambiguous direct evidence for official or "state" religion in Ammonite texts or contexts. This may be an accident of archaeology, and evidence may yet be discovered. But for now, the evidence is ambiguous at best and meagre at most.

Third, evidence for so-called "popular religion," contrary to what might be expected, is more plentiful. A prayer is found on what may be an Ammonite seal (*CAI* 56), in which the blessing of a deity is invoked by means of a personal vow. The ubiquitous figurines (above) may have been charms of protection. The designs on stamps likely made them amulets as well as seals (Keel 1995: 266–74). Cultic "corners" (above), if correctly identified as such, might be evidence of popular instead of official religion. Finally, and most importantly, it appears that the Ammonites recognized a variety of deities. The following appear as theophoric (or theophoric-like) elements in personal names on inscriptions identified as Ammonite: ʾAdon,[13] ʿAddin,[14] ʿAli,[15] ʿAnat,[16] ʾAšima,[17] ʿAstarte,[18] Baʿal,[19] Bes,[20] Dagon,[21] Gad,[22]

[13] *ʾdnnr* (*CAI* 40), *ʾdnplṭ* (*CAI* 17), *ʾdnṣ*ʿ (*CAI* 17a).
[14] *ʾbʿdn* (*CAI* 152).
[15] *mrʾly* (*CAI* 136b).
[16] *ʿnt* (*CAI* 198:2:3).
[17] *btʾšm* (*CAI* 71b).
[18] *ʿṣ<tr>t* (*CAI* 56:4).
[19] *ʾbybʿl* (*CAI* 1), *bʿl* (*CAI* 38a, 48, 173), *bʿlyṣ*ʿ (*CAI* 129, 212), *bʿlntn* (*CAI* 9b, 175), *yḥzbʿl* (*CAI* 59b).
[20] *dblbs* (*CAI* 44).
[21] *ʾldg* (*CAI* 78a).
[22] *gdmlk* (*CAI* 8c), *gdʿzr* (*CAI* 147:4:1), *mlkmgd* (*CAI* 127).

Haddad (ʾAdad),[23] Inurta (Ninurta),[24] ʾIl,[25] Milkom,[26] Mot,[27] Nanaya,[28] Ner,[29] Qos,[30] Rimmon,[31] Šamaš,[32] Ṣid,[33] Yahweh,[34] Yam,[35] and Yeraḥ.[36]

Several observations can be made about this list. First, the identification of some of these elements as theophoric is conjectural.[37]

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[23] *ʾdd'l* (*CAI* 131).

[24] *ʾnrt* (*CAI* 55).

[25] *ʾb'* (*CAI* 37a), *ʾbl'* (*CAI* 182), *ʾbrš'* (*CAI* 175), *ʾbš'* (*CAI* 181), *ʾdd'l* (*CAI* 131), *ʾw'* (*CAI* 49), *ʾwr'* (*CAI* 106), *ʾwr'l* (*CAI* 122), *ʾy'* (*CAI* 132), *ʾḥ'* (*CAI* 211:4), *ʾl* (*CAI* 111, 124, 146, 169), *ʾl'* (*CAI* 69, 114a, 166), *ʾl'wr* (*CAI* 137:5:2, 183), *ʾl'mṣ* (*CAI* 5, 18, 165), *ʾl'mt* (*CAI* 183), *ʾl'mr* (*CAI* 143a, 147:4:2), *ʾl'r* (*CAI* 134), *ʾlbr* (*CAI* 7), *ʾldg* (*CAI* 78a), *ʾldlh* (*CAI* 35a, 206), *ʾldš'* (*CAI* 31a), *ʾlḫ'm* (*CAI* 10), *ʾlzkr* (*CAI* 134), *ʾlḥnn* (*CAI* 8, 19, 122, 141, 153), *ʾlybr* (*CAI* 39, 104), *ʾlydn* (*CAI* 64:3, 156), *ʾlyrm* (*CAI* 209, 211), *lyš'* (*CAI* 18, 30, 38, 45, 47:11:3, 79, 120, 184), *ʾlmg* (*CAI* 100), *ʾlmšl* (*CAI* 91, 125, 174), *ʾlndb* (*CAI* 64, 108, 137:6:1, 142, 185), *ʾlnr* (*CAI* 47:7:1, 47:8:1, 47:12:1), *ʾlntn* (*CAI* 32, 47:15:3, 90, 212:2:1), *ʾlsmk* (*CAI* 30b), *ʾl'z* (*CAI* 46, 96, 119), *ʾl'zr* (*CAI* 70, 137:4:1, 148, 149, 170), *ʾlrm* (*CAI* 15, 28, 53, 135, 137:2:1, 186), *ʾlšgb* (*CAI* 9), *ʾlšm'* (*CAI* 9, 88, 105, 111, 157, 178), *ʾlšmr* (*CAI* 148), *ʾltmk* (*CAI* 47:14:1, 62), *ʾmṣ'* (*CAI* 112), *ʾmr'l* (*CAI* 67, 118), *ʾs'* (*CAI* 147:2:1), *ʾr'l* (*CAI* 181), *ʾš'* (*CAI* 78b), *b'l* (*CAI* 212:2:3), *bd'l* (*CAI* 103, 135, 207), *byd'l* (*CAI* 13, 26, 47:3:3, 99, 100), *bk'l* (*CAI* 4c), *bn'l* (*CAI* 155), *b'r'* (*CAI* 88, 192), *brk'* (*CAI* 52a), *brk'l* (*CAI* 54, 133, 157, 179, 213), *bt'l* (*CAI* 154), *gn'* (*CAI* 47:6:1), *ḥwš<'>l* (*CAI* 130), *ḥsl'l* (*CAI* 78:2:2, 147:6:1, 187, 211:2:1) *zkr'l* (47:9:1, 187), *ḥz'l* (*CAI* 47:5:3), *ḥl'* (*CAI* 130), *ḥlq'* (*CAI* 204), *ḥn'* (*CAI* 22a, 99), *ḥnn'l* (*CAI* 36, 47:2:1, 47:5:1, 106, 161, 189), *y<'>zn'l* (*CAI* 8), *yqm[']l* (*CAI* 147:9), *yš'* (*CAI* 113), *yš'ʿ* (*CAI* 20), *yš'l* (*CAI* 11), *mgr'l* (*CAI* 89), *mk'l* (*CAI* 47:12:3, 60a, 131b), *mkm'l* (*CAI* 101), *mlk'l* (*CAI* 137:4:3), *mr'l* (*CAI* 49), *mt'* (*CAI* 110), *mtn'l* (*CAI* 189, 191), *ndb'l* (*CAI* 25, 37, 47:10:1, 51, 70:1, 80:3:1, 85, 103), *nwr'l* (*CAI* 159), *nʿmʿl* (*CAI* 80:3:3), *nṣr'l* (*CAI* 27, 174, 192), *[n]tn'l* (*CAI* 81), *ʿbd'* (*CAI* 50, 53, 144:1:5, 202), *ʿd'l* (*CAI* 31), *ʿz'* (*CAI* 4b, 47:4:3, 120, 167, 168), *ʿz'l* (*CAI* 52), *ʿzy'* (*CAI* 65:2:1, 126), *ʿzr'* (*CAI* 97), *ʿzr'l* (*CAI* 38a, 46, 137:3:1), *ʿl'* (*CAI* 121), *ʿly'l* (*CAI* 147:8:1), *ʿms'l* (*CAI* 51, 62, 72), *ʿmr'* (*CAI* 155), *mr'l* (*CAI* 168), *ʿn'l* (*CAI* 47:2:2, 47:2:3), *ʿšn'l* (*CAI* 6), *pd'l* (*CAI* 13, 33), *ṣdq'l* (*CAI* 177), *rm'l* (*CAI* 169), *šb'* (*CAI* 171–172), *šb'l* (*CAI* 41, 45, 47:4:1, 195), *šlm'l* (*CAI* 158), *šm'l* (*CAI* 71a, 196), *šmʿl* (*CAI* 30a, 75), *šmš'l* (*CAI* 137:8:2), *tm'* (*CAI* 15), *tmk'* (*CAI* 85), *tmk'l* (*CAI* 1b, 3, 14, 26, 76:3:1, 84, 86, 113, 132, 149, 165).

[26] *bdmlkm* (*CAI* 1b), *mlkm* (*CAI* 55), *mlkm'wr* (*CAI* 129), *mlkmgd* (*CAI* 127), *mlkmyt* (*CAI* 147:1:1), *mlkmʿ z* (*CAI* 136).

[27] *ʿnmwt* (*CAI* 44).

[28] *nny* (*CAI* 65:5), *hnny* (*CAI* 137:11).

[29] *ʾdnnr* (*CAI* 40:1), *ʾdnr* (*CAI* 139:3), *ʾlnr* (*CAI* 47:7:1, 47:8:1, 47:12:1), *nnr* (*CAI* 92), *nwr'l* (*CAI* 159), *nwryh* (*CAI* 4:3), *nry* (*CAI* 42a).

[30] *qsmlk* (*CAI* 212:1:2).

[31] *šdrmn* (*CAI* 201).

[32] *šmš'l* (*CAI* 137:8:2).

[33] *ṣdyrk* (*CAI* 59a).

[34] *ḥnnyh* (*CAI* 4), *yhwydʿ* (*CAI* 147:7:1), *mkyhw* (*CAI* 9c), *nḥmyhw* (*CAI* 9c), *nwryh* (*CAI* 4).

[35] *ʿbd'ym* (*CAI* 21a).

[36] *yrḥ* (*CAI* 145:3:1), *yrḥʿzr* (*CAI* 43), *ʿbdyrḥ* (*CAI* 9a).

[37] For example, ʾAdon, ʿAddin, ʿAli, Bes, Dagon, Ner, and Yam. Also conjectural is the identification of theophoric hypocoristica. It is theoretically possible that the theophoric hypocoristica in Ammonite inscriptions are names other than ʾIl.

Second, even with all of these elements, there is not a great variety of deities represented in the Ammonite onomasticon. This has led Tigay (1987: 171) to question whether or not the Ammonites were polytheistic: ". . . from their onomasticon one might conclude that they were no more pluralistic in religion than were the Israelites."[38] Third, there is a preponderance of names containing the element *'l*.

This last datum has provoked some discussion (Israel 1990: 333–35) because the word *'l* is ambiguous. It can be the appellative of deity, meaning "god," or it can be the proper name 'Il (or 'El) (Cross 1974: 242). As Layton (1996: 610) has indicated, "In the absence of hard evidence [to the contrary], the interpretation of *'el* as a common noun "god" is preferred." But is there evidence to the contrary? Did the cult of 'Il survive into the Iron Age, or did he become a *deus otiosus* (Israel 1990: 334; Smith 1994: 206)?

The most compelling argument that 'Il (or 'El) became a *deus otiosus* is found in the treatment of Hebrew religion by Cross (1962, 1973, 1974, 1983). He argued that the word "Yahweh" originated as an epithet of 'El. Subsequently, it became the name of a Hebrew god who ultimately usurped 'El himself (Cross 1974: 44–75). In effect, the cult remained the cult of *'l*, now attached to a new deity (and significantly modified by the strong "historical" thrust and content of Israel's faith). In support of this thesis, Cross produced a stunning synthesis of linguistic, historical, philological, archaeological and textual data, not least of which included the Bible: "'El is rarely if ever used in the Bible as the proper name of a non-Israelite, Canaanite deity in the full consciousness of a distinction between 'El and Yahweh, god of Israel" (Cross 1973: 45, 1974: 253).

But were the circumstances similar in Iron Age Ammon? Was the official or "state" cult a disguised or transformed cult of 'Il? In order to answer these questions in the affirmative, one would have to identify an Ammonite deity parallel to Yahweh. Enter Milkom.

The Bible, in 1 Kgs 11:5, 33, identifies Milkom as "the abomi-

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For example, the name *tmk'* (*CAI* 85) could be an abbreviation for **tmkmlkm* > *[tamakmilkom], "Milkom has supported." But in view of the large number of occurrences of the full name *tmk'l* or (*'Ltmk*), it seems reasonable to take the hypocoristic ending as an abbreviation for *'l*. Therefore, all hypocoristica signified by the letter *'aleph* in Ammonite inscriptions have been listed here as meaning *'l*. It is hoped that this procedure will not prejudice an understanding of Ammonite religion in favor of one interpretation over another.

[38] Tigay (1987: 171) correctly adds the caveat that ". . . onomastic evidence may not give a complete picture of the gods worshiped [*sic*] in a society. . . ."

nation of the Ammonites."[39] Despite the pejorative nuance of "abomination," scholars appear to be unanimous that whatever the text says, it *means* that Milkom was the chief deity of the Ammonites. The appearance, therefore, of the apparently theophoric element *mlkm* in names on inscriptions seems to be confirmation of the standard interpretation of 1 Kgs 11:5.

But there is a problem. Yahweh, according to the Hebrew model, *replaced* 'El in the theological vocabulary, a notion which is supported, indeed *illustrated*, by the evidence of Hebrew popular religion where Yahweh-names far outnumber 'El-names (Cross 1983: 36–37; Avigad 1987: 196). In the Ammonite onomasticon, however, the occurrence of *mlkm*-names are a fraction of *'l*-names. On the basis of this evidence, it is hard to see why Milkom should be considered the *chief* deity of the Ammonites. Furthermore, the scant iconographic evidence that exists argues against it (Daviau and Dion 1994). This is not to say that Milkom was not a popular, perhaps even important Ammonite deity. It does suggest, however, that there is no need to postulate an analogy with the cult of Yahweh that makes 'Il a *deus otiosus*.

Who, then, was the chief god of the Iron Age Ammonite cult? Based on the meager and ambiguous evidence available, it probably was 'Il. This conclusion finds support in two ways. First, as Levine (1995: 334) observed, the word *'l* in the Dayr 'Alla texts "is the proper name of a deity and certainly not a common noun . . ." (see also Weippert 1991: 178–79). He correctly recognized (Levine 1995: 335–39, 1991: 58) that this is evidence of the survival of the cult of 'Il in Iron Age Transjordan, strong support for the probability that it survived in Ammon as well.[40] Second, there is the evidence of "popular" religion. Names with the theophoric element *'l* are characteristic of and consistent with non-Hebrew, Canaanite religious lore.[41]

In other words, Ammonite religion exhibits characteristics of Canaanite religion, and seems not to have differed from it in any

[39] Unfortunately, in 1 Kgs 11:7, the Bible identifies Molech as "the abomination of the Ammonites," and in Judges 11:24, it identifies Chemosh as the god of the Ammonites. These apparently contradictory statements have engendered no little discussion (see Israel 1990: 321–25, 332–33; Lemaire 1991–1992: 49).

[40] Levine (1985: 334) also noted the evidence of "an autochthonous El cult of probable great antiquity" at Gilead.

[41] Tigay (1987: 187 n. 66) assumed that 'Il was the chief deity of the Ammonites, basing his argument, in part, on the frequency of the theophoric element *'l* in Ammonite names. His view is slightly different from the one presented here, which sees these names as evidence of "popular," not "official" religion.

significant way. Ironically, this last may be the most compelling reason for identifying the Ammonite cult as that of 'Il, the high god of Canaan.

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CHAPTER EIGHT

AMMONITE TEXTS AND LANGUAGE

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The discovery in 1961 of the ʿAmman Citadel Inscription and its subsequent publication (Horn 1967–1968) may be said to signal the beginning of a new era in North West Semitic linguistics and palaeography: the recognition of texts in the Ammonite language and script. Since then, a large number of texts have been identified as Ammonite. They come from three sources: excavations; trade in stolen antiquities (mostly seals); and texts already known, but previously identified as Phoenician, Hebrew or Aramaic. Each year, as this process of identification continues, the number of texts identified as Ammonite increases. The conventions of classification (following Herr 1978) identify inscriptions as "possibly Ammonite," "probably Ammonite," and "Ammonite." The value of this system is that it allows room for debate, out of which has come some progress and consensus.[1] Of the 274 texts identified as Ammonite in one of these categories, 147 are listed in Aufrecht (1989, hereafter *CAI*), and another 127 (continuing the *CAI* numbering system) are listed in Appendix I (below).[2] The following discussion does not include *CAI* 66 and 95

[1] This classification system has been criticized (van Wyk 1993), but since the criticism does not rest on any recognizable methodological principles, it may be dismissed (Aufrecht 1998).

[2] The list does not include one- and two-letter inscriptions: Ḥisbān Ostracon A8 (formerly no. 6) (Cross 1975: 19); the Saḥab Ostracon (Ibrahim 1975: 73); the Tall as-Saʿidiyya Ostracon (Tubb 1988: 311, 33); two ʿAmman Citadel Ostraca (Dornemann 1983: 103; Hübner 1992: 38–39 nos. 2–3); and a Tall al-ʿUmayri Ostracon (Herr 1992a: 195–96). Some scholars relate the Dayr ʿAllā Plaster Texts to Ammonite. Cross (1969b, 1986, in press), Greenfield (1980), and Puech (1985, 1987), for example, have suggested that these texts are written in an Ammonite script. Naveh (1967, 1979, 1982), on the contrary, has argued that they are written in the Aramaic cursive script and in a dialect heretofore unknown (for the latter of which, also see Hackett 1984a, 1984b; Huehnergard 1991; and McCarter 1991). Other scholars identify the texts as Aramaic both in script and language (Hoftijzer and van der Kooij 1976). These texts are not included here as part of the discussion of Ammonite texts and

which are Hebrew, *CAI* 124a which is Moabite, and *CAI* 57 and 61 which are forgeries.[3] The discussion of the remaining 269 texts is organized according to the materials on which they are inscribed: stone (4), metal (7), pottery (ostraca written in ink or impressed) (18), clay bullae (3), bone (2), and gem stones (235).

The stone, or monumental, inscriptions are all fragmentary. The ʿAmman Statue Inscription (*CAI* 43), the language of which is Aramaic, is engraved on the base of statue of *yrḥʿzr*, a grandson of the Ammonite king Šanipu mentioned in the account of the second campaign of Tiglath-pileser III (*ca.* 734–33) (Pritchard 1955: 282). The ʿAmman Theatre Inscription (*CAI* 58) was probably a building inscription, though only two lines remain. The ʿAmman Citadel Inscription (*CAI* 59; Shea 1981; Margalit 1995: 200–214) is written in Aramaic script, though its language is Ammonite. It is the longest Ammonite inscription, dated to the last half of the ninth century B.C. (Cross 1969b). It is written in the form of an oracular command by the deity Milkom to build "entrances," presumably for defensive purposes. Finally, there are letters engraved on the backs of eyes which were attached to the heads of statues of women found on the ʿAmman Citadel (*CAI* 73), probably engraved to indicate correct placement of the eyes by the artist (Israel 1997: 106).

Inscriptions written on metal are all complete. They include two weights (*CAI* 54c, 105a), three seals (*CAI* 159, 194, 206), a bronze bowl or cup from Khirbat Umm Udhayna with two names engraved on it (*CAI* 148, Beyer 1995), and a bronze bottle from Tall Siran (*CAI* 78). The bottle-inscription reads: "May the produce (*mʿbd*) of ʿAmminadab king of the Ammonites, the son of Haṣṣil'il king of the Ammonites, the son of ʿAmminadab king of the Ammonites—the vineyard and the garden(s) and the hollow and the cistern—cause rejoicing and gladness for many days (to come) and in years far off." This translation views the inscription as a kind of votive inscription. The term *mʿbd* may also be translated "deeds," in which case the inscription is a kind of building or commemorative inscription which may refer to the establishment of a royal "pleasure garden" (Lemaire 1992: 561–62).

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language. For bibliography, see Aufrecht 1989: xxvi–xxix; Lemaire (1991a: 55–57); and Lipiński (1994: 103–70). The list also excludes several inscriptions awaiting publication.

[3] On the issue of forgeries of Ammonite inscriptions, see the discussions by Hübner (1989, 1992).

Texts written in ink or engraved in pottery include ostraca from the Jordanian sites of Tall Ḥisbān, Tall al-Mazār, Tall al-ʿUmayri, ʿAmman, and Nimrud in Iraq. The Ḥisbān Ostraca may be described and dated as follows (Cross in press): A1 (no. 4[4] = *CAI* 80), written in Ammonite cursive, is a record kept by a royal steward of the assignment or distribution from the royal stores of foodstuffs and other goods to courtiers and others to whom the crown is under obligation, dated *ca.* 600 B.C.; A2 (no. 11 = *CAI* 94), written in Ammonite cursive, is a list of goods, dated *ca.* 575; A3 (no. 12 = *CAI* 137) is a list of names, dated *ca.* 550–525 B.C. (the end of the Ammonite cursive series); A4 (no. 2 = *CAI* 76), inscribed in Aramaic cursive but probably written in the Ammonite language (Shea 1977),[5] may be a docket recording the distribution of tools or a letter giving instructions to agricultural workers, dated *ca.* 525 B.C.; A5 (no. 1 = *CAI* 65) and A6 (*CAI* 214) are lists of Ammonite names written in Aramaic script, dated to the end of the sixth century B.C.; and A7 (no. 5 = *CAI* 81) is an Ammonite graffito dated to the seventh century B.C.[6] Tall al-Mazār Ostracon 3 (*CAI* 144) is a personal letter, dated by Cross (in press) *ca.* 575 B.C.; and one of the Tall al-ʿUmayri Ostraca (*CAI* 211) may be a letter or a docket, also dated *ca.* 575 B.C. (Sanders 1997). The remaining ostraca all contain names: Tall al-Mazār Ostraca 4, 5 and 7 (*CAI* 145–47), the Khirbat Umm ad-Danānīr Ostracon (*CAI* 150), the ʿAmman Ostracon (*CAI* 77), two ostraca and an engraving from Tall al-ʿUmayri (*CAI* 171–73), and the Nimrud Ostracon (*CAI* 47).[7]

There are three clay impressions of stamp seals (i.e., bullae) (*CAI* 129, 188, 213); two bone seals (*CAI* 38, 180); and 235 engraved gem

[4] Cross (in press) has re-numbered the Ḥisbān Ostraca. For convenience, the old numbering system is included in brackets here.

[5] The language might be Aramaic. See the vocalization and translation of certain words suggested by Cross (1973a, in press). Nevertheless, the ostracon contains Ammonite names and forms (Cross 1986).

[6] Hübner first argued (1988) that all of the Ḥisbān ostraca are Moabite, but later (1992) identified A2 (no. 11 = *CAI* 94) as Ammonite. His views are based primarily on analysis of biblical references which place Ḥisbān in Moab. But the biblical data are ambiguous, placing Ḥisbān in both Moab and Ammon, and for that matter in Israel (i.e., Reuben) (Cross in press). Cross (in press) and Herr (1997b) note that pottery discovered at Tall Ḥisbān is Ammonite.

[7] The view that the Nimrud Ostracon is Ammonite has been challenged by Becking (1981) and Hübner (1992: 35–37). However, Ammonite pottery has been found at Nimrud (Israel 1997: 106) which increases the probability that the ostracon is Ammonite.

stone seals.[8] The seals may be characterized as follows (updating Lemaire 1992):

- 98 seals of men with a patronymic[9]
- 1 seal of a man with a matronymic[10]
- 102 seals of men with a single name[11]
- 5 seals of wives[12]
- 14 seals of daughters[13]
- 15 alphabet seals[14]

All of these inscriptions have been identified as Ammonite on the basis of the following criteria: provenance, palaeography, iconography, onomastics, and language. Since all of these criteria are not applicable to every (or, indeed, any) single inscription, discussion has arisen about their relative values (Bordreuil 1992; Lemaire 1993; Hübner 1993; Hübner and Knauf 1994; Israel 1997; Herr 1998).

It is generally agreed that provenance is the most important criterion (Herr 1978; Bordreuil 1986b, 1992). Unfortunately, the vast majority of these inscriptions are unprovenanced. Moreover, even if an inscription is found in a controlled excavation, provenance still might not provide the primary criterion for identifying an inscription. Though the site may be considered "Ammonite," the language and/or letter-forms of the inscription might be identified as something else such as "Moabite" (*CAI* 124a). Furthermore, it is not always clear that the location of the find site is to be identified as falling within the Ammonite sphere of influence. Often, the determination of site identity rests on tendentious or ambiguous evidence (such as the Bible's assignment of Ḥisbān to different spheres of influence or

[8] Among these seals are listed those for which there are only photographs or plasticine impressions (*CAI* 19, 22, 188, 204).

[9] *CAI* 1b, 3, 4, 5, 8, 9c, 15, 18–18a, 22a, 25–26, 30–31, 37–37a, 39, 42, 45–46, 48–49, 51–52, 62, 64, 67, 69–71, 74–75, 78a, 79, 85–86, 88–90, 95–96, 98–100, 102–104, 106, 109–113, 114a, 116, 118–120, 122–124, 125, 130–136, 140–142, 149, 153, 155–157, 163, 165–166, 168–169, 170, 174, 176–177, 179, 181, 183–184, 186–187, 189, 191–192, 197–198, 212.

[10] *CAI* 14.

[11] *CAI* 1–1a, 2, 3a, 4a–c, 6–7, 8a–8b, 9b, 10–13a, 16–17b, 19–21a, 27–30b, 32–35a, 38a, 40–41, 42a, 46a, 50, 52a, 53–56, 59a–b, 60a, 61a, 63, 68, 71a, 72, 78b, 83–84, 87, 91–92, 97, 101, 105, 107–108, 114a, 114c, 117a, 127–128, 131a–b, 136a–c, 137a–139, 143, 151, 154, 158, 160, 162, 164, 167, 185, 190, 193, 195–196, 201–203, 205, 207–210.

[12] *CAI* 2a, 8c, 36, 44, 161.

[13] *CAI* 9, 9a, 23, 31a, 71b, 117, 121, 126, 143a, 152, 175, 178, 182, 204.

[14] *CAI* 22, 24, 54a–54b, 60, 71c, 82–82a, 93, 114–115, 136d–e, 199–200.

control). In such cases, one must rely on other criteria or a convergence of criteria.

The one criterion that all inscriptions have in common is palaeography, and for this reason it has become the *primus inter pares* of the classification criteria (Bordreuil 1986b: 5, 1992: 138–39; Israel 1991; Lemaire 1993). The basic principle of palaeography is that the shape of letters (in this case, on Iron II alphabetic texts) may be distinguished from each other by certain formal characteristics (see below).

Despite criticism by those who have neither an eye nor memory for form, palaeographers have been able to work out the broad outlines (and in some cases the narrow details) of the evolution of Iron II alphabetic scripts, nuances of interpretation and opinion notwithstanding. This is important, because once the script, language and identity of the inscription is determined, the palaeographer is often able to provide a date for it, thus helping to create, supplement, or debunk relative and absolute chronologies (McLean 1992).

The first paleographic analysis in which an Ammonite inscription was identified was published by Avigad (1946), in which he related the Ammonite script to the Aramaic script.[15] Since then, the dominant discussion regarding Ammonite writing has focused on the question of whether the Ammonites used (with some modification) the current Aramaic script, or developed their own "national" script.

The first view, presented most clearly by Naveh (1970, 1971, 1982, 1994), is that the Ammonites wrote in the Aramaic script and did not develop a truly "national" writing tradition of their own. One should speak of Aramaic written in an Ammonite style.

The second view has been argued by Cross (1969a, 1969b, 1973a, 1973b, 1975, 1976, 1986), Herr (1978, 1980, 1998), Hackett (1984a) and Jackson (1983b). According to this view, Ammonite handwriting became independent of its parent Aramaic script in the mid-eighth century B.C. and thereafter developed more slowly than its parent. This "national" script ceased to exist in the late sixth century B.C., when it was replaced by the Aramaic script of the Persian

[15] As early as 1895, Ch. Clermont-Ganneau speculated on the Ammonite origin of the seal of *'dnplṭ* (*CAI* 17), but it was Torrey (1921–22) who first classified it as Ammonite. He recognized the seal as Ammonite on the basis of its onomastics. Furthermore, he speculated (correctly) that certain unusual features of the writing (*ṭet* and *'ayin*) were Ammonite on the grounds that these carefully engraved letters represented the best standard of their locality. For brief overviews of the history of scholarly research on Ammonite inscriptions, see Israel (1991) and Bordreuil (1992).

chancelleries, the circumstances being analogous to those in Judah where the Hebrew "national" script was replaced by Aramaic. Thus, the mid- to late-sixth century inscriptions are designated as Ammonite by language (e.g., Canaanite *bn* instead of Aramaic *br*) instead of script. Ammonite language and script disappeared after 500 B.C.

Recently, Herr (1992a, 1992b, 1997a) has called attention to two stamped ostraca discovered in 1989 at Tall al-ʿUmayri (*CAI* 171–172) which support this view. Written in late-sixth century Aramaic, they contain the name *šb'*, *[Šuba'] followed by the word *ʿmn*. Herr argues that they identify the Persian province of Ammon in the same way that Aramaic stamps and impressions from the sixth or early fifth century B.C. containing the name *yh(w)d* identify the Persian province of Judah. The Ammonite *šb'* would then be the governor of the province.[16]

For lapidary inscriptions designated Ammonite, the formal letter-shape characteristics include the following (Herr 1978, 1980; Israel 1991: 227–31; Bordreuil 1992: 157–58; Herr 1998):[17] star-shaped *'aleph* beginning in the second half of the seventh century (*CAI* 18, 37); *bet* with triangular head and dropping baseline (*CAI* 39); *dalet* with triangular head and long tail (*CAI* 56); one form with a box or flag-shaped *heh* (*CAI* 78) and another with two horizontals (*CAI* 10); *waw* with single horizontal branching off to the left (*CAI* 129); oval angular *ṭet* with one horizontal bar (*CAI* 74); *kaph* with triangular head (*CAI* 78, 129); *mem* with oblique zig-zag (*CAI* 17, 129); *nun* with

[16] It might be argued that both lines of inquiry beg the question of what is meant by the word "national," especially in an ancient period. A number of scholars have objected to the use of this term on the grounds that it imposes a modern notion of identity on the ancients (see the discussion in Dever 1997). The issue is irrelevant here. Whether or not "states," or "nationality" in the modern sense existed in Iron II Transjordan, there emerged at that time, a group of people who *identified themselves* as the *bn ʿmn*, *[benê ʿammōn], lit., "sons of ʿAmmon," or simply, "Ammonites" (*CAI* 78); and although the criteria for this self-designation may not be completely clear, they are clear enough for us to include among them such things as geographic, political, and social boundaries (such as writing and language). No doubt, these boundaries were influenced to one degree or another and from time-to-time by the Aramaens (among other peoples); but in the case of writing, there are enough differences from Aramaic letter-forms to recognize an "Ammonite" writing system, just as it is possible to recognize, to one degree or another, other distinct Transjordanian geographic, political and social features (Daviau 1997; Routledge 1997). For the most thorough treatment of social boundaries with reference to ancient texts, see MacKay (1997).

[17] The most detailed and thorough treatment of Ammonite cursive inscriptions is the important paper of Cross (in press).

right angles and leftward tilt (*CAI* 23); square *ʿayin* (*CAI* 54); *peh* with squared head (*CAI* 75); *ṣade* with two-stroke head (*CAI* 56); and *resh* with triangular head (*CAI* 39). Most letters have a vertical or upright stance. The heads of letters with closed curves (*bet, dalet, ʿayin* and *resh*) open at the end of the seventh century B.C. (Herr 1980). The mixture of open and closed forms is also an indicator of Ammonite writing (Herr 1978, 1980, 1989; Aufrecht 1992; Herr 1998).

The third criterion of identification of Ammonite texts is iconography, confined almost exclusively to seals. Early studies of iconography on Northwest Semitic seals such as those by Galling (1941) and Porada (1948) contained seals now reclassified as Ammonite. It is clear from these that the iconography of these inscriptions is related to and part of the general Near Eastern iconographic traditions. The problem is in determining if, and to what extent, the artisans of Ammon employed distinctive and standard designs—ones not used by designers from other locals—such as the ram's head and bird motif (see Aufrecht 1989: 351–52). Recently, two studies have appeared which attempt to advance the discussion by trying to distinguish Ammonite iconography from that of other Near Eastern cultures (Hübner 1993; Lemaire 1995). It must be said, however, that iconography seldom, if ever, is a primary criterion for identification of inscriptions as Ammonite.[18] Rather, iconography is most useful in combination with other criteria such as palaeography and onomastics.

The fourth criterion for identifying Ammonite inscriptions is onomastics. Unlike iconography, it can be a primary criterion when the others are of little or no help. Usually, however, onomastics plays a secondary, but no less important, role in confirming and/or correcting the identity of an inscription already established on the grounds of provenance or palaeography.

Systematic treatments of the names found in Ammonite inscriptions have been written by Jackson (1983a), Israel (1990, 1992), and Bordreuil (1992). But other studies, such as that of O'Connor (1987), have contributed significantly to our understanding of Ammonite names (see Aufrecht 1989: xvi–xvii). First, names on Ammonite

[18] For example, *CAI* 2, 54b and 160 all contain the motif of cow with suckling calf. If iconography were a primary diagnostic Ammonite criterion, these seals might be designated Aramaic as are the seals with similar iconography published by Teissier (1984: no. 236) and Aufrecht and Shury (1997: no. 2), but which were designated Aramaic primarily on paleographic grounds.

inscriptions are overwhelmingly Canaanite in character (Israel 1986: 44), though in some cases may be indebted to other languages such as Aramaic,[19] Assyrian and/or Babylonian,[20] Persian,[21] Egyptian,[22] and Arabic (Israel 1989b). Second, they reflect, even in such a small corpus, the lexical variety and wide semantic range of ancient onomastica. While there are repetitions such as names using the element *tmk* (Aufrecht 1989: 376), there are a few uncommon names which include such things as animals,[23] natural phenomena,[24] and titles or occupations.[25] Third, the names in these inscriptions provide information on Ammonite religion because the majority of them contain theophoric elements and related hypocoristica. On this subject, see above, chapter 7 on Ammonite Religion. Fourth, names are found which may be identified with an historical personage previously known from another source,[26] or provide a new name which may be associated with previously known names.[27]

The final criterion is that of language. Like onomastics, it may be a primary criterion. Usually, however, it is a secondary criterion, used to support an identification arrived at on other grounds. Because the Ammonites were influenced by the Aramaens, even the identification of Aramaic language on an inscription is not grounds for rejecting it as Ammonite.[28] There have been four more-or-less systematic treatments of the Ammonite language: those of Israel (1979), Sivan (1982), Jackson (1983a), and Garr (1985). The work of these writers (to which the following treatment of language is primarily

[19] *br* (*CAI* 43); *ytb* (*CAI* 80:9:1); *mr* (*CAI* 13a, 28a, 49, 136b, 168).
[20] *šr* (*CAI* 128); *nnydn* (*CAI* 65:5:1).
[21] *bg'* (*CAI* 147:3:1).
[22] *psmy* (*CAI* 65:4:2).
[23] *y'l*, "ibex" (*CAI* 138); *kpr*, "young lion" (CAI 8b, 107); *'kbr*, "mouse" (*CAI* 15:3, 112); *š'l*, "fox" (*CAI* 20, 109, 100).
[24] *brq*, "lightening" (*CAI* 137:6:2); *gygr*, "berry" (*CAI* 79); *tl*, "dew" (*CAI* 143a); *ṣnr*, "waterfall" (*CAI* 5, 9:3).
[25] *hb'l*, "the master" (CAI 38a); *hnss*, "the standard-bearer" (*CAI* 68); *hṣrp*, "the goldsmith" (*CAI* 27); *mlk*, "king" (*CAI* 2a, 29a, 61a, 78, 80, 102, 211:1:2, 212, 213); *mr*, "lord" (*CAI* 13a, 28a, 49, 136b, 168); *ngyd*, "commander" (*CAI* 214:2:3); *n'r*, "steward" (*CAI* 53, 54); *spr*, "scribe" (*CAI* 139); *hspr*, "the scribe" (*CAI* 209); *'bd*, "servant" (*CAI* 13, 17, 38a, 40, 102, 129); *'bd* (+ Divine Name), "priest" (*CAI* 9a, 21a, 50, 53, 131, 144:1:5); *'qb*, "protector" (*CAI* 137:10:2); *pr'*, "commander" (*CAI* 34); *prš*, "horseman" (*CAI* 137:7:1); *šr*, "ruler" (*CAI* 128).
[26] 'Ammīnadab I (*CAI* 17, 40, 78:3:2), Šanipu (*CAI* 43), Ba'alyaša' (*CAI* 129, 212).
[27] 'Ammīnadab II (*CAI* 78:1:2), Haṣṣil'il (*CAI* 78:2:2).
[28] Aramaic *br* is found in *CAI* 43:4 ('Amman Statue Inscription identified as Ammonite on the basis of provenance) and *CAI* 136 (seal identified as Ammonite on the basis of iconography and onomastics).

indebted), and others whose treatments have been less complete (see Aufrecht 1989: xii–xiv; Rendsburg 1988a; Herr 1989; Israel 1989a; Knauf 1990; Hübner and Knauf 1994; Margalit 1995; Hendel 1996), have recognized that by the standards of comparative Semitic linguistics, Ammonite should be assigned to the Canaanite family of languages.[29] It is important to remember that by "Ammonite Language," we mean a modern scholarly (re)construction which is indebted to the language spoken in ancient Transjordan only to a greater or lesser degree (Hübner and Knauf 1994). This notwithstanding, if Garr's (1985: 229–35) dialect geography is correct, Ammonite stands closer to standard Phoenician than it does to other of the Northwest Semitic languages. And even if modifications will have to be made to Garr's thesis (Knauf and Maâni 1987), his work should be a caution against a too facile treatment of the relationship of these inscriptions to other Semitic languages. This is especially true with regard to the pronunciation of words (i.e., vocalization) in Ammonite inscriptions as if they were Hebrew, a disappointing feature, for example, of the recent corpus of Northwest Semitic seals by Avigad and Sass (1997). Such a procedure obscures whatever criteria there may be for distinguishing between the sounds of Ammonite and Hebrew. It often results in the notion that there is a close similarity (if not identity) between the two "languages," and then Ammonite is thought to derive from Hebrew (Avigad 1970: 287, 1985: 4), as if it is a corrupt form of Hebrew. This begs the question of whether one should speak about the Ammonite "language" or the Ammonite "dialect" of something else. Unfortunately, it is impossible at this time to resolve this issue. The corpus of Ammonite texts is neither large enough nor sufficiently varied to provide a decisive data-set of phonological, morphological, syntactical and lexical features. Nevertheless, the following data may be presented as features which (to a greater or lesser degree) characterize the Ammonite language.

1. *Phonology*

Phonology is exceedingly difficult to reconstruct in ancient texts and even more so in such a small corpus. In the case of Ammonite, one

[29] While there may be some influence of Arabic in proper names (Garbini 1974; Israel 1979), this influence has not been extensive in other aspects of language.

must be guided by a principle such as that established by Hackett in her commentary on the Dayr 'Allā Plaster Texts (1984a: 22–24). By using the earliest possible form of a word, one usually does not have to choose between later (in this case) Aramaic and Hebrew vocalizations, thereby prejudging the classification of a dialect. Such a procedure also usually helps to postpone the problem of language vs. dialect until more evidence is available. Given these limitations, the following phonological data appear to be characteristics of Ammonite.

- Correspondence of Proto-Semitic sounds:[30]
  - /*ā*/:<ø>:[ō] (*mlkm, CAI* 1b:2)
  - /*á*/:<ø>:[a] or [ō][31] (*bd, CAI* 1b:3)
  - /*ḏ*/:<z>:[z] (*ʿzr, CAI* 43:2)
  - /*ḏ́*/:<ṣ>:[ṣ] (*ṣʾn, CAI* 80:2:1)
  - /*ṯ*/:<š>:[ṯ] or [š][32] (*šbʾl, CAI* 41)
  - /*ay*/:<ø>:[ē] (*yn, CAI* 80:7:1; *bn, CAI* 78:1:4)
  - /*aw*/:<w>:[aw] (*ywmt, CAI* 78:7:1)
  - final /*át*/:<t>:[at] (*gnt, CAI* 78:4:2, *ʾšḥt, CAI* 78:5:1)
  - final /*h*/:<h>:[ō] (*bnh, CAI* 59:1:1 [Garr 1985: 136]; *tbrkh, CAI* 56 [Jackson 1983b: 78])
- assimilation of *nun* (*hṣlʾl* < **nṣl, CAI* 78:2:2; *mʾlt* < **mn ʾlt, CAI* 80:4:2;[33] *ʾtn* < **ʾntn, CAI* 144:2:5)
- prothetic *ʾaleph* (*ʾṣḥt, CAI* 78:5:1)

[30] The following graphic system distinguishes /phonemes/, <graphemes> and reconstructed [phones].

[31] Evidence for the so-called Phoenician shift in Ammonite is ambiguous. See discussions by Cross (1973b: 13), Garr (1985: 32–33, 53) and Lipiński (1986: 449).

[32] The phonetic value of /*š*/ in Ammonite texts is in dispute. Knauf and Maáni (1987), Rendsburg (1988a, 1988b) and Knauf (1990) argued that Ammonite retained the pronunciation [ṯ] for the grapheme /*š*/ (unlike other Canaanite dialects). Hendel (1996) argued that like the other Canaanite dialects, Ammonite pronounced /*š*/ as [š].

[33] The reading now seems sure (Cross in press). Margalit (1995: 205 n. 28) cites Puech's alternate reading (1985: 13) and attributes significance to the absence of Ammonite *mn* in the listings in Hoftijzer and Jongeling (1995: 649–56). The significance is more apparent than real: the **m(n)* of *CAI* 80:4:2 is not listed because the reading by Cross (1975) was marked as doubtful and because it was attached to the proper name *ʾlt*, also omitted from the listings of Hoftijzer and Jongeling in accordance with their principle of omitting all proper names. The *mn* of *CAI* 94:2:2 was not listed by Hoftijzer and Jongeling because there is no syntax following it, which is the basis of their discussion on pp. 649–56.

- syncope of *yod* between short vowels (*bnh*: *[banō] < **banâ* < **banaya*, *CAI* 59:1:2 [Garr 1985: 53])[34]
- no evidence of loss of syllable-closing *ʾaleph* (*ṣʾn*, *CAI* 80:2:1; *dšʾ*, *CAI* 80:9:2) (Garr 1985: 49)

2. *Morphology*

Morphologically, the Ammonite language exhibits the general features of the Canaanite languages. According to Garr (1985: 232), although Ammonite received some but not all Phoenician innovations, it shows no innovations shared exclusively with Old Aramaic.[35]

- Pronoun
  - Personal 2 m.s. (*ʾt*, *CAI* 141:2:2)
  - Relative (*ʾš*, *CAI* 80:6)[36]
  - Interrogative (*m*, *CAI* 92, 101)
  - 2 m.s. suffix (*k*, *CAI* 144:3:1)
- Definite Article (*h*, *CAI* 78:4:1)
- Preposition
  - *b* (*CAI* 1b)
  - *k* (*CAI* 47)
  - *l* (*CAI* 144:3:1)
  - *mn* (*CAI* 80:4:2, 94:2:2)
  - *ʿl* (*CAI* 59:2:3)
- Adverb
  - *ʾw* (*CAI* 49)
  - *ʾy* (*CAI* 47:13:1)
  - *ʾš* (*CAI* 80:6:4)
  - *bṭn* (*CAI* 59:5:3)
  - *bn* (*CAI* 59:6:2)
  - *kl* (*CAI* 144:6:1)
  - *km* (*CAI* 101)
  - *ʿt* (*CAI* 144:2:3)

[34] Garr (1985: 53) noted that the *yod* was retained in the proper name *byd'l* (*CAI* 13) but was lost in the name *bd'l* (*CAI* 103).

[35] Israel (1979: 152) suggested that the use of *ʿbd*, "to do," "to make," is a shared feature of Ammonite and Aramaic.

[36] But see *CAI* 56 for the relative pronoun *š*.

- Particle of existence (*yš, CAI* 113)
- Noun
  - ending of m.pl./dual absolute (*m, CAI* 78:7:2)
  - ending of m.pl. construct (<ø>:[ē] or [ī], *bn, CAI* 78:1:4 [Garr 1985: 91])
  - ending of f.s. absolute (<t>:[at], *gnt, CAI* 78:4:2)
  - ending of f.pl. absolute (<t>:[ōt], *ywmt, CAI* 78:7:1)
  - 3 m.s. possessive suffix (<h>:[uh] or [ih], *ʾḫh, CAI* 144:1:4 [Garr 1985: 55, 102])
- Verb
  - 3 m.s. perfect of the strong verb (*ntn, CAI* 80:6:5)[37]
  - 1 s. imperfect of the strong verb (*ʾkḥd, CAI* 59:3:1)
  - 3 m.s. perfect of final weak verbs (*bnh, CAI* 59:1:1)
  - 3 m.s. imperfect (jussive) (<n>: [ūn], *ymtn, CAI* 59:2:4; *ylnn, CAI* 59:4:3)
  - 3 m.s. objective suffix (*tbrkh, CAI* 56)
  - *G*-stem passive participle (*brk, CAI* 55)[38]
  - *G*-stem infinitive absolute (*mt, CAI* 59:2:4; *šbt, CAI* 144:3:3)
  - *G*-stem imperative (*ʾmr, CAI* 144:1:3; *tn* < **ntn, CAI* 144:4:2)
  - *D*-stem participle (*msbb, CAI* 59:2:2 [Garr 1985:133])[39]
  - causative prefix (*h, CAI* 78:2:2)
  - If the mood of ʿAmman Citadel Inscription (*CAI* 59) is indicative instead of volitive, Ammonite may not have preserved a morphological distinction between indicative and volitive verbs (Garr 1985: 127).
  - The absence of *w* in *mt* < **mwt* (*CAI* 59:2:4) may indicate that in Ammonite, the original biconsonantal root was not

[37] Garr (1985: 125) noted that "it is unclear whether the base form **qaṭal* was retained or whether the second *a* underwent stress-lengthening to **qaṭāl*."

[38] Bordreuil (1986a: 79) suggested that this may be an active *G*-stem participle.

[39] Jackson (1983b: 15) suggested that this was a *poʿel* [*sic*] participle.

reconstructed according to the pattern of a strong, triconsonantal root as it was so reconstructed in Old Aramaic (Garr 1985:132), but contrast *ʿnmwt* (*CAI* 44).

3. *Syntax and Style*

The evidence of syntax and style is meager in Ammonite texts. That is because there is only one complete long inscription (the Tall Sīrān Bottle = *CAI* 78) and three others that, though relatively long, are fragmentary (the ʿAmman Citadel Inscription = *CAI* 59; Ḥisbān Ostracon A1 [formerly No. 4] = *CAI* 80; and Tall al-Mazār Ostracon 3 = *CAI* 144). The following are represented:

- repetition of coordinated prepositions (*CAI* 78:7/8)
- finite verb as first element in main clause (*CAI* 78:6/8)
- *membra synonyma* found in *CAI* 59:2–3 suggests the possibility that there was originally a single "period" consisting of two symmetrical component clauses in "parallelism" (Margalit 1995: 200)
- formulaic word pairs *mwt//kḥd* (*CAI* 59:2:4//3:1); *gyl//smḥ* (*CAI* 78:6:1//6:2); *ywmt//šnt* (*CAI* 78:7:1//7:3); *rbm//rḥqt* (*CAI* 78:7:2//8:1), the latter two exhibiting a chiastic structure[40]
- Hieratic numerals are used in Ammonite ostraca (*CAI* 65, 80, 137)
- letter in the form of a docket (*CAI* 80) or a personal communication (*CAI* 144)
- religious formulae ("blessed of," *CAI* 55; "may she bless him," *CAI* 56)

4. *Lexicon*

The Ammonite lexicon exhibits a wide variety of words, especially in name-formation (Jackson 1983b: 93–98; Israel 1990: 325–29, 1992).

- coordinating conjunction *w* (*CAI* 78:4:2)
- the root *yhy* instead of Phoenician *hwy* (*CAI* 23:1)

[40] Israel (1979: 154) cited examples of these word pairs in Ugaritic, Phoenician and Hebrew texts.

- the root *ntn* instead of Phoenician *ytn* (*CAI* 32, 144:2:5)
- *bn* instead of Aramaic *br* ("son")[41]
- *bt* < **bnt* instead of Aramaic *brt* ("daughter")
- place names: *ʾlt* (*CAI* 90:4:2), *bṣrt ?* (*CAI* 137:14:1), *gbl* (*CAI* 76:4:2), *ʿmn* (*CAI* 171–72), *skt* (*CAI* 76:2:1), *ṣdn* (*CAI* 56)
- ethnic identification or nationality: *mṣry*, "Egyptian" (*CAI* 8a)
- family relationships: *ʾb* (*CAI* 23), *ʾd* (*CAI* 139), *ʾḥ* (*CAI* 16), *ʾḥt* (*CAI* 2a), *ʾmt* (*CAI* 36), <*ʾ*>*nh* (*CAI* 3a) *ʾšt* (*CAI* 2a), *bn* (*CAI* 3), *br* (*CAI* 43), *bt* (*CAI* 9a), *ḥl* (*CAI* 130), *ḥm* (*CAI* 137)
- units of weight and measurement: *bqʾ* (*CAI* 54), *šql* (*CAI* 137:9:3)
- other substantives:[42] *ʾbl* (*CAI* 182), *ʾhl* (*CAI* 204), *ʾwr* (*CAI* 106), *ʾym* (*CAI* 21a), *ʾlh* (*CAI* 10), *ʾlm* (*CAI* 59:6:3), *ʾln* (*CAI* 104), *ʾmt* (*CAI* 183), *ʾrḥ* (*CAI* 80:5:4), *ʾš* (*CAI* 78b), *ʾšm* (*CAI* 71b), *bʿl* (*CAI* 38a), *bʿr* (*CAI* 94:3:1), *bṣrt* (*CAI* 137:14:1), *bt* (*CAI* 154), *gn* (*CAI* 78:4:2), *dly* (*CAI* 59), *dšʾ* (*CAI* 80:9:2), *ḥbl* (*CAI* 94:4:1), *ḥg* (*CAI* 14), *ḥz* (*CAI* 47), *ḥtm* (*CAI* 55), *yṯwm* (*CAI* 78), *yn* (*CAI* 80:7:1), *ytr* (*CAI* 90), *kbs* (*CAI* 47:14:3), *krm* (*CAI* 78:4:1), *lbb* (*CAI* 80:7:5), *mgn* (*CAI* 105a), *mgr* (*CAI* 89); *mʿbd* (*CAI* 78:1:1), *mqn* (*CAI* 137a), *mt* (*CAI* 110), *mtn* (*CAI* 189), *ngyd* (*CAI* 214), *ndb* (*CAI* 16), *nwr* (*CAI* 40), *nkʾt* (*CAI* 80:4:3), *nqr* (*CAI* 137:5:1), *ʿbr* (*CAI* 77), *sdr* (*CAI* 59:4:2), *slʾ* (*CAI* 114a), *smk* (*CAI* 30b), *ʿm* (*CAI* 10), *pdn* (*CAI* 76), *ṣʾn* (*CAI* 80:2:1), *ṣdq* (*CAI* 59:4:4), *rbm* (*CAI* 78:7:2), *rḥq* (*CAI* 78:8:1), *šd* (*CAI* 201), *šwḥr* (*CAI* 48:3), *šlm* (*CAI* 59:8:1), *šm* (*CAI* 35), *šnh* (*CAI* 78:7:3), *šʿrt* (*CAI* 144:2:4), *tʾb* (*CAI* 182), *tʾn* (*CAI* 94)
- verbs: *ʾzn* (*CAI* 8), *ʾmṣ* (*CAI* 5), *ʾmr* (*CAI* 67), *ʾṣʾ* (*CAI* 147:2:1), *ʾty* (*CAI* 147:1:1), *bwʾ* (*CAI* 59:1:4), *bky* (*CAI* 4c), *bny* (*CAI* 58), *bʿr* (*CAI* 88), *bʿš* (*CAI* 80:6:1), *bqš* (*CAI* 37), *brk* (*CAI* 54), *brr* (*CAI* 7), *gyl* (*CAI* 78:6:1), *gnn* (*CAI* 47:6:1), *ddh* (*CAI* 116), *dyn* (*CAI* 64), *dlh* (*CAI* 35a), *zkk* (*CAI* 136), *zkr* (*CAI* 134), *ḥyy* (*CAI* 23), *ḥzy* (*CAI* 59b), *ḥlq* (*CAI* 204), *ḥnn* (*CAI* 8), *ḥṣṣ* (*CAI* 18a), *ḥrr* (*CAI* 78:4:3), *ydʿ* (*CAI* 147:7:1), *yšʾ* (*CAI* 113), *yšb* (*CAI* 144:5:1), *yšʿ* (*CAI* 17b), *kbh* (*CAI* 59:5:4), *kḥd* (*CAI* 59:5:4), *lḥš* (*CAI* 137:1:1), *lwn* (*CAI* 59:4:3), *mgn* (*CAI* 100), *mwt* (*CAI* 59:2:5), *mnḥ* (*CAI* 124),

[41] See footnote 28 above.

[42] See also footnotes 19–25 above. In this section and the one following (verbs), the references cite only one occurrence of the word in the Ammonite corpus. A complete list of citations (excluding the texts in Appendix I, below), may be found in Aufrecht 1989: 356–76, and a complete list of theophoric elements used in Ammonite names may be found above on pp. 156–57.

mšl (*CAI* 91), *ndr* (*CAI* 56), *nḥm* (*CAI* 23), *nʿm* (*CAI* 80:3:3), *nṣr* (*CAI* 27), *nqm* (*CAI* 147:9:1), *ntn* (*CAI* 32), *sbb* (*CAI* 59:1:5), *smk* (*CAI* 30b), *str* (*CAI* 29c), *ʿdy* (*CAI* 31), *ʿdn* (*CAI* 152), *ʿlh* (*CAI* 114c), *ʿzz* (*CAI* 2), *ʿzr* (*CAI* 38), *ʿḏy* (*CAI* 36), *ʿmṣ* (*CAI* 51), *ʿny* (*CAI* 44), *ʿrb* (*CAI* 59:3:4), *ʿrbn* (*CAI* 144:3:4), *ʿšn* (*CAI* 6), *pḏy* (*CAI* 13), *plṭ* (*CAI* 17), *qny* (*CAI* 3), *rwm* (*CAI* 15), *rwʿ* (*CAI* 21), *rkk* (*CAI* 59a), *rpʾ* (*CAI* 65:3:2), *šgb* (*CAI* 9), *šwb* (*CAI* 41), *šmḥ* (*CAI* 78:6:2), *šmʿ* (*CAI* 9), *šmr* (*CAI* 148), *šʿy* (*CAI* 59:6:1), *šʿl* (*CAI* 210), *tmk* (*CAI* 1b:1), *tmm* (*CAI* 15)

– unknown words: *ʾbršʾ* (*CAI* 175), *ʾbšʾ* (*CAI* 181), *ʾgbrt* (*CAI* 161), *ʾldšʾ* (*CAI* 31a), *ʾšh* (*CAI* 117a), *bnny* (*CAI* 137:11:1), *bṭš* (*CAI* 54), *gdmdm* (*CAI* 25), *dblbs* (*CAI* 44), *ddlʾḥs* (*CAI* 161), *hml* (*CAI* 116), *zwʾ* (*CAI* 52), *zyʾ* (*CAI* 131a), *znr* (*CAI* 170), *ḥty* (*CAI* 139), *ḥmywsʾ* (*CAI* 117), *ḥtʿzt* (*CAI* 178), *ḥtš* (*CAI* 69, 74), *kšy* (*CAI* 176), *mmh* (*CAI* 1a), *nšʾlw* (*CAI* 197), *sdd* (*CAI* 152), *smṭ* (*CAI* 117), *ʿrbʿlʾb* (*CAI* 208), *psḥ* (*CAI* 176), *psmy* (*CAI* 65:4:2), *pqll* (*CAI* 18a), *qrp.l* (*CAI* 203), *šrnḥl* (*CAI* 191), *tngy* (*CAI* 136c)

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Appendix I

The following 82 texts should be added to the 147 texts listed in *CAI*.

1.[43] *lʾbybʿl* (de Luynes 1846: pl. 13:1)
1a.[44] *lmmh* (Lajard 1847: pl. 36)
2a. *lʾḥtmlk ʾšt yšʿ* (Lajard 1837–1849: pl. 14B:1)
3a. *lʾtmh* (Rawlinson 1865: no. 14)
4a. *lšlm* (de Vogüé 1868: no. 1)

[43] Inscription No. 1 in *CAI* has been renumbered 1b.
[44] The inscription numbers with letter designations were reclassified as Ammonite after the completion of *CAI*. They are numbered in accordance with the chronological format of that corpus (see Aufrecht 1989: xxxvii).

4b. *lʿzʾ* (de Vogüé 1868: no. 3)
4c. *bkʾl* (de Vogüé 1868: no. 4)
8a. *lmṣry* (de Vogüé 1868: no. 13)
8b. *lkpr* (de Vogüé 1868: no. 17)
8c. *lmnḥmt ʾšt gdmlk* (de Vogüé 1868: no. 40)
9a. *bqšt bt ʿbdyrḥ* (Prideaux 1877)
9b. *bʿlntn* (Schröder 1880: 683)
9c. *lnḥmyhw bn mkyhw* (Wright 1882: no. 1)
13a. *lmrsmk* (Clermont-Ganneau 1823: no. 21)
17a. *lbrky* (Ledrain 1892: 143)
17b.[45] *ʾdnšʿ* (Berger 1894)
18a. *lḥwrṣ bn pqll* (Berger 1897)
21a. *ʿbdʾym* (Clermont-Ganneau 1905: 116)
22a. *lʾbʿl bnḥnʾ* (Torrey 1907)
27a. *lstrh* (Torrey 1921–1922: no. 4)
28a. *lmrʾyšʿ* (Aimé-Giron 1922)
29a. *lmlkrm* (Delaporte 1923: no. A 1140)
29b. *lʾtʾbb* (Delaporte 1923: no. A 1144)
30a. *šmʿʾl* (Harding 1937: 255, pl. 10:10)
30b.[46] *lʾlsmk* (Reifenberg 1938: no. 1)
31a. *lʾldšʾ bt šlmt* (Dunand 1939: no. 1291)
35a. *lʾldlh* (Barnett 1940)
37a. *lʾbʾ bn . . .* (Reifenberg 1942: no. 6)
38a. *lbʿzrʾl ʿbd hbʿl* (Driver 1945: 82)
42a. *lnry* (Diringer 1950)
46a. *lmnḥm* (Driver 1955)
52a. *lbrkʾ* (Horn 1962)
54a. *ʾlbgdhwzḥ* (Martin 1964: no. 5)
54b.[47] *ʾbgd* (Rahmani 1964)
54c. *bqʿ* (Shaney 1964)
59a. *lṣdyrk* (Avigad 1968: 47–49)
59b. *yḥzbʿl* (Avigad 1968: 49)
60a. *lmkʾl* (Culican 1968: pl. 3:2)
61a. *lmlkrm* (Avigad 1969: no. 16)
71a. *lšmʾl* (Avigad 1971a)
71b. *btʾšm* (Avigad 1971b)

[45] This seal was No. 17a in Aufrecht 1989: 342.
[46] This seal was No. 30a in Aufrecht 1989: 344.
[47] This seal was No. 54a in Aufrecht 1989: 344–45.

71c. *ʾbgdhwzḥ* (Hestrin 1972: no. 10)
78a. *lʾldg* . . . (Aharoni 1974)
78b.[48] *lʾšʾ* (Bordreuil and Lemaire 1974: no. 2)
82a. *ʾbgdhwzḥty* (Bordreuil and Lemaire 1976: no. 26)
105a. *lmgn* (Barkay 1978)
114a. *lšlmt* (Lambert 1979: no. 114)
114b. *lslʾ bn ʾlʾ* (Heltzer 1981: 272)
114c. *ʿlh* (Lemaire 1979)
117a. *lʾšh* (Lemaire 1982)
124a. *lplty bn mʾš hmzkr* (Haddad 1984)
131a. *lzyʾ* (Bordreuil 1986b: no. 13)
131b. *mkʾl* (Bordreuil 1986b: no. 20)
136a. *lʿbd* (Bordreuil 1986b: no. 87)
136b. *lmrʾly* (Bordreuil 1986b: no. 92)
136c. *tngy* (Bordreuil 1986b: no. 107)
136d. *ʾbgdhwzḥtyk* (Bordreuil 1986b: no. 116)
136e. *ʾbgdhywzḥk* (Bordreuil 1986b: no. 120)
137a. *lmqn* (Lemaire 1986: no. 2)
143a. *lʾbl.b*[*l*] *ʾlʾm*[*r*] (Lemaire 1986: no. 17)
148. *lʾlšmr* [*b*]*n ʾl*[ʿ]*zr* (Zayadine and Bordreuil 1986: no. 188)
149. *ltmkʾl bn ʾlʿzr* (Cross, *et al.* 1987: plt. 12)
150.]*lšmʿ*[(McGovern 1987)
151. *lšmʿ* (Geraty, *et al.* 1988: pl. 27)
152. *lʾbʿdn bt sdd* (Lemaire and Uehlinger 1988: no. 25)
153. *lʾlḥnn bn mnḥ* (Avigad 1989: no. 11)
154. *lbtʾl* (Avigad 1989: no. 12)
155. *lʾmrʾ bn bnʾl* (Avigad 1989: no. 14)
156. *lʾln bn ʾlydn* (Avigad 1989: no. 15)
157. *lbrkʾl bn ʾlšmʿ* (Avigad 1989: no. 16)
158. *lšlmʾl* (Avigad 1989: no. 19)
159. *lnwrʾl* (Wolf 1989: no. 3)
160. *lplty* (Wolf 1989: no. 22)
161. *lʾgbrt ddlʾḫs* (Wolf 1989: no. 23)
162. *lḥnn* (Lemaire 1990: no. 1)
163. *lʾyndb bn ḥnnʾl* (Wolf 1990: no. 442)
164. *lynḥm* (Wolf 1990: no. 443)

[48] This seal was No. 78a in Aufrecht 1989: 345.

165. *l'l'mṣ/l'l'mṣ bn tmk'l* (Younker, *et al.* 1990: pl. 25)
166. *lmnḥm bn 'l'* (Bordreuil 1991: no. 26)
167. *l'z'* (Lemaire 1991b: no. 24)
168. *lmr'l bn 'z'* (Lemaire 1991b: no. 25)
169. *lrm'l bn 'l[* (Lemaire 1991b: no. 26)
170. *lznr bn 'l'zr* (Aufrecht 1992: no 2)
171.[49] *šb' 'mn* (Herr 1992a: figs. 3–4)
172. *šb' 'mn* (Herr 1992a: figs. 5–6)
173. *b'l y'[* (Herr 1992a: figs. 7–8)
174. *lnṣr'l bn 'lmšl* (Younker, *et al.* 1993: pls. 17a–b)
175. *l'brš' bt b'lntn* (Deutsch and Heltzer 1995: no. 69)
176. *lps bn kšy* (Deutsch and Heltzer 1995: no. 70)
177. *ly'ndb bn ṣdq'l* (Drey 1996)
178. *lḥt'zt bt 'lšm'* (Levin 1996)
179.[50] *l'ln bn brk'l* (Younker, *et al.* 1996: 78, pls. 20a–20b)
180. *l'b* (Avigad and Sass 1977: no. 43)
181. *l'bš' bn 'r'l* (Avigad and Sass 1997: no. 48)
182. *l'ḥt'b bt 'bl'* (Avigad and Sass 1997: no. 870)
183.[51] *l'lmt bn 'l'wr* (Avigad and Sass 1997: no. 884)
184. *l'lyš' bn ynḥm* (Avigad and Sass 1997: no. 894)
185. *l'lndb* (Avigad and Sass 1997: no. 900)
186. *l'lrm .l.š* (Avigad and Sass 1997: no. 909)
187. *lzkr'[l] bn ḥṣl'l* (Avigad and Sass 1997: no. 928)
188. *lḥnn bn 'ḥ'b* (Avigad and Sass 1997: no. 932)
189. *lḥnn'l bn mtn'l* (Avigad and Sass 1997: no. 933)
190. *lmnḥm* (Avigad and Sass 1997: no. 942)
191. *lmtn'l šmḥl* (Avigad and Sass 1997: no. 952)
192. *lnṣr'l bn b'd'[l]* (Avigad and Sass 1997: no. 957)
193. *l'zr* (Avigad and Sass 1997: no. 962)
194. *lplṭ bn tm* (Avigad and Sass 1997: no. 966)
195. *lšb'l* (Avigad and Sass 1997: no. 974)
196. *lšm'l* (Avigad and Sass 1997: no. 976)
197. *.b.' nš'lw* (Avigad and Sass 1997: no. 989)
198. *lš.b. bn ṣ . . .* (Avigad and Sass 1997: no. 991)
199. *'bgdhwzḥty* (Avigad and Sass 1997: no. 1000)

[49] See figure 10–6 below.
[50] See figure 10–5 below.
[51] This seal was No. 148 in Aufrecht 1989: 345–46.

200. *ʾbgdh[w]zḥṭykl*[(Avigad and Sass 1997: no. 1004)
201. *lšdrmn* (Avigad and Sass 1977: no. 1101)
202. *ʿbdʾ* (Avigad and Sass 1977: no. 1113)
203. *lqrp.l* (Avigad and Sass 1977: no. 1117)
204. *lʾyʾhl bt ḥlqʾ* (Avigad and Sass 1977: no. 1120)
205. *lʾbh* (Avigad and Sass 1977: no. 1121)
206. *ʾldlh* (Avigad and Sass 1977: no. 1126)
207. *lbdʾl* (Avigad and Sass 1977: no. 1162)
208. *ʿrbʿlt'b* (Avigad and Sass 1977: no. 1185)
209. *lʾlyrm hspr* (Deutsch and Heltzer 1979: no. 106)
210. *lšʾl* (Deutsch and Heltzer 1979: no. 107)
211.].*ʾl hm.k.ḥ./*].*ḥṣlʾl bn ʿnt/wkpr.l*[*/ʾḥ*ʾ [(Sanders 1997)
212. *bʿlyš*[ʾ] *mlk b.* . . . (Deutsch 1999)
213. *lbrkʾl hmlk*
214.]*bn qšmlk/*[ʾ]*lntn bʾl ngyd* [*/*]*mṣ bn plṭ*[*/*].*b.*[(Cross in press: no. A6)

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CHAPTER NINE

THE EMERGENCE OF THE AMMONITES[1]

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Models for Canaan's Social Dynamics During LB IA–IB

There seems to be a general agreement that a most significant social transformation occurred in Palestine (both Cis- and Transjordan) between the end of the Late Bronze Age and the beginning of the Iron Age. The former saw the collapse of the Canaanite city-states while the latter witnessed the rise of the Iron Age polities of Israel, Edom, Moab, and, of course, Ammon. The rise of these polities has generated a considerable amount of interest and speculation. Speculation has particularly focused on the *process* that led to the emergence of these polities. Unfortunately, the scant nature of the archaeological evidence has made it difficult to reconstruct this process with any confidence or certainty. At base, the archaeological settlement record suggests that the highlands of Palestine (both Cis- and Transjordan) witnessed a transformation from a nonsedentary, pastoral society to, first, one of small agricultural villages, and finally, to a three-tier settlement hierarchy of cities, towns and villages. The latter was embedded within and supported the Iron Age kingdoms of Israel, Edom, Moab and Ammon. The settlement pattern of the Late Bronze/Iron Age transition clearly points to a social organizational transformation of increasing complexity.

The traditional explanations as to what initiated this process of settlement (and its implied societal) change have centered around a "conquest model" a "peaceful infiltration" model, and, most recently, some sort of an "indigenous social transformation" model (see Shanks 1992). It should be noted that these reconstructions generally focus

[1] For a more comprehensive version of the material and arguments presented in this article see the author's dissertation (Younker 1997a).

on the emergence of Israel and combine various interpretations of the Hebrew bible (especially the Exodus/Conquest accounts) with the archaeological evidence. While this is definitely a legitimate approach, those of us interested in the emergence of the Ammonites lack the equivalent of an "Ammonite bible" and must, therefore, rely more heavily on the archaeological record and the few extra-biblical sources that exist in reconstructing the process of Ammon's emergence.

Recent anthropological approaches can also provide a useful analytical framework for identifying, organizing and interpreting those data relevant to social change (see LaBianca and Younker 1995). The most useful recent approach I have seen for both isolating the elements which contribute to the process of changing societal organizational complexity, and for understanding the process of social change, itself, it that of Rothman (1994) and Stein (1994). They refer to the process of changing social organizational complexity as the "organizational dynamics of complexity." Rothman and Stein argue that in order to understand these dynamics, it is first necessary to set up "an analytical structure that emphasizes the way societies actually function" by focusing "on differences in the ways that polities emerge dynamically through processes of integration and competition among their own internal groupings and institutions, and in their articulation with external natural and socio-political forces." Both the polities and the processes are illuminated through a combination of archaeology, written sources, and anthropological models.

Joffe's Model of Generation, Resolution, and Regeneration of Contradiction

To date, the most explicit attempt to isolate and understand the dynamics of social change in ancient Palestine utilizing an approach similar to that advocated by Rothman and Stein has been Joffe (1993), albeit his study is restricted to the Early Bronze Age. Before identifying the components around which Early Bronze Palestine's social dynamics revolved, Joffe first identifies the most basic social organizational unit of Palestine (or Canaanite) society that set it apart from neighboring societies in Mesopotamia and Egypt. Whereas in Mesopotamia the base social unit was the city, and in Egypt it was the nome, in Canaan the base social organizational unit was the *kinship group* with the nuclear family as the basic unit.

Joffe points out that there were a number of reasons why the kinship group was the basic social organizational unit in Canaan, but two of the more significant include geographical and environmental constraints (1993: 24). Canaan is a relatively small country with a marginal environment. In brief, Canaan is a highly variegated land in terms of topography, microenvironments and local climatic conditions (see Hopkins 1985). In a given year, some parts of the country may be agriculturally productive, while others are simultaneously experiencing drought. Arrangements of reciprocity with neighboring people were, thus, critical for survival in this marginal environment. Such arrangements were naturally most easily made with those whom one could most trust—family members. Thus, the various economic and subsistence uncertainties that resulted from this marginal environment led to a situation in which changes in social complexity in Canaan were structured around and through the fundamental kinship unit. According to Joffe, preserving the basic kinship units in the social structure was an adaptive device that retained the capacity for rapid downward reorganization in the event of societal collapse. This self-limiting but risk-abating social organizational strategy was uniquely suited to Syro-Palestine and its success there meant that this region was not responsive to Egyptian [or Mesopotamian] social evolutionary patterns, trajectories, or culture; if it would have been, "the capacity for reversal would have been compromised" (Joffe 1993: 60).

From the basic Canaanite kinship unit, there evolved three new societal sectors or components whose internal and external dynamics operated at a higher level of complexity. These included the urban sector, the sedentary rural sector (which could be sub-divided into lowland and highland components), and the nonsedentary rural sector (1993: 72, 78, 83). Initially, as these sectors emerged, they were complementary and interdependent upon each other (1993: 90). However, as the urban component developed, "new patterns and maps of social relations" were created (Joffe 1993: 72); urban dwellers became self-conscious of a distinct, separate identity over and against that of the rural dweller or nomad (ibid.). Moreover, it appears that a power imbalance emerged between urban, rural and nonsedentary components of society (1993: 83). According to Rosen (1997: 96. 97) the rural sector became increasingly dependent upon the urban for defense, the administration of a fertility cult, and the redistribution of cereals. Ilan (1995: 314) argues that it was essentially these same

ties that prevailed during the Middle Bronze Age. This led to a situation in which the urban sector came to dominate and even exploit the rural social components resulting in the emergence of an anti-urban ideology in the hinterland. Ultimately, Joffe argues, Canaanite urbanism existed in opposition to other social forms that resisted and rebelled against urban domination and exploitation (1993: 90).[2]

One of the responses to urban primacy was "bedouinization" or "nomadization" among the anti-urban and anti-royal, kin-based countryside (cf. Lewis 1987; LaBianca 1990; Tapper 1990). By adopting the *longue durée* view of Braudel (1980), Joffe (1993) has traced several cycles of what he calls "generation, resolution and regeneration of contradiction"—oscillations of rising and collapsing complexity wherein the urban and rural components would cooperate, grow, break apart and collapse.

While Joffe, as noted, traces the origin of this phenomenon in Canaan to the EB II, he finds the ultimate expression of this in the later periods, especially the LB II/Iron Age, the time when the Ammonites emerged (1993: 90, 91). During the LB II, this was exhibited

[2] It is interesting to note, that in view of Joffe's emphasis of the role of kinship in Early Bronze Canaanite society, both urban and rural (1993: 50, 85), he fails, as far as I can see, to address the question of whether there were kinship relations *between* the urban and rural sectors. This question is both interesting and significant, because the absence of such inter-sector relationships would seem to increase the likelihood that tensions would emerge between these two components of society. Perhaps, in the early going during the EB II–III, there were kin relationships between urban and rural. However, if such relationships did exist, the domination and exploitation of the rural by the urban appears to have dissolved them sometime during the Early Bronze Age. Even Joffe allows that by the second millennium [urban] society apparently broke out if its kin-based structures (1994: 54). (Joffe must here be referring to the urban component of Canaanite Middle Bronze Age society, because he clearly understands that Canaan's rural society continued to be organized around kinship up through the Iron Age.)

Certainly by the Iron Age, the highlands' peoples deny any kin relationship with the lowland urban centers! Although the dating of the various strands of Israelite literature is debated by scholars, the question still may be asked, is it mere coincidence that this literature uniformly portrays the Israelites as outsiders? The entire story of Abraham emphasizes that he is an outsider to Canaan, a migrant from Ur (Gen 11:27–31; 12:1–7; 15:7; 17:8). The declaration in Deut 26:5, "My father was a wandering Aramean," also points to an understanding of an exogenous origin. The Israelites also depict the Transjordanian polities as outsiders as well, via the relationship the Israelites claimed with these three Transjordanian peoples. Could it be that among the original purposes of these stories and references could be a tacit denial of any claims the Canaanite urban authorities might attempt to make on the Israelites with regards to taxes and corvee? We will come back to this point later.

in the phenomenon of the "*Hab/piru*," which Joffe views not as rural banditry, but rather as an "out-migration and social re-identification as institutionalized responses" to the threats posed by the urban centers and Egyptian authorities (for a similar view see Bunimovitz 1995: 326–327). Joffe suggests that the al-Amarna Letters, which clearly reflect the negative attitudes of urban society toward those who chose to remove themselves from the controls of centralized authority (cf. Astour 1964; Gonen 1984; Na'aman 1986; Finkelstein 1988: 339–48), provide a hint of the complementary hostility with which the rural highlanders viewed the city-states (1993: 91).

It is important to remember that while many see those who fled to the highlands (often identified with the Hab/piru) as refugees from the Canaanite city-states, Joffe's model views the tension as existing between the less-kin-based urban centers and the kin-based countryside—both the sedentary and non-sedentary rural components. While site-size data do seem to suggest a decline in the urban-centers proper (Gonen 1984; Finkelstein 1988: 341–345; 1994: 174), it was the *lowland* rural hinterland—those daughter towns and their dependent farms who belonged to and supported the city-state (Portugali 1994: 212)—upon whom the greater burden of taxes and *corvée* would have fallen, and who, consequently, would have been highly motivated to leave. Their departure would have undoubtedly led to a decline in the urban centers themselves. Undoubtedly, as Joffe proposes, kinship was the principal social organizing factor for the outlying small villages and farms. The departure of these folks would have greatly undermined the economic foundation of the Canaanite city-states and undoubtedly would have precipitated similar if not identical reactions as those seen in the Amarna Letters against the Hab/piru. With this overview of Joffe's model, we now turn to the archaeological record of Ammon, itself, to see how the data there fit.

Settlement Archaeology of Early Ammon

LB IB–IIA Settlement Pattern—Nomadization

So far, archaeologists have been unable to isolate very many sites dating specifically to the LB IB or the LB IIA in Ammon (Younker 1997; Table. 9.1). In some cases, this may be because the ceramic forms that have been found happen to be those which run throughout

the entire Late Bronze period (see McGovern 1986). In other cases, the necessary analysis or publication has not yet been undertaken. Nevertheless, the quantity of LB IB–IIA material that has been recovered from Ammon is not very great. Indeed, there have not yet been found *any* settlement sites (cities, towns, or villages) that can actually be dated to either LB IB or IIA in Ammon, suggesting not only a decline of the already sparse sedentary occupation from LB IA (above), but a virtual reversion to nonsedentary occupation end of the settlement continuum not seen since the EB IV.

While there does not seem to be indication of any *settlements* in Ammon during the LB IB–IIA, there *is* evidence that people were living in the area. This evidence comes in the form of a unique rectangular, almost square, structure found at Umm ad-Dananir (McGovern 1989: 128–36, below), and three burial caves which were found in the nearby Baq'ah Valley: Jabal al-Hawayah Tomb A2, and Jabal al-Qesir Tombs B3 and B30 (McGovern 1986: 14–15).

For LB IIA proper, the data paint an almost identical picture (Table 9.1). There may be a LB IIA settlement at Sahab, southeast of 'Amman (Ibrahim 1992: 899), although no pottery has been published to enable any chronological precision concerning the duration of the settlement during the Late Bronze Age. LB II Age pottery, dating broadly from the 15th to the 13th centuries (corresponding to the LB IIA and LB IIB), has also been reported at Tall Safut, although no architectural remains have yet been isolated (Wimmer 1992: 896–97). Beyond this, evidence of LB IIA activity in Ammon is restricted to the "isolated sanctuaries" at Umm ad-Dananir northwest of 'Amman (McGovern 1989: 128–36), which continued in use from the previous period; the 'Amman Airport Structure, east of 'Amman, which was added during this period; and the LB IIA burials at Sahab (Tomb C). The burial caves in the Baq'ah Valley northwest of 'Amman (Jabal al-Hawayah A2, and Jabal al-Qesir B3 and B30) also continued to be used during the LB IIA (McGovern 1986: 14–15).

LB IIB/Iron IA Settlement Pattern: Early Sedentarization

After an interlude of virtually no sedentary occupation in Ammon during the LB IB–IIA (above), the latter part of the LB IIB witnessed a dramatic resurgence of highland settlements in both Cis- and Transjordan, including Ammon (see Finkelstein 1994: 162, Fig. 8).

A review of the survey and excavation reports reveal that at least 20 sites in Ammon have been assigned to the LB IIB/Iron IA transition (see Tables 9.1 and 9.2). These include the ʿAmman Citadel (Bennett 1979a: 159), Tall al-ʿUmayri (West) (Younker *et al.* 1993, Herr 1998 personal communication), Sahab (Ibrahim 1992), Umm ad-Dananir (McGovern 1986), Tall Jawa (South) (Younker *et al.* 1990), Safut (Wimmer 1987a; 1987b; 1992), Khirbat Othman (Abu Dayyah *et al.* 1991: 392), Rujm al-Henu (McGovern 1986), the ʿAmman Airport Structure (Hennessy 1966a; 1966b; Herr 1976), Al-Mabrak (Yassine 1983; Waheeb 1992), Haud Umm Kharruba (Gordon and Knauf 1987: 292), Jabal at-Teweim (Gordon and Knauf 1987: 292), Khirbat al-ʿEdhmah (Gordon and Knauf 1987: 292), Rujm Madbaʿa (Gordon and Knauf 1987: 292), Rujm Beider (Abu Dayyah *et al.* 1991: 390), Khilda (Abu Dayyah *et al.* 1991: 391–392), Hesban Site 128 (Ibach 1987), Abu Zibneh (Gordon and Knauf 1987: 292), as well as the King Talal Reservoir Survey sites 1 and 13 (Tall ar-Rehil), Area C (Kerestes 1978: 108–35).

In addition to these sites, a number of cemeteries and tombs have been excavated with finds which date to the Late Bronze Age, including the Jabal al-Hawayah Burial Caves A1 and A2, the Jabal al-Qesir Burial Caves B3, B5, B6, B9, B30 and Sahab Tomb C (McGovern 1986).

Site Size Distribution. The "settlement" sites range in size from "medium sized sites" to very small (for standard site size classification for Palestine see Gonen 1984). The size of the settlement sites have been estimated as follows (see also Table 9.1): the ʿAmman Citadel—100–125 dunams; ʿUmayri—65 dunams; Sahab 50 dunams; Umm ad-Dananir—25 dunams; Jawa—21 dunams; Safut—17.3 dunams; Rehil—5.6 dunams; Khirbat Othman—uncertain. The other sites are all less than five dunams; in most cases, less than a dunam.

Site size data show that the largest group of sites (11) fall in the very small or tiny range (1–10 dunams); six sites are classified as small (11–50 dunams); two sites are medium-sized (51–100 dunams); and one site is large (101–199 dunams). It must be emphasized, however, that in the case of the settlements, the size estimates are based on the approximate present size of the tall, or the current extent of the ruins, rather than actual excavation of the LB II/Iron I strata. Chances are that most of these size estimates should be revised slightly downward.

Site Function. Of these 20 sites, eight are probably actual settlements: the ʿAmman Citadel, ʿUmayri, Sahab, Umm ad-Dananir, Jawa, Safut, Khirbat Othman and Rehil. Three sites consist of what has been described as the *quadratbau* or a "middle courtyard" structure: Rujm al-Henû, the ʿAmman Airport Structure, and Al-Mabrak (Yassine 1983c). Three more sites have been vaguely described as "hilltop forts"—Jabal at-Teweim, Khirbat al-ʿEdhmah, and Rujm Madbaʿa (Gordan and Knauf 1987). The remaining seven sites are small, non-descript sherd scatters or building sites, the latter of which may have served as farmsteads, although a full study of the features associated with the buildings has not been published.

With regard to the "hilltop fortresses" and *quadratbau* structures, it is interesting to note that Fritz originally thought the ʿAmman Airport Structure, whose *quadratbau* plan he clearly recognized, was actually a "military watchtower" similar to the other "towers" that dotted the landscape later in the Iron Age (Fritz 1971). While this suggestion is unlikely for the ʿAmman Airport Structure whose contents seem to point to a cultic function, the *quadratbau* does have a "fortress-like" appearance and, in general, size and construction technique are not too different from the so-called "Ammonite Towers" of the Iron II. Similarly, M. Waheeb's subsequent work at Al-Mabrak, which also has a *quadratbau* plan, led him to describe the site as a "fortified agricultural complex" (Waheeb 1992). This description was based on both the walls of the rectangular compound, which were constructed of large megalithic boulders, and the associated finds which pointed to agricultural activities on the site. Indeed, I would suggest that, based on location, associated artifacts, size, shape, and constructional similarities, the *quadratbau* is a LB IIB/Iron IA predecessor to the *qusur*, large fortified agricultural estates that are common later in the Iron IB–C (Younker 1989). This conclusion is more convincing when these structures are viewed within the historical context of LB IIB/Iron IA and compared with similar structures and a similar historical situation during the Ottoman period (Younker 1997a).

Historical Reconstruction

Egyptian Sources for LB IB–IIA

How do the archaeological data fit with the available historical sources for Ammon? Fortunately, Egyptians sources, including the monumental

inscriptions of the various pharaohs of the 18th Dynasty and various texts such as the Amarna Letters, provide a broad, albeit important, historical context for the sparse archaeological findings of LB IB–IIA Ammon. According to these sources, a paramount concern of the Egyptians during the 18th Dynasty was to preserve Canaan as a buffer zone against the Hittites and other northern powers (Redford 1992: 148–49). Threats from the north—first, Mitanni, and then, Tunip and Kadesh—prompted Thutmoses III to pursue a vigorous preemptive strategy to prevent enemies from threatening the borders of Egypt. This was accomplished in part by maintaining an unchallenged hegemony over western Palestine during this time, although the Egyptians were frequently called upon to defuse intercity disputes and rural discord (Bienkowski 1989b; Knapp 1989b; Lemeche 1988: 83–84). To support this hegemony, the Egyptian pharaoh, through his emissaries and on-site administrators, required the mayors of the Palestinian city-states to not only collect and deliver the annual tribute, but to also provision the local garrisons of Egyptian troops, furnish contingents of local militia for Egyptian campaigns, and to recruit locals for corvée (forced labor) (Ahituv 1978: 97; Hopkins 1993: 201).

Not surprisingly, the heavy presence of Egypt in Canaan made a significant impact on the local society during the course of the Late Bronze Age. In some respects, Egyptian rule appears to have stimulated the Canaanite economy (Bienkowski 1989b; Knapp 1989a; 1989b), although there is no evidence that the general population of Palestine benefited from this economic boom. Egyptian records report a substantial amount of tribute and gifts from Palestine including metals, woods, glass, and manufactured goods. However, none of these items were indigenous to Palestine, suggesting that their agricultural production was geared to trade for these items on the international market after which they were sent on to Egypt. Thus, most of Palestine's agricultural surplus was converted to forms of non-perishable wealth that could be used to support either pharaoh's court or the Egyptian infrastructure in Palestine (Hopkins 1993: 201–2).

The diversion of this economic surplus away from the indigenous population had a predictably adverse affect on the countryside. In contrast to the Middle Bronze settlement pattern, Late Bronze Cisjordan did not attain even half of its former sedentary population in cities, towns, and villages (Gonen 1984; Bienkowski 1989b: 59; Hopkins 1993: 202). The highlands of western Palestine, which had boasted nearly 200 sites in the Middle Bronze, became almost devoid

of sedentary population during the Late Bronze (Finkelstein 1988: 339–340; 1995: 356 [Fig. 4]). As Bienkowski (1989b: 59) has noted, the sedentary population appears to have pretty much abandoned the rural hinterland and frontiers, and what was left was concentrated in the main urban sites that had carried over from the Middle Bronze Age.

At the same time, however, other Egyptian sources provide descriptions of nonsedentary elements of the population that appear to have occupied the highlands just out of the reach of Egyptian and local urban authorities. One of these elements, known as the *shasu* (Shasu), appears in numerous references in Egyptian sources (Giveon 1971; Ward 1972; Weippert 1974; Redford 1992). They are first mentioned in a list of prisoners from the reign of Thutmoses II, although most references to them seem to date to the LB IIA (the time of the earlier Amarna Letters) and LB IIB.

Scholars differ on the derivation of the word, *shasu* (Shasu). While some have suggested that it might be related to a Semitic verb "to plunder", most scholars believe it more likely that *shasu* is derived from an Egyptian verb meaning "to wander" (Giveon 1971: 261–63; Ward 1972: 56–59; Weippert 1974: 433; Redford 1992: 271). The latter meaning certainly matches the Egyptian description of these people who, though their homeland, Shasu-land (*t3–s3sw*), seems to be in Transjordan (Giveon 1971: doc. 6a and 16a; below), also appear in a number of other lands, including northern and southern Palestine, Syria, and even Egypt (Giveon 1971: 235–39; Ward 1972; Redford 1992: 273). Moreover, Egyptian comments that the Shasu generally live in tents and keep sheep and goats are in harmony with the lifestyle of a nomadic or seminomadic people (Weippert 1972: 275).

Most scholars interpret the Egyptian sources as depicting the Shasu as a "social class" rather than an ethnic group (Ward 1992: 1166). According to Egyptian sources, the Shasu were divided into tribes or "clans" (*mhwt*) that were led not by a king, but by "chieftains" (*ʿ3*) (Giveon 1971: 255–57, Docs. 11, 36). The fact that they are depicted in Egyptian art in different costumes (e.g., long dress or short kilt) may reflect membership in different tribes (Ward 1992: 1166). While most seemed to live in tents, some lived in towns (Giveon 1971: 114–15, n. 5). Again, the texts suggest most Shasu kept cattle (sheep and goats), although some served as mercenaries for Asiatic and Egyptian armies (Giveon 1971: Docs. 46, 50).

Shasu in Ammon? Their ubiquitous appearance at points north (Syria),

south (Moab and Edom) and west of Ammon (western Palestine) make it not unlikely that the Shasu were also found in or near Ammon as well. Indeed, at Amara West, a Ramesses II toponym list (apparently a derivation of a document of 15th century origin) provides a group of six names in "the land of the Shasu" which clearly seem to be located in Edom, Moab and the northern Moabite plateau, which bordered, and at times was included within, Ammon (Giveon 1971: 26ff. and 74ff.; Younker 1994). One place name which occurs in this list, Laban, is the same name as the progenitor of the Ammonites and the Moabites mentioned in Gen 19, and may refer to a site just south of ʿAmman (Redford 1992: 272). Specifically, both Abel (1938: 188) and Giveon (1971: 76) note that the *Notitia Dignitatum* provides a list of Transjordanian garrisons from the Byzantine period, one of which is Libona. Abel, Giveon, and Redford (1992: 272) each identify the Late Bronze Age Egyptian town of Laban and the Byzantine Libona with Khirbat al-Libben. Khirbat al-Libben (alternately spelled al-Lubban and al-Libban), was formerly a Beni Sahkr village and a station on the Hijaz railway located a little more than 14 km south of ʿAmman and 4 km southeast of Jawa (South) (see Abujaber 1989: 94, 137, 145, 233), a location which could be considered within the southern border of Ammon (Younker and Daviau 1993; Younker 1997). Unfortunately, the only description of the ruins of Kh. al-Libben is provided by Brünnow and von Domaszewski (1904–9: 178) who visited the site sometime between 1897 and 1898. They note only that the ruins extended over a couple of hills. If this identification is valid, however, it places some Shasu close to the southern border of Ammon, if not within Ammon proper.

Certainly the lifestyle and social organization of the Shasu, as described in Egyptian sources, is compatible with the archaeological record of Transjordan which extends from Edom northward through Moab to Ammon (LaBianca and Younker 1995). If the inhabitants of LB IIA Ammon were not Shasu, they must have strongly resembled them. As noted above, the archaeological evidence clearly indicates that Ammon at this time was mostly inhabited by nonsedentary people, although there is possible evidence of one or two modest settlements (McGovern 1989). Like the Shasu, there is some evidence of contact between Ammon and western Palestine in the similarity of some aspects of the material culture (especially some pottery forms), but distinctive elements also appear (ibid.).

The occasional references that imply an antagonistic relationship

between the Egyptians and the Shasu may provide some of the background for another Egyptian source that applies to the LB IB—the so-called "Palestinian List" or "topographic list" of Thutmoses III. A full discussion of this list is beyond the scope of this study (see Aharoni 1979: 162–63; and Ahituv 1984 for earlier studies). However, 15 names (numbered as sites 89–103) are of special interest in that it has recently been proposed that these sites are located in Transjordan rather than western Palestine (Redford 1982a; 1982b; Kitchen 1992: 23–25). According to Redford's identifications, sites 92–96 are actually located within Ammon. Site 92 is ʾAbil (Nahr az-Zaraq/Jabbok); Site 93 is *ktit*, (Gittoth [winepresses]); site 94 *mqrpt* (fertile depression?—Baqʿah Valley?); Site 95 is *ʿyn* (ʿAyn Musa—ʿAmman?); and site 96 is *krmn* ([Abil] Keramim—Jawa?; see Younker 1997). Of possible significance is the fact that the reference points for this stretch through Ammon are *geographic* features rather than settlements (Younker 1997). It could be inferred from this Egyptian document that settlements in LB IB Ammon were either rare, avoided by the Egyptians, or both (see settlement pattern discussion above).

Again, this situation is in harmony with the broader socio-political context of Palestine. As noted above, the commencement of the LB IB period is associated with Thutmoses III's campaign into Palestine c. 1482 B.C.E. (Weinstein 1981: 12; Redford 1992: 156). The focus of this campaign was western Palestine, although the disruption there would likely have resulted in further destabilizing the precarious economy and/or subsistence strategies of those people who lived in the marginal zones of Transjordan such as Ammon. However, as also noted above, the existence of a Thutmoses III itinerary that possibly includes Ammon proper (Redford 1982a; 1982b; Kitchen 1992), leaves open the possibility that the pharaoh campaigned directly through this region at least once, if not more times, on his way north. The discovery at Tall al-ʿUmayri of a seal impression with the cartouche of Thutmoses III (albeit, a 19th dynasty copy from the reign of Ramesses IV—see Redford 1991: 379–80), is a possible testimony to the enduring impact that Thutmoses III's passage made on this area. Subsequent to the campaign, the Egyptians initiated a policy that included "the intentional demolition of Canaanite towns and the deportation of a sizable segment of the population" (Redford 1992: 208).

There has been something of a debate on the impact this Egyptian campaign had on the population of western Palestine. Many schol-

ars have assumed this campaign created an occupational "gap" in some regions of Palestine (e.g., Wright 1961: 91, 94), while others have thought this gap has been exaggerated and even filled by subsequent archaeological discoveries and Egyptian texts (e.g., Weinstein 1981: 12–14). Recent intensive surveys show, however, that in terms of sedentary occupation there was indeed a significant drop, especially in the highlands of Canaan during LB IB (Finkelstein 1994: 174; 1995: 254–55; Bunimovitz 1994: 193; 1995: 324).

While the data are not yet complete enough to indicate whether the few LB IA settlements at ʿAmman, Umayri, and Jawa were abandoned or destroyed at the LB IA/IB transition, there is little doubt that sedentary life in Ammon was in decline at the time the Egyptians were campaigning in western Palestine. Certainly, the practice of mass deportations did not encourage sedentary occupation by the highland inhabitants of either Canaan or Ammon. Egyptian documents do indicate that Thutmoses III deported more than 7,300 people from this general region, while his son Amenophis/Amenhotep II would carry off an additional 89,600 (Giveon 1971: 219–20; Redford 1982b: 117; 1985: 193 and below). It is interesting to note that the Shasu made up about 36 percent of the Palestinian prisoners brought back by Amenhotep II. As Redford points out, although the latter's tally should not be construed as a census list, it undoubtedly provides a representative cross-section of the Shasu population that penetrated Canaan (1992: 278).

Most of those folks in Ammon (and elsewhere in Transjordan) who escaped Egyptian deportation apparently decided to abandon a sedentary way of life for one which would not be as subject to Egyptian harassment; that is, they adopted a strategy of "bedouinization" (Joffe 1993: 64) or "nomadization" which is one "form of resistance . . . by the rural population to the exploitative undertakings of urban elites" (LaBianca 1990: 41, 42; see also Finkelstein 1995: 355). The location of their homeland on the Jordanian plateau during the Late Bronze appears to have allowed the Shasu and other non-sedentary peoples such as the Hab/piru to maintain an existence "at least one step beyond the reach of the Egyptian empire and international politics" (Hopkins 1993: 202; see also Redford 1992: 273). Thus, in spite of the massive deportations of Thutmoses III and Amenhotep II, later Egyptian sources indicate that a large population of Shasu and Hab/piru continued to occupy the highlands of Palestine and Transjordan during this period.

The presence in the nearby highlands of these peoples who refused to acknowledge the authority of the Egyptians or to share in the burden imposed upon their city-state neighbors would naturally have created an irritating and frustrating situation for both the Egyptian authorities and the Canaanite urban leaders. Not surprisingly, therefore, one reads disparaging remarks about both these people groups (Hab/piru and Shasu) in both Canaanite correspondence and Egyptian records. From the Egyptian perspective, the Shasu were, for the most part, rebellious, quarrelsome, unfriendly highwaymen who were "ignorant of the laws of the palace" (Ward 1992). The demands that Egypt placed upon the city-states of western Palestine became increasingly burdensome in an environment of diminishing sedentary population (Bunimovitz 1995: 325). In a climate in which manpower was at a premium in order to meet agricultural production needs, militia service, and corvée demands, it is not surprising that urban leaders became quite jealous of both their territory and population (Bunimovitz 1995: 327).

As Bunimovitz (1995: 326–27) explains,

> in order to maintain rule and status, great material investments were needed [by the urban elites] . . . and thus the burden imposed on the subjects became heavier; these subjects, in turn, reacted time and again by deserting the established social system—thereby depleting it.

Eventually, "the dearth of sedentary population coupled with the compulsory need to share its meager labor resources with the Egyptian government (see Na'aman 1981: 178–79), presented a serious problem for the Canaanite urban elite and generated a vicious circle" in which even greater demands were placed upon the remaining sedentary population, increasing the likelihood that they, too, would abandon the system.

Many scholars believe that a good number of these people apparently joined the seminomadic or nomadic groups such as the Shasu and Hab/piru who occupied the highlands of both Cis- and Transjordan (e.g. Stager 1995: 348). The latter region, which was more removed, especially served as a refuge from both the Egyptians and the city-state mayors of Canaan. The maintaining of a semisedentary or nonsedentary way of life by the Shasu in Transjordan undoubtedly frustrated the ability of the Egyptians to control these people as they could the city-states of Canaan.

Historical Factors and Reconstructions of LB IIB/Iron IA

Hab/piru and Shasu Dominance in the Highlands. Although they would eventually be eclipsed by the arrival of the Sea Peoples mentioned in Egyptian sources, the Shasu of Transjordan (including the region of Ammon) and related nonsedentary peoples such as the Hab/piru in western Palestine continued to dominate the hill country of the LB IIB/Iron Age IA in both Cis- and Transjordan (Weinstein 1981: 17; Redford 1992: 257–80). Indeed, there is sufficient evidence to suggest that the Shasu had become so powerful during this period that they were able to menace or even cut off Egypt's northern routes through western Palestine and Transjordan for awhile. This prompted vigorous punitive responses by both Ramesess II (Redford 1992: 274, 275) and his son Merneptah. The presence of Shasu captives in the Karnak reliefs depicting this campaign reinforce the idea that troubles with Shasu helped prompt Merneptah's campaign (I disagree with Redford here that the battle reliefs at Karnak of Ashkelon are those of Ramesses II; rather, I agree with Yurco [1990] that they belong to Merneptah).

Merneptah's success in Canaan (and Transjordan?), however, was short-lived, for after his death he was followed by four weak rulers who essentially abandon Canaan for the next 20–25 years (Redford 1992: 249; Stager 1995: 335–36). During this time, the Canaanite city-states were now quite at the mercy of the highland tribes—both Shasu and Hab/piru. As Redford (1992: 268) points out, the "'Apiru and nomadic dissidents *always* held the upper hand; to the Canaanite headmen they were 'mighty enemies' (EA 318:9), and as few as forty were sufficient to capture and destroy 'cities' (EA 185:47; 186:50)." This would have been especially true during the more than two decade Egyptian decline that followed the reign of Merneptah (c. 1203–1182 B.C.E.) (Redford 1992: 249).

Resettlement of Hab/piru and Shasu Elements in the Highlands. In my opinion, it was most likely during this 20-plus year hiatus (c. 1203–1182 B.C.E.) of Egyptian domination in Canaan that followed Merneptah's reign, that the LB IIB/Iron IA highland settlements in both Cis- and Transjordan, including Ammon, began to be established. This is a time period that harmonizes closely with the ceramic chronology of these sites (see Stager 1995). The diminished threat of corvée and taxes during the post-Merneptah period, combined with pressures in the highlands for pastoral resources (see Köhler-Rollefson 1992: 15),

would have provided ample motivation for those components of the Hab/piru and Shasu who had previously been sedentary (see above) to re-establish small agricultural villages in the highlands as quickly as it was feasible. While Redford notes that the highlanders were probably militarily stronger than the Canaanite city-states, it appears that they, nevertheless, chose to avoid pushing into the lowlands during their initial settlement phase. This reluctance was probably not caused by a fear of the weakened Canaanite city-states as much as the continuing possibility that the Egyptians might return, which they indeed did during the reign of Ramesses III (c. 1182–1151 B.C.E.). It is during the latter period when the Philistines invade (Stager 1995; and below).

As noted, this LB IIB/Iron IA highland settlement process occurs at the same time in the hill country of *both* western Palestine and northern Transjordan, including Ammon (c. 1220–1175 B.C.E.). Settlement farther south in Transjordan seems to have followed a little later, probably due to demographic and environmental factors (see LaBianca and Younker 1995: 406–7; Finkelstein 1995: 354, 357).

This historical reconstruction answers some of the questions raised by Bunimovitz (1994) about the relationship of this new highland settlement phase and the assumed societal collapse that the entire southern Levant appears to have experienced at the end of the Late Bronze Age (see articles in Ward and Joukowsky, eds. 1992, especially Weinstein 1992: 142–50; Dever 1992: 99–110). Specifically, Bunimovitz notes that the renewed settlement process in the hill country in both Cis- and Transjordan appears to have begun while the majority of the Canaanites centers were still in existence (1994: 195, 196; above). Bunimovitz asks the question if, as many scholars assume, the collapse of the Canaan's socio-political and settlement systems led to *nomadization* at the end of the Middle Bronze Age (see Finkelstein 1988; 1994; 1995; Bunimovitz 1989), how could this same process at the end of the Late Bronze Age lead to *sedentarization*?

Instead, Bunimovitz argues that the Late Bronze/Iron I sedentarization in the highlands was the result of increased security provided by the Egyptian authorities "as a consequence of the vigorous measures taken by the pharaohs of these dynasties" including "punitive expeditions against non-sedentary groups" . . . "public security was restored, the frontier retreated and non-sedentary groups resettled . . . in the highlands" (1995: 328).

However, there are a couple of problems with Bunimovitz's recon-

struction. First of all, there is a bit of a paradox, or even outright contradiction, with the idea that the very people against whom punitive expeditions are undertaken by the Egyptians—the nonsedentary groups of the hill country—would subsequently feel "more secure" as a result of Egypt's punitive raids and would consequently settle down. Moreover, there is the record of Merneptah attacking one of these groups—Israel (Hasel 1995), yet Bunimovitz includes Izbet Sartah and Tall Beit Mirsim B1–2 among the sites which enjoyed the new security provided by Egypt—sites which he acknowledges are attributed to the Israelites (1995: 328). If these highlands people actually suffered a defeat at the hands of the Egyptians, it seems more likely that they would have withdrawn even farther from Egyptian control; they would not have settled down to become subjected to increased taxes and corvée!

I would propose a reconstruction that combines the historical analysis of Stager (1993) with Joffe's anthropological model (1993: 90–91); that is, the highlanders were probably local kin-based sedentary groups with a long tradition of an "anti-urban" ideology who had fled the oppression of Egypt and the Canaanite city-states (Stager 1993) through a process of "avoidance" (Gellner 1981; Yapp 1983; Tapper 1990: 67)—in this case through nomadization (LaBianca 1990)—and who take advantage of the first opportunity to resettle when the state and urban polities are weakened and no longer as oppressive. The ideal time for this resettlement would have occurred during that period in which the Egyptians began to withdraw from Canaan—during the 20-plus year Egyptian decline that followed the reign of Merneptah, as described above. It is during this same time that the Philistines invade the southwest coast of Palestine and carve out a niche for themselves (Stager 1995). Ammon, which was more distant from the harassment of Egyptian and Canaanite city-state authorities to the west, may have actually begun settling a little earlier than groups west of the Jordan. Indeed, recent work at 'Umayri suggests that the Iron IA site was, indeed, settled a little earlier than sites to the west based on the ceramic assemblage which includes the earliest Iron IA forms and a higher percentage of Late Bronze forms than is typical of parallel sites in the west (Herr, personal communication). Whether this has anything to do with the Israelite understanding that the Ammonites settled in the region first (e.g., Gen 19:38; Num 21:24; Deut 2:19) is hard to say, especially since these texts are viewed by most scholars as late.

Iron IA–B Settlement in the Highlands of Ammon and Cisjordan

Throughout the subsequent Iron IA–B period, the settlements in both Ammon and western Palestine continued to grow in size and number. In Ammon proper, at least 68 sites have been dated to this period—27 settlements and 42 farmsteads (Table 9.3). Egyptian sources indicate that the Shasu continue to inhabit Transjordan, although they are now tied more specifically with the lands of Moab and Edom. From the reign of Ramesses III (1182–1151 B.C.) there is a passage, between his accounts of the conflicts with the Sea Peoples and the Libyans, that reads:

> I destroyed the Seirites, the clans of the Shasu, I pillaged their tents with their people, their property, and their livestock likewise, without limit . . . (Kitchen 1992: 27).

In spite of Ramesses III's victory over the Shasu of Seir in Edom, there is presently no evidence, apart from the "Egyptianizing aspects" of the Balu' Stele (which is clearly not Egyptian; Dornemann 1983: 153–54), of any Egyptian presence or influence in Ammon or Transjordan during this time. Indeed, Ramesses III's attention was probably more taken up with maintaining the Philistines within their *cordon sanitaire* (Stager 1995: 344).

An intriguing question is the relationship between the Shasu and Hab/piru type people who apparently occupied the highlands of Ammon during the Late Bronze Age and the Ammonites who lived in this same region during the Iron Age. From a purely archaeological perspective, there is no discernable break to indicate the arrival of a "new" people. Rather, one sees only evidence of occupational continuity, although there is a distinct gradual movement towards increased sedentarism and intensive agriculture from Late Bronze to Iron Age. In brief, the ancestors of the Iron Age Ammonites seem to clearly be the highland pastoralists of the Late Bronze Age—Shasu or Hab/piru type peoples. The precise manner in which these people "became" Ammonites, apart from the biblical perspective, is presently beyond our purview.

Iron I Historical Reconstruction for Ammon and other Highlanders

There are no references to Ammon in Egyptian sources during the Iron IA, although they do note that their Transjordanian routes to

the north continued to be menaced by the Shasu. Rather, the Egyptians were distracted by bigger problems in western Palestine where their hegemony, including control over the coastal routes, was threatened by the Sea Peoples during the eighth year of Ramesses III. While the Egyptians were able to contain the challenge during the time of Ramesses III (Stager 1995: 344), they eventually lost their grip on Canaan during the second half of the 12th century B.C. This resulted in the decline of the Canaanite urban enclaves as well.

As the threat from Egyptian and Canaanite urban centers disappeared, the Philistines increasingly posed a new challenge to the independence of the highlanders. While this primarily affected those living in the west (Israel), it caused a chain-reaction that eventually affected Ammon. However, this new threat precipitated a new, different reaction by the kin-based countryside that was just settling down. Rather than reverting to an avoidance strategy by desedentarizing as they had previously done when oppressed by Egypt and the Canaanite city-states, the rural kin-based peoples now chose to resist. There are possibly two reasons for this new tact. First, the Philistines probably never posed the threat to the rural peoples that Egypt had when the latter was at the height of power in Canaan. Second, the kin-based highlands had both grown and developed coalitions that now made them a potent force in their own right; also, for the first time, the kin-based elements had developed a significant sedentary base quite independent of the old Canaanite urban centers which had now become virtually powerless. The ability to form large coalitions based on kinship ties (tribal confederacies), along with highland settlements which provided an economic foundation for independence and rally points for resistance, enabled these rural people to effectively resist Philistine incursions and attempts at domination for some time (see LaBianca's excursus, chapter 1). However, according to Israelite tradition, mounting pressure from the Philistines in the west, and the Ammonites in the east, motivated the Israelite tribes to unite under centralized leadership. Thus, they made Saul a king. Under Saul, and then David, the Israelites were finally able to break and subdue the Philistine threat.

In Ammon, meanwhile, the people had apparently also coalesced under central leadership, "a king," if Israelite tradition is to be relied upon (Judges 11). Indeed, this tradition suggests that Ammon acquired a king *prior* to Israel. While there are no contemporary documents to present the Ammonite point of view, current settlement data (especially

from 'Umayri) do seem to support the idea that Ammon underwent sedentarization just prior to Cisjordan, contrary to previous views. This makes sense in view of the fact that Ammon was a bit more removed from the pressures of Egypt and the Canaanite city-states (and later the Philistines) and may have begun settling down just prior to the post-Merneptah hiatus when highland settlements in the west really were established in earnest. The growth and increasing competition for land from western (Israelite?!) tribes pushing into Transjordan probably precipitated a reaction in Ammon, similar as that evoked from Israel in the west when the latter were pressured from the Philistines a little later. The Ammonites firmed up their coalition and united under a king in order to resist the Israelites. Attacks from the Philistines against Israel to the west may have prompted the Ammonites to make incursions of their own against Israel from the east. At any rate, the archaeological evidence for Iron IA–B Ammon sustains a picture of continuing sedentary growth, and the developing settlement hierarchy supports the emergence of a large, central urban center at Rabbath-Ammon, supported by several medium size centers (e.g. Safut, 'Umayri, Sahab, Jawa) and numerous small villages and farmsteads.

Whatever the historical particulars, the Iron IA–B highlanders of both western Palestine and Ammon appear to demonstrate the process of "generative genealogy" wherein large, nonsedentary kinship groups coalesced into large tribal confederations, tribal kingdoms, and eventually states, albeit, small-scale, secondary ones. As Tapper (1990: 66) has pointed out, one of the main variables that can precipitate centralized tribal leadership on a larger regional basis is the activity of an external, supra-tribal entity or state. In the case of Late Bronze Canaan (both Cis- and Transjordan), that external stimulus was provided by the Egyptian state. What is unique in this case is that for the first time in the history of Canaan, the "city-state" does not regenerate or come to "resolution" with the kin-based elements, to use Joffe's terms. Instead, the local kinship groups transform into larger and more complex kinship units—tribal coalitions, confederations, and eventually kingdoms or "states"—which come to dominate the landscape. Ultimately, Canaan's old city-state system disappears, never to re-emerge again!

In brief, the transition into the Iron Age was a social organizational revolution that reversed the historic trend in Canaan dating back to the Early Bronze wherein city-states represented the apex of

social evolutionary complexity—an apex that dominated the small rural kinship groups. Rather than another phase of "resolution," the Iron Age represents a new social evolutionary trajectory in which Canaan's old urban order is permanently disrupted and the kin-based elements evolve into new level of social organizational complexity that leave them on top. In the form of the Iron Age kingdoms of Ammon, Moab, Edom, and Israel, this new trajectory will attain the highest level of social complexity the region had ever seen up to that time, and which would not be seen again (on a local level) until the present.

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CHAPTER TEN

THE AMMONITES IN THE LATE IRON AGE AND PERSIAN PERIOD

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Introduction

Based on his landmark survey, but also on his biblical assumptions, Nelson Glueck summarized that the Ammonites ceased to exist at the same time that the Babylonians destroyed Jerusalem in the early sixth century B.C. So little was known about the Ammonites and the archaeology of Transjordan in Glueck's day that the much-better known results from Cisjordan became the historical paradigm to interpret the lands east of the Jordan River, as well, even though the Ammonites had almost nothing to do with Jerusalem geopolitically. As it turns out, Glueck's assumption was little less than intellectual imperialism, for, as we have discovered during excavations at Hisban and ʿUmayri, the story is very different. This paper will first describe the material culture of the Ammonite territory and then center primarily on the results from Hisban and ʿUmayri to help us understand the Ammonites during the Babylonian and Persian periods.

Ammonite Material Culture and Identity at the End of Iron II

The following discussion utilizes the remains from the main sites excavated in the Ammonite region:

Dayr ʿAlla VI	houses
Hajjar, Kh.	circular tower
Hisban 16	wall fragments?; reservoir
ʿIraq al-Amir	Unpublished pottery
Jalul	houses
Jawa	casemate wall; houses

Mazar	tombs
Nimrin	pottery; wall fragments
Mount Nebo	Tomb
ʿAmman	palace?; wall fragments; tombs
Rujm al-Malfuf (N)	circular tower
Rujm al-Malfuf (S)	circular tower
Rujm al-Hanu	fortress
Safut	houses
Sahab	wall fragments
Saʿidiyya IV	pits
"Tower Sites"	fortresses; agricultural sites
ʿUmayri	administrative buildings; houses; monumental entry
Umm ad-Dānanīr	cobbled courtyard

Geographical Extent. The end of Iron II was the era of greatest prosperity for Ammon, but, until the summer of 1996, there was conflicting information about its southern border. All we knew for certain was that it was somewhere between ʿAmman and Dhiban. Using the archaeological finds from Hisban, which appeared to be Ammonite, maximalists asserted the border was perhaps between Madaba in the south and Hisban in the north (Herr 1992b). Minimalists, basing their arguments on biblical texts, suggested that the biblical prophets First Isaiah (*ca.* 700 B.C.) and Jeremiah (*ca.* 600 B.C.) placed Heshbon (identified by most researchers as modern Hisban) in Moab, limiting the Ammonites to a very small territory surrounding modern ʿAmman (Hübner 1992). However, the biblical texts may be understood in two other ways. The first one is to posit literary dependence on earlier texts. Only one biblical text (Isa 16:8–9) puts Heshbon clearly in Moab. The others place it: (1) clearly in Ammon (Jer 49:3); (2) clearly not in Moab (Jer 48:1–2, 45); or (3) maybe not in Moab (Isa 15:4 and Jer 48:34). Jer 48:34 quotes part of Isa 15:4, making Jeremiah dependent on Isaiah. The one text which clearly places Heshbon in Moab (Isa 16:8–9) also uses formulae based on Isa 15:4. This central text (Isa 15:4) is the literary key to the problem for it alludes to the Song of Heshbon in Num 21:21–30 that may have been an early taunt song against Moab and does not claim Moab controlled Heshbon (Hanson 1968). Thus, it would seem that Isaiah and Jeremiah were more interested in rooting their prophetic oracles about Heshbon in Israelite religious literary or oral tradition (the Song of Heshbon) than in the geopolitical realities of the day.

The second solution is to see Heshbon in Moab during the time of First Isaiah and in Ammon during Jeremiah's day (Vyhmeister 1989: 9; Younker 1994). This is possible, but archaeological evidence also seems to suggest more of a connection with ancient ʿAmman than areas to the south, though the remains from the middle Iron II are so paltry at present that the archaeological picture is not clear. The view of some that the Song of Heshbon was a later literary work than First Isaiah or even Jeremiah would agree with this scenario.

Archaeological finds at Hisban 16 in Iron IIC (the seventh to fifth centuries B.C.), including pottery, writing style, and language on several ostraca, figurines, and other finds all suggest that the site was Ammonite, not Moabite. During the summer of 1996 excavations by the Madaba Plains Project at Jalul east of Madaba and excavation and survey by the Wadi ath-Thamad Project south of Jalul have given us a clear border. Two inscriptions (one seal and one ostracon) from Jalul were written in Ammonite writing and contained typical Ammonite names (personal observation thanks to Randall Younker). These inscriptions go along with the Ammonite pottery and figurines also found there. However, about 14 km to the south at Khirbat al-Mudayna in the Wadi ath-Thamad, an ostracon with clear Moabite writing and a name probably containing the name of the Moabite god Kemosh was discovered (personal observation thanks to P.M.M. Daviau). Accompanying this inscription was a corpus of pottery completely unlike that found in Ammonite regions, but with strong parallels at Dhiban in Moab. I suggest that the border can be plotted on the northern rim of the Wadi Wala drainage of which the Wadi ath-Thamad is a tributary because Ammonite pottery was found at Khirbat al-Hari, a fortress on the northern rim of a deep wadi approximately 11 km south of Jalul and 3.5 km north of Mudayna (personal observation thanks to Andrew Dearman). The conclusion that Khirbat al-Hari and Jalul, on the one hand, and Mudayna, on the other, were contemporary is based on identical Ammonite pottery forms found in great numbers at Jalul and Khirbat al-Hari, but also (in much lower frequencies) at Mudayna. Jalul and Hari were virtually bereft of pottery forms similar to Mudayna. However, Iron IIC pottery from the new excavations at Madaba displays strong elements of both Ammonite and Moabite forms (personal communication from Tim Harrison). The excavations at Madaba may show us that the border came to the north in this region.

Because of Ammon's relative prosperity (below), its increased border to the south, and the absence of the destroyed state of North Israel, we may possibly also include sites, such as, Dayr ʿAlla VI, Mazar, Nimrin (Dornemann 1990: 158–59), and Saʿidiyya IV, in the Jordan Valley east of the river as Ammonite, though their material culture was not as homogeneous as sites on the plateau. The northern border of Ammon may also have extended beyond the Wadi az-Zarqa (biblical Jabbok River) to include the settlements in southern Gilead in the absence of strong Aramean and Israelite states, the earlier rivals for Gilead. The desert was a natural boundary on the east (Herr 1992b).

Settlement Patterns. The settlement pattern of Ammon was centered on its capital and central site, ʿAmman (biblical Rabbat-Ammon), where, unfortunately, no major multi-season excavation has yet taken place. The several small projects that have dug there have not cleared enough area in Iron Age strata or published enough information to provide a coherent picture. However, the imposing site itself, towering over the headwaters of the Zarqa River, is enough to emphasize its strategic importance. Fragments of city fortifications, building walls, and collections of material culture including fine pottery and a Proto-Ionic capital, all speak of a thriving royal city. Surrounding it were smaller towns, such as Safut on the north, Jawa, Sahab, and, later, ʿUmayri on the south, and the Jordan Valley sites on the west. Smaller villages or agricultural sites were in the hinterland, such as the scores of farmsteads in the highlands around ʿAmman (Rujm Salim, two Khirbat al-Hajjars, etc.) (Younker 1991). Some of these smaller sites were fortresses (Rujm al-Henu, Drayjat, Rujm al-Malfuf [N], Rujm al-Malfuf [S], one of the Khirbat al-Hajjars, and a major one at Khirbat al-Hari) (Kletter 1991); that is, they were situated in strategic locations, were somewhat larger than the agricultural sites, and had no associated agricultural installations, for example, like winepresses. The fortresses could be either round towers with other associated buildings or rectangular fortified structures. Ammon was thus a large city-state with its major capital city surrounded by scattered towns, fortresses, and rural farmsteads. Exactly how farther-flung towns like Hisban, Jalul, and perhaps Madaba related to the capital has yet to be determined.

Subsistence Patterns. Rainfall in the Transjordanian highlands is sufficient for dry farming. Grain was produced in the valleys and plains, while fruits and vegetables grew on the hillsides and flocks grazed

in the open spaces between fields and on the eastern steppe bordering the desert. This agriculture helped Ammon achieve its prosperous subsistence level. Central state sponsorship of aspects of this agricultural production must have helped (below).

Urban Plans. No Ammonite site has been excavated extensively enough to gain a clear picture of an urban plan. The best glimpse is ʿUmayri, but it was not a normal residential site and was founded very late in the period (Herr 1995a). It included administrative buildings in the southwestern quarter of the site with domestic structures housing the bureaucrats to the north and east. There was no city wall, but a monumental entrance structure with a small shrine (standing stone and basin) were found facing the valley where the King's Highway most likely passed. But no streets have been found. Jawa was a fortified residential site with houses inside a casemate wall, but here, also, nothing can be said about street plans.

Architecture. The plan of the Ammonite fortresses is best seen at Rujm al-Henu in the Baqʿah Valley. There were both circular and rectangular towers and a casemate system of rooms around a courtyard. A similar picture, but without the circular tower, was also discovered at Drayjat, which, however, received major reworking during the Hellenistic period. A similar history (including Roman occupation) plagues our study of the Iron II features of the Malfuf and Hajjar towers.

Part of the palace of the Ammonite kings, or at least a major administrative building, may have been found on the ʿAmman Citadel in the east-central part of the site by a French-Jordanian team (Zayadine, Humbert, and Najjar 1989: 362). Certainly the building was an important one with very large walls surrounding a courtyard paved with a high-quality plaster floor. The rich finds and their international flair (a clay mask, Phoenician ivories, a green glass goblet, lapis lazuli fragments, and perhaps four double-faced Hathor heads) suggest a palatial interpretation. The administrative buildings at ʿUmayri had very thick walls (up to 2.0 m thick) and were constructed with basements, a rarity in Palestinian construction. One of the ʿUmayri buildings was constructed in a large four-room house plan similar to residences. The broadroom at the back, however, was considerably wider. Although most likely built earlier, a tripartite building at Jalul (Younker, personal communication), perhaps used for marketing and trade functions, is the first one found in Transjordan.

City walls included casemate structures at Jawa and the fortress

of Rujm al-Henu. Solid walls may have been found at ʿAmman which also possibly included a circular tower. A city gate was discovered at Jawa, but its plan has not yet been published.

A house at ʿUmayri, only partially excavated, may also have had a four-room plan with a cobbled long room and a cobbled broadroom. But the form is otherwise rare in Ammon. Indeed, there does not seem to be a typical Ammonite house plan. One of the houses at Jawa contained two stairways and monolithic pillars separating some of the 11 rooms (Daviau 1995). Other house fragments have been found at Dayr ʿAlla VI, Jalul, Safut, and Sahab. Several houses have over ten interconnected rooms. It is possible that these are basements supporting a more coherent plan in the upper story.

Technology. Ammonite pottery was at its most distinctive and superior phase in Iron IIC as potting technologies improved, most likely with some Assyrian inspiration. Very few of the typical vessel forms found in Ammon have been discovered outside the region (Lugenbeal and Sauer 1972). Several excavations on the Ammonite plateau have produced a great amount of Ammonite pottery in the last two decades, including Hisban, Rujm al-Henu, ʿUmayri, Jawa, and Jalul. Jordan Valley sites have it too, but not in the same proportions. Several types of bowls were made of fine wares probably used by the more wealthy people. These included elegant shallow bowls or plates sometimes rivaling the much later Nabatean ware for fineness; there were also decoratively burnished bowls, some with a gray burnish made with a manganese tool; but the most distinctive development occurred with a variety of burnished black bowls called, fittingly enough, "black-burnished ware."

Most masonry styles use rough-hewn stones. Ashlar masonry is rare outside ʿAmman. Even the administrative complex at ʿUmayri had no well worked stones. One wall at Jawa is very similar to Phoenician walls built in the pier and quoin construction style ("pillars" or nicely-hewn stones alternating with sections of smaller, rough-hewn stones).

Trade. The imported items found in the possible palace on the ʿAmman Citadel as well as an Ammonite black-burnished bowl from Batash in Judah indicate active trade patterns for Ammon (Kelm and Mazar 1985: Fig. 16:4). There was a major north-south road in Transjordan traditionally called the "King's Highway" (Num 20:17; 21–22); and at least two other roads must have crossed the Jordan Valley from ʿAmman to Jerusalem and the Samaria region. Trade

on the King's Highway is represented in the lists of goods on the Hisban ostraca (soon to be published in full in a book of collected essays by F.M. Cross, but until then see 1973a and 1975). The sites in the Jordan Valley may have seen more trade items than those on the plateau (except for ʿAmman). The tombs at Mazar illustrate this with their Assyrian, Judean, and Phoenician vessels (Yassine 1984). There are also indications from sites on the plateau of trade with Phoenicia: artistic motifs suggest Phoenician themes (Bordreuil 1973); pottery from tombs in ʿAmman (Gal 1995: 90–91); and a seal written in Ammonite script mentioning Astarte of Sidon (below). The lenticular body of a New Year Flask from Egypt, made of a greenish-turquoise faience, was found in a storage cave near an agricultural site in the ʿUmayri region (Herr 1991b: 242; illustrated in Fig. 12.122:15). These vessels were traded all over the Mediterranean during the Saite (26th) dynasty (seventh–sixth centuries B.C.) (Homès-Fredericq 1992: 198).

Writing. Ammonite scribes developed their own distinctive writing style after borrowing the Aramaic script at the beginning of Iron IIB (Cross 1975; Herr 1980). Their formal scripts are characterized by vertical stances; the heads of some letters opened very late in the seventh century, following an Aramaic development that began a century earlier. The most important inscription of the period is the Siran Bottle, found at a small site on the campus of The University of Jordan. This small bronze bottle contains eight lines of Ammonite writing dated to around 600 B.C. and mentions at least three kings of Ammon (Thompson and Zayadine 1973; Cross 1973b). There are also scores of seals with several found *in situ* at ʿUmayri and one of its agricultural farmsteads. The most famous one is the seal impression of an official of an Ammonite king named Baʿalyashaʿ (biblical Baʿalis in Jer 40:14) who reigned in the early sixth century B.C. (Herr 1985). There were also several ostraca found in the fill of the Hisban 16 reservoir; several of them represent receipts of trade items. Like most of the other small nations of the southern Levant, the Ammonite script gave way to Aramaic in the middle of the sixth century. Some of the late Hisban ostraca, though in Aramaic script, are still in the Ammonite language (Cross 1975).

The Ammonite language belonged to the "Canaanite" family of Northwest Semitic, but contained what appears to be an element of Arabic, especially in names, perhaps because of Ammon's proximity to the eastern desert. Ammonite differs from neighboring Hebrew

and Moabite in small but not insignificant ways. Unfortunately, few texts in Ammonite are long enough to determine how many of these differences existed (Jackson 1983: 108). One difference seems to have been a different pronunciation of sibilants (Hendel 1996).

Religion. The religion of Ammon centered around its god Milkom, who may be depicted by several male statues and busts (Bienkowski 1991: 40–41) as well as a figurine from Jawa (Daviau and Dion 1994, though they suggest it is El) wearing the *atef* crown. Some of the statues may be earlier in date (Iron IIA–B), however. Like the other national deities of the southern Levant Milkom was probably an El-deity, whose name is in almost every Ammonite name and whose iconographic symbol of a bull with huge horns is ubiquitous on Ammonite seals (Aufrecht 1989). That Astarte was also worshipped by Ammonites is suggested by a seal written in Ammonite script that mentions Astarte of Sidon. Note also the female statues from Ammonite provenances (Bienkowski 1991: 42–43). Milkom/El and Astarte/Asherah were probably understood as divine consorts (although Astarte is not necessarily to be equated with Asherah; Burton MacDonald, personal communication). No Ammonite temples have been found, but small shrines or cultic corners were found at ʿUmayri (a standing stone with a basin at the entrance to the settlement) and perhaps in the purported palace at ʿAmman.

Art. There is perhaps less evidence of large, monumental art toward the end of the Ammonite monarchy than in Iron IIB, although some of the statues discussed above may have come from Iron IIC, as well. Terracotta human and animal figurines are now extremely frequent. Fertility goddess figurines, some with eyes bugged out and noses made by pinching the clay between thumb and forefinger, are the most frequent human types, while horses with riders, bovines, and lions are the most frequent animals depicted. Whether these always represent holy objects or can also be toys is presently debated. Seals also present iconographic scenes. One example from ʿUmayri, though it is extremely small, is so nicely carved we can suggest that the species of bird on the seal was an orange-tufted sunbird, a small nectar-feeding bird still seen today (Herr 1992a: 188). The seal impression of the official of Baʿalyashaʿ contained the depiction of a flying scarab beetle, probably a royal symbol as it was in Judah on the *lmlk* jars (Younker 1985). The frequent depiction of bulls on Ammonite seals has already been mentioned.

Burials. The tombs from the ʿAmman region were chambers cut

into bedrock cliffs, much like those from the Jerusalem area. They contained objects including pottery and figurines. A very large cemetery in the Jordan Valley at Mazar, which was made up mostly of pit graves, produced a cornucopia of finds, including pottery, glass, stone and metal vessels, bronze weapons, jewelry, beads, seals, and bone and shell objects (Yassine 1984). Though later in date, the spectacular tomb at Umm Udhayna (ʿAmman) included a bronze caryatid censer (Bienkowski 1991: 96).

Water Systems. The reservoir at Hisban, though apparently constructed earlier (Sauer 1994: 241–42), probably continued through this period. Measuring 7 m deep, it was 17 m long on the east side and, based on the tip lines of the layers in the debris filling the reservoir, it was about the same measurement in the other dimension. It could, thus, hold approximately 2000 cubic meters of water. The location of the reservoir near the top of the hill is remarkable, because only a portion could be filled even in extraordinarily rainy years. This means the inhabitants had to bring water up the hill and laboriously fill it. If they did not manually fill it, there would have been no reason to build it so large. For this reason, it may have been well-known and a fit metaphor for the beloved's eyes in Song of Solomon 7:4.

Iron II-Persian Transition

Data from several excavations now indicate that the region (Hisban, ʿUmayri, Jawa, ʿAmman, Safut, and other sites) was not destroyed by the Babylonians, but, instead, flourished through the Babylonian and into the Persian periods, perhaps as late as the fourth century B.C. Contrary to the assumptions of earlier studies (Landes 1961), there was little or no break at the time of the Babylonian captivity of Judah.

We begin the story at Hisban where, near the top of the hill, the excavations, first of Horn and then of Geraty, uncovered the large plastered reservoir mentioned above. It was filled with tons of debris from occupation levels "bulldozed" into it when the site was rebuilt in the Hellenistic period. Sauer, the pottery specialist for the excavation, first recognized that, while most of the thousands of potsherds in the fill seemed to date to the end of the Iron Age and the Persian period (the seventh to fifth centuries B.C.), they were very different from the sherds in contemporary deposits west of the Jordan

River (Lugenbeal and Sauer 1972). It was, therefore, difficult to use the ceramic chronologies worked out for the various assemblages of Cisjordan to help analyze the pottery of Hisban.

Meanwhile, other excavations in the region of ancient Ammon (Safut, Rujm al-Henu, 'Amman, Sahab, and various "tower" sites) unearthed identical pottery, but sites to the south (Moab) and north (Gilead) found different types. Could the vessels Sauer had studied be identified with an ethnic group—the Ammonites? The region in which the distinctive pottery was found corresponded quite well with the borders of the Ammonites as known from biblical, Assyrian, and later sources. Within the fill of the Hisban reservoir were several ostraca written in Ammonite script and language as shown by Cross (1975). They dated, like the pottery, to the late seventh and sixth centuries B.C.

However, Cross recognized a few other ostraca written in the Aramaic script which he dated to the late sixth century, the first years of the Persian empire when scribes used Aramaic as the international mode of writing. Surprisingly, the language used on these ostraca displayed features usually associated with Ammonite. This seemed to mean that, like the pottery, the Ammonites remained in their homeland while Babylon and Persia ruled. Hübner's suggestion (1988) that the ostraca from Hisban were actually Moabite is based on spuriously interpreted biblical evidence (above) and does not take sufficiently into account the archaeology of the site, paleography, and ancient Semitic linguistics (see a forthcoming review of Hübner's volume by Aufrecht and Herr in *Journal of the American Oriental Society*).

The result of the work by Sauer and Cross was to suggest strongly that the Ammonites continued to inhabit their region long after the Babylonians conquered the area and did not seem to have disappeared. But scholarly theories, especially those with biblical connections, die hard. While a few scholars, such as Sauer, forged ahead with new implications, some of us rationalized that a few Ammonites may have remained after the Babylonian destruction, enough at any rate to write the Hisban Aramaic ostraca.

The Tall al-'Umayri Administrative Structures

It was at this point in the debate that we began digging at Tall al-'Umayri, which, unknown to us, contained secrets which would force

us not only to accept the continuity of the Ammonites into the Persian period, but to allow us to begin making suggestions as to why they continued while Judah went into exile.

Three large public buildings and one large domestic complex at the western edge of the site have so far been excavated (figs. 10.1 and 10.2). The walls of Buildings A, B, and C in fig. 10.2, the administrative structures, are well over 1 m thick (some are almost 2 m thick) and must have stood at least two stories high. In fact, the walls are basements, dug deep into the ruins of earlier Iron II and Iron I phases. Basements are rare in this part of the ancient world and their presence only serves to emphasize the importance of the role of these buildings at ʿUmayri. There were two primary phases to the complex. The earliest phase (Phase 2 here) contains floors laid very near the founding level of the walls. Most are made of beaten earth, but a few rooms were paved with cobbles. In one of the rooms was a jar typical of the mid-sixth century (Herr 1989: Fig. 11.5:23). The upper surfaces (Phase 1) were often difficult to detect, except for the southernmost and largest room where it was made with at least two layers of excellently preserved plaster. In the fills between the two floors came a sherd from an Attic vessel that must date to the late sixth or fifth centuries (Waldbaum 1991), indicating that Phase 1 must date to that time or later. Later walls dating to the Persian period covered the complex.

Two inscriptions help answer the question of the construction date of the complex. The first inscription was an ostracon found in a pit below the foundation of the first walls of the domestic complex associated with our buildings to the north. It is a typical ostracon with a list of names. The date of the Ammonite cursive writing belongs roughly to the middle of the sixth century B.C. (Sanders 1997); as is true of all paleographic dating, it could be a generation earlier or later. This means the founding of the complex must be somewhere near the middle of the sixth century.

The second find was a seal impression discovered in topsoil above Building C. Because the top of the hill was used as an agricultural field for centuries after the administrative buildings were last used, many of the objects from the upper stories of our buildings are found today in a deep layer of topsoil. The seal impression turned out to be much more important than most (figs. 10.3 and 10.4). Unlike the vast majority of other seals and seal impressions, the owner was no ordinary merchant or scribe, but a high official of the Ammonite royal government. Even the picture in the middle of the seal boasted

of his royal connections. The winged scarab beetle, pushing a small solar disk (or dung ball) immediately in front and the standards on either side, are well known royal symbols on seals from ancient Israel and Ammon (Herr 1985; Younker 1985).

Ammonite writing is characterized by the upright stance of its vertical letters best seen on the top line of this inscription. The first line contains the name of the owner of the seal, Milkom'ur ("Milkom is light"), preceded by a preposition meaning "belonging to." Just above the two royal standards flanking the scarab beetle, as if they were part of the standards, are the first two letters of the word describing his official position, *ʿbd*, "servant of." This is an exalted title on ancient seals and the next word invariably designates a king. He was a servant, or official, of the king.

The king's name that follows on the bottom line is not remarkable: Baʿalyashaʿ (or Baʿlishaʿ [Hendel 1996]), meaning "Baal saves," similar to Elishaʿ, "God saves." Based on the writing style, the seal that made the impression dated to the early sixth century. Who was this king Baʿalyashaʿ? The late Robert Boling, the director of our regional survey when the impression was found, first realized this was the Ammonite version of an obscure king mentioned in the Bible—Baʿalis (Jer 40:14). Soon after Nebuchadnezzar destroyed Jerusalem, our king conspired with a renegade prince of Judah named Ishmael, who had escaped the destruction of Jerusalem, to kill Gedaliah, the Babylonian-appointed governor of Judah.

There is little doubt that Baʿalyashaʿ and Baʿalis are two names for the same king. The biblical story occurred in 582 B.C. and the script of the seal dates to the early sixth century. Moreover, the divine element in the name, Baʿal, is extremely rare in Ammonite names, and it is unlikely that two Ammonite kings from roughly the same time period would have had it in their names. Although scholars explain the difference in spelling in a variety of ways, all agree that both names refer to one king (see Aufrecht 1989: 129 for references).

These two inscriptions, the ostracon, which cannot date much earlier than 580 and was found in a phase stratigraphically earlier than the administrative center, and the seal impression, which cannot go much later than 560 or 570, sandwich a date of *ca.* 580–560 for the foundation of the administrative complex. The seal impression of an administrative official made during the reign of a king who ruled around 580 does not allow us to suggest a later date than about 560; and the ostracon, written in a script of the mid-sixth century, does not allow us to go earlier than about 580.

Because the seal impression was made by an Ammonite royal official, we could identify our public buildings at ʿUmayri, and the pottery and objects associated with them, with Ammonites. Moreover, five other inscribed seals in the Ammonite script have been found in the earth layers around the administrative buildings, as well as at other areas of the site. Two come from near an important building in Field F on the eastern side of the site: *šmʿ*, "Shimaʿ" (Herr 1991a, revised from *šmʿz* upon the oral suggestion of B. Sass) and *nṣr'l bn 'lmšl*, "Belonging to Natsar'il son of 'Ilmashal." Three come from the administrative complex: *'l'mṣ bn tmk'l*, "'Il'amats son of Tamak'il" (Herr 1995a), and *'ln bn brk'l*, "'Ilon son of Barak'il (fig. 10.5). Many other uninscribed seals were also found. Indeed, after six seasons of excavations we now have a total of 75 seals and seal impressions from ʿUmayri, the vast majority of which belong to this phase of occupation or are from topsoil and, thus, most likely come from this occupation level. Because of the administrative function of the buildings, the presence of these seals and seal impressions is no surprise.

One of the uninscribed seals depicts a figure in a typical Neo-Babylonian style. It is reminiscent of two other seals found at a hinterland site, Site 84, about 2 km south of ʿUmayri. Excavated by David Hopkins, a member of the project, the site comprised a farm, probably for the production of wine, judging by the three winepresses and several storage caves surrounding the building. Scores of other similar "farmstead" sites, most constructed of very large stones, have been discovered by the hinterland survey (led by Øystein LaBianca and Gary Christopherson) in the region surrounding ʿUmayri, but none produced the well-preserved finds that Site 84 did. However, almost all contained winepresses in their immediate environs and the pottery from virtually every site is identical to that from the administrative complex at ʿUmayri. Because of the ceramic, glyptic, and other similarities of material culture between the farmsteads and ʿUmayri, it is reasonable to conclude that these hinterland farms were contemporary with, and possibly functioned together with, the administrative center at ʿUmayri.

It is not a major leap of reason to suggest that the administrators at ʿUmayri were organizing wine-production at the farmsteads for the Ammonite monarchy. The presence of the seals, representing administrative activities, suggest this as a possible explanation. But why were the administrative complex at ʿUmayri and the farmsteads constructed? Again, the regional survey points in the direction of an answer. Sites dated earlier in Iron II than the foundation of ʿUmayri

were not frequent in our region. Tall Jawa, *ca.* 4 km to the east, probably was occupied as was a small portion of ʿUmayri, but the immediate region was relatively empty of occupation. Most likely, the hillsides were being under-utilized agriculturally. The survey has also noted that the farmstead sites were consistently associated with winepresses and were built in similar architectural styles. These wine production facilities remind one of the Song of the Vineyard in Isaiah 5, probably composed near the beginning of Iron IIC. These sites continued into the Persian period with no apparent break in activity. It seems that the ʿUmayri administrative center and the farmsteads were part of a well orchestrated governmental infrastructure for the production of wine. Certainly, local people did not go *en masse* into the hills surrounding ʿUmayri and, with their own resources, build farmsteads of huge stones in similar masonry techniques. There must have been capital and labor investment by the Ammonite central government for such a rapid and uniform construction of infrastructure.

But why did the Ammonite monarchy decide to invest so heavily in our region? Josephus gives us a strong clue in *Antiquities* 10.9:7 when he mentions that, after the murder of Gedaliah in 582, the Babylonians overcame Ammon. We suggest that the ʿUmayri administrative center was built by the Ammonite monarchy to administer government-sponsored grape plantations at the farmsteads to produce wine to pay for tribute to Babylon after the Babylonian victory over Ammon in 582. The collection, bulking, and shipment of the wine was handled by the officials living and working at ʿUmayri. The seals represent the officials or the farmers selling or returning their production to the crown as taxes.

Thus, if this scenario is accepted, the best date for the construction of the administrative complex at ʿUmayri and the contemporary farmsteads of the region is very close to 580 B.C. We, therefore, envision a relatively empty area in the southern Ammonite hills through most of Iron II (only a small settlement occurred at ʿUmayri during the ninth and/or eighth centuries). In the early sixth century, following the apparent Babylonian subjection of the Ammonites, governmental (monarchic) investment in the region enabled families to move in from elsewhere (possibly the capital city at ʿAmman) to farmsteads that were built and secured with government aid in order to produce wine. The water source at ʿUmayri may have abetted this production.

The Persian Period

The administrative buildings seem to have continued well after the time of Ba'lisha' with only slight changes. Two pieces of Attic pottery, imported from Greece in the late sixth or fifth centuries B.C., were discovered in 1987 between the two floor levels in one of the administrative buildings (Waldbaum 1991). Then, in 1989 and 1996, four other finds appeared in topsoil above the administrative buildings. They were again seal impressions (fig. 10.6 shows one of them). Stamped onto the handles and, in one case, onto the rim of jars, there was no artwork on them and the letters were much larger and more crudely shaped than those on the Ammonite seals. The script was not Ammonite, but Aramaic, and dated to the very end of the sixth century or the beginning of the fifth century B.C. when Persia ruled the region. It is difficult to decide whether, like the Hisban ostraca, the language was Ammonite, since they only include names.

Two of the impressions read exactly the same, but were made by two different seals (Herr 1992a). The first three letters make up a typical Ammonite nickname (or hypocoristicon): *šb'* "Shuba'," perhaps short for Shub'il. It could also be an Aramaic hypocoristicon, but the letters of the next word, *'mn*, make up the consonants of the national name 'Ammon. Thus, both the impressions may be loosely translated, "Shuba' of 'Ammon." These impressions are similar to a class of seals and seal impressions found by the scores, primarily in the Jerusalem region, that contain the name *yh(w)d* "Judah." They, too, are written in the Aramaic script and date to the late sixth or early fifth centuries B.C. The two 'Ammon seals are probably the Ammonite version of these *yh(w)d* seals.

Much has been written about the function of the *yh(w)d* seals. Most scholars now believe that they were part of the Persian provincial taxation system, usually stamped onto jars of goods (Stern 1982: 202–6). The majority of them do not carry a personal name, but those that do probably indicate either the governor of the Persian province of Judah or the provincial treasurer in charge of tax collection. The same most likely holds true for the two Ammon seal impressions from 'Umayri. Shuba' was either the governor or treasurer of the Persian province of Ammon. Recently, in a synthesis of history and politics in Palestine during the Persian period, Lemaire correctly admitted there was not enough evidence to state whether

or not Ammon was indeed a province (Lemaire 1990). But with these two seal impressions, we can now be more certain. There seems to have been a province of Ammon and Shuba' was one of its major officers.

The presence of two impressions, made with different seals, confirms an official function connected with them. Potters in different locations probably had their own stamps bearing Shuba's name that they placed on jars made for the government. The jars, transported around the country, probably held taxes in kind. At least two of those jars ended up in the same administrative building at Tall al-'Umayri where they may have been intended to be filled with wine, but were broken and so stayed at the site.

There is no evidence that the Ammonites ever left the region after they became subject to Babylon nor when they became part of the Persian empire. Three separate lines of evidence support this. First is the evidence of language on the Hisban ostraca and, possibly, the 'Umayri seal impressions. Although the Aramaic script was used, the language was Ammonite. Second is the architectural evidence: the same administrative complex that housed Milkom'ur's official duties during the Ammonite monarchy was still functioning, except for raised surfaces, when Shuba' collected taxes for the Persian empire almost 50 to 100 years later.

Third is the pottery. In the past, Glueck and many other archaeologists did not recognize that people lived in the region of Ammon after the Babylonian exile because pottery typical of the Persian period west of the Jordan River was not found in the region of Ammon. Studies of Ammonite pottery, especially the pottery of Hisban and 'Umayri, show that the "typical" Persian vessels of Cisjordan (such as sausage jars and mortaria) were never made east of the Jordan, but instead, potters continued to make Iron II wares, complete with wheel burnishing, at least during the early part of the Persian period (Herr 1995b). There was apparently no cultural disruption significant enough to alter potting traditions.

The Ammonites at 'Umayri prospered right through the sixth century B.C. into the Persian period, perhaps as late as the fourth century, based on pottery that is very close to Hellenistic forms (Herr 1995b). There was no major change at the beginning of the Persian period and, although they were controlled by the Persian empire and they wrote in the Aramaic script, their basic culture, including

language and potting techniques, remained essentially the same as it had been at the close of their political independence.

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FIGURES AND TABLES

Fig. 1.1 Map of Ammon with sites listed in text

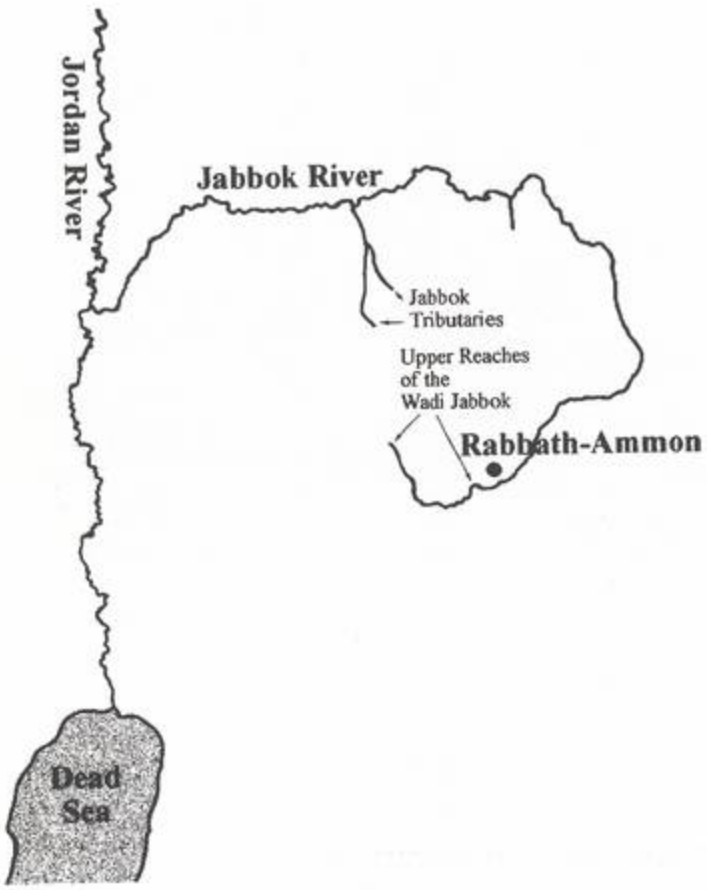

Fig. 2.1 Map of Ammon showing course of Jabbok and Its Tributaries

Fig. 3.1 Traditional potters shaping cooking pots first shape flat-bottomed forms whose rims and upper bodies are completely finished and set aside to dry. Three cooking pots rest on squares of wood or bark as the clay dries slightly before handles are added. Strings wrapped around the lower bodies serve as an external support for the wet clay, functioning as a mould. When the rim is almost leatherhard, but the base is still wet, the potter (in the background) removes the strings and then scrapes away excess clay from the flat base to create a rounded bottom. Her husband then returns each cooking pot to the turntable (two are piled here on top of each other to increase the height and make the work easier) to smooth the surface by rubbing it with water and a bamboo tool (standing in the broken bucket). Halloumi cheese dries on a table in the background of this courtyard in Kornos, Cyprus, 1986. Photograph by G. London.

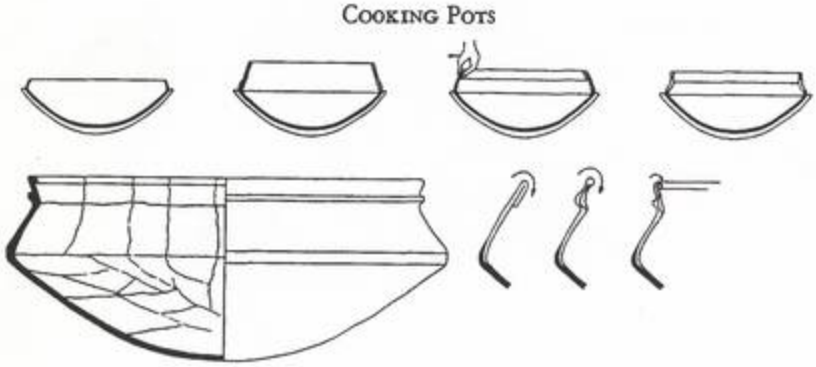

Fig. 3.2 Manufacture of Late Bronze Age cooking pots initally involved lining an external mould with clay. To increase the height, coils were added to shape the rim. Afterwards, when the clay was sufficiently dry, the exterior base was smoothed. Drawing reproduced with permission of the author, from H.J. Franken and J. Kalsbeek, 1969, *Excavations at Tell Deir ʿAlla*, Fig. 26.

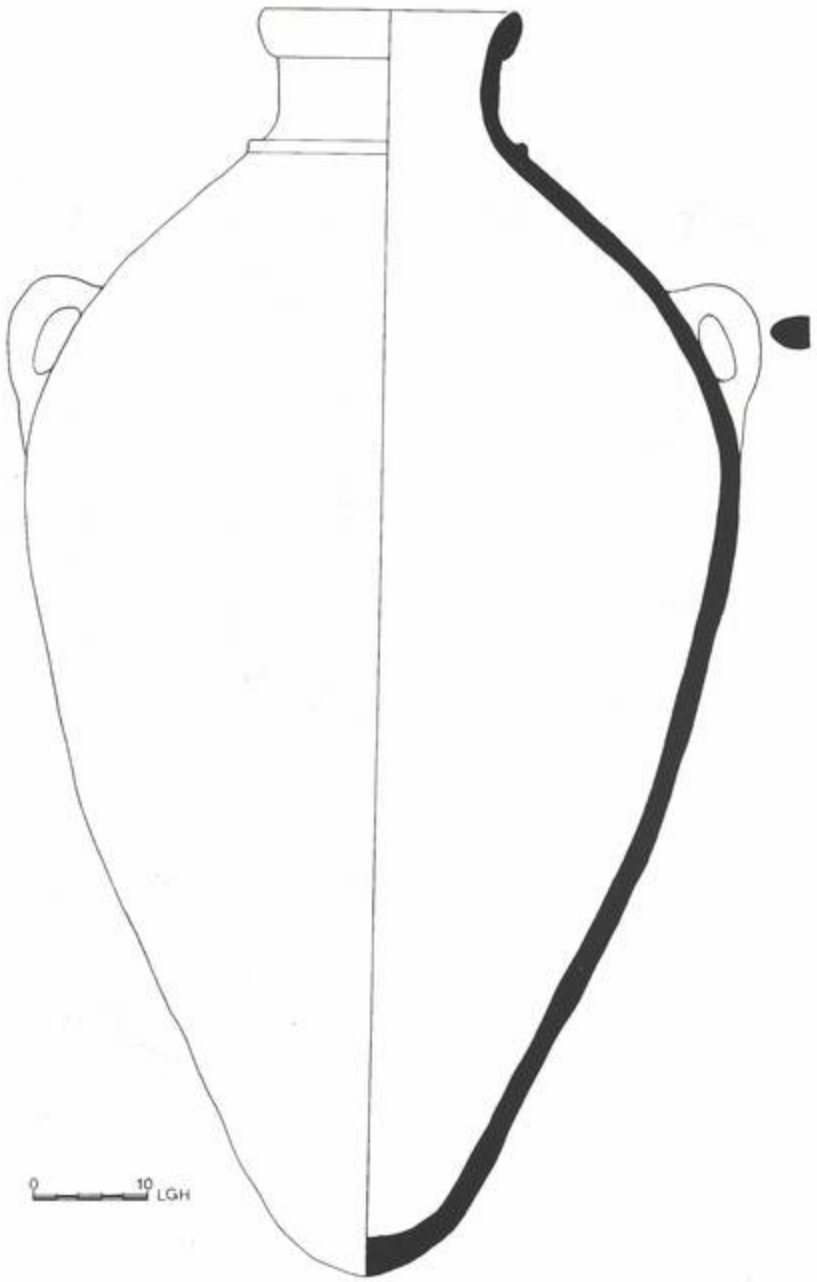

Fig. 3.3 collared rim jar (ʿUmayri)

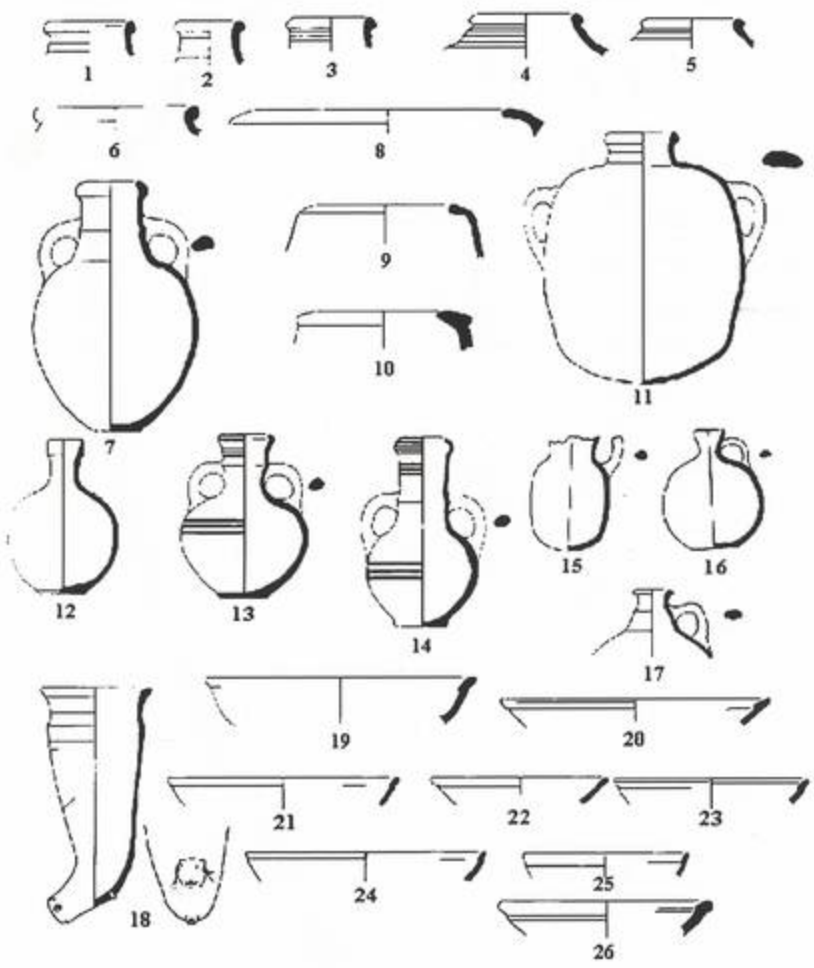

Fig. 3.4 Pots from ʿUmayri

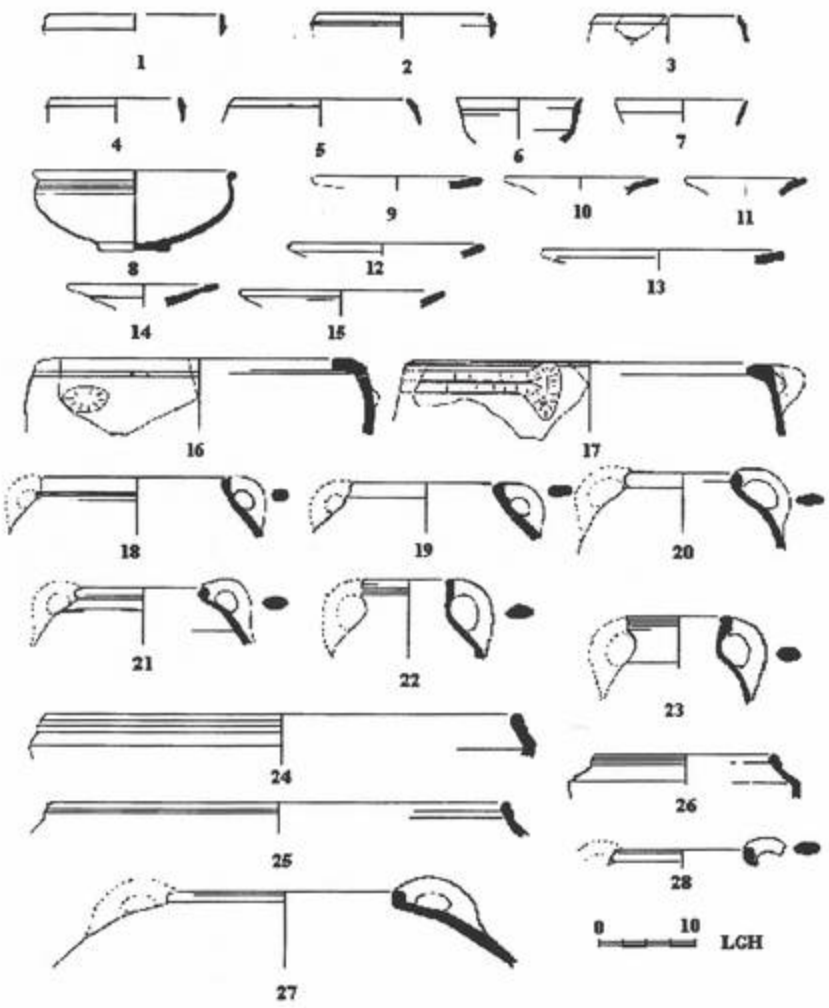

Fig. 3.5 Pots from ʿUmayri

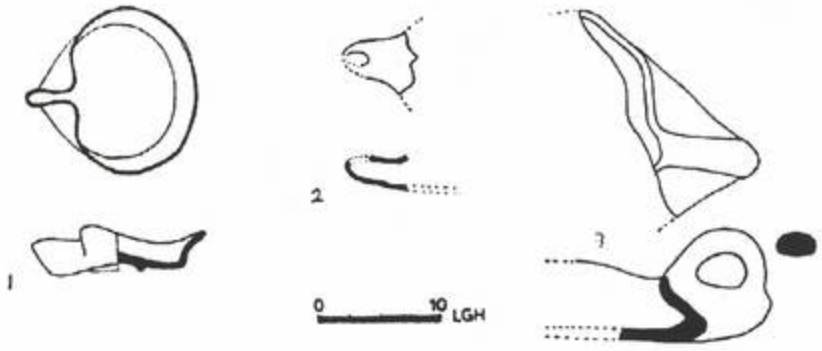

Fig. 3.6 Lamps from 'Umayri

Fig. 4.1 Ammonite Tower Rujm al-Malfuf

Fig. 4.2 Ammonite Tower closeup

Fig. 4.3 Stairs leading into pillared house

Fig. 4.4 Walls build directly on leveled bedrock (Khilda)

Fig. 4.5 Khilda—monolithic piers in the pillared house

Fig. 4.6 Niches between piers at Khilda

Fig. 4.7 'Amman Citadel—access to the underground water reservoir

Fig. 4.8 Proto-aeolic capital at the 'Amman Citadel

Fig. 4.9 Proto-aeolic column base at the 'Amman Citadel

Fig. 4.10 The plaster on the exterior face of the tower at Khilda

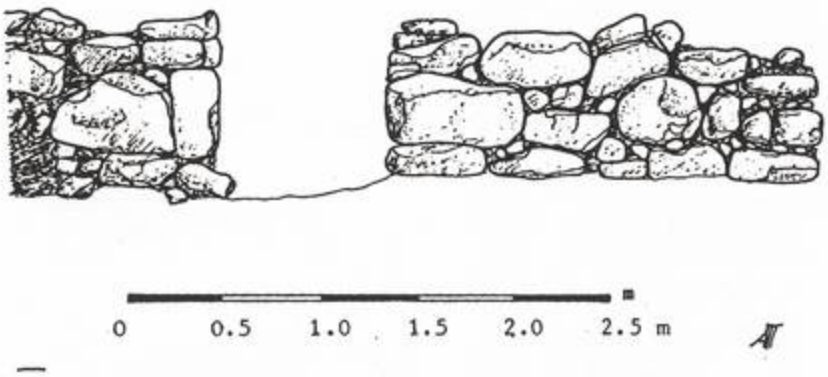

Fig. 5.1 Boulder-and-chink walls with doorway

Fig. 5.2 Monolithic stone pillars in Building 800

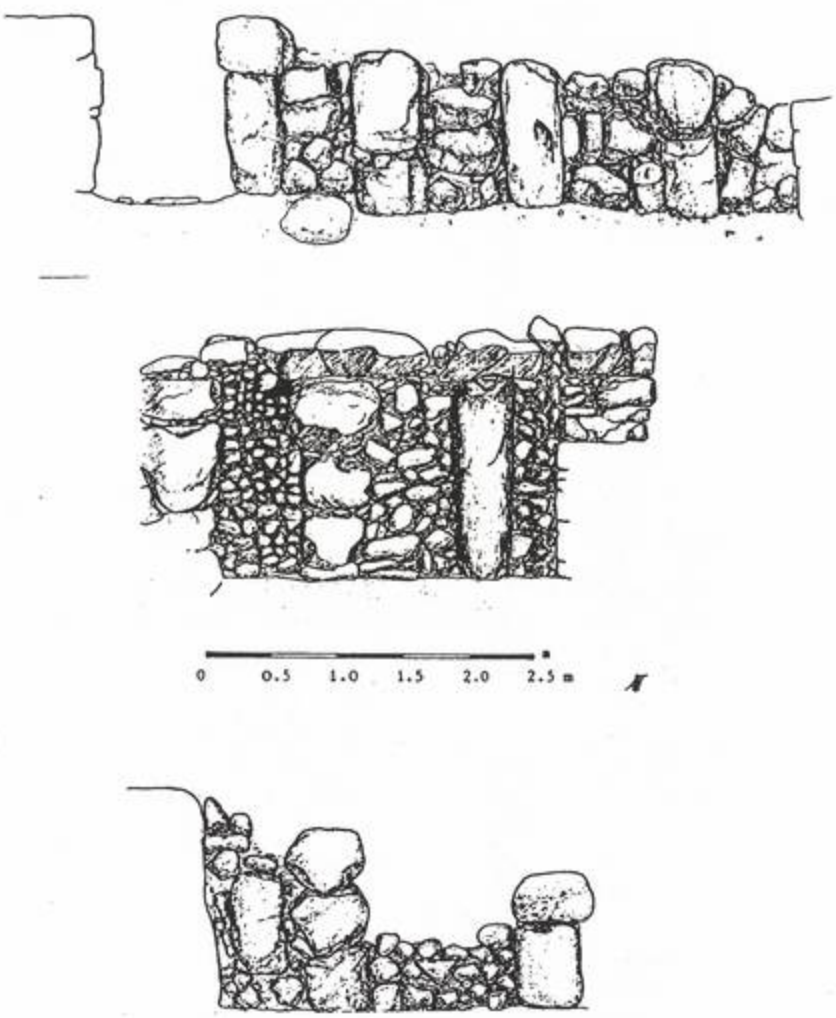

Fig. 5.3a–c Stacked boulder walls: a) rectilinear pillars with cobblestone connecting units (W8014); b) combination of pillar types (W3027); and c) rounded boulder pillared wall with cobblestone connecting units (W3005)

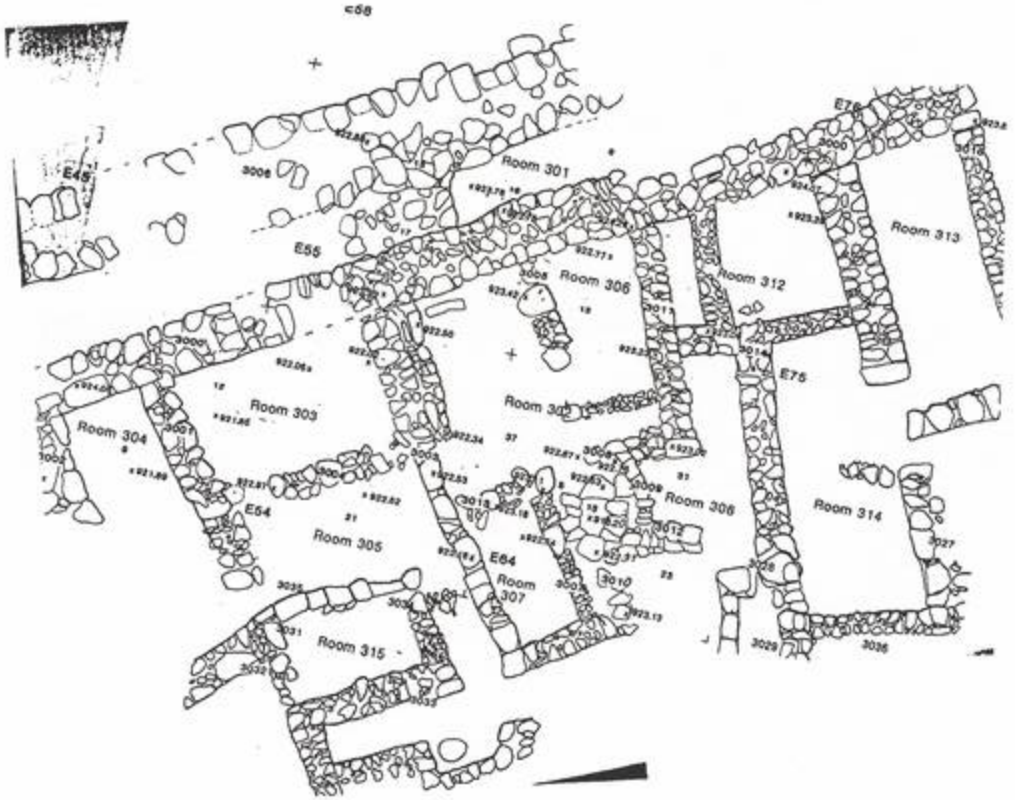

Fig. 5.4 Building 300 at Tall Jawa

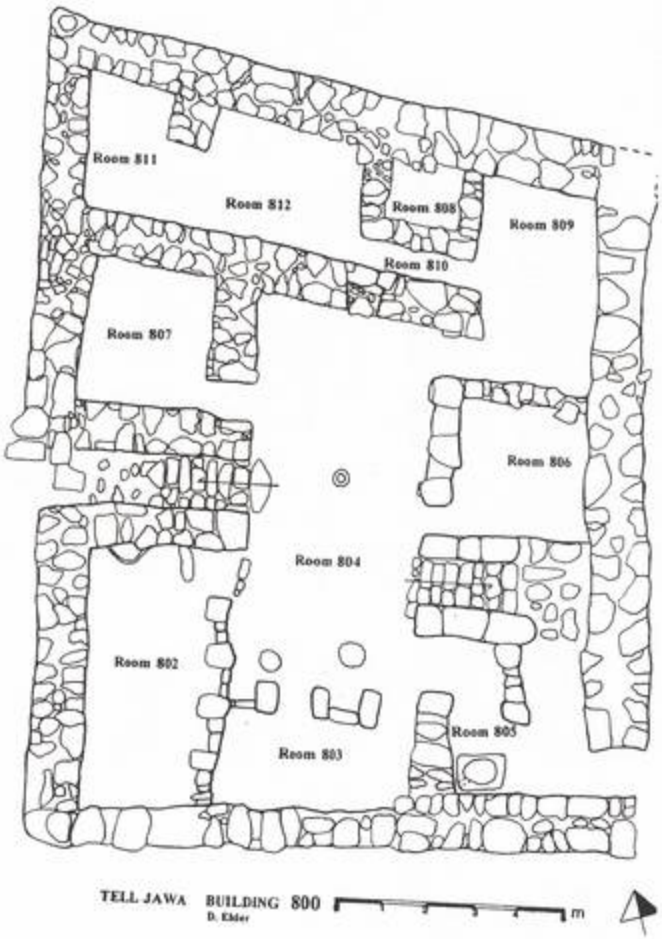

Fig. 5.5 Building 800 at Tall Jawa

Table 9.1

SETTLEMENT PATTERNS IN AMMON: MIDDLE BRONZE AGE TO IRON AGE

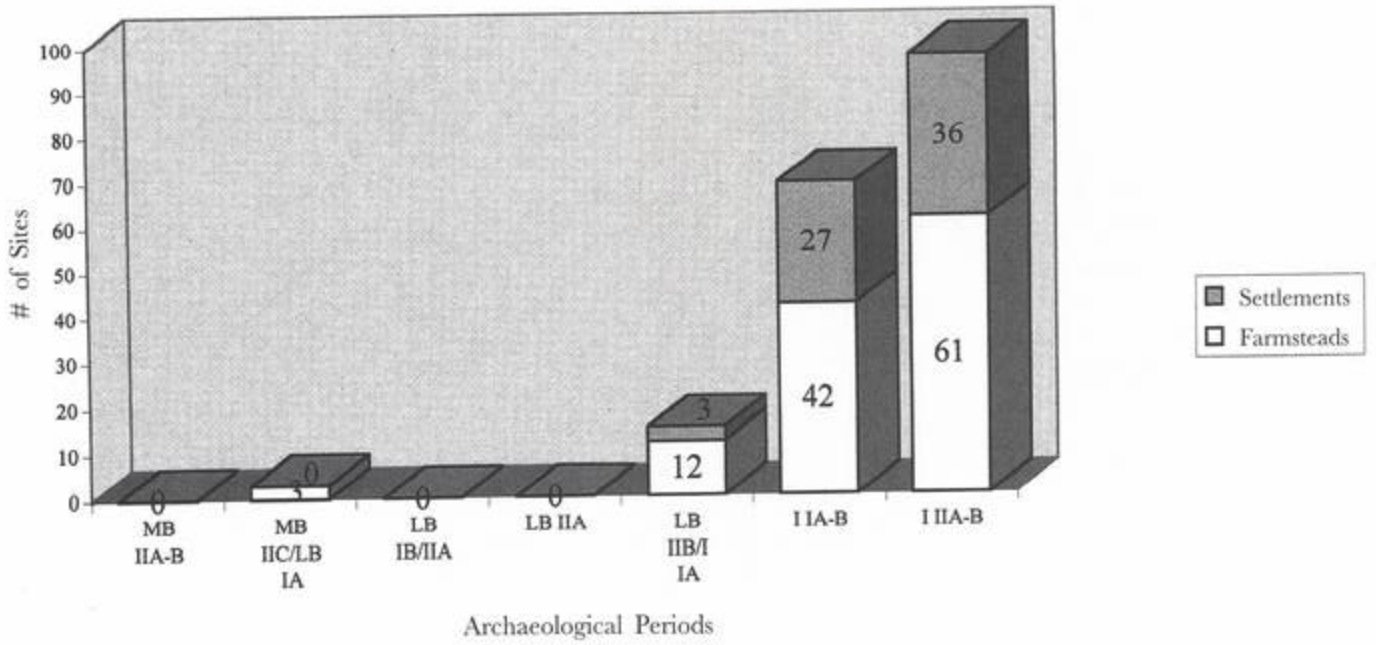

Table 9.2

Ammon LB IIB/Iron IA Sites

Site Name	*Size Category*	*Description*	*Reference*
ʿAmman Citadel	Large: 100–124 dunams	Settlement	Bennett 1978; Dornemann 1983
Tall al-ʿUmayri	Medium: 65 dunams	Settlement	Geraty *et al.* 1986; 1987
Sahab	Medium: 50 dunams	Settlement	Ibrahim 1983; 1992
Umm ad-Dananir	Small: 25 dunams	Settlement	McGobern 1987; 1991
Jawa	Small: 21 dunams	Settlement	Younker *et al.* 1990
Safut	Small: 17.3 dunams	Settlement	Wimmer 1987a; 1992
Khirbat Othman	Small	Settlement	Abu Dayyah *et al.* 1991: 392
Rujm al-Henu	Very Small	Qasr	McGovern 1986; 1987
ʿAmman Airport Structure	Very Small	Quadratbau	Hennessy 1966a; 1966b
Al-Mabrak	Very Small	Qasr	Yassine 1983; 1992: 408–399
Haud Unn Kharruba	Very Small	Farmstead	Gordon and Knauf 1987: 292
Jabal at-Teweim	Very Small	Qasr	Gordon and Knauf 1987: 292
Khirbat al-ʿEdhmah	Very Small	Qasr	Gordon and Knauf 1987: 292
Rujm Madbaʿa	Very Small	Qasr	Gordon and Knauf 1987: 292
Khilda	Very Small	Qasr	Abu Dayyah *et al.* 1991: 392
Hesban Survey Site 128	Very Small	Farmstead	Ibach 1987: 27
Abu Zibneh	Very Small	Settlement	Gordon and Knauf 1987: 292
Tall ar-Rehil Site C 13	Very Small: 5.6 dunams	Farmstead?	Keretes *et al.* 1978: 126

Table 9.3

Ammon Iron IA–B Sites

Site Name	*Size Category*	*Description*	*Reference*
ʿAmman Citadel	Large: 100–124 dunams	Settlement	Bennett 1978; Dornemann 1983
Tall al-ʿUmayri	Medium: 65 dunams	Settlement	Geraty *et al.* 1986; 1987
Sahab	Medium: 50 dunams	Settlement	Ibrahim 1983; 1992
Khirbat Morbat Bedran	Small: 25 dunams	Settlement	Glueck 1939: 186–188
Khirbat Mudmar	Small: 24 dunams	Settlement	Glueck 1939: 192–94
Khirbat as-Sweina	Small: 22 dunams	Settlement	Glueck 1939: 168–69
Jawa	Small: 21 dunams	Settlement	Younker *et al.* 1990
Safut	Small: 17.3 dunams	Settlement	Wimmer 1987a; 1992
Kom Yahuz	Small: 15 dunams	Settlement	Glueck 1939: 178–81
Khirbat Hanotiyeh	Small	Settlement	Glueck 1939: 161–62
Rujm al-Qutnah	Small	Settlement	Glueck 1939: 172
Al-Mumani	Small	Settlement	Glueck 1939: 194–95
Khirbat Umm al-Qanafid	Small	Settlement	Ibach 1987: 14
Khirbat Wadʿah	Small	Settlement	Glueck 1939: 213
Sweifiyeh al-Gharbiyeh	Small	Settlement	Glueck 1939: 157–58
Umm al-Basatin	Small	Settlement	Ibach 1987: 24
Khirbat ʿEran	Small	Settlement	Abu Dayyah *et al.* 1991: 392
Khirbat al-Jamus	Small	Settlement	Glueck 1939: 211–12
Umm as-Sarab	Small	Settlement	Ibach 1987: 18
Rawda	Small	Settlement	Ibach 1987: 17
Khirbat ʿEdan ash-Shema	Small	Settlement	Glueck 1939: 173–74
Khirbat Sakhara	Small	Settlement	Glueck 1939: 217–18
At-Teleil	Small	Settlement	Glueck 1939: 200

(table cont.)

Site Name	*Size Category*	*Description*	*Reference*
ʻIraq al-Amir	Very Small: 9.4 dms	Settlement	Butler 1919: 34–62; McCown 193
Khirbat al-Beider	Very Small: 8 dms	Settlement	Glueck 1939: 174
Rujm al-Fahud	Very Small: 7 dms	Farmstead	von Rabenau 1978: 50–51
Khirbat al-Hajjar	Very Small: 4 dms	Settlement	Thompson 1972
Khirbat ar-Ramman	Very Small: 3 dms	Settlement	Glueck 1939: 192–94
Khirbat Muslim	Very Small: 2 dms	Settlement	Glueck 1939: 185–86
Abdun	Very Small	Qasr	Conder 1889: 1; Glueck 1939
Abu Neseir	Very Small	Farmsteads; towers	Abu Ghanimeh 1984: 305
Abu Zibneh	Very Small	Settlement	Gordon and Knauf 1987: 292
Beddih North	Very Small	Farmstead?	Ibach 1987: 20
Hesban Survey Site 6	Very Small	Sherds and tombs	Ibach 1987: 11
Naʻur (Hesban Site 91)	Very Small	Sherds and tombs	Ibach 1987: 22
Jabal al-Fahud	Very Small	Qasr	Ibach 1987: 30
Khirbat Abu Hammad	Very Small	Qasr	Glueck 1939: 196–97
Khirbat Bedran	Very Small	Qasr; settlement	Glueck 1939: 190
Khirbat al-Birch	Very Small	Qasr?	Glueck 1939: 213–14
Khirbat al-Bishari	Very Small	Qasr (tower)	Fohrer 1961: 60; Ibach 1987: 29
Haud Umm Kharruba	Very Small	Settlement	Gordon and Knauf 1987: 292
Khirbat ash-Shmeisani	Very Small	Farmstead	Glueck 1939: 160
Kh. Juret al-Khazneh	Very Small	Farmstead	Glueck 1939: 229
Rujm al-Jeish	Very Small	Farmstead	Glueck 1939: 202–03
Rujm ar-Ruseifeh	Very Small	Farmstead	Glueck 1939: 204
Rujm al-Jidi	Very Small	Qasr	Glueck 1939: 203
Rujm ash-Shihl	Very Small	Qasr	Glueck 1939: 202
Rujm Mobis	Very Small	Farmstead?	Glueck 1939: 195
Sweifiyeh ash-Sherqiyeh	Very Small	Farmstead?	Glueck 1939: 159

'Asaret Merj as-Sana	Very Small	Farmstead	Glueck 1939: 196
Al-Qutnah South	Very Small	Settlement	Abu Dayyeh *et al.* 1991: 391
Abu Silan (Hesban S. 39)	Very Small	Sherds; terraces	Ibach 1987: 17
Hesban Survey Site 40	Very Small	Sherds	Ibach 1987: 17
Hesban Survey Site 141	Very Small	Farmstead?	Ibach 1987: 29
Khirbat adh-Dheina	Very Small	Settlement; Qasr	Glueck 1939: 159
Khirbat al-Khabi'ah	Very Small	Tower	Glueck 1939: 230
Khirbat al-Mudmar	Very Small	Settlement	Glueck 1939: 192
Khirbat al-'Edhmah	Very Small	Qasr	Gordon and Knauf 1987: 292
Jabal at-Teweim	Very Small	Qasr	Gordon and Knauf 1987: 292
Khirbat Abu Hewei	Very Small	Qasr	Glueck 1939: 205
Qasr Abdun	Very Small	Qasr	Glueck 1939: 159–160
Qasr al-Waiyeh	Very Small	Qasr	Glueck 1939: 170
Rujm Hanotiyeh	Very Small	Rujm	Glueck 1939: 161
Rujm al-Hamir	Very Small	Qasr	Glueck 1939: 202
Hesban Survey Site 39	Very Small	Sherds	Ibach 1987: 17
Hesban Survey Site 129	Very Small	Sherds	Ibach 1987: 28

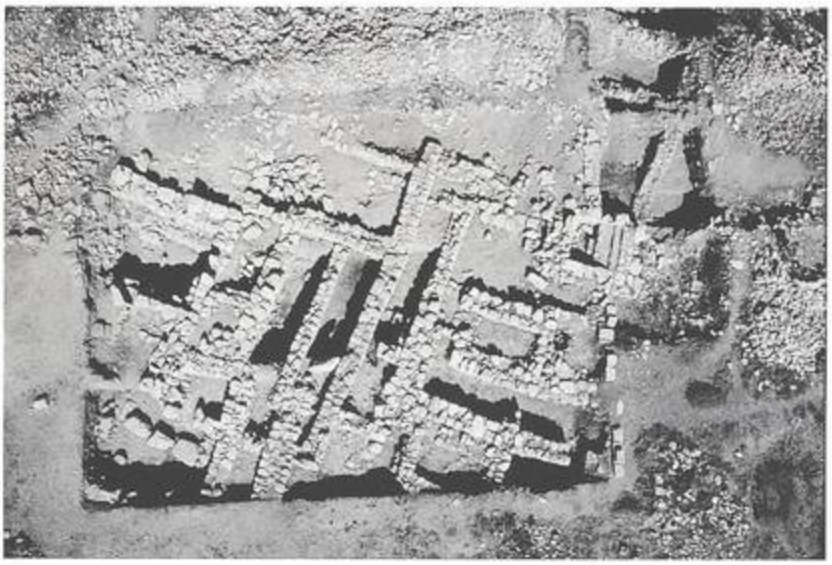

Fig. 10.1 Aerial photo of the walls of the Ammonite/Persian Administrative complex and associated domestic rooms

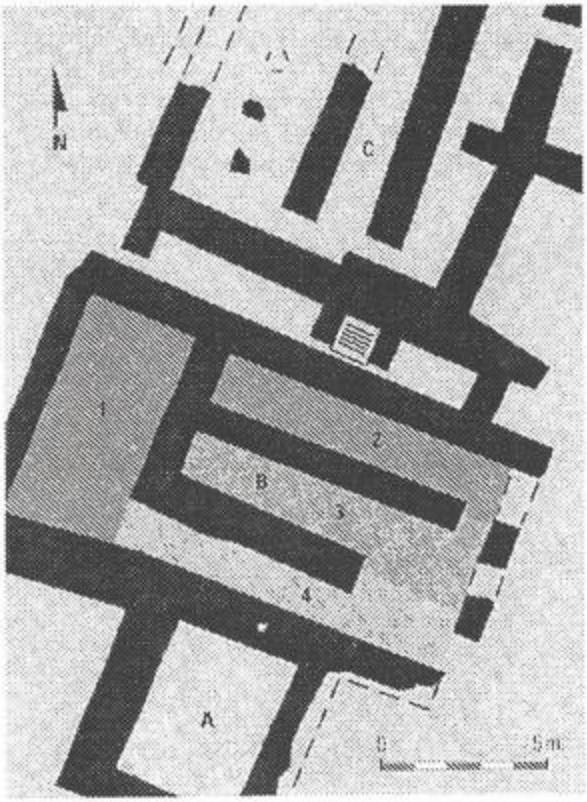

Fig. 10.2 Plan of the buildings in fig. 13

Fig. 10.3 Seal impression of Ba'alyasha'

Fig. 10.4 Drawing of the seal impression of Ba'alyasha'

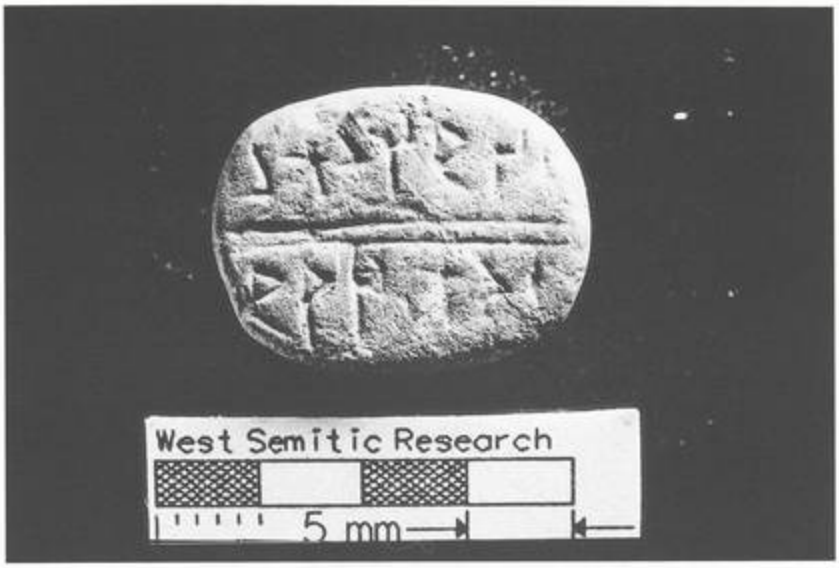

Fig. 10.5 Seal of *'ln bn brk'l*

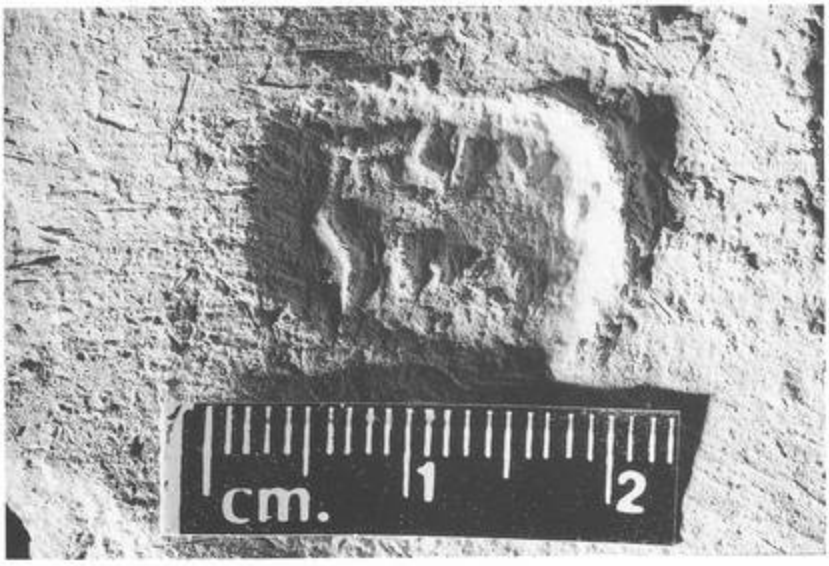

Fig. 10.6 Seal impression of the Persian province of Ammon

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