ANDREWS UNIVERSITY

# HESHBON EXPEDITION

## THE SECOND CAMPAIGN AT *TELL ḤESBÂN* (1971)

ROGER S. BORAAS
Upsala College
East Orange, N.J.

SIEGFRIED H. HORN
Andrews University
Berrien Springs, Mich.

The first campaign at *Tell Ḥesbân* was carried out in 1968,[1] and the second season was planned for the summer of 1970. The outbreak of the first phase of the Jordanian civil war in June of that year, however, forced a cancellation of the expedition, although some staff members, including the director, were already in Amman and most others were en route to Jordan. Rescheduled for the next summer, the second campaign was successfully conducted from July 5 to August 20, 1971.

Heshbon's history from literary sources,[2] and a description of *Tell Ḥesbân* and its geographical location[3] have already been covered. For this reason these will not be discussed in this report.

### *Organization*

Andrews University was again the chief sponsor of the expedition, but sizable subventions were made by Calvin Theological Seminary, Grand Rapids, Michigan, and the American Center for Oriental Research in Amman (ACOR).[4] Smaller contributions came from several private individuals. A word of thanks is due to all those who, through their financial support, made the expedition possible and thus shared in its success.

The headquarters were in the American Community School

[1] Preliminary reports of the first campaign were published in the *AUSS*, 7 (1969), 97-239 (henceforth referred to as "Heshbon 1968"); *BA*, 32 (1969), 25-41; *RB*, 66 (1969), 395-398.

[2] W. Vyhmeister, *AUSS*, 6 (1968), 158-177.

[3] See "Heshbon 1968," pp. 97, 98.

[4] Upsala College, East Orange, N. J., was to be a co-sponsor of the 1970 campaign and shared in the expenses of that aborted expedition.

on the western outskirts of Amman. The school was graciously lent to the expedition by the school board through the good offices of its chairman, Richard Undeland of the United States Embassy. It provided excellent facilities for housing the 50 staff members and kitchen personnel, and for the various archaeological headquarters activities. Four classrooms served as dormitory-style bedrooms and the large octagonal auditorium as a dining room. An office was provided for the director and the registrar of objects and a large classroom was used by the architects, pottery registrar, and anthropologists. A spacious janitor's closet was converted into a darkroom. A kitchen was present on the premises and the large open inner courtyard was used for washing, reading, and cutting pottery.

The daily program was similar to that of the 1968 campaign. This time, however, transportation to and from the *tell* was provided by a 40-seater bus hired from the De La Salle College in Amman.

The staff of 51 consisted of 40 overseas members and 11 Jordanians. The foreigners, of whom nearly 20 were graduate students, came from the United States of America, Canada, the Netherlands, Germany, Britain, and Norway. An instructor and seven students of the University of Jordan, and two officials and one former inspector of the Department of Antiquities represented the host country.

The director of the expedition was again Siegfried H. Horn. He had served as the director of the ACOR during the preceding six months and had made all preparations for the dig. Roger S. Boraas was once more the expedition's chief archaeologist. Of other 1968 staff, however, only a limited number were again present. Only one of the four previous Area supervisors returned to Heshbon in 1971. This placed an additional burden on the chief archaeologist who was responsible for coordinating all field work and supervising the students' training program. In the following list staff members are mentioned in connection with the Areas in which they spent most of their time, although a few shifts of assignments took place during the season.

Area A, on the summit of the acropolis where the remains of

a Christian church had been discovered in 1968, was supervised by Dorothea Harvey. Her associate was Benjamin C. Chapman and the Square supervisors were Rahab Hadid, Marvin Meyer, Joyce Miller, Hussein Qandil, Ghassan Ahmad el-Ramahi, and Udo Worschech.

In Area B, on the shelf below and south of the acropolis, which consisted of only one Square in 1968, the work was expanded by three new Squares. The Area supervisor was James A. Sauer, who was also the expedition's pottery expert and responsible for all pottery reading. His associate was Carney E. S. Gavin and the Square supervisors were Adeb Abu-Schmais, Andy Glasbergen, Larry Herr, Taysir Islim, G. Arthur Keough, Nabil Khairy, and Philip Post.

In Area C, on the western slope of the *tell*, the work was continued in two of the four Squares excavated in 1968 and two new Squares were opened during the present season. Henry O. Thompson served again as supervisor. His associate was Ralph O. Hjelm. Square supervisors were Charles Armistead, Samir Ghishan, Robert Ibach, Bonita Meyer, Nabil Salim Qadi, and William H. Shea.

Work was continued in only the northernmost of the three Squares opened in Area D in 1968. However, two new Squares were added in the north to connect Area D, located on the southern slope of the acropolis, with Area A. The Area supervisor was Lawrence T. Geraty and his associate was Gerhard F. Hasel. Serving as Square supervisors were George van Arragon, Miriam Boraas, John Lorntz, Lutfi Ostah, and Lina Sa'adi.

Areas E and F were Roman-Byzantine cemeteries. Area E was on the eastern slope of *Gourmeyet Ḥesbân*, the hill separated from *Tell Ḥesbân* on the west by the *Wadi Tala'*, and the cemetery of Area F on the western slope of the southern extension of *Tell Ḥesbân*. Excavations in both Areas were new enterprises, supervised by S. Douglas Waterhouse. His assistants for the major portion of the season were Eugenia Nitowski and Wayne Stiles. Several other staff members were, however, assigned to him on a rotational basis.

Julia Neuffer, a professional editor who plans to assist in the

final publication of the excavations, worked in all Areas in order to familiarize herself with the various aspects of the excavation sites and their peculiar problems.

Bert De Vries was once more on the surveying staff, joined by architect Carl H. Droppers. This smoothly working team completed the survey of the *tell* begun in 1968 and drew a contour map (see Fig. 1). They also made Plans and Elevations of all architectural remains as these were excavated, and were frequently called upon to provide levels for various excavated features.

The staff photographers were Alvin Trace and Mary Bachmann, the latter chiefly in the capacity of darkroom technician. Since the field work was expanded in 1971 over the previous season and many more objects were found, the photographers were kept extremely busy. Udo Worschech, besides working as a Square supervisor in Area A, was responsible for color photography.[5]

Robert M. Little, the 1968 expedition's anthropologist, was able to join the present expedition for only a brief time and helped with the excavation of the skeletal material from two tombs. Øystein Labianca was responsible for all bone material found on the *tell* and also helped in the tomb Areas as much as his time permitted.

The Department of Antiquities, which through Director-General Mansour Bataineh issued an excavation permit, was most helpful in lending one of its officials, Mohammad Murshed Khadija, to serve very efficiently as the expedition's foreman. Through his friendliness he endeared himself to all staff members, and his leadership qualities made him a most valuable member of the organization. Hussein Qandil, an inspector of antiquities and an archaeologist in his own right, was assigned to the expedition as the department's representative. Thanks are also due to Mr. Bataineh for having secured a permit for the expedition's geologist to make a geological survey of the *Ḥesbân* area and travel freely throughout that part of the country. Mr.

[5] All photographs reproduced on Pls. I-XVI, except where other credit is given, are the work of the staff photographers of the Heshbon expedition.

Bataineh also kindly assisted the expedition in obtaining permission from the proper authorities to make aerial photographs of *Tell Ḥesbân* (see below).

Hester Thomsen was once more in charge of all pottery registration, an exacting task this season because the expedition's pottery expert saved more than 22,000 sherds for further study. She was assisted by four full-time pottery washers, one of whom also operated the rock saw to cut all pottery indicators (rims, handles, bases) in order to obtain their profiles.

Kathleen Mitchell was secretary to the director and registrar of finds. She cleaned the objects as they were discovered and entered them in the registry book and on cards. This was a formidable task in view of the fact that about 900 objects were found, three times as many as in 1968.

The camp director was Marlyn Chapman, and her daughter Judy served as messenger girl on the *tell* and helped in numerous other capacities especially at headquarters. Mohammad Adawi, the major-domo of the ACOR and cook of many American expeditions, served us again in the same capacity. He had four assistants. Two young Americans, David Undeland and Tim Smith, whose parents lived in Jordan, joined the expedition and made a fine contribution. The medical needs of the staff and workers were cared for by W. Shea, a physician who served as a Square supervisor in Area C.

Reuben G. Bullard, a geologist of the University of Cincinnati who for several years has been on the core staff of the Gezer expedition besides serving as geological advisor to other expeditions on the West Bank and Cyprus, made a geological survey of *Tell Ḥesbân* and its surrounding territory. Although other commitments limited the time he could devote to the Heshbon expedition to two weeks preceding the official excavations, he was able to identify approximately 60 kinds of stones used as material for buildings and domestic utensils. He also discovered several quarries from which the ancients procured building stones as well as sites from which they obtained clay for bricks and pottery.[6]

[6] R. Bullard, *AUSS*, 10 (1972), 129-141.

It should also be mentioned that after long negotiations with the civil aeronautics board and the military authorities of Jordan, we were granted a permit to make aerial photographs of *Tell Ḥesbân*. Since aerial photos frequently reveal topographical features not noticeable from the ground, these pictures were highly desirable. During a flight in the early morning of August 12, the staff photographer, Alvin Trace, took a series of black-and-white as well as color pictures. The plane used was a Piper Cub rented for that purpose from the Royal Jordanian Aero Club and piloted by one of the club's flight instructors. Pl. I:A gives a sample of the resultant pictures.

All legible coins of the 1968 and 1971 seasons have been identified by Abraham Terian.[7]

## *Aims*[8]

In Area A a monumental Byzantine building identified as a Christian church had been partly excavated in four Squares opened in 1968. The apse in the east, the northern outside wall, a row of three column bases, and an underlying wall separating the nave from the northern side aisle had been excavated by the end of the first season. Work in all four Squares was continued and two more Squares were opened in 1971 in order to pursue the western and southern extremities of the church, and to discover whether it had been built on earlier remains or on bedrock.

Area B in 1968 consisted of one Square, a trial shaft, to ascertain, if possible, the sequence of occupational strata existing on the *tell*. Here were found the remains of a deep wall. In the northern part of the Square a lime kiln had been intersected and a deep fill containing much late Iron II (7th-6th cent. B.C.)

[7] A. Terian, *AUSS*, 9 (1971), 147-160. His 1971 coin article is scheduled for a future number of the *AUSS*.

[8] The strategy, methods, and techniques employed were essentially the same as in the previous season and their description needs therefore no repetition (see "Heshbon 1968," pp. 110-117). It may be repeated here that the letters A-F stand for Areas A-F; the first numeral after these letters, for the number of the Square referred to; and the following numeral preceded by a colon to the locus number; hence, A.3:14 means Area A, Square 3, Locus 14, while D.6 refers merely to Area D, Square 6.

pottery[9] encountered. The aim for this season was to clean out the kiln (some of whose stone and dirt contents had been washed into the Square by three winter rains), to continue the excavation of Square B.1 in depth, and to open three additional Squares in hopes of further illuminating the *tell's* occupational strata.

It had been originally hoped that Area C on the western slope of the *tell* would intercept any city wall the *tell* may have possessed. This expectation met disappointment. Instead, a thick layer of accumulated debris of Ayyūbid/Mamlūk times was encountered. By the end of the 1968 season, however, building remains of the Early Byzantine and Late Roman periods were hit in Square C.1. It was therefore decided to continue the work in this Square as well as in C.4 where in 1968 a large cistern had been cleaned and walls of an impressive Ayyūbid/Mamlūk building uncovered. A new Square (C.5) was opened west of C.1 to ascertain whether the lower slope might contain remains of a city wall, and later another new Square (C.6) was opened east of C.4.

The excavations of Area D, where a southern ascent to the acropolis had been discovered in 1968 and Islamic structures in Squares D.1 and D.2, were planned to join this Area with Area A in order to find the connection between the Byzantine church and the later Islamic buildings on the summit of the *tell.* For this purpose two new Squares (D.5 and D.6) were opened, north of Square D.1 and directly south of Area A.

That the territory surrounding *Tell Ḥesbân* contained ancient cemeteries had been well known for a long time, and many opened Roman and Byzantine rock-cut tombs were visible on adjacent hills. However, during the last two years the villagers of *Ḥesbân* had discovered some new tombs which had evidently contained enough valuable objects to justify their continued search. They were rewarded with finding a large number, among which were two of rather unique architectural design. One was a large family tomb of the 1st cent. A.D. whose opening was closed with a rolling stone, the first such tomb found east of

[9] This pottery was published by E. N. Lugenbeal and J. A. Sauer in *AUSS,* 10 (1972), 21-69.

the Jordan River. Another somewhat later tomb had a swinging door of solid stone. To study these clandestinely excavated tombs and discover any others which had so far escaped the recent tomb robbers, a team was put to work in Areas E and F whose locations have already been described. Area F proved to be the most productive.

### *Accomplishments*[10]

Following this Introduction are the excavation reports written by the Area supervisors. Summarily stated, these reports provide the following picture:

*Area A:* It has become clear that the Byzantine church was a typical basilica-type structure consisting of a nave separated from two side aisles by rows of columns. Four column bases of the northern row and two of the southern have been found *in situ* (although two of the northern ones showed slight dislocations), as well as five others dislocated in the ruins of the building. Consequently, the church had at least six columns in each of the two rows. Since the western part of the building has not yet been excavated, neither has its original length been ascertained nor its entrance uncovered. It has been established, however, that the northern and (possibly the) southern outside walls of the building were founded on bedrock by the Byzantine builders. The same is true of the northern column-support wall. The wall supporting the southern row of columns was, however, of Roman origin and was reused for that purpose. The church builders also incorporated into the foundation of the wall adjacent to the apse wall a Corinthian capital which must have come from an earlier Roman monumental building. The southern aisle was ca. .70 m. narrower than the northern one, because, had the aisles been of equal width, the southern outer wall would have been built over a large cistern (D.5:5).

Square A.2 yielded evidence of extensive quarrying in Roman times as well as the entrance of a subterranean double cavern reaching east and south. The cave was also dated to the Roman

[10] This part of the Introduction, as well as the Area reports, has greatly benefited from Sauer's critical review of the conclusions based on the available ceramic and numismatic evidence.

Period and, because of an anvil-like stone table and a firepit in the northern sector, may have been an artisan's workshop. When the church was built it had already fallen into disuse.

No building remains earlier than the Roman Period were discovered in Area A, although a few Late Hellenistic and some Late Iron II sherds were found. It seems apparent that, if the eastern summit of *Tell Ḥesbân* was occupied in pre-Roman times, all vestiges of such an occupation were thoroughly destroyed by the quarrying or building operations of the Roman and succeeding periods.

*Area B:* The continuation of Square B.1 and the work in the new Squares B.2-4 revealed the existence of 16 archaeological strata in that Area. Stratum 1 represented Modern remains in topsoil, while Stratum 2 (boulders and soil) dated to Mamlūk times according to pottery and coins. Beneath this stratum were the pits and the L-shaped robber trench of Stratum 3. Stratum 4 contained the circular lime kiln, discovered in 1968, which most probably had been constructed and used during the early 5th cent. A.D. It is possible that it was built and operated in connection with the construction of the Christian church on the summit of the *tell.* That no remains from the time between the 5th cent. A.D. and the commencement of the Ayyūbid/Mamlūk period (ca. A.D. 1174) were found in Area B leads to the impression that at least this portion of the *tell* was unoccupied during the intervening centuries.

Strata 5 and 7-12 consisted of alternating layers of plaster (previously called *huwwar*) and brown dirt, altogether ca. 1.00 m. or more thick. These layers were found in B.1-3 and had also been uncovered in 1968 in the western part of Square D.3, adjacent to B.3. It seems that these layers were plaster resurfacings of a roadway leading to the stairway (excavated in 1968) in Area D, the southern access to the acropolis. These plaster resurfacings were probably laid down between the 1st and the 4th cent. A.D. In Stratum 12, the lowest of these strata, a north-south row of well-cut paving stones came to light in B.3, which may have been curbstones on the (north-south) roadway's west side. It is possible that this roadway connected the fort of Esbus (the name of Heshbon in Roman times) with the north-south

*via nova*, built in the early 2d cent., and the Jericho-Livias-Esbus road of which milestones are extant.

Stratum 6 was rock tumble, possible destruction evidence of a severe earthquake that hit Transjordania in A.D. 365. Stratum 13 represented a pre-roadway occupation level of Early Roman times, and included a partly excavated cave or cistern in B.4.

The massive Wall B.1:17B, already exposed in 1968 and also uncovered in B.2 in 1971, belonged to Stratum 14. Its origin is still not clear and must be ascertained during the next season. Several loci in B.3 produced homogeneous Late Hellenistic pottery, and they (along with an unexcavated B.3 cistern?) belonged to Stratum 15. Stratum 16 consisted of a massive, 6.50 m. deep fill in B.1, which contained only Late Iron II pottery including two ostraca, one found in 1968 and another in 1971. Thus far this massive fill has been encountered primarily in B.1; in the adjacent Square B.4 bedrock was reached less than 2.00 m. below ground surface. It is not yet known whether the deep depression in B.1 was man-made or of natural origin, nor is it clear when and for what purpose it was filled.

*Area C:* In Squares C.4 and C.6 parts of a frequently rebuilt Ayyūbid/Mamlūk structure, labeled the "north building," were uncovered. Along its inside walls was a plastered stone bench, part of which was made of a column drum. Underneath it was a clay lamp containing 66 Mamlūk coins made of a bronze core covered with silver. Buried in or under the pre-Islamic (probably Byzantine) layer beneath this house were the remains of a possible fetal or stillborn child.

An Ayyūbid/Mamlūk *ṭabun* and a large cistern (already cleaned in 1968) were outside the north building to the south in a courtyard. Rock-cut channels ran between the cistern and other installations lying outside the limits of excavation. One channel led from the cistern toward the west balk in which it was lost and another connected with an unexcavated cavern in the south. Pottery evidence pointed to a Roman date for these installations. The cistern, however, had been reused in Islamic times.

Umayyad evidence in Square C.4 was quite complicated. It consisted of several disconnected wall stumps and soil layers

underneath the Ayyūbid/Mamlūk *ṭabun* and around the cistern. One wall, three or four courses high, 1.30 m. wide, and 5.00 m. in preserved length—seemed to have served a defensive function for the western perimeter of the city, or for a compound in which the north building stood.

In Square C.1 excavations were continued where they had ended in 1968. Here several Byzantine wall fragments and a water channel were uncovered. In the southwest corner of the Square was an impressive 5.25 m. long wall consisting of large field stones, dated to the Early Byzantine period. Since this wall (C.1:8) ran into the west balk at an oblique angle, its continuation was expected to appear in the adjacent Square C.5. This did not happen. The apparently corresponding Wall C.5:7 ran at a slightly different angle and level from Wall C.1:8 and was of probable Umayyad origins.

The Late and Early Roman periods were represented in Square C.1 by several wall fragments and surface fragments, probably the slim remains of domestic buildings destroyed beyond connecting recognition by later building activities. Of the pre-Roman periods, a few Late Hellenistic sherds, but no structural remains, were found in Area C. However, one wall (C.1:30) could be dated to the Late Iron II period, making it thus far the earliest architectural feature discovered at *Tell Ḥesbân.*

*Area D:* In Square D.1 excavations began at a fine Umayyad stone pavement which the Department of Antiquities wanted to preserve. Therefore only in the eastern part of the Square, where the pavement had already been removed in ancient times, could excavations be carried on. It was found that the Umayyad pavement overlay an earlier one of greenish clayey limestone. Underneath the makeup for this pavement were layers of fill containing Roman and some Late Iron II pottery. It was also discovered that the 1.50 m. thick perimeter Wall D.1:4 had been laid on bedrock, probably in Early Roman times, and that it had remained in use from that time on throughout the city's history. During the following centuries, however, its upper portions experienced several rebuilds.

Square D.5 reached from the north-south axis in the west to the western wall of the Ayyūbid/Mamlūk vaulted room, already

partially excavated in 1968. Here was uncovered a further section of the Umayyad pavement reaching as far north as the southern outside wall of the church, also found in this Square. However, the eastern part of the pavement had been ripped out, probably prior to the construction of the vaulted room.

Incorporated into this pavement was the mouth of a huge cistern with an estimated capacity of 229,000 liters. It seems to have been originally a cave with an entrance in the east. This entrance had been walled up and a vaulted ceiling built over it. The pottery evidence yielded by the cistern showed that it had been in use during the Ayyūbid and Mamlūk periods, although it was constructed much earlier.

The collapsed vaulted room, built in Ayyūbid/Mamlūk times, was almost completely excavated. Its eastern wall was an extant north-south wall which had existed at least since the Byzantine Period. As three sides of the room contained no breaks, its entrance must have been in the not yet fully excavated north wall. The floor of this building had covered over a cistern of ca. 79,200 liter capacity. The stratigraphically excavated mass of debris in the cistern furnished a large number of domestic objects, coins, and pottery. A blocked-up channel in the eastern wall of this cistern connected it in a carefully engineered system with two smaller cisterns in the eastern part of Square D.6, holding approximately 3,100 and 3,400 liters, respectively.

East of the vaulted room ran an east-west wall, founded on bedrock during the Roman Period and used until Ayyūbid/Mamlūk times, although its function remains uncertain. In the Early Byzantine period the space between this wall and the church was covered by a geometrically designed tessellated floor, of which only patches were preserved. Whether this moasic floor lay inside a room adjacent to the church or in a small open courtyard could not be ascertained.

*Areas E and F:* The search for previously undiscovered tombs in Area E was unproductive. Area F, however, contained among others, two distinctively designed tombs (F.1 and F.5) which were cleaned and studied despite their recent clandestine discovery and looting by villagers. Of other tombs initially discovered by the expedition, only two (F.4 and F.6) contained

large amounts of their ancient contents in bones and mortuary equipment. Even these tombs had been entered in ancient times, robbed of such valuables as silver and gold objects, and then filled with dirt and resealed.

Tomb F.1, called the "Rolling Stone Tomb," was the first of this architectural design found east of the Jordan River, although several such tombs are known on the West Bank. Tombs of this construction can be dated to the first half of the 1st cent. A.D., and most belonged to noble families. *Ḥesbân's* Rolling Stone Tomb included an open forecourt and a relatively elaborate facade with two parallel walls providing a track in which a disk-shaped stone door, ca. 1.26 m. in diameter and .36 m. thick, could be rolled to either side of the low entrance. The interior was a rock-cut main chamber from which radiated 12 burial tunnels (loculi). Although the tomb had already been spoiled before our season of excavations began, the human bones found there indicated the presence of at least 76 skeletons.

Tomb F.5, the "Swinging Door Tomb," was also unique for *Ḥesbân.* Here, in a stone frame on the exterior of the low entrance was hinged a still-operable solid stone door. The interior of the tomb was a central rock-cut chamber with arcosolia on three sides, each of which had two trough-like caskets covered with large, flat, square, terra-cotta tiles. Although this tomb, together with Tomb F.1, had already been robbed of its contents before our expedition arrived, we were able to retrieve from it a cache of undamaged pottery vessels, fortunately overlooked by the recent robbers.

Tomb F.4 was a Roman tomb of a construction frequently found at *Ḥesbân.* It consisted of a vertical rectangular shaft at the bottom of which were four burial recesses, the long sides of the shaft having two trough-like graves and the narrow sides two loculi. Tomb F.4 contained bodies in all graves, but no pottery. Among the objects found were two brooch-like fibulae and a bronze incense shovel.

Tomb F.6 was an Early Roman tomb in which the central rock-cut main chamber had a total of nine loculi cut into three walls. Although this tomb had been entered in antiquity, it had not been opened in recent times. The bones were found as they

had been scattered throughout the tomb before it was filled with dirt and resealed, probably in Byzantine times. However, much pottery, some glass vessels, several pieces of jewelry, and other mortuary equipment were recovered from it.

## *Conclusions*

The main results of the 1971 season have been only briefly summarized above and, for further information, the reader is referred to the Area supervisors' more extensive preliminary reports which follow. However, at this point we must deal with the question: What has been learned from the first two seasons, and what can be expected from the third season of excavations scheduled for the summer of 1973?

Among the significant accomplishments in the stratigraphic work was the development, through the ceramic analysis done by J. Sauer[11] and the stratigraphic refinements provided by the data of Area B, of what would seem to be an adequate comprehensive stratigraphic sequence to account for all major stages of occupation on the site found to date. The major question remaining in some doubt is the precise scope of the Late Byzantine occupation, as yet evident primarily in numismatic data in Area C, and in mosaic fragments in Area A (associated with the church).

Several auxiliary functions made substantial progress and contribution to the overall comprehension of the occupation history on the site. The completion of a contour map (Fig. 1)

[11] A detailed preliminary study of the Heshbon pottery of the 1971 season by Sauer is published concurrently with this report as AUM, Vol. 7.

The chronological terminology which is used throughout the present report is based on that study, where both historical and archaeological data have been considered. Those terms which are relevant to Heshbon and which are most frequently used in the Area reports are as follows:

| | |
|---|---|
| Mamlūk | A.D. 1250 - 1516 |
| Ayyūbid | A.D. 1174 - 1263 |
| Umayyad | A.D. 636/661 - 750 |
| Late Byzantine | A.D. 491 - 636 |
| Early Byzantine | A.D. 324 - 491 |
| Late Roman | A.D. 135 - 324 |
| Early Roman | 63 B.C. - A.D. 135 |
| Late Hellenistic | 198 - 63 B.C. |
| Late Iron II | ca. 700 - 500 B.C. |

and the supplemental aerial photography (Pl. I:A) added competent records in new dimensions. The extensive numismatic finds will provide corroborative insight to the steps made in stratigraphic refinement and the major progress in ceramic analysis. The analysis of the bone material[12] should provide additional insights on the economic and ecological framework of the occupations represented. Finally, the research directed at necropolis evidence succeeded in locating a variety of samples of burial facilities, particularly of the Roman and Byzantine Periods, providing extensive additions to the object horizons in addition to allowing more detailed comparisons of East and West Bank tomb architecture in the periods involved.

The major and certainly unexpected result of the excavations was that *Tell Ḥesbân* did not seem to contain remains of a period preceding the 7th cent. B.C. So far the earliest pottery encountered in any appreciable quantity came from the 7th-6th cent. B.C. (Late Iron II). It has come to light in every Area excavated on the *tell,* and even a few sherds of that period have been found in the Area F cemetery. Architectural features from that time, however, have so far been meager and have been discovered only in Area C. This surprising revelation means that all evidence thus far encountered indicates that *Tell Ḥesbân,* identified since at least the time of Eusebius with OT Heshbon, cannot be King Sihon's capital of Moses' time.

Furthermore the two seasons of excavations have shown that the site of *Tell Ḥesbân* did not enjoy an uninterrupted occupational history. Several gaps of occupation have been noted, the earliest of which existed between ca. 500 B.C. and Early Roman times, supported by ceramic and numismatic evidence. Beginning with the 1st cent. B.C. Esbus, as the city was then known, seems to have had a time of prosperity which lasted through the Byzantine and Umayyad periods. Again the city seems to have fallen into oblivion at the end of the Umayyad period, but under the Ayyūbids and Mamlūks *Ḥesbân* once more flourished. From the 15th to the 20th cent., when the modern village of *Ḥesbân* was founded, it was again a ruined and unoccupied site.

[12] See Ø. Labianca, below, pp. 133-144.

### *Plans*

A primary aim of the third campaign will be to excavate to bedrock those Squares already opened in order to assure that no existing earlier strata will have eluded us in our search for ancient Heshbon. Since all excavations thus far have been only in the acropolis area, another aim of the next season will be to carry out soundings in the lower parts of the *tell* to ascertain whether the archaeological history there is the same as on the acropolis and its slopes. It is furthermore planned to make an archaeological survey of the territory surrounding *Ḥesbân*, especially in the *Wadi Ḥesbân* and around *'Ain Ḥesbân*, in search for another possible candidate for OT Heshbon.

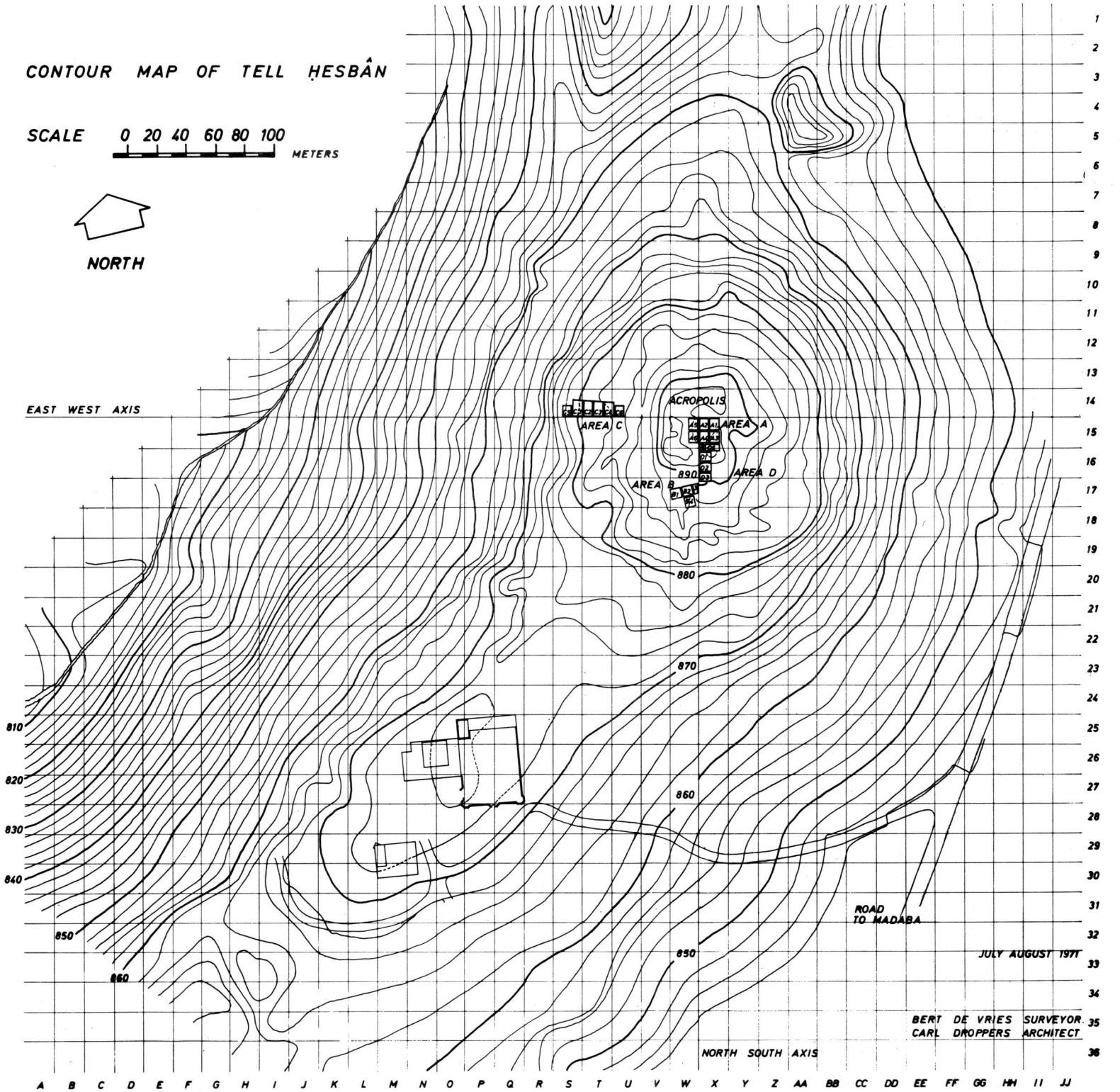


Fig. 1. Contour map of *Tell Ḥesbân,* showing the locations of Areas A-D of the 1968 and 1971 excavations on the acropolis

# AREA A

DOROTHY HARVEY
Urbana College, Urbana, Ohio

In 1968 four Squares were opened in Area A in the acropolis of *Ḥesbân*. These Squares, each 6.00 x 8.00 m., were laid out in reference to architectural features visible on the surface, including four column bases in line in an east-west direction. A major building was indicated, and the 1968 excavations were intended to investigate this building. The remains of the structure itself, together with literary evidence of a Christian community at *Ḥesbân* in the 4th to 7th cent. A.D., suggested a Byzantine Christian church.[1] This identification was supported by a semicircular, apse-like feature at the east end of the building, mosaic floor fragments in the apse and nave sectors, plaster fragments on which part of the name Daniel was painted, a well-built wall 2.50 m. north of an extant row of column bases forming a north aisle, and a parallel wall to the south in the right position to support another row of columns.[2] Dating the remains of the building suggested two late Byzantine phases, contemporary with mosaic floors in the apse and nave sectors; one intermediate Byzantine phase, contemporary with a cement floor in the apse and the painted plaster mentioned above; and two early Byzantine phases, contemporary with a plaster floor in the apse and a plaster floor probably connecting the column bases with the north wall.

Two main problems remained at the end of the 1968 excavations. The excavated portion did not extend far enough to the south or west to include all the floor plan of the Byzantine building, and the excavation in the four Squares was not completed through the underlying layers to bedrock. This meant that the dimensions of the building were still undetermined, no south exterior wall had been found, and the relation between

[1] See B. Van Elderen, "Heshbon 1968: Area A," *AUSS*, 7 (1969), 157-159.
[2] See "Heshbon 1968," ibid., Pls. XV-XIX, XXIII:E, XXIV:A.

the church and pre-church phases of building had not been worked out. Some discrepancies in the relation between walls (as, for instance, an uneven or absent connection between the north wall and the apse, and a slight shift in the angle of the north wall in relation to the apse) could be caused by adjustment to, or reuse of, earlier buildings in the Area. Roman sherds were found in all four Squares, but the Roman loci and structures, and their possible reuse in the Byzantine church required further investigation.

The 1971 excavations in Area A were intended to provide more evidence on these problems. The four Squares already opened were cleared of debris accumulated in the intervening years and were excavated further. Square A.2 was excavated completely to bedrock on both sides of the north exterior wall. Squares A.1, A.3, and A.4 were excavated to bedrock with some small exceptions. In A.3 and A.4 the south edges were not completely cleared. The removal of balks between Areas A and D was in process at the end of the season, and further excavation south of the south column-support wall will be easier once this has been accomplished. In A.1 the south cave, found during the season, and the southwest corner of the Square were not completely excavated. In these Squares the main findings in 1971 were in Roman loci or in Byzantine reuse of Roman structures.

The other main problem, that of the western and southern parts of the Byzanstine church, was attacked in Area A by opening two new Squares immediately west of the original four, and in Area D by opening new Squares extending excavation to the south edge of Area A. Square A.5 was laid out and opened immediately west of A.2 (leaving only the standard 1.00 m. balk between the Squares) at the end of the first week, and Square A.6, west of A.4, was opened at the end of the third week. Neither Square was completely excavated by the end of the seven weeks. Bedrock was reached in one sector of A.5, and Roman loci were dug, but more work is still to be done in both Roman and Byzantine loci. In A.6 an Early Byzantine surface was reached in the southwest corner, but nothing below this was dug. No conclusions could be reached at the end of the 1971 season as to the floor plan of the western end of the Byzantine

church. Work was not completed on the western half of either A.5 or A.6, but the position of the Byzantine mosaic and paving stones along the western balks of A.5 and A.6 indicate that the west wall and probable entrance of the church lay either in the west balks of these Squares, or still further to the west. In A.6 the mosaic and the paving stones (which bordered the mosaic on the north) were both covered by the west balk, so that their extent is unknown. In A.5 the face of a north-south wall west of the paving stones appeared in the west balk, but its connection with the surface containing the mosaic has not yet been determined.

The 1971 excavations in Area A did provide further evidence in regard to the Ayyūbid/Mamlūk reuse of the Byzantine church, details of the plan of this church, its extent to both the south and the west, and the pre-church occupation and structures and their relation to the later structure. Pottery was found in the Area from the following ancient occupation periods: Ayyūbid/Mamlūk, Umayyad, Byzantine, Late Roman, Early Roman, Late Hellenistic, and Late Iron II.

### *Ayyūbid/Mamlūk*

The most recent structure found in A.6 was a room consisting of a north-south wall of roughly faced stones (Wall A.6:6), forming a corner with an east-west wall of similar roughly faced stones (Wall A.6:5) and floor surfaces indicating two stages of use, a hard dirt floor (A.6:8) over a layer of about .12 m. of fill, laid over an earlier hard-packed floor surface (A.6:15) immediately over an original plaster floor (A.6:16). Walls A.6:5 and 6 seem to have been the heavy outer walls of this Ayyūbid/Mamlūk house. Wall A.6:6 had a width of 1.00 m., and Wall A.6:5 was built against an earlier heavy wall on the north (A.6:2) for a combined width of 1.50 m. Both Floors A.6:8 and 16 ran up to these walls and did not extend beyond them.

An earlier occupation of this house again seemed to show two stages of use with a hard-packed earth floor (A.6:17) over a layer of rubble and occupation debris (A.6:18) containing tesserae, plaster and *ṭabun* fragments, roof tiles, iron and glass fragments, a button, and many sherds. Below this lay a hard white

floor surface (A.6:20). Floor A.6:20 ran up to Walls A.6:6 and 2. It was not cut by the foundation trenches for them, and seems to have been contemporary with these walls. Wall A.6:6 was set on the floor surface containing the Byzantine mosaic (A.6:37), and was built over and around the column base attached to this mosaic (A.6:38), so as to incorporate the column base as part of the wall. Wall A.6:6 seems, therefore, to have been part of the first structure built in the Ayyūbid/Mamlūk period which used the Byzantine church as its foundation.

In A.5 an apparent entrance-way consisting of two side posts built of roughly faced stones, .95 m. apart and standing to a surviving height of 1.00 m. (A.5:5 and 15), appeared in the west balk in association with stone Threshold A.5:60 (see Pl. II:B). If this partially excavated entrance represents part of the first building phase on the surface of the Byzantine mosaic in A.5, it also probably belonged to the Ayyūbid/Mamlūk period.

An earlier Ayyūbid/Mamlūk phase of occupation seemed to be represented in a layer of occupation debris (A.6:23 and 30) about .13 m. deep and resting directly on the Byzantine floor (A.6:37). This debris contained tesserae, lamp fragments, charcoal, a weight, and many sherds. It was cut by the foundation trenches for Walls A.6:6 and 2, and seemed to be part of an occupation which simply reused the Byzantine floor. The evidence in all of the Ayyūbid/Mamlūk levels in A.6 indicated domestic reuse of the Byzantine church features as living space.

### *Umayyad*

A few Umayyad sherds were found in A.5 and A.6, always in mixed association with Ayyūbid/Mamlūk pottery. No Umayyad structures were identified.

### *Byzantine*

*Church.* In the new Square A.6, nothing lying below the Early Byzantine floor with its paving stones and mosaics has yet been dug. This means that no evidence for more than one phase of church construction has been found there to date. In A.5 both Late and Early Roman loci have been reached in much of the Square, but again, in the sectors dug there is not evidence for more than one Byzantine church floor surface. In the eastern half

of both Squares the present ground surface and accompanying disturbed topsoil is lower than in the western half. This may be one reason why no trace of a floor from an earlier phase of the Byzantine church was found in the southeast corner of A.5. It is difficult, without this evidence, to relate the mosaics found in A.5 and A.6 with any one phase of the 1968 analysis of the Byzantine church.

It seems clear, however, that these mosaics did belong to the Byzantine church. The A.6 fragment of mosaic (A.6:37) was found cemented to a column base (A.6:38) which is in line with the column base found in position on the column-support wall in A.4 (A.4:12). Both of these bases were apparently *in situ* for their reused phase. The other mosaic fragment in A.6 (A.6:35) was at exactly the same level (891.52 m. above sea level), set in the same hard sub-floor surface, and laid up to the edge of one of two paving stones (A.6:36) in the west balk. The mosaic fragment in A.5 (A.5:28) is less well preserved. It occurred a few centimeters from a similar row of paving stones (A.5:6) along the west balk, but when exposed it did not touch these stones. It was set in a similar hard white sub-floor surface (A.5:17). The level was 891.33 m., as compared with 891.52 m. for the mosaic in A.6, and 891.48 m. for the mosaic floor south of the apse in A.3 (A.3:13). The mosaic Fragment A.4:8 in the southeast corner of the nave floor, found at Level 891.48 m., was identified as "Stratum II, Phase A$\beta$ = Late Byzantine" in the 1968 report. It would seem possible that the mosaics in A.5 and A.6 belong to this phase of the 1968 analysis (but with revised dating).

An Early Byzantine plaster floor (A.5:21) ran south of the line of the north wall of the Byzantine church at approximately the same level (891.28 m.) as Floor A.5:17. Both Floors A.5:17 and 21 extend over the top of Wall A.5:10 (A.5:17 to the north and A.5:21 to the south of the wall), and they may be part of the same floor. If this is true, then Floor A.5:21 may also belong to this phase. A fragment of cobbling (A.5:14) appeared just to the east of the A.5 mosaic and probably belonged to this same floor.

It would seem probable that the top course of Wall A.5:11

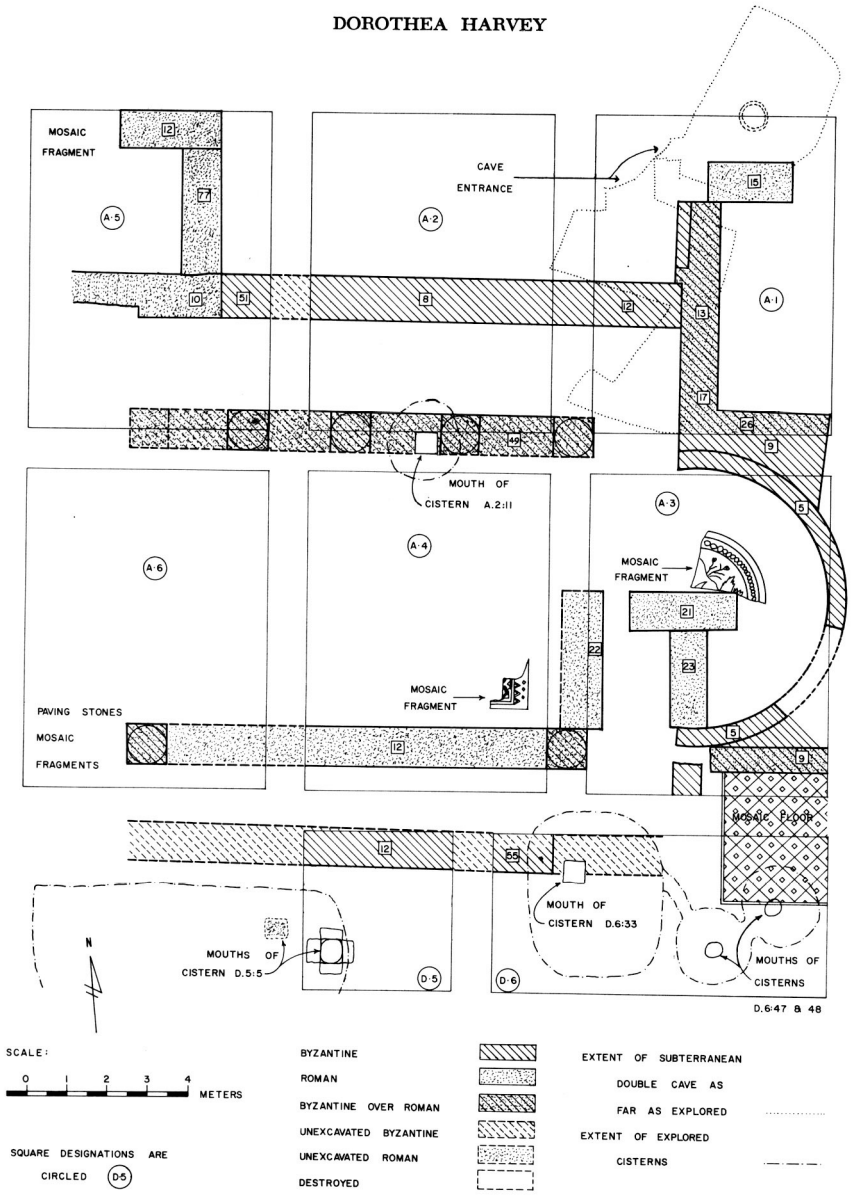


Fig. 2. Schematic plan of the excavated part of the Byzantine church in Areas A and D with Roman architectural remains relating to the church building. No distinction is made between early and late phases

belonged to the same period as the A.5:28 mosaic. The top of Wall A.5:11 was flat, level with Wall A.5:10 with which it formed a corner, and it provided an eastern boundary for Floor A.5:17 in which the mosaic was set. Foundation Trenches A.5:53 and 55 for the lower courses of the wall along the east side yielded Late Roman and earlier pottery. A foundation trench (A.5:25) along the west side of the wall contained Early Byzantine sherds. These foundation trenches would seem to indicate an Early Byzantine reuse of an original Roman wall.

A number of sectors excavated in 1971 seem to relate to this church phase. Three additional column bases were found in reuse *in situ*. One was found in the east balk at the southeast corner of A.4 (A.4:45), another was found in the south central sector of A.6 (A.6:38), and the third in the southeast corner of A.5 (A.5:68). The three column bases previously excavated are in an east-west line, north of the central portion of the church, dividing a north aisle from the nave proper. The column base found in A.4 is directly west of the apse and matched the first column base in the north row. The base in A.6 was in the position of the fifth from the apse in the south row. The base in A.5 was the fourth from the apse in the north row. Because of these column bases found *in situ*, it would seem evident that the church had a north and a south aisle set off from the nave by ten columns in two rows of five each. The number of columns, however, can be expanded to a minimum of 12 in two rows of six each, as an additional five column bases have been discovered scattered throughout the building.

The main east-west wall on the north (Wall A.1:12 and A.2:8) was found to continue an additional 2.25 m. to the west into A.5, where it (as Wall A.5:51) met the corner of the Late Roman Wall A.5:10. In 1968 a plaster floor fragment and surface in A.1 and A.2 (A.1:20 and A.2:12) were found possibly associating this main east-west wall with the column bases as the north exterior wall of the church. This association seems highly probable in the light of a connection found in 1971 between the south row of column bases and a major east-west wall on the south. Column Base A.4:45 was found in the southeast corner of A.4, resting on an east-west column-support wall (A.4:12).

As this corner of A.4 was cleared, the cobblestone Surface A.4:23, identified in 1968, was traced eastward to the balk and was found to be laid up against the lower part of the column Base A.4:45 (Pl. IV:A). As the balk between A.4 and D.5 was partially removed, this same cobblestone surface was traced westward and southward and was found to connect with Wall D.5:12 in the south balk of A.4. With this clear stratigraphic connection, the plan of the central part of the Byzantine church is fairly certain: as exterior walls on the north and on the south there were well-built major walls, slightly more than 1.00 m. wide, of header-stretcher construction; also there was a north and a south aisle, each set off from the main part of the nave by a row of columns each row having a minimum of six.

Excavations of the north exterior wall of the church indicated that that wall was built in the Early Byzantine period. A probe trench in 1968 in A.2 had cleared a 1.00 m. wide strip to the lowest layer of *huwwar* over bedrock in the center of the south edge of the Square, between the north Wall A.2:8 and the line of column bases, and had uncovered quarried stepped edges of bedrock. The rest of the southwest corner of A.2 and the entire north half of the Square, north of the north Wall A.2:8, was found to have been a quarry, cut to a depth of 2.50 m. into a relatively soft white limestone bedrock. Above some Roman layers of *huwwar* and soil at the bottom and a rockfall of approximately .50 m. above these, a massive Early Byzantine fill of up to 1.50 m. deep was found. An Early Byzantine foundation trench cut through this fill and rockfall beside a heavy foundation wall ca. 1.80 m. wide and built of field stones. One course, ca. 1.50 m. wide, of well-cut stones, was laid on this foundation, and above it were the two still standing exposed courses of the north Wall A.2:8, with a width of 1.10 m. The whole structure, including the foundation, seems to have been Early Byzantine.

The quarry was not found to continue into A.5. Here, then, there was no massive fill or foundation wall. A wide, triangular foundation trench (A.5:50), along the north side of this main east-west wall, did not contain any Byzantine sherds, but the corresponding wide foundation trench against the same wall in A.1

and A.2 did yield Early Byzantine sherds. Two layers of fill (A.5:3 and 9) laid against the south side of the wall in A.5, with no apparent foundation trench, also contained Early Byzantine sherds, confirming an Early Byzantine date for the wall.

A lower course of cut stones, at the level of the 1.30 m. wide course in A.2, was found in an Early Roman association in A.1 (A.1:63). This lower course is at a different angle from the orientation of the main east-west wall and rests on higher, unquarried bedrock where there was an earlier Roman occupation. Here, as well as at its extreme east and west ends, the Early Byzantine east-west wall seems to have been built over, or up to, earlier Roman structures (Walls A.1:17, A.1:39, A.5:10). In the A.2 quarry also, the east-west wall rests on the Roman quarry floor.

The discrepancies in size and in angle of orientation which appear in the plan of the Byzantine church seem to be at least partly the result of the reuse of Roman structures. The south exterior wall runs at a slight angle off the line of the south row of columns and was ca. 1.50-1.60 m. south of the line of columns, while the north exterior wall, again on a slightly different orientation from the north row of columns, is ca. 2.00-2.20 m. north of the line of columns. One base exposed in the south row of column bases rests on one course of cut stones which form a flat surface at the top of a rough wall of small field stones 1.00 m. wide and presently ca. .50 m. high. The 1968 excavations north of this column-support Wall A.4:12 identified a foundation trench of .05-.08 m. deep along the upper course which contained possible Byzantine as well as Roman sherds. In Layers A.4:18 and 19 below this were found only Roman and earlier pottery.

The 1971 excavations confirmed this finding. Three layers of occupational debris and fill (A.4:27, 28, 30) along the north face of the rough field stone wall under Wall A.4:12 yielded Early Roman and Late Iron II pottery. A foundation trench (A.4:29) cutting into these layers also yielded Early Roman and Late Iron II pottery. Findings south of the wall were similar. A layer of soil at the level of the top of the wall (A.4:35) and

a foundation trench (A.4:36), which cut through this layer along the upper course of the wall, both yielded possible Early Byzantine sherds. Layers under this (A.4:38, 39, 40) and a foundation trench (A.4:37) cutting through these layers along the south face of the wall yielded Early Roman sherds dominantly, with a few possible Late Roman sherds, and some Late Iron II sherds. It seems reasonably certain that the field stone wall was built in the Roman Period (probably Early, but possibly Late Roman) and that the Early Byzantine builders leveled its top with a course of flat cut stones so that it could be used as foundation for their column bases. This is a clearer case here, with evidence of double foundation trenches on both sides of the wall, of the same kind of Early Byzantine reuse of Early Roman construction as was suggested above regarding Wall A.5:11.

The north column-support wall consisted of one course of well-cut, squared-off slabs of stone set in dirt, except for one segment about 2.00 m. long in the southeast corner of A.2 where there are two such courses. A foundation trench (A.2:47) was evident, and there was probably one in A.5 (A.5:18). In the quarried sector of A.2, the column-support wall followed the south edge of the quarry, including the mouth of the Cistern A.2:11 which was cut into the same bedrock at that point. Early Byzantine fill seemed to lie against the wall with no foundation trench in this southwest corner of A.2 as it did in the southeast corner of A.5. Both foundation trenches along the wall contain possible Early Byzantine sherds, and both were cut into layers (A.2:14 and A.5:19) which also contained possible Early Byzantine sherds. The construction was not identical to that of the south column-support wall since there is no underlying Roman wall in the north. The construction, using flat leveling stones, was similar, however, and the pottery readings suggest that this north column-support wall may also have been Early Byzantine in origin.

### *Late Roman*

Late Roman structures above bedrock in A.1 included two walls reused by the Early Byzantine builders, Wall A.1:17, a

north-south wall at the east end of the north wall of the church, and Wall A.1:26, an east-west wall north of the outer wall of the apse (Wall A.1:9). Wall A.1:17 was represented by an upper course over a previous wall (A.1:39, probably Early Roman). When Wall A.1:17 was removed, it was seen that the Early Byzantine north exterior wall was not finished neatly at the east end. The ends of the two stones in the upper course jutted out at irregular angles and the central portion between them was filled in against the west face of Wall A.1:17. The east end of the lower stone on the north face was not squared off either, but was set at an angle fitting over a field stone of Wall A.1:39. This evidence tends to confirm the suggestion made in 1968 that the structural connection between Wall A.1:12 and the outer wall of the apse was the Early Byzantine course above these two Roman courses of the north-south wall, or A.1:13. The Early Byzantine north exterior wall is built up to a Late Roman wall on its west end also, where it meets Wall A.5:10, with its north face lining up with the north face of that wall. The Early Byzantine apse wall (A.1:9) also seems to have been built against a Late Roman wall (A.1:26).

Late Roman structures in A.5 included the heavy east-west Wall A.5:10 mentioned above, probably also a parallel wall (A.5:12) set 3.00 m. to the north, and the lower courses of the north-south Wall A.5:11 which formed a corner with Wall A.5:10 and seemed to connect it with Wall A.5:12. The width of these walls suggests that they were the outer walls of a house, and two Late Roman/Early Byzantine occupation layers (A.5:24 and 26) were found in the space enclosed by them. A fireplace (A.5:23) was found in association with Floor A.5:24 with ash, charcoal, bones, and one coin of Constans I (343-350).[3] Floor A.5:26 was a harder, more solid floor with sherds, charcoal, and ash on its upper face.

It is possible that Wall A.5:22 should be included among the Late Roman structures in A.5. It was a wall of dressed stones in the south end of the west balk, resting on the cobblestone Surface A.5:38, with the plaster Floor A.5:30 (above A.5:38) running up to it. Cobblestoned Surface A.5:38 was above a thick

[3] A. Terian, No. 60, in his forthcoming article on the Heshbon 1971 coins.

layer of loose soil and rock tumble (A.5:19), apparently destruction debris. With the exception of one call of some possible Early Byzantine sherds in one pail from Locus A.5:19, the pottery evidence for these structures suggested a Late Roman date. Wall A.5:22 was in line with Wall A.5:7 in the northern half of the Square, where excavation is not yet complete. It is possible that these walls will be found to relate to the Early Byzantine period, and that they mark the western limit of the church. Further excavations of both A.5 and A.6 should provide relevant evidence on this.

The distinction between Early Byzantine and Late Roman is important for an interpretation of the mosaic Floor A.3:13 south of the apse. The outer support wall (A.3:9) of the apse rested on this mosaic, so that use of the room which had the mosaic as its floor was connected stratigraphically with the Byzantine church. This room was excavated in A.3 and D.6, and in the portion of the balk between the two Squares. It was found to extend from 4.50 to 4.42 m. south of Wall A.3:9 and to have been 3.20 m. across (east-west). Byzantine sherds as well as other structures were found above the mosaic.

When Wall A.3:9 was removed, a foundation layer of small stones (A.3:42) was found, creating a level surface with a number of larger field stones (Wall A.3:49). In places where the mosaic was still intact at the edge of Wall A.3:9, one, two, or at the most five rows of mosaic tiles and a certain amount of cement setting for mosaic (A.3:43) were found continuing under Wall A.3:9 and over this foundation layer (see Pl. IV:B). Elsewhere in the room the mosaic floor was laid up to the walls, with a border pattern running around the geometric pattern which covered the central part of the floor. Plain white tesserae were set between the border pattern and the walls. Where Wall A.3:9 covered the edge of the mosaic there was no border pattern and one of the geometric pattern elements was cut off. The completion of the design and the addition of a border with the plain white tesserae beyond it would have brought the north edge of the mosaic at least 1.75 m. farther north in A.3, where the apse wall now stands. The foundation wall (A.3:42 and 49) had pottery readings of a few possible Early Byzantine, some

Early Byzantine/Late Roman, and the rest Late and Early Roman. It was above a hard *huwwar* surface (A.3:50) with consistent Early Roman pottery. An Early Roman field stone wall following the same orientation as Wall A.3:42 and 49 was set on bedrock below this surface. It would seem possible that the Early Byzantine church builders, here working again with a Late Roman (or pre-church Byzantine?) structure, laid their Wall A.3:9 on top of the structures and mosaic, breaking up the surface of the mosaic in the process of laying the heavy stones of Wall A.3:9. Red and black, as well as white, tesserae were found in the excavation of Wall A.3:42, and no *certainly* Early Byzantine pottery was found below the mosaic. A close study of the "possible" Early Byzantine pottery recorded from this sector may provide more conclusive evidence in this case.

Other, more easily identified Late Roman structures in A.3 were: the cobbled surface (A.3:34) in the west center of the Square (between Walls A.3:21, 22, 23); the lower course of Wall A.3:21 (Surface A.3:34 seemed to run over the upper edge of this lower course); and probably the lower courses of Walls A.3:22 and 23. The Roman dating of Wall A.4:12 has already been mentioned above. A blocking wall (A.2:45), closing the east entrance to the Roman quarry, can also be dated as Late Roman, and it would indicate that the quarry was in existence and open during that period.

Excavations in the northwest corner of A.1 uncovered the entrances to two caves below the upper surface of bedrock, both used in the Late Roman period. The east cave, located under the northeast corner of the Square, was evidently a natural cave, about 1.75 m. high and roughly 5.00 m. in diameter. It had been worked to the extent of a carefully constructed doorway which included a threshold, sill, and a bolt hole in one doorjamb; blocking walls built inside on the west, east, and south, and lamp niches cut into the walls. This cave seems to have been used for industrial work, in addition to possibly domestic occupation. A heavy, anvil-like stone (A.1:64) with a cone-shaped top and a cylindrically-shaped bottom, .50 m. high and .55 m. in diameter at the top, was located almost directly behind the doorway, 2.00 m. east from the entrance, in the

center of the cave. It was set in a ring of heavy stones with its top surface exposed (see Pl. III:B). A firepit was located 2.00 m. north of the "anvil" in the northwest corner of the cave. One occupation layer (A.1:66), immediately over bedrock and under a layer of Byzantine fill and wash (A.1:58), contained *huwwar* flecks, burned olive pits, bones, a few tesserae, and a small amount of mainly Late Roman and some possible Early Roman pottery. The firepit contained no apparent evidence of specific industrial use but included burned rock and dark brown soil, a long bone, some pottery, and some silt washed in from later outside seepage. It seems possible that the firepit and "anvil" stone were used for the sharpening or working of tools needed for stonecutting in the adjoining quarry, for the cutting of tesserae, or for related building projects.

The south cave, located under the south half of the Square and ca. 2.00-2.25 m. in height, was entered from another worked doorway almost adjoining but slightly to the south and west of the doorway into the east cave. This cave was not completely excavated, but, at the end of the 1971 season it seemed to be roughly Z-shaped with an entrance area extending about 2.00 m. south from the doorway to a blocking Wall A.1:70, an east-west strip extending approximately 4.00 m. to the east from a blocking wall (A.1:69) on the northwest, and a third strip extending south at least 3.50 m. from a blocking wall on the northeast. Two main occupation layers in this cave indicated domestic occupation as charcoal, *huwwar* lumps, tesserae, roof tile and *ṭabun* fragments were found along with mainly Late and Early Roman pottery as well as some Late Iron II sherds. The upper layer (Surface A.1:71) contained more Late than Early Roman pottery while in the lower layer (Surface A.1:73), directly on bedrock, Early Roman was dominant. Fill containing Early Byzantine pottery was found in this cave also. The cave was evidently in use in the Late Roman period and was left open at the end of that use. There was no sign of occupation in the Byzantine Period and Byzantine fill blocked both cave entrances completely, sealing the earlier occupation evidence.

*Early Roman*

The dominance of Early Roman pottery in the lower Surface

A.1:73 indicates that the south cave was used during the Early as well as the Late Roman periods. It seems probable that the Roman quarry was worked in the Early Roman period and remained open into the Late Roman, when the blocking wall was built. The quarry was cut into the bedrock of A.2 immediately to the west of A.1. A well-built doorway (A.1:52) in a wall of faced field stones was directly in front of the entrance into the east cave, and it opened into the quarry. The doorway on its east face consisted of an inverted V-shaped lintel set on side posts of heavy blocks of cut stone (Pl. III:A). On the west face a heavy horizontal stone lintel was set across these side posts. The height of the gate from the peak of the inverted V to the threshold was 1.52 m. The balk between A.1 and A.2 was removed, and the upper courses of Wall A.1:24 were taken out, together with a portion of the blocking wall of large boulders (A.2:45) which had been built against the west side of both Wall A.1:24 and its doorway.

The top of Wall A.1:24 was only slightly below ground surface and contamination by later sherds seems likely. A few possible Late Roman sherds were found in the first pail of pottery from the wall, and lower courses consistently contained Early Roman sherds as dominant with a few Late Iron II items. Tesserae and Nabataean fragments were also found. The wall was built on bedrock with the west threshold of the doorway cut from bedrock. The south gatepost was set in line with a quarried edge of bedrock in the quarry proper.

The date of the quarry seems, then, to be closely related to the date of the doorway and Wall A.1:24. In the first place, there seems to be no doubt that this area was a quarry. Smooth cut faces of bedrock at right angles, cuts made between blocks such that a rectangular building block could be removed, and quarry marks in the surfaces of the bedrock exposed do not leave doubt about this (Pl. II:A). There was no evidence for any one consistent occupation layer in the quarry. The uneven levels in the rock remaining after the quarrying were in themselves convincing evidence against this. The west balk of A.2, where the depth of the quarry appeared in section, showed evidence of natural and human deposits of *huwwar, huwwar* and

soil, rubble, soft brown soil with many stones, and a rockfall sloping toward the south. Various portions of the bedrock were covered by hard *huwwar* layers (A.2:22, 43, 46) with consistent Early Roman and earlier pottery, but in other sectors Late Roman sherds were found in the lowest *huwwar* level (Loci A.2:30 and 34). The quarry seems, then, to have been open and exposed to accidental and natural accumulations through the Late Roman period. A rockfall later covered these layers, and then a massive Early Byzantine fill was laid in. It was through this fill that the north exterior wall (A.2:12) of the church was cut.

The Late Roman wall blocking the gate clearly was built while the quarry was still open and after the building of Wall A.1:24 and its doorway. A subsidiary section was cut to bedrock into the blocking wall and its chink dirt (A.2:45 and 44) at the point where it blocked the doorway. A *huwwar* layer (A.2:46) on bedrock under A.2:44 contained only Early Roman and Late Iron II pottery. This suggests use of the doorway in the Early Roman period, as is consistent with the predominantly Early Roman dating of the excavated courses of Wall A.1:24. A tentative dating of events might include: (a) an Early Roman phase of domestic occupation in the south cave, quarrying operations in the adjoining limestone, and cutting and building of the doorway and Wall A.1:24 between the quarry and the caves; (b) one Late Roman phase of industrial use of the quarry, the doorway, the "anvil," and firepit in the east cave, and continued domestic use of the south cave; and (c) a second Late Roman phase when the quarry was still open, but incorporating the building of a wall blocking access to the caves. If this is true, it would seem to represent the only evidence thus far in Area A for two phases (or at least one phase long enough to show a change of function) within the Late Roman period.

Other portions where Early Roman levels were reached in Area A all gave evidence of at least two phases of Early Roman occupation. In A.1 an occupation layer (A.1:35) on bedrock in the center of the Square, a cobbled surface (A.1:38 and 46) built on leveling fill laid on bedrock just to the north and west of this, and an oval rock bin construction (A.1:68) set on bed-

rock slightly to the southwest with no sign of a foundation trench represented the earlier phase. The north-south Wall A.1:39, west of Surface A.1:38, and a pit above Surface A.1:35 with at least four distinguishable layers of Early Roman occupational debris (A.1:31, 32, 34) represented the later phase.

In A.3, directly south of A.1, three walls of field stones built on bedrock (A.3:54, 57, 62) and the occupation layer (A.3:55) associated with and east of Wall A.3:54 represented the earlier phase. Surface A.3:55 seemed to continue under Early Byzantine Walls A.3:5 and 9 and Late Roman Wall A.3:26 into A.1 at the same level, connecting the stratigraphy of the two Squares in this period. Occupation Layers A.3:26 (above Surface A.3:55) and A.3:50 (above Wall A.3:57), with their associated fill layers (A.3:27, 28, 51, 58, 59), represented the later phase.

In A.4, the north-south Wall A.4:34, built on bedrock, and probably also the occupational layers (A.4:31, 32, 33) on bedrock represented the earlier phase, and Early Roman fill Layers A.4:27, 28, and 30, running over Wall A.4:34, belonged to the later phase. Fill Layers A.4:38, 39, and 40, south of Wall A.4:12, were probably equivalent to A.4:27, 28, and 30 to the north, and belonged to this later phase.

One complex which may have belonged to the early phase of the Early Roman period was the pair of cisterns uncovered in A.5. Only one of the cisterns was excavated by the end of this season, and that partially. Two layers of fill were distinguished in Cistern A.5:62, which was round, pear-shaped, and had a flat bottom and a cylindrical neck. Its depth was about 1.60 m., and it connected about half-way down with a second cistern (A.5:61) to the east. The upper layer of Cistern A.5:62 contained one Late Roman sherd, probably contamination from the Late Roman foundation trench for Wall A.5:10. This trench cut through the Early Roman Layer A.5:34 which sealed the mouths of the cisterns. Other pottery in this upper layer (A.5:63) was Early Roman and Late Iron II, and it would seem to reflect the use of the cistern in the early phase of Early Roman, before the accumulation of the destruction Layers A.5:35 and 36. The lower layer contained Early Roman and at least one, and probably other, Late Hellenistic sherds. Further

excavations may suggest that these cisterns were cut in the Late Hellenistic period, or even in Late Iron II, and were simply reused in Early Roman occupation. In any case, no use after the Early Roman period seemed to be indicated.

### *Late Hellenistic*

Some pottery identified as Late Hellenistic was found in various loci of A.1, A.2, A.4, and A.5. This was rare, however, compared to all other ceramic horizons. A positive identification of Late Hellenistic pottery was made in only eight groups of mixed sherds. No structures from this period were identified.

### *Iron II*

Late Iron II sherds were found frequently in large numbers, and almost always in groups of mixed pottery in all Squares of Area A. The one locus containing only Late Iron II sherds was a very small fill locus on bedrock under the Early Roman occupation Layer A.3:55, and this locus contained a total of only three sherds. No structures could be diagnosed from this period.

### *Conclusion*

The 1971 excavations in Area A tended, then, to confirm the plan of the Byzantine church as suggested in 1968. No evidence was found to challenge the identification of the building as a church, and this identification seems highly probable. The underlying pre-church levels were investigated more fully, and this investigation is illustrated by the accompanying Plan of Byzantine and Roman structures (Fig. 2). A Roman quarry was positively identified and further evidence of a monumental Roman building may well be found on the site, as the Corinthian capital reused as a building block in the Early Byzantine apse suggests. Completion of work in A.5 and A.6, together with further excavation to the west and south of the present Area A should provide more evidence for the extent of the Byzantine church and its relation to earlier Roman structures.

# AREA B

JAMES A. SAUER
American Center of Oriental Research
Amman, Jordan

Area B was expanded in 1971 to include three new Squares adjacent to the original 7.00 x 7.00 m. Square B.1 which had been opened in 1968 on the southern shelf of the acropolis.[1] Squares B.2 and B.3 were laid out to the east of B.1, and B.4 was placed immediately south of B.2.[2] All four Squares were excavated simultaneously throughout the 1971 season, and the results of this work are described and interpreted here.[3]

## *Stratum 1[4] (ca. A.D. 1918- )*

*Description:* Above Stratum 2 (ground surface) there was no further stratification in Area B, but several Modern objects were attested among the small-finds.

*Interpretation:* These objects would reflect minor activity in Area B during the Modern resettlement of *Ḥesbân* to the south of the acropolis proper.[5] The process by which the village was created anew through bedouin sedentarization was one which *Ḥesbân* would have shared with many other villages in Transjordan.[6]

[1] For the results of the 1968 season, cf. *AUSS*, 7 (1969), 97-222 (henceforth referred to as "Heshbon 1968"). For Area B, cf. D. M. Beegle, "Heshbon 1968: Area B," pp. 118-126; and E. N. Lugenbeal and J. A. Sauer, "Seventh-Sixth Century B.C. Pottery from Area B at Heshbon." *AUSS*, 10 (1972), 21-69 (henceforth referred to as "Heshbon Pottery 1968").

[2] Square B.3 was reduced in size to align its east balk with the main north-south axis of the excavation (cf. Figs. 1, 3A).

[3] The 1968 results from B.1 have been fully integrated into the present report (cf. especially the previously published B.1 Plan and Sections), and specific features of Areas A, C, and D have been included in the overall interpretation of Area B.

[4] "Stratum" (plus arabic numeral) applies throughout this report only to Area B (cf. "Heshbon 1968," pp. 114, 115, where "Stratum" [plus roman numeral] is reserved for site-wide stratigraphic interpretations).

[5] For the Modern resettlement of *Ḥesbân*, cf. "Heshbon 1968," p. 102.

[6] Cf. R. Patai, *The Kingdom of Jordan* (Princeton, N. J., 1958), p. 186ff.

### *Post-Stratum 2 Gap (ca. A.D. 1456-1918)*

*Description:* The absence of post-Stratum 2 stratification in Area B has already been noted above. The latest coin from the Area dated to 1453-1461, and the latest attested pottery was Ayyūbid/Mamlūk.

*Interpretation:* This evidence, together with the silence of the literary sources,[7] would suggest that there was a ca. 1456-1918 occupational gap in Area B and at the site generally. The gap at *Ḥesbân* would probably correspond to the gradual, partial depopulation of Transjordan which occurred during the Late Mamlūk and Ottoman periods.[8] During the time of the gap, water erosion would have removed some of the Strata 2 and 3 remains from Area B.

### *Stratum 2 (ca. A.D. 1260-1456)*

*Description:* Despite the fact that it lay on a shelf of comparatively level ground, the Stratum 2 pre-excavation ground surface of Area B sloped away from the acropolis of the *tell*, most generally towards the south and the west. A number of uncut boulders and stones were distributed randomly throughout the Area, and a concentration of rocks (B.2:2) rested in the ground surface soil of central B.2. The loose brown-black soil (B.1:1, 2A; B.2:1, B.3:1, B.4:1, 5, 6) covered all four Squares to a depth of ca. .10-.60 m. Small-finds from Stratum 2 included objects of glass, stone, bone, shell, plaster, and metal.[9] In 1968, B.1:1 and 2A produced three dated Mamlūk coins (1257-1259, 1260-1277, and 1293-1341), and in 1971 additional dated coins came from B.2:1 (253-260 and 1250-1517) and from B.4:5 and 6 (343-350

[7] Cf. W. Vyhmeister, *AUSS*, 6 (1968), 173 (henceforth referred to as "History of Heshbon").

[8] Cf. Patai, *Kingdom of Jordan*, pp. 27-32; F. Peake, *A History of Jordan and Its Tribes* (Coral Gables, Fla., 1958), pp. 82-86ff.; P. Hitti, *History of the Arabs* (London, 1946), pp. 695, 696ff.; P. Holt, *et al.*, eds., *The Cambridge History of Islam*, (Cambridge, 1970), I, 220-230; B. Lewis, *The Arabs in History* (London, 1960), pp. 157-163.

[9] With the exception of those objects which supplied absolute chronological information, especially coins, the meager small-finds from Area B rarely contributed evidence which was immediately relevant to problems of stratigraphic interpretation. Organic, mineral, and soil samples were taken, but none of these have been analyzed to date.

and 1250-1517).[10] The 1453-1461 Mamlūk coin from B.1:4=5 should also be included here.[11] The latest associated pottery was Ayyūbid/Mamlūk.

*Interpretation:* It would seem possible to associate the uncut boulders and the soil of Stratum 2 in Area B with a major Mamlūk occupation at *Ḥesbân* that could probably be reconstructed in outline form from the relevant stratigraphic evidence in Areas D and C.

*Area D Description:* Wall D.1:4a, the latest architectural feature of Area D, was preserved as a single row of large, uncut stones which had been set on top of the remains of the earlier D.1:4b "enclosure wall." Below that wall on the southern slopes of Area D was a rock tumble which contained similar uncut stones, as well as stones which were like those in Wall D.1:4b.[12]

Enclosure Wall D.1:4b, with two superimposed gates, ran east-west through Area D and rested on top of earlier enclosure Wall D.1:4c. The rock tumble to the south, which covered the sloping pre-excavation ground surface of Area D, contained mostly stones like those in the preserved section of Wall D.1:4b.[13]

That rock tumble lay on top of a thick fill (D.1:16=D.2:4), and that fill in turn covered over an earlier rock tumble (from Walls D.2:3b and 9).[14]

The D.1:3 and 5 "vaulted room" was associated with the D.1:4b enclosure wall. The collapsed vault of that room rested on top of the two soil layers (D.1:6 and 7) which overlay the room's plaster floor (D.1:14). From that D.1:14 floor came Ayyūbid/Mamlūk pottery, and from the associated D.1:8 plastered bench came a single coin dated to either 1191-1220 or 1244-1284.[15] The collapse of the vault in D.5 (D.5:1, 3, 4, 6) covered over the mouth of associated Cistern D.5:5, and that cistern produced Mamlūk coins dated to 1260-1399, together with quantities of Ayyūbid/Mamlūk pottery.[16]

*Area C Description:* The C.4:11 rock tumble from the collapse of the vaulted roof of the "North Building" in Area C rested on top of several soil layers which were above the C.4:26 *huwwar* surface (floor). From Locus C.4:24, possible occupation debris immediately above Surface C.4:26, came a 1363-1377 Mamlūk coin, as well as Ayyūbid/Mamlūk pottery.[17]

[10] Cf. A. Terian, *AUSS*, 9 (1971), 155, Nos. 36, 37, 40 (henceforth referred to as "Heshbon Coins 1968"); Nos. 57, 61, 84, 192, in his forthcoming article on the Heshbon 1971 coins (henceforth referred to as "Heshbon Coins 1971").

[11] "Heshbon Coins 1968," p. 156, No. 45. For the stratigraphic context of this coin, cf. below, nn. 84, 86.

[12] "Heshbon 1968," pp. 212, 213, 166, Fig. 8.

[13] Ibid., pp. 193, 197-203, 212, 166, Fig. 8.

[14] Ibid., pp. 206-212, Fig. 8.

[15] Ibid., pp. 197, 202, 211, 212, Fig. 8; "Heshbon Coins 1968," p. 154, No. 29.

[16] Below, L. Geraty, "Area D," pp. 98, 99; "Heshbon Coins 1971," Nos. 73, 79, 80, 85, 87-89, 91-93, 95.

[17] Below, H. Thompson, "Area C," p. 76; "Heshbon Coins 1971," No. 83.

Beneath *huwwar* Surface C.4:26 inside the North Building were four superimposed soil layers (C.4:30, 34, 37, 43), the earliest of which had an associated plastered bench (C.4:38). Ayyūbid/Mamlūk pottery came from all of these layers, and from Layer C.4:37 came a coin hoard dated primarily to 1260-1277.[18]

*Areas D and C Interpretation:* This evidence would suggest that a major occupation commenced at *Ḥesbân* in ca. 1260, marked especially by the rebuilding of the D.1:4b enclosure wall and the construction of the associated vaulted rooms.[19] That occupation would probably have continued until ca. 1400, when the D.1:4b wall would have collapsed to the south and the vaulted rooms would have tumbled down onto the surfaces within. After ca. 1400, Wall D.1:4a would have been built above Wall D.1:4b, and sometime later that makeshift wall would have collapsed to the south as well.

Turning to the literary sources, it would seem quite probable that this renewed occupation at *Ḥesbân* followed the ca. 1260 defeat of the Mongols by the Mamlūk forces, at which time Baybars I consolidated the Mamlūk hold on Syria-Palestine.[20] The site could have been rebuilt as a pilgrimage and/or postal station under the Mamlūk administration.[21]

The Mongol invasion under Tamerlane would probably have caused the essential abandonment of the site in ca. 1400/1401.[22]

The post-1400 makeshift wall, D.1:4a, could have been toppled by the 1456 earthquake, which was reported to have done severe structural damage in *Kerak*.[23] This earthquake would have blotted out finally any remnants

[18] Below, Thompson, "Area C," pp. 76, 77; "Heshbon Coins 1971," Nos. 96-161. Three of these coins (Nos. 96-98) predated 1260-1277 (Baybars I); the earliest dated to 1240-1249.

[19] Surface contours would suggest that a series of vaulted rooms may have surrounded the acropolis on three sides (south, west, and north). For the postulated "interior-courtyard" fort, cf. below, Strata 5-14.

[20] Cf. G. Wiet, "Baybars I," *The Encyclopaedia of Islam,* 1960, I, 1125; Hitti, *History of the Arabs,* pp. 674-677; Holt, *et al., History of Islam,* I, 212-217; Lewis, *Arabs in History,* p. 155; Peake, *History of Jordan,* pp. 80, 81; S. Runciman, *A History of the Crusades,* Vol. III: *The Kingdom of Acre and the Later Crusades* (Cambridge, 1954), pp. 315ff.; R. L. Wolff and H. W. Hazard, eds., *The Later Crusades, 1189-1311,* Vol. II of *A History of the Crusades,* ed. by K. M. Setton (2d ed.; Madison, Wis., 1969), 746-750.

[21] Baybars I reestablished the pilgrimage and initiated a more efficient postal system. *Ḥesbân* was one of the postal stations on the Transjordan route between Damascus and Cairo. Cf. M. Gaudefroy-Demombynes, *La Syrie à l'époque des Mamelouks* (Paris, 1923), p. 247; D. H. K. Amiran, *et al., Atlas of Israel* (Amsterdam, 1970), IX/11; Wiet, *Encyclopaedia of Islam,* I, 1125; A. J. Wensinck (rev. by J. Jomier), "Hadjdj," ibid., 1971, III, 34; Hitti, *History of the Arabs,* p. 675; Holt, *et al., History of Islam,* I, 216; Wolff and Hazard, *Later Crusades,* pp. 747-749; Peake, *History of Jordan,* pp. 80, 88.

[22] Cf. Hitti, *History of the Arabs,* pp. 699-702; Holt, *et al., History of Islam,* I, 220, 221; Lewis, *Arabs in History,* p. 157.

[23] Cf. D. H. Kallner-Amiran, *IEJ,* 1 (1950-1951), 229. However, at the present time there would seem to be no evidence at *Ḥesbân* for the 1293

of Mamlūk occupation at the site.[24]

The Stratum 2 uncut boulders in Area B could thus probably be interpreted as the southern extension of the earthquake-caused rock tumble from Wall D.1:4a which partially covered the adjacent slopes in Area D. The 1453-1461 Mamlūk coin from B.1:4=5 would correlate nicely with the postulated 1456 earthquake.

The other Stratum 2 soil remains would probably have been contemporary with the 1260ff. building activities and subsequent occupation at the site. Area B itself would not have been built up, and it may have been only the untreated route of access for the two superimposed gates of enclosure Wall D.1:4b which lay immediately to the north.

### *Stratum 3 (ca. A.D. 1200-1260/1456)*

*Description:* Beneath and often blending into the soil of Stratum 2 were a robber trench and a number of shallow interrelated pits. The robber trench (B.1:8A; B.2:18, 32; B.4:14, 15) was cut from the level of the post-Stratum 4 eroded ground surface, and it removed all but a few of the stones from a substantial wall (B.1:8B) which originally ran through B.1, B.2, and B.4 (Stratum 4). Throughout B.4 only crucial tatters of Strata 6-9 were left undisturbed by the many Stratum 3 pits (B.4:7, 10, 11, 13, 42, and possibly B.4:12=16, 20, 33=40),[25] but the other three Squares preserved these strata in relatively undisturbed condition.[26] Tatters of near ground surface architectural remains in southwestern B.4 (B.4:17A, 17B, 18) could possibly belong with Stratum 3, but they were too disturbed to allow any clear

earthquake, which also damaged *Kerak* (ibid., p. 228). Future work at the site or additional stratigraphic analysis may provide relevant data.

[24] The absence of post-1400 coins in Cistern D.5:5 would seem to eliminate the possibility that the collapse of the vaulted room in Area D could have been caused by the 1456 earthquake, although there could have been a period of abandonment between 1401 and 1456. If the collapse of that vaulted room and Wall D.1:4b were attributed to the 1456 earthquake, however, then Wall D.1:4a would have to postdate 1456, and there is no other evidence to support such an occupation (for the possible Early Ottoman coin, cf. below, n. 33).

[25] Loci B.4:12=16, 20, and 33=40, in the southern part of B.4, attested mixed pottery with small but consistent quantities of Ayyūbid/Mamlūk sherds.

[26] In addition to the robber trench (B.1:8A=B.2:18 and 32), Pit B.2:11 (equaling Pit B.4:13 across the balk) and "Pits" B.1:2A and B.3:1 cut down into Strata 4ff., but they were isolated within their Squares.

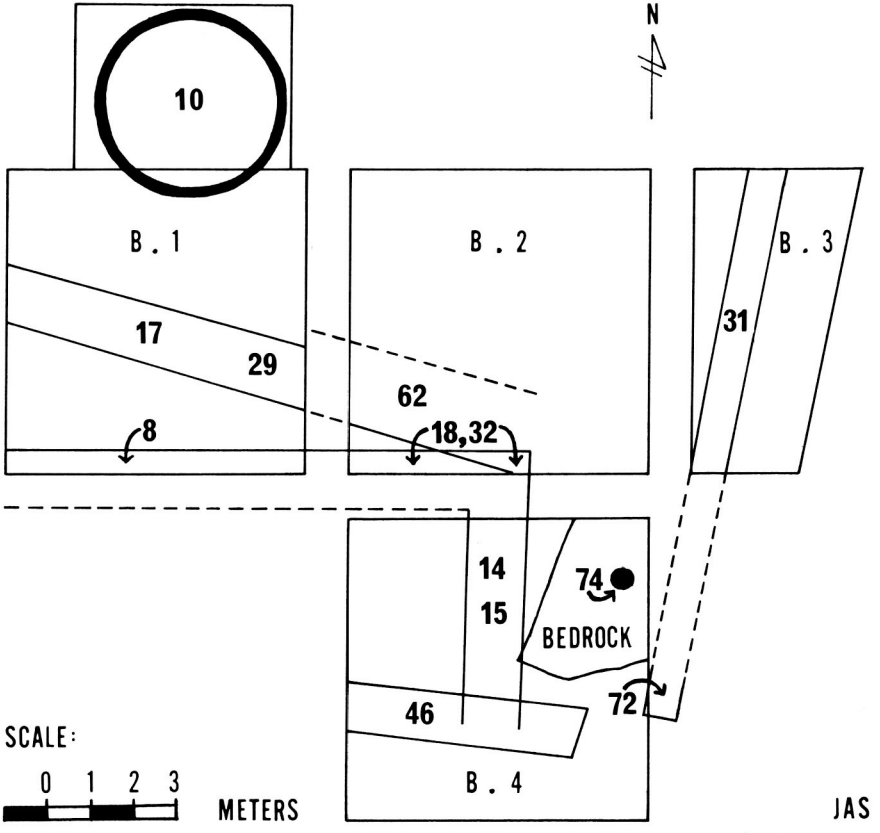


Fig. 3A. Schematic and composite plan of Area B showing the major architectural features which were encountered in 1971 (cf. also "Heshbon 1968," Fig. 4). The levels are given in the text and in the Area B Sections (Fig. 3B; cf. "Heshbon 1968," Figs. 2, 3; "Heshbon Pottery 1968," Figs. 1, 2)

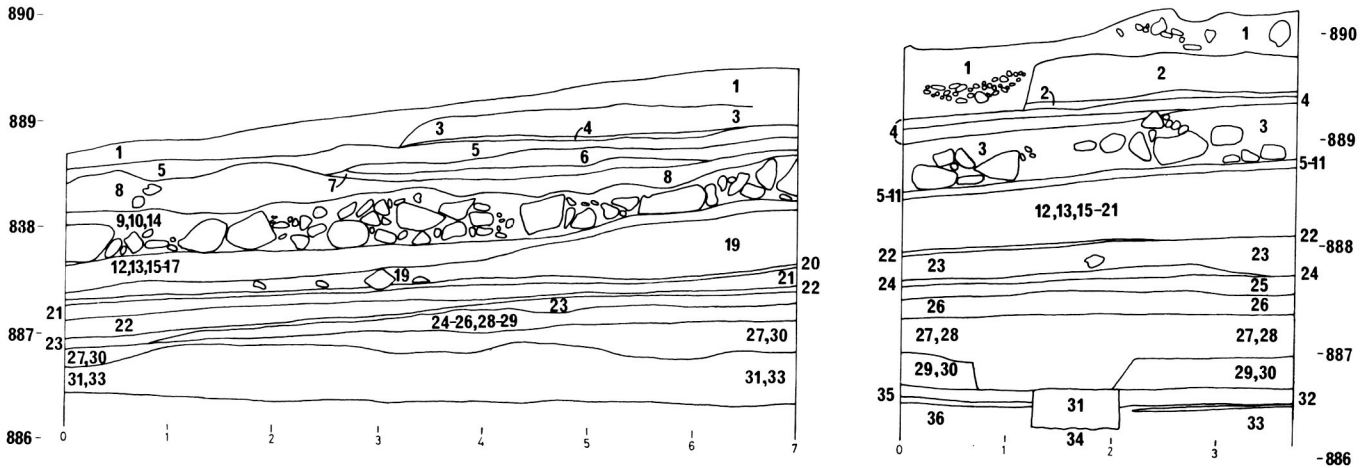


Fig. 3B. Simplified section of north balks of Area B, Squares 2 (left) and 3 (right)

stratigraphic association. The latest pottery from the robber trench and from the pits was Ayyūbid/Mamlūk.

*Interpretation:* The Stratum 3 remains in Area B could probably be associated with a brief Ayyūbid occupation at *Ḥesbân*, evidence for which could be cited from Area D.

*Area D Description:* Enclosure Wall D.1:4c lay beneath Wall D.1:4b, and it contained two superimposed gates which were separated from each other by several soil layers. Two plaster layers (D.1:11 and 23), both of which produced Ayyūbid/Mamlūk pottery, ran up to the later gate (Gate 2) from the south, thus connecting that gate with the D.2:7 stairway which descended to the south from that point.[27]

At the southern end of the D.2:7 stairway, plaster Layer D.2:8 ran up to the lowest exposed step of that stairway, and it was contemporary with the D.1:17=D.2:10 plaster floor inside the D.2:3b and 9 courtyard. The tumble from the collapsed walls of the D.2:3b and 9 courtyard lay beneath the massive D.1:16=D.2:4 fill (cf. above), and it rested directly on the D.1:17=D.2:10 plaster floor. From the D.2:16=D.3:9 pit-fill immediately beneath the D.2:8 plaster layer and the D.2:3b wall came Ayyūbid/Mamlūk pottery as well as two Ayyūbid coins, the legible one of which dated to 1196-1218.[28]

North of Wall D.1:4c several earth layers (D.1:12a, 22; D.5:8; D.6:49), all of which produced Ayyūbid/Mamlūk pottery, covered over the structural remains which were associated with Gate 1 of Wall D.1:4c. These layers preceded the construction of the vaulted room (cf. above), and Layer D.6:49 in particular was associated with the earliest use of Cistern D.6:33. From the earliest layers inside that cistern (D.6:33g-i) came Ayyūbid/Mamlūk pottery as well as Ayyūbid coins dated to 1186-1260.[29]

*Area D Interpretation:* This evidence would suggest that *Ḥesbân* was reoccupied sometime after 1196, at which time Gate 2 would have been built into Wall D.1:4c, Cistern D.6:33 would have been cleared for reuse, and some earlier structures would have been robbed out or covered over with fill. This occupation would have continued until ca. 1260, when a major break in occupation would have occurred.

It would seem probable that the renewed building operations on the acropolis of *Ḥesbân* did not precede the 1187 Battle of *Ḥaṭṭîn*, at which time Saladin expelled the Crusaders from most of Transjordan.[30] Present evidence does not allow for a specific dating suggestion, but it would seem possible for the site to have been rebuilt as a pilgrimage and/or trade

[27] "Heshbon 1968," pp. 170-176, 184, 192-196, Fig. 8.

[28] Ibid., pp. 205-211, Fig. 8; "Heshbon Coins 1968," pp. 154, 155, Nos. 28, 35.

[29] "Heshbon 1968," pp. 184, 185, 201, Fig. 8; below, Geraty, "Area D," p. 101; "Heshbon Coins 1971," Nos. 68-70, 72, 75, 76, 78. Cf. below, n. 33.

[30] Cf. Runciman, *A History of the Crusades*, Vol. II: *The Kingdom of Jerusalem and the Frankish East, 1100-1187* (Cambridge, 1952), pp. 454-473; M. W. Baldwin, ed., *The First Hundred Years*, Vol. I of *A History of the Crusades*, ed. by K. M. Setton (2d ed.; Madison, Wis., 1969), 585-590; Hitti, *History of the Arabs*, pp. 647, 648; Holt, *et al.*, *History of Islam*, I, 204; Peake, *History of Jordan*, pp. 74, 75.

station under Aybak, the 1212-1239 Ayyūbid governor of the *Belqā* who was an energetic builder of such stations.[31] The ca. 1260 break would correlate most easily with the Mongol invasion which was turned back by the Mamlūks at *'Ayn Jālūt* in 1260.[32]

Area B itself would not have been the site of new construction during this Ayyūbid occupation, and it may have served only as an access area for the rebuilt gate in Wall D.1:4c. Wall B.1:8B would have been an easy source of stones for constructional efforts elsewhere on the acropolis, and the interrelated pits of Area B could be compared with the massive D.2:16=D.3:9 pit in Area D. Some of the Area B pits could have postdated 1260.

### *Post-Stratum 4 Gap (ca. A.D. 410-1200)*

*Description:* Area B attested no intermediate stratification between the pits of Stratum 3 and the structures of Stratum 4. There were no coins from the Area which dated between ca. A.D. 387 and ca. 1257, and Umayyad pottery was entirely lacking as well.

*Interpretation:* This negative evidence would suggest that there was a ca. 410-1200 occupational gap in Area B, and it would have been during the time of this post-Stratum 4 gap that much of the erosion of Strata 4-6 would have occurred. The lack of coins, pottery, and literary evidence for *Ḥesbân* as a whole would suggest that there was a ca. 750-1200 site-wide occupational gap,[33] but the ca. 410-750 gap in Area B would not have corresponded to a site-wide abandonment.

*Area D Description:* Several soil layers separated Gate 1 from Gate 2 in enclosure Wall D.1:4c. Plaster Layer D.1:30, beneath plaster Layer D.1:23 (cf. above), ran up to Gate 1 from the south and produced Umayyad pottery.

[31] Cf. E. Littman, "Aybak," *Encyclopaedia of Islam,* I, 780; C. N. Johns, *QDAP,* 1 (1932), 26, 27; Peake, *History of Jordan,* pp. 76, 77.

[32] Runciman, *Kingdom of Acre,* pp. 304-314; Holt, *et al., History of Islam,* I, 211-213; Wolff and Hazard, *Later Crusades,* pp. 717-722; Hitti, *History of the Arabs,* pp. 655-666; Peake, *History of Jordan,* pp. 79, 80.

[33] "History of Heshbon," p. 171; "Heshbon Coins 1968," pp. 157-160; "Heshbon Coins 1971." A few sherds found in mixed Ayyūbid/Mamlūk fills could date to the Early 'Abbāsid period. The 1184 reference to *Ḥesbân* as an existing village could indicate a minor occupation already at that time (cf. "History of Heshbon," p. 172), and the questionable "Seljūq"/"Early Ottoman" coin ("Heshbon Coins 1971," No. 215; cf. below, Geraty, "Area D," p. 103, n. 8) from Cistern D.6:33h *could* have come from such an occupation at the site. It would be difficult to have an Ottoman coin in the earliest layers of the D.6:33 cistern. Cf. above, n. 29.

From Wall D.1:10, associated with plaster Layer D.1:30, came a single Umayyad coin. To the north of Wall D.1:4c, Pavement D.1:33=34, Walls D.1:15 and 24, Layer D.1:29, and other loci were associated with Gate 1, and they all produced small quantities of Umayyad pottery. In turn, these structures were covered over by the Ayyūbid layers mentioned above.[34]

*Area D Interpretation:* It would seem from this evidence that there was an Umayyad rebuilding of the earlier (partially dismantled) "interior-courtyard" fort (cf. below), possibly in connection with the Damascus-Mecca pilgrimage route.[35] It cannot be specified when this rebuilding operation began, and it could have started already in the pre-Umayyad period (for *Ḥesbân*, 636-661). It would seem most likely for the abandonment to have been caused in ca. 750 by the harsh 'Abbāsid takeover which shifted the center of culture, trade, and pilgrimage from Syria-Palestine to Iraq.[36]

*Area A Description:* There were apparently two resurfacings of the original A.3:11=14 floor of the Area A church (Mosaic A.3:3 and plaster Layer A.3:7). The latest resurfacing, Mosaic A.3:3, has been dated to the second half of the 6th cent. From the first floor (A.3:11=14) came a single coin dated 395-423. Excavated in 1968, the ceramic evidence has not been available.[37]

*Area A Interpretation:* It would thus seem clear that the Area A church, which may have been originally constructed ca. 400 ff., persisted for some time after its original construction date (cf. below, Stratum 4). How long it continued could not be specified at the present time. It would be possible for it to have been maintained down to the Persian (614) or Islamic (636) conquests, or even longer. The church could presumably have been destroyed earlier by an earthquake or for other reasons.[38]

Thus, while Area B would have remained untouched after ca. 410, the Area A church would have persisted for an unknown period of time, after which the partially dismantled interior-courtyard fort would have been rebuilt by the Umayyads. The entire site would have been abandoned between ca. 750 and ca. 1200.

### *Stratum 4 (ca. A.D. 400-410)*

*Description:* Two major structures beneath Stratum 2 and partially removed by Stratum 3, Wall B.1:8B and Installation

[34] "Heshbon 1968," pp. 170-172, 177-184, 187-194, Fig. 8; below, Geraty, "Area D," pp. 91, 92; "Heshbon Coins 1968," p. 154, No. 26.

[35] Cf. A. Musil, *The Northern Ḥeğâz* (New York, 1926), pp. 326-331; above, nn. 21, 31.

[36] Cf. Hitti, *History of the Arabs*, pp. 282-289; Holt, *et al.*, *History of Islam*, I, 101-109; Lewis, *Arabs in History*, pp. 79-83; Peake, *History of Jordan*, p. 58.

[37] "Heshbon 1968," pp. 148-152, 157, 159-161; "Heshbon Coins 1968," p. 152, No. 15.

[38] There could have been either an earlier or a later church at the site, but not located on the acropolis (cf. the church described in Musil, *Arabia Petraea* [Vienna, 1907], I, 384, 388, Fig. 180. For the literary evidence of a Christian community at Esbus, cf. "History of Heshbon," pp. 168-171).

B.1:10, cut through all associated strata and had no preserved surfaces running up against them.

Except for a small preserved section in the west balk of B.1, Wall B.1:8B was completely robbed out by Stratum 3. To judge from the very clear robber trench (B.1:8A; B.2:18, 32; B.4:14, 15), the wall originally ran along the entire south balk of B.1 and into B.2 for ca. 4.00 m., and then turned at a right angle to go south through the middle of B.4. Stratum 3 pitting obscured the original line of the wall in southern B.4. Robber Trench B.1:8A removed the upper courses of the wall in the west balk of B.1, but the preserved foundation trench (B.1:70) of the lower courses cut through B.1:6ff. (Strata 7ff.). Four courses of large (.35-.40 m.) stones chinked with smaller ones remained untouched within the foundation trench (B.1:70). The width of the robber trench in B.4 (ca. 1.25 m.) would suggest that the wall was orignally two courses wide. From a high point of ca. 886.75 m. in B.2 and B.4, the founding level of the wall sloped downward to ca. 885.25 m. in the B.1 west balk.

Locus B.1:10 was a ca. 4.00 m. circular stone-lined installation in the north balk of B.1,[39] the foundation trench of which (B.1:57) cut through B.1:2Bff. (cf. below, Strata 5ff.). The roughly squared (ca. .35-.50 m.) stones of its preserved seven or eight course lining were mortared with a dense red clay and were often heat-cracked, but they formed no openings in the lining. The lowest course of the stone (sidewall) lining rested on an earthen floor which sloped down ca. .25 m. to the center of the installation, and immediately above this floor was a ca. .05 m. layer of compacted lime(?) and ash (B.1:59). Large rocks (B.1:3 and 58), ash (B.1:60), and small stones (B.1:61) filled the installation between B.1:59 and surface Stratum 2, except where B.1:2A (Strata 2 and 3) cut into B.1:3 and 58 on the west. The latest associated pottery was Early Byzantine.

*Interpretation:* Both of the Stratum 4 structures could be interpreted as foundational or sub-surface remains of structures which originally continued above a now-missing ground level.

The Stratum 5 plaster layer (B.1:71ff.) was eroded away

[39] For the 1968 discussion of this installation, cf. "Heshbon 1968," pp. 118-122, Fig. 3, Pl. XI:A.

except in the northernmost corners of B.1, B.2, and B.3, but it would seem likely that it originally extended farther south (cf. below, Strata 7ff.). It is impossible to ascertain whether that layer ran up against, was cut by, or ran over (robbed-out) Wall B.1:8B, but the fact that the founding level of that wall sloped down to the west might support the conclusion that the wall was built to retain a sloping layer like B.1:71. If that was the case, then the wall would belong with Stratum 5 and plaster Layer B.1:71 would have cornered along it to go south. Otherwise the wall could have formed the north and east sides of a major building which lay to the southwest of excavated Area B. Thus, Wall B.1:8B could probably be dated either to the early 5th cent. (Stratum 4) or to the late 4th cent. (Stratum 5).

Locus B.1:10 was considered to have been a lime kiln in 1968, and that interpretation is supported by the structure, contents, and general condition of the installation. As a shaft furnace, its total height could have exceeded its ca. 4.00 m. diameter,[40] and its flues could possibly have been located near its original ground level.[41] Some of its upper stone lining must have been removed when it went out of use but before it was filled with rocks and ash. Although the Stratum 5 plaster layer (B.1:71ff.) did not quite reach Kiln B.1:10, it would seem much more likely that it was originally cut by that installation than that it sealed against or over it; for the Stratum 5 soil fills (B.1:2B and 4=5A), which extended farther south into B.1, were cut by Kiln B.1:10, and so were all of the earlier (Strata 7-12) plaster layers. Thus, cutting through Stratum 5 (dated by a 387 coin) and attesting only Early Byzantine pottery, lime Kiln B.1:10 could probably be dated to the early 5th cent.

[40] Cf. R. J. Forbes, *Studies in Ancient Technology* (Leiden, 1958), VI, 74.

[41] For brief descriptions of Modern lime kilns, cf. T. Canaan, *JPOS*, 12 (1932), 241-244; G. Dalman, *Arbeit und Sitte in Palästina* (Hildesheim, 1964), III, 22, 23, and references. Similar installations from other excavations could also be noted here, together with their suggested dates: O. Tufnell, *et al., Lachish III* (Oxford, 1953), p. 179:104, Pl. 125 (Roman); J. W. Crowfoot, *et al., The Buildings at Samaria* (London, 1942), p. 139 (Byzantine); J. B. Pritchard, *Winery, Defenses, and Soundings at Gibeon* (Philadelphia, 1964), pp. 10, 11, 24 (Locus 111), Fig. 2 (Byzantine); M. W. Prausnitz, *Excavations at Shavei Zion* (Rome, 1967), p. 17 (Locus 60/1), Fig. 6 (mid-7th cent. A.D.); Y. Aharoni, *et al., Excavations at Ramat Rahel, Seasons 1961 and 1962* (Rome, 1964), p. 15:336 (Arabic).

It would seem possible to associate the construction of this lime kiln in Area B with a major site-wide stratigraphic break that could very probably be reconstructed from the evidence in Areas B and A.

*Area A Description:* The ca. 40.00 x 45.00 m. raised rectangular contours of the acropolis area were broken only on the east where the Area A church lay.[42] From the first *certain* floor (A.3:11=14) of that church came a coin dated to 395-423.[43] Immediately above that floor were found "large quantities of painted plaster";[44] and from beneath that (?) floor in 1971, associated with occupation debris, came a coin dated to 343-350.[45]

*Area A Interpretation:* The church would probably have been constructed in ca. 400 ff., and its interior walls would probably have been covered with painted plaster. During the construction of the church the eastern wall (s) of the interior-courtyard fort (cf. below) would have been dismantled, both to make room for the church and to obtain reuseable building stones. It would have been this "three-sided" complex which would have been rebuilt in the Umayyad, Ayyūbid, and Mamlūk periods.

Since the construction of the lime Kiln B.1:10 has been dated to the early 5th cent. on ceramic and stratigraphic grounds, we would suggest that it was built to provide lime for the interior plastering of the church. Cutting through Strata 5-12, the kiln would have marked the end of the earlier roadway resurfacing *continuum* in Area B (cf. below).

Thus, it would seem that the acropolis of *Ḥesbân* was radically restructured in ca. 400 ff. by the building of a church. The position of the church in Area A would indicate that the interior-courtyard fort went out of use and was partially dismantled at that time. The position of the B.1:10 lime kiln in Area B would indicate that the roadway(s) was intentionally abandoned then too. This radical restructuring of the site could probably be associated with the pro-Christian, anti-pagan edicts of Theodo-

[42] Cf. "Heshbon 1968," Fig. 1 (contour map).

[43] Ibid., pp. 149, 150, Fig. 7; "Heshbon Coins 1968," p. 152, No. 15. Beneath A.3:11=14 was "a relatively poor plaster/cement Surface A.3:15," and under A.3:15 was "the hard-packed Surface A.3:16 of light-brown dirt" ("Heshbon 1968," p. 150, Fig. 7). Although A.3:15 could have been an earlier floor, it could also (like soil Layer A.3:16) have been makeup for Surface A.3:11=14 (contrast ibid., pp. 160-162). Note also the 375-392, 395-423, or 423-455 coin from Wall A.1:13 (ibid., p. 161; "Heshbon Coins 1968," p. 151, No. 13).

[44] "Heshbon 1968," p. 150.

[45] Above, D. Harvey, "Area A," p. 27; "Heshbon Coins 1971," No. 60.

sius I, and with the resultant "War on Paganism" which characterized the turn of the 5th cent.[46]

*Strata 5-14 (ca. 31 B.C.-A.D. 400)*

Before proceeding to Stratum 5 it might be best, anticipating the results of earlier strata, to present at this point a more synthetic description and interpretation of Strata 5-14.

*Description:* Strata 5, 7-12 were all essentially Area-wide, superimposed plaster layer(s) over soil layer(s), and it was through these layers that the B.1:10 lime kiln cut. Except for Strata 11 and 12, which were level, all of the layers sloped down to the west. Stratum 7 also sloped down to the south, but only in the easternmost portion of B.2 and in B.3. Stratum 9 preserved in B.4 an east-west section of sharply sloping plaster (B.4:19) which marked the southern edge of that stratum. This sloping edge replaced the partially robbed-out Wall B.4:46 which originally retained the Strata 10-12 plaster layers on the south. Stratum 12 presented a single line of rectangular (ca. .38 x .77 m.) paving stones (B.4:72=B.3:31) which ran north-south through B.4 and B.3. Stratum 5 produced a 387 coin; and a 365/366 coin would suggest that the rock tumble and bricky red soil of Stratum 6 should be associated with a 365 earthquake. A 9-12 coin came from Stratum 10, while single coins dated to 71-106 and 138 came from the plaster layers of Stratum 12. Beneath those plaster layers, the Stratum 12 mixed soil layer produced a 9 B.C.-A.D. 40 coin. Pottery development between Stratum 12 and Stratum 5 was from Early Roman to Early Byzantine.

Beneath the Stratum 12 mixed soil layer were, in addition to Strata 15 and 16, the tattered installations of Stratum 13 and the leveled walls of Stratum 14. After an earthquake had cracked the ceiling bedrock of Cave B.4:74, it was filled with debris and its entrance was intentionally sealed. From that Stratum 13

[46] Cf. A. Vasiliev, *History of the Byzantine Empire* (Madison, Wis., 1952), pp. 79-83; H. Lietzmann, *A History of the Early Church* (London, 1961), IV, 84-96; A. H. M. Jones, *The Later Roman Empire, 284-602* (Oxford, 1964), I, 167-169; F.-M. Abel, *Histoire de la Palestine* (Paris, 1952), II, 315-317; G. L. Harding, *The Antiquities of Jordan* (London, 1959), p. 50. Cf. below, n. 81.

debris came Early Roman pottery. The other partially excavated installations of Stratum 13 have not yet contributed conclusive dating evidence.

*Interpretation:* The Strata 5, 7-12 plaster layers in Area B could best be interpreted as roadway resurfacings.[47]

On the one hand there would seem to have been a roadway which approached from the west. Most of the plaster layers sloped down in that direction, and the preserved remains of Stratum 9 (B.4:19), Strata 10-12 (B.4:46), and possibly Stratum 4 (B.1:8B) would indicate that these layers were retained along their southern edge(s).

On the other hand there may also have been a roadway which approached from the south, and which thus merged with the east-west roadway. Stratum 7 sloped down in that direction in B.3, and the Stratum 12 paving stones (B.4:72=B.3:31) could have been one side of a parallel north-south "curbing," the other side of which would not yet have been excavated to the east of B.3.[48] Wall B.1:8B of Stratum 4 could also be cited as additional

[47] The white material of these layers was referred to as "*huwwar*" in earlier Heshbon reports, but it is apparently a lime plaster (for photographs, cf. "Heshbon 1968," Pls. XI:A, XII:A).

The plaster layers could not be considered kiln debris because they were (intentionally) continuous over an excavated distance of 19.00 m. and were cut by lime Kiln B.1:10. That they sloped down to the west eliminates level surface interpretations (industrial area, threshing floor, courtyard), but that they were level from north to south rules out any kind of *glacis* explanation as well. The interpretation which best satisfies the evidence from Strata 5, 7-12 is that of roadway resurfacings associated with the Area D stairway/gateway (cf. below). The "potholes" and erosion lines in some of the plaster layers would fully agree with this interpretation. Yet, it should be noted that there was no evidence of the composite construction technique which characterizes actual Roman *roads* (cf. P. Thomsen, *ZDPV,* 40 [1917], 12, 13; R. Beauvery, *RB,* 64 [1957], Figs. 1-3; R. J. Forbes, *Notes on the History of Ancient Roads and Their Construction* [2d ed.; Amsterdam, 1964], pp. 131ff.).

[48] Cf. W. F. Albright, *et al., The Excavation of Bethel (AASOR,* 39; Cambridge, Mass., 1968), p. 19, Pl. 120 (?). In the southeast corner of B.4, where a north-south roadway would be expected to have continued, Stratum 3 pitting disturbed the already complicated stratification. Wall B.4:46 did not reach the east balk of the Square, but the Strata 10-12 plaster layers and the Stratum 12 curbing stones stopped in the east balk at the point where that wall would have retained them if it had originally extended farther east. Yet, one Stratum 13 layer (B.4:75), immediately beneath Curbing B.4:72=B.3:31 in the east balk, continued unbroken to the south for ca. .75 m., thus

(if very tenuous) evidence supporting a north-south roadway.

The proposed Area B roadway(s) would have existed until ca. 400, at which time the B.1:10 lime kiln of Stratum 4 would have cut through Strata 5-12. The last (Stratum 5) resurfacing would have been laid down in the late 4th cent. over the rock tumble and bricky-red soil which the Stratum 6 earthquake would have spread over the Stratum 7 roadway surface in 365. Strata 7-12 would have been intermittent plaster resurfacings between ca. 365 and the time of the roadway's original construction. The numismatic evidence and the Early Roman pottery from Stratum 12 would suggest that the original (Stratum 12) construction of the roadway(s) took place in ca. 70ff.[49]

The Stratum 13 installations and the Stratum 14 walls would suggest that there was a pre-roadway occupation in Area B, the remains of which would have been leveled in preparation for the first Stratum 12 roadway surfacing (in ca. 70ff.). This occupation would probably have been preceded by an earthquake, and that earthquake could possibly be dated to 31 B.C. on the basis of the post-earthquake Early Roman pottery from the fill debris inside the B.4:74 cave.[50]

indicating that Wall B.4:46 could not have extended that far east. Further excavations to the east and/or south would hopefully clarify the stratigraphic evidence at this crucial point.

[49] It would seem likely that the roadway(s) was constructed throughout Area B at one and the same time. A single leveling operation would seem to have preceded the laying of the first Stratum 12 plaster layers, and there would seem to have been only equivalent plaster layers (B.3:32 and 35) on either side of the B.4:72=B.3:31 curbing (Stratum 12).

The 9 B.C.-A.D. 40 coin from B.I:14B, the Stratum 12 mixed soil layer immediately beneath the first Stratum 12 plaster layer(s), would indicate that the roadway(s) could not have been built before 9 B.C. No coins came definitely from the very first Stratum 12 plaster layer(s) (B.3:31, 32, 35; B.4:44=45, 48). The 71-106 coin came from B.4:43, a thicker plaster layer which was several times removed from the Stratum 12 mixed soil layer (B.4:43 lay on top of plaster Layer B.4:45, which in turn lay on top of plaster Layer B.4:48). The 138 coin from 1968 came from the composite Stratum 12 plaster layer, but it cannot be known from which of the many thin sub-layers this coin came.

The Early Roman pottery from the Stratum 12 mixed soil layer and from the first Stratum 12 plaster layers could best be dated in the 1st cent. A.D. That from the Stratum 12 mixed soil layer could probably be dated up to 70; while the quantity of sherds which came from the first Stratum 12 plaster layer(s) was too small to allow for a more specific, preliminary dating judgment.

[50] Cf. Kallner-Amiran, *IEJ*, 1 (1950-1951), 225.

It would seem possible to associate the Strata 5-12 roadway resurfacings with the original use of Gate 1 in Wall D.1:4c, and the Strata 13 and 14 pre-roadway occupation with the Wall D.1:4d remains which predated Gate 1 of Wall D.1:4c.

*Area D Description:* Enclosure Wall D.1:4c ran east-west through Area D along the southern edge of the ca. 40.00 x 45.00 m. rectangular-shaped acropolis area. Plaster Layer D.1:31, beneath plaster Layer D.1:30 (cf. above), ran up to Gate 1 of that wall on the south, and from that layer came "Roman" pottery as well as a single coin of Trajan dated to 107.[51]

The D.1:31 plaster layer was the first of several superimposed "porch" layers (D.1:11, 23, 30, 31), all of which lay at the head of the D.2:7 paved stairway which descended from that point to the south. The massive D.2:16=D.3:9 pit cut off the southernmost extension of that stairway in D.2. The paving stones of the earliest stairway (D.2:sub-7) measured ca. .45 x .70 m., and two unexcavated standing columns were visible above ground just centimeters west of the partially exposed D.2:7 stairway.[52]

The Stratum 5 plaster layer and the Stratum 6 rock tumble and bricky-red layer in Area B were both found across the B.3 balk in the southwest corner of D.3 (B.3:2=D.3:12 and B.3:3=D.3:13). But the same massive pit (D.2:16=D.3:9) which cut off the southernmost extension of the D.2:7 stairway also cut off the northernmost extension of the D.3:12 and D.3:13 layers. Other superimposed but pit-cut plaster layers, some of which sloped down to the south, were attested in the northeastern and southeastern portions of D.3 (D.3:8, 18, 19; D.3:10, 11, 13).[53]

There was a stratigraphic break in Area D prior to the construction of the D.1:4c enclosure wall and the laying of the first plastered porch layer (D.1:31). Wall D.1:4d preceded the Gate 1 phase of the D.1:4c enclosure wall, and there seemed to have been an earlier porch build-up beneath the D.1:31 plaster layer.[54]

*Area D Interpretation:* Enclosure Wall D.1:4c could best be interpreted, in light of the ca. 40.00 x 45.00 m. raised rectangular contours of the acropolis area, as the southern wall of an interior-courtyard fort.[55] Gate 1, plaster Layer D.1:31, and Stairway D.2:7 would have constituted the southern entrance to this fort. Before the D.2:16=D.3:9 pit cut off the D.3:12 plaster layer, that layer (and the earlier ones) would probably have run across

[51] Cf. "Heshbon 1968," pp. 170-172, 185-193, 97, Figs. 1, 8; "Heshbon Coins 1968," p. 150, No. 6. Locus D.1:31 was, like the Strata 11 and 12 plaster layers in Area B, a thick layer of thin plaster surfaces, and it cannot be known from which of these surfaces the 107 coin came.

[52] "Heshbon 1968," pp. 185, 172-174, 205, 165, Fig. 8, Pl. XX:B.

[53] Ibid., pp. 214, 215.

[54] Ibid., pp. 176, 192, 185-187.

[55] Cf. M. Gihon, *IEJ*, 17 (1967), 40, 41. Such a fort could be expected to have been placed on the summit of the hill (cf. below), and this could explain why so little domestic occupation has thus far been found on the site (cf. ibid., 41, 42). The break in the rectangular contours along the eastern side of the acropolis would seem to be best explained by the subsequent construction of the church in that sector (cf. above, Stratum 4).

as a roadway to the D.2:7 stairway. The pit-cut plaster layers of northeastern and southeastern D.3 could preserve an eastward roadway extension. The two columns at the D.2:7 stairway could possibly be interpreted as milestones marking the entrance to the fort.[56]

Wall D.1:4d, resting on top of the D.1:4 foundations, would probably have formed the southern wall of an earlier, original interior-courtyard fort. It is uncertain if this fort would have had a southern entrance.

Since the D.3:12 plaster layer was continuous with the B.3:2 plaster layer of Stratum 5 in Area B, it would seem likely that the entire roadway resurfacing *continuum* of Area B (Strata 5, 7-12) could be associated with the stairway/gateway of Area D. Projected north, the B.4:72=B.3:31 curbing of Stratum 12 would come out just west of the Area D stairway/gateway, and the size of those curbing stones could relate them to the paving stones of the D.2:sub-7 stairway. The numismatic (and ceramic?) evidence from the D.1:31 plaster layer would correlate nicely with that from the Stratum 12 plaster layer in Area B. And the absence of additional plastered porch layers above Layer D.1:31 could have been caused by the Umayyad rebuilding of Gate 1 (porch Layer D.1:30).

The stratigraphic break in Area D which preceded the construction of Wall D.1:4c and the first plastered porch layer (D.1:31) could correspond to the break in Area B which preceded or accompanied the construction of the first Stratum 12 plastered roadway(s). Wall D.1:4d could then probably be associated with the Strata 13 and 14 pre-roadway occupation in Area B.

If these correlations are correct, then the following general reconstruction could be offered. It would seem that an interior-courtyard fort (D.1:4d) was constructed on the acropolis of *Ḥesbân,* possibly following the 31 B.C. earthquake. In ca. 70 there would have been a major break, after which the D.1:4c (Gate 1) fort and the associated Stratum 12 roadway(s) would have been built. This fort-roadway complex would have functioned continuously (Strata 12-7) until the Stratum 6 earthquake would have caused structural damage in 365. Following a resurfacing of the roadway(s) (Stratum 5), the complex would have func-

[56] Cf. Thomsen, *ZDPV,* 40 (1917), 9-12; S. Mittmann, *ADAJ,* 11 (1966), 66-73; O. Henke, *ZDPV,* 75 (1959), Pl. 3:A. The columns were ca. .55 m. wide, but of unknown height or date.

tioned briefly again until ca. 400, at which time the acropolis area would have been radically restructured by the building of the Area A church (cf. above, Stratum 4).

At this point it is necessary to consider certain historical evidence which relates to Esbus and its region.

Herod the Great garrisoned Esbus in Peraea.[57] The most likely time for him to have done this would have been shortly after his military victory over the Nabataeans near Philadelphia, an event which followed shortly after the 31 B.C. earthquake.[58] Facing Madeba to the south, Esbus would have served as a vital link in the defensive *limes* which Herod constructed along his borders with the Nabataean kingdom,[59] and the site could have controlled the "King's Highway" at the point where that trade and military route passed out of Nabataean territory.

At his death in 4 B.C., Herod's kingdom was divided among three of his surviving sons, and Peraea was allotted to Antipas. The region of Esbus, however, may have been cut off from Peraea at this time, attached to the Roman province of Syria, and remained in that province until the creation of the province of Arabia in 106.[60]

[57] Josephus *Ant* 15. 294, 295.

[58] Josephus *JW* 1. 365-385; *Ant* 15. 108-160. Herod fought the Nabataeans again in 10-9, but that was mainly in the north and not on such a large scale (ibid., 16. 271-285).

[59] Cf. Gihon, *IEJ*, 17 (1967), 27-42; E. Schürer, *Geschichte des jüdischen Volkes im Zeitalter Jesu Christi* (Leipzig, 1898-1901), I, 391, 400; Abel, *Histoire*, I, 390; M. Avi-Yonah, *The Holy Land* (Grand Rapids, Mich., 1966), p. 101.

[60] Contrary to some earlier views (cf. Avi-Yonah, *Holy Land*, p. 103, Map 7; Amiran, *et al.*, *Atlas of Israel*, IX/7; Schürer, *Geschichte*, II, 201), we would argue on archaeological and literary grounds that Esbus was not under the control of the Nabataeans in the 1st cent. A.D., but was rather probably under the control of the Roman province of Syria.

Characteristic Nabataean pottery, while present, was rare in the Early Roman material from *Ḥesbân*. Nabataean stone-dressing was not attested at the site at all (cf. G. and A. Horsfield, *QDAP*, 7 [1938], Pl. XVII:3; N. Glueck, *Explorations in Eastern Palestine* [henceforth referred to as *EEP*] [*AASOR*, 18, 19; New Haven, 1939], III, 16, 17; Glueck, *Deities and Dolphins* [New York, 1965], p. 57; F. Winnett and W. Reed, *Dhībân* [*AASOR*, 36, 37; New Haven, 1964], Pls. 9:4, 42:1, 43:1). Finally, the site produced five Nabataean coins dated between 9 B.C. and A.D. 106, as well as five Roman coins dated between A.D. 9 and 138 ("Heshbon Coins 1968," pp. 150, 151, Nos. 2, 3, 5-7; "Heshbon Coins 1971," Nos. 49-53). The numismatic evidence from Jerash (cf. C. H. Kraeling, *Gerasa* [New Haven, 1938], pp. 498, 500) would indicate that the (scarcity of and lack of Nabataean) ceramic and stone-dressing evidence from *Ḥesbân* should be afforded more weight than that of the five Nabataean coins. In fact, Glueck (*BASOR*, 68 [1937], 15, 16; *EEP*, III, 139, 140, 143, 144, 269; *BASOR*, 85 [1942], 3; *BASOR*, 96 [1944], 17; *EEP* [*AASOR*, 25-28; New Haven, 1951], IV, 13, 14; *The Other Side of the Jordan* [2d ed.; Cambridge, Mass., 1970], p. 211; *Deities and Dolphins*, p. 486) had long ago argued from the cessation of Nabataean pottery north of

The region of Esbus was sacked by Jews (probably from Peraea) during the early years of the First Revolt (ca. 66).[61]

Following the Roman annexation of the Nabataean kingdom in 106, Esbus was probably transferred (with Philadelphia) from the province of Syria to the new province of Arabia.[62] In 111-114, Claudius Severus constructed for Trajan the major *via nova* which ran from Bostra to Aila (*'Aqaba*).[63] This "new road" followed in general the already established route of the "King's Highway,"[64] and its preserved milestones indicate that it was maintained at least into the mid-4th cent.[65] Numerous forts and caravan-posts dotted its route,[66] and Esbus was one of the cities which lay along it.[67]

At Esbus another road (Jericho-Livias-Esbus) joined the *via nova* from the west.[68] Extant milestones indicate that it was maintained from at least the Madeba line that the northern boundary of the Nabataean kingdom passed through that city, just to the south of *Ḥesbân*.

Esbus was part of Peraea when it was settled by Herod the Great (Josephus *Ant* 15. 294, 295). Herod Antipas, however, fortified Livias (ibid., 18, 27; *JW* 2. 168), which would suggest that the Esbus region had been cut off from Peraea by the Romans at the division of Herod the Great's kingdom (cf. *Ant* 17. 317-323; *JW* 2. 93-100; Avi-Yonah, *Holy Land*, pp. 102-104). That Esbus was, in fact, later distinct from Peraea, Arabia, Philadelphia, and Gerasa seems to be clear from Josephus (*JW* 3. 46, 47). And, Esbus was included among those specifically *Syrian* cities/districts which the Jews were said to have sacked at the beginning of the First Revolt (ibid., 2. 458-460). This would indicate that Esbus was, at that time, neither Nabataean nor (Jewish) Peraean. Finally, the fact that in 106 Esbus was included in Trajan's province of Arabia could not be used as evidence that the region was formerly Nabataean (cf. Schürer, *Geschichte*, II, 201), because Philadelphia (and Gerasa?), formerly of the Decapolis, was also included in that new province (ibid., pp. 186, 192; Avi-Yonah, *Holy Land*, p. 113).

Thus, we would argue that from the death of Herod the Great in 4 B.C. to the creation of the province of Arabia in 106, Esbus was most closely associated with the Hellenistic cities of the Decapolis, and was probably under the effective control of the Roman province of Syria.

[61] Josephus *JW* 2. 458-460.

[62] Cf. above, n. 60.

[63] Cf. Thomsen, *ZDPV*, 40 (1917), 13, 14, 34ff.; Avi-Yonah, *Holy Land*, pp. 183, 187 (map).

[64] Cf. Glueck in *EEP* (*AASOR*, 14; Philadelphia, 1934), I, 4; *EEP* (*AASOR*, 15; New Haven, 1935), II, 3; *EEP*, III, 12, 13, 52, 66, 113, 127, 142, 143; *Other Side of Jordan*, pp. 15-22; *Deities and Dolphins*, p. 75.

[65] Thomsen, *ZDPV*, 40 (1917), 14, 35-57, 93.

[66] Glueck in *EEP*, I, 83; *EEP*, III, 138, 139; *Other Side of Jordan*, p. 209. Cf. below, n. 78.

[67] Cf. G. Beyer, *ZDPV*, 63 (1935), 137, 138, 155-157; Avi-Yonah, *Holy Land*, p. 187 (map).

[68] Cf. Thomsen, *ZDPV*, 40 (1917), 67, 68; Avi-Yonah, *Holy Land*, pp. 183, 187 (map); Beyer, *ZDPV*, 63 (1935), 155, 156; Beauvery, *RB*, 64 (1957), 93, 101; Henke, *ZDPV*, 75 (1959), 160, Fig. 5 (map).

162 through the latter portion of the 4th cent.,[69] but the date of its original construction has been uncertain. While it has been suggested that the Jerusalem-Jericho section was built during or just after the First Revolt (ca. 70ff.),[70] the Jericho-Livias-Esbus "extension" has usually been dated with or after the *via nova*.[71]

We would suggest that it is in the context of this historical evidence that the above correlations between Areas B and D could be interpreted. The pre-roadway occupation in Area B and the D.1:4d interior-courtyard fort could possibly be associated with Herod's post-31 B.C. settling of veteran troops at Esbus.[72] It could be suggested that Herod might have constructed a road between Jerusalem and Esbus for military reasons (against the Nabataeans), and his reign could have been the time when that route was established (unless it was even earlier). Yet, there would apparently be no preserved evidence of such a road or roadway associated with the D.1:4d fort.[73]

The ca. 70 stratigraphic break, prior to the construction of the first Stratum 12 roadway(s) in Area B, and between the D.1:4d and D.1:4c wall phases in Area D, could be associated with the sacking of Esbus in 66 by the Jews, or with related events surrounding the First Revolt.

The D.1:4c reconstruction of the interior-courtyard fort, together with the Stratum 12 roadway(s) in Area B, could be attributed to the post-70 efforts of the Flavians to consolidate

[69] Thomsen, *ZDPV,* 40 (1917), 67, 68 (milestones dated to: 162, 219, 236, 288, 307, 364-375?).

[70] Beauvery (*RB,* 64 [1957], 100, 101) suggested that the road would have been built during 68-70 when the *Legio X Fretensis* was moved from Jericho to Jerusalem for the siege of Jerusalem. C. Kuhl (*PJB,* 24 [1928], 120, 121), however, had argued that the road would have been built shortly after 70 when the Flavians were actively consolidating their position in Palestine. On the other hand, Avi-Yonah (*Holy Land,* pp. 183, 184) dated the road's construction to 129-130.

[71] Kuhl (*PJB,* 24 [1928], 124, 125; cf. Thomsen, *ZDPV,* 40 [1917], 35 n. 2) argued that in 111-114 the *via nova* would not have been left without a connection to the road network west of the Jordan. Avi-Yonah (cf. *Holy Land,* pp. 183, 184), however, assumed a gap in the road network (Jerusalem-Jericho-Esbus) which would have been filled only during the reign of Hadrian (129-130).

[72] Cf. Gihon, *IEJ,* 17 (1967), 27-42.

[73] It is clear that the Stratum 12 roadway(s) could not be attributed to Herod because, if it was a construction of Herod, all of the Early Roman pottery from the Stratum 12 mixed soil layer would have to predate 4 B.C. In fact, however, that pottery belongs primarily to the first half of the 1st

the road network and the *limes* system of Palestine.[74] Since it would seem that the Area B plaster layers could not have been actual *roads,* but rather only *roadways* (which would have connected the Area D stairway/gateway with the roads themselves),[75] it cannot be certain that the original construction date of the first *roadway(s)* in Area B would have coincided with the construction dates of the two *roads* which converged on Esbus (north-south and east-west). However, since some evidence has been cited for dating the Jerusalem-Jericho road to ca. 70,[76] it would not seem unlikely for the Jericho-Livias-Esbus extension to have been built at the same time.[77] The north-south road, which became the *via nova,* could have been in existence before 111-114, and when the *via nova* was constructed along its lines the fort and roadway(s) of Esbus could have been incorporated into that more comprehensive *limes* system.[78]

The Strata 12-7, 5 roadway(s) in Area B could be correlated generally with the milestone inscriptions of the two roads, which indicate intermittent road maintenance through the mid-late 4th cent.[79] The apparent absence in Palestine of milestone inscriptions from the time when Theodosius I reigned alone

cent. A.D., and it was accompanied by a 9 B.C.-A.D. 40 coin (cf. below, Stratum 12).

[74] Cf. Kuhl, *PJB,* 24 (1928), 120, 121; A. Alt, ibid., 26 (1930), 44, 45; Gihon, *IEJ,* 17 (1967), 27-42.

[75] Cf. above, n. 47.

[76] Beauvery, *RB,* 64 (1957), 96-98, 101, *passim.*

[77] This would, however, have to be associated with Kuhl's rather than with Beauvery's historical reconstruction regarding the Jerusalem-Jericho road (cf. above, n. 70). Avi-Yonah's tentative 129-130 date for the Jerusalem-Esbus road could probably be eliminated here, primarily on the basis of the Early Roman pottery from (Area B) Stratum 12 at *Ḥesbân.*

[78] Cf. R. E. Brünnow and A. v. Domaszewski, *Die Provincia Arabia* (Strassburg, 1904-1909), I, vii; III, 264ff., *passim;* Alt, *PJB,* 26 (1930), 44, 45; Abel, *Histoire,* II, 54. At the present time we would favor the 70ff. date for the Stratum 12 roadway(s) and the D.1:4c interior-courtyard fort (cf. above, n. 49). It would not be impossible for that complex to date from the time of Trajan's *via nova* (111-114), however, but then it would seem that a 66-111 gap would have to be postulated to account for the lack of post-66 pottery in the Stratum 12 mixed soil layer. The D.1:31 coin of Trajan dated to 107 would correspond perfectly with the 111-114 construction date for the *via nova,* but that coin's precise stratification cannot be known (cf. above, nn. 49, 51).

[79] There has been no attempt to correlate the Area B plaster resurfacings with the dated milestones, except in very broad terms.

(392ff.) would suggest that the road network was no longer maintained as before, not only in his reign but from his reign on.[80] This policy could have been associated with the anti-pagan edicts which likewise occurred at the end of the 4th cent. and which led to the flowering of Christianity during the following cent.[81] The ca. 400 restructuring of the acropolis at *Ḥesbân* (from fort/roadway to church) could reflect the results of this religiously oriented policy at one site in Transjordan.

### *Stratum 5 (ca. A.D. 365-400)*

*Description:* Substantial sections of a thick (ca. .25-.40 m.) plaster layer, beneath Stratum 2, extended ca. .75-2.50 m. into the northeast portions of B.1-3 (B.1:71; B.2:3, 4; B.3:2).[82] The layer was also found across the main north-south axis balk in the southwest corner of D.3 (D.3:12), but a massive pit (D.2:16=D.3:9) cut it off from the other remains in that Square.[83] Sloping down from east to west in Area B, it was cut at a sharp angle in B.3 (cf. above, Stratum 3), but elsewhere it tapered out quite evenly into Stratum 2. A number of soil layers (B.1:2B, 4=5A; B.2:5-8; B.3:4) lay beneath the plaster layers and extended slightly farther south into the Squares before they too tapered out into Stratum 2. Of these, Layers B.1:2B and 4=5A were cut by Kiln B.1:10. Locus B.1:4=5A produced a coin dated to 387,[84] and the latest pottery from all of the loci was Early Byzantine.

*Interpretation:* The plaster layers could be considered remnants of an originally continuous plaster layer which sloped through Area B, and the underlying soil layers could be inter-

[80] Cf. Thomsen, *ZDPV,* 40 (1917), 93 (note the single possible inscription from the time of Arcadius).

[81] Ibid., 14 (cf. above, Stratum 4, n. 46).

[82] Locus B.1:71 appeared only in 1971, to the northeast of excavated lime Kiln B.1:10.

[83] "Heshbon 1968," p. 214 (cf. above, Strata 5-14).

[84] "Heshbon Coins 1968," p. 152, No. 14. A coin dated to 1453-1461 came from B.1:4=5 in 1968 (ibid., p. 156, No. 45), but since no Ayyūbid/Mamlūk pottery came from sub-surface loci in B.2 and B.3 in 1971 (excluding the well-defined pits of Stratum 3), this coin must be regarded as intrusive (cf. above, n. 11; below, n. 86).

preted as makeup fills for that layer.[85] The post-Stratum 4 erosion would have removed everything except the tapered-off sections in the northern parts of B.1-3, and it could not be determined how far south the layer (and fill) originally extended. Like the earlier plaster layers (Strata 7-12), it could have continued into B.4; or it could have been retained by Wall B.1:8B (Stratum 4), in which case the layer would have cornered to go south. Although Pit D.2:16=D.3:9 cut off the northernmost section of this plaster layer (D.3:12), it would seem very likely that the layer originally extended north to join the stairway/gateway of Area D (cf. above, Strata 5-14).

Thus, the Stratum 5 plaster layer could probably be interpreted as a roadway which approached the north-south Area D stairway/gateway from the west. It would likely have had a boundary wall along its northern edge and, if it was retained by Wall B.1:8B on the south, it would possibly have joined another roadway which approached the Area D stairway/gateway from that direction. On the basis of the 387 coin of Valentinian II and the Early Byzantine pottery, the Stratum 5 roadway could probably be dated to the late 4th cent. (pre-392 in construction; cf. above, Strata 5-14).

### *Stratum 6 (ca. A.D. 365)*

*Description:* Beneath the soil layers of Stratum 5 and resting on the uppermost plaster layer of Stratum 7 was a thick (ca. .50 m.) layer of rock tumble and soil (B.1:4=5B, 7; B.2:9, 10, 14; B.3:3; B.4:2). The rocks of the layer had numerous air pockets between them, and the ashy-red soil of B.3 and the eastern part of B.2 merged gradually into the brown-colored soil of the western part of B.2 and B.1. The layer extended across the balk into D.3 as a locus of loose rocks surrounded by ashy-red soil (D.3:13), but it was cut, like D.3:12 above it, by the massive Pit D.2:16=D.3:9 (cf. above, Stratum 5). In Area B the layer tapered out into Stratum 2 towards the south and west, and it was cut by Stratum 3 pits as well as by Stratum 4 structures.

[85] Note the alternating plaster/soil layers of Strata 7-12. There was no evidence of any debris accumulation above the plaster layers (but, cf. below, Stratum 6), and the soil layers frequently contained mixed pottery.

Layer B.1:4=5B produced a coin dated to 365/366[86] and the latest associated pottery was Early Byzantine.

*Interpretation:* The Stratum 6 rock tumble would seem to be best interpreted as a disruptive rather than a constructive phase between Strata 5 and 7. If it had been a fill it would be expected to have improved the surface contours of the Area just prior to the laying of a new plaster layer. Instead, the tumble would seem to have disrupted the already existing (Stratum 7) contours and to have necessitated the subsequent fills which were laid over it in preparation for the Stratum 5 plaster layer.

If this is correct, then a plausible (if somewhat speculative) historical correlation could be suggested. It seems to be reliably reported that the walls of *Kerak* were toppled by a major earthquake in 365,[87] and the numismatic evidence from *'Arâq el-Emîr* allowed Lapp to associate the collapse of the *Qasr* walls with that same earthquake.[88] *Hesbân,* located between these two sites, would almost certainly have been affected by that quake as well, and the 365/366 coin from Layer B.1:4=5B would suggest that the Stratum 6 rock tumble should be interpreted in that context. Structures farther up the slope, possibly including Wall D.1:4, could have collapsed in the quake onto the open Stratum 7 roadway below, thus creating the loose rock tumble of Stratum 6. An accompanying fire could have produced the ashy-red soil of B.3 and D.3.[89]

### *Stratum 7 (ca.* A.D. -365)

*Description:* Beneath the rock tumble of Stratum 6 and cut by both Stratum 3 pits and Stratum 4 structures were a number of

[86] "Heshbon Coins 1968," p. 151, No. 10. The 1968 field books make it clear that this coin was found *in* the rocks of B.1:4=5, while the 387 coin of Stratum 5 was found in the soil *above* those rocks. It is possible, however, that the 365/366 coin belonged to the Stratum 5 soil fill rather than to the Stratum 6 rock tumble (cf. above, nn. 11, 84).

[87] Cf. Kallner-Amiran, *IEJ,* 1 (1950-1951), 225. The authority is Jerome, and the primary texts can be found in H. F. Clinton, *Fasti Romani* (Oxford, 1845-1850), I, 464.

[88] P. W. Lapp in *BASOR,* 165 (1962), 25-32; ibid., 171 (1963), 32, 33, 37, 38.

[89] In support of the Stratum 6 earthquake, it should be noted that several wide cracks, most clearly visible in the balk between B.1 and B.2, ran vertically through all of the Strata 7-12 plaster layers. For evidence of the earlier (pre-roadway) earthquake, cf. below, Stratum 13.

thin (ca. .01-.05 m.) alternating plaster and soil layers (B.1:6A; B.2:12, 13, 15-17; B.3:5-11, 14; B.4:3) resting on top of a mixed soil layer which was thick (ca. .50 m.) in the northeast but which thinned out towards the west and south (B.1:6B; B.2:19; B.3:12, 13, 15-21; B.4:9). In the eastern portion of Area B (B.3) the plaster layers sloped down towards both the south and the west, while in the western portion of the Area they sloped down only towards the west or were almost level. Stratum 3 pitting in B.4 left only a sliver of Stratum 7 stratification along the eastern edge of robber Trench B.4:14 and 15.[90] The latest pottery associated with Stratum 7 was Early Byzantine.

*Interpretation:* The mixed soil layer could be interpreted as imported fill, and the thin layers on top of it could be considered roadway surfaces which were laid down prior to the rock tumble disruption of Stratum 6. The sloping contours established by the fill would suggest that the roadway approaching from the west joined another one which approached from the south, and the thick fill in the east would presumably have raised the surface level of the roadway(s) to that of a new stairway phase. The numismatic, ceramic, and historical evidence would suggest that Stratum 7 could be dated from the mid-4th cent. to 365 (cf. above, Strata 5-14).

### *Stratum 8*

*Description:* Beneath the Stratum 7 soil layer and cut by the Stratum 3 pits and the Stratum 4 structures was Stratum 8, a thin (ca. .02-.07 m.) plaster layer (B.1:6C; B.2:20; B.3:22; B.4:8) over a ca. .10-.35 m. soil layer (B.1:6D; B.2:21; B.3:23; B.4:4, 22, 23). The plaster layer sloped down towards the west but was otherwise quite level, and it even rose slightly in the southern part of B.2 and B.3 to merge with the Stratum 7 plaster layer which was subsequently laid over it. Only a small portion of Stratum 8 was preserved in B.4, again along the eastern edge of robber Trench B.4:14 and 15.[91] The latest associated pottery was Early Byzantine.

[90] Loci B.4:34-39, superimposed soil layers beneath B.4:6 (Stratum 2) and B.4:17A, 17B, and 18 (Stratum 3?) in the southwest corner of B.4, could possibly belong with Strata 7 or 8.

[91] Cf. above, n. 90.

*Interpretation:* Stratum 8 could be interpreted as another resurfacing of the Area B roadway(s), the soil layer having been fill for the plaster layer. This resurfacing could probably be dated to the mid-4th cent. A.D. (cf. above, Strata 5-14).

### *Stratum 9*

*Description:* Another (ca. .02-.15 m. thick) plaster layer (B.1:6E; B.2:22; B.3:24; B.4:19, 24) over soil (B.1:9; B.2:23; B.3:25; B.4:21=25, 26) lay beneath the Stratum 8 soil layer and was cut by the Stratum 3 pits and Stratum 4 structures. Much like Stratum 8, it sloped down to the west but was relatively level from north to south. In the southwestern part of B.4, soil Layer B.4:21=25 and 26 sealed over B.4:31, 56=57, 60, 61, and 65, the mixed soil above partially robbed-out Wall B.4:46 (Strata 10-12), and plaster Layer B.4:19 sloped down sharply (ca. 22° from horizontal) over those soil loci (and the robbed-out wall).[92] The latest pottery associated with Stratum 9 was Early Byzantine.

*Interpretation:* Stratum 9 could, like Stratum 8, be considered a fill and plaster resurfacing of the Area B roadway(s). For the first time, however, Stratum 3 pitting left a section in the western part of B.4 of what could be considered the southern edge of the (east-west) roadway. The original Strata 10-12 retaining wall on the south (B.4:46) was removed by Stratum 9 and was replaced with the sharply sloping extension of the roadway surface itself (B.4:19).[93] It could be postulated that a similar edge construction originally retained the Strata 7 and 8 roadway resurfacings as well. As the earliest stratum to attest Early Byzantine pottery, Stratum 9 could probably be dated to the early/mid-4th cent. A.D. (cf. above, Strata 5-14).

### *Stratum 10*

*Description:* Beneath the soil layer of Stratum 9 was another (ca. .05-.25 m. thick) plaster layer (B.1:11; B.2:24-26, 28, 29;

[92] It is not certain whether soil Loci B.4:68 and 69 and possible Wall B.4:71 partially exposed to the south of Locus B.4:46, should be attributed to Stratum 9 or to Strata 10-12. Further excavations will have to clarify the southwest part of B.4.

[93] For a sloping edge construction somewhat comparable to that of Stratum 9, cf. Forbes, *Ancient Roads,* Figs. 24, 25, 34. Cf. below, n. 95.

B.3:26; B.4:27, 28) over a (ca. .15-.40 m. thick) soil layer (B.1:12; B.2:27, 30; B.3:27, 28; B.4:29, 30, 32), both of which were cut by the Stratum 3 pits and the Stratum 4 structures. Like Strata 8 and 9, Stratum 10 sloped down to the west but was relatively level from north to south. In the southern part of B.4 it was cut along the straight east-west line formed by partially robbed-out Wall B.4:46 (cf. Strata 9, 11, 12), and the Stratum 9 soil and plaster layers sloped down over that cut edge. A single 9-12 coin came from B.3:28,[94] and the latest associated pottery was Late Roman.

*Interpretation:* Stratum 10 could, like Strata 8 and 9, be interpreted as a fill and plaster resurfacing of the Area B roadway(s). Before it was cut by Stratum 9, that resurfacing would have been retained on the south by Wall B.4:46 (cf. below, Stratum 12). The pottery would indicate that the stratum should be dated to the mid-late 3d cent. A.D. (cf. above, Strata 5-14).

### *Stratum 11*

*Description:* Beneath the soil layer of Stratum 10 and cut by both Stratum 3 pits and Stratum 4 structures was a very thick (ca. .30-.50 m.) striated plaster layer composed of 12-14 thin alternating sub-layers of plaster and soil. Because there was a basic ceramic distinction between the upper and lower portions of this complex layer, it has been divided here into two strata (11 and 12). The upper layers of Stratum 11 (B.1:13A; B.2:31A; B.3:29A; B.4:41A) were relatively level in all directions and were cut in the southern part of B.4 along the east-west line of partially robbed-out Wall B.4:46 (cf. above, Strata 9, 10; below, Stratum 12). The latest associated pottery was Late Roman.

*Interpretation:* The thin alternating layers of Stratum 11 could be interpreted as roadway resurfacings which lacked the pronounced soil fills of Strata 5, 7-10.[95] Before they were cut by Stratum 9, they would have sealed against Wall B.4:46 on the south (cf. below, Stratum 12). The stratum could probably be

[94] "Heshbon Coins 1971," No. 52.

[95] The stratigraphic position of Paving B.4:72=B.3:31 (Stratum 12) and the ceramic difference between Strata 11 and 12 would rule out the possibility that the entire plaster layer might have been a single, but multiphased, roadway surfacing. The resurfacing fills may have been avoided at

dated from the mid-2d to the mid-3d cent. A.D. (cf. above, Strata 5-14).

*Stratum 12 (ca. A.D. 70ff.)*

*Description:* Included in Stratum 12 was the lower portion (B.1:13B, 14A, 15A, 16A; B.2:31B, 33; B.3:29B, 30, 32, 35; B.4:41B, 43, 44=45, 48) of the thick (ca. .30-.50 m.) striated plaster layer, the upper portion of which was designated as Stratum 11. The thin plaster layers, cut by Strata 3 and 4, were relatively level in all directions and were cut on the south along the east-west line of partially robbed-out Wall B.4:46 (cf. above, n. 48, Strata 9-11, and below). Paving B.4:72=B.3:31 ran through the entire length of B.3 and appeared in the east balk of B.4, but stopped with the plaster layers at the east-west line of Wall B.4:46 (cf. above, n. 48). The paving consisted of rectangular-cut (average size: .38 x .77 m.) stones which had been laid sideways in a level row (cf. Pl. V:B). The stones formed a straight line on the west, but their uneven lengths created an irregular line on the east. On the west the paving was sealed against by Loci B.3:35 and B.4:44=45 and 48, and on the east by Locus B.3:32 (the earliest plaster layers), and it was sealed over by the subsequent plaster Layers B.3:29B and 30, and B.4:41B and 43.[96] Locus B.1:14A produced a coin dated to A.D. 138 in 1968, and an additional coin dated to 71-106 came from B.4:43 in 1971.[97] The latest associated pottery was Early Roman.

Beneath the first (earliest) of the Stratum 12 plaster layers was Stratum 15 (cf. below) and a massive layer of rock tumble and mixed soil (B.1:14B, 16B, 20, 22; B.2:34, 35A, 43-53; B.3:33, 34, 36, 37, 39, 43, 44; B.4:47, 49-53, 55, 58, 70). This layer covered over bedrock and the bedrock installations of B.3 and north-

first because of the problem which they would have created along the roadway's retaining wall. In fact, the ever-rising surface of the roadway could have necessitated the structural change from the retaining wall of Strata 10-12 to the sloping edge construction of Stratum 9.

[96] Loci B.3:29 and 30 were cut by only a localized pit in the north balk of B.3.

[97] "Heshbon Coins 1968," p. 151, No. 7; "Heshbon Coins 1971," No. 51. It is clear from the 1968 field books that the 138 coin came from or above the plaster layers of B.1:14 (cf. below, n. 99).

eastern B.4, as well as the other fragmentary installations which have been attributed to Stratum 13. It sealed against Wall B.1:17=B.2:62 (Stratum 14) from the south, but also sealed over the top of that wall.[98] It was retained on the south by the unrobbed course of Wall B.4:46. This wall, of two-course width and (partially excavated) one-course height, was constructed of large (ca. .30-.50 m.) stones, and it ran east-west through the southern part of B.4 (ca. 1.40-2.05 m. from the south balk). It had been partially robbed out by Stratum 9, and the single exposed course stopped ca. 1.50 m. from the east balk. The Strata 10-12 plaster layers were cut in a straight line along the northern edge of the robbed-out wall, and the Stratum 12 paving (B.4:72=B.3:31) stopped in the east balk where it would have met that wall. Yet it would seem that the wall had not originally retained that paving on the south (cf. above, n. 48; below, Locus B.4:75 [Stratum 13]). In 1968, Locus B.1:14B produced a 9 B.C.-A.D. 40 coin and a stamped jar handle dated to 220-180.[99] The latest associated pottery was Early Roman, but the layer also attested some of the rare Late Hellenistic sherds.

*Interpretation:* The Stratum 12 plaster layers could be interpreted as the first roadway surfaces associated with the Area D stairway/gateway. The resurfacings would not have included pronounced makeup fills, possibly because they would have been retained along the south by Wall B.4:46 (cf. above, Stratum 11, n. 95). Paving B.4:72=B.3:31 could have been one side of a parallel curbing which marked the approach of a north-south roadway (cf. above, Strata 5-14).

The entire roadway sector would have been leveled in preparation for the laying of the first plaster layer, and this operation would have involved the scraping off of high features and the filling in of low points. Scraped off would have been most of the occupational remains which have been attributed to Stratum 13, the upper courses of the Stratum 14 walls, and the upper soil layers of Stratum 16 (and 15?). Retaining Wall B.4:46

[98] It would seem that the upper rebuilds postulated in 1968 for Walls B.1:17, 29, and 25 were only extensions of the Stratum 12 rock tumble.

[99] "Heshbon Coins 1968," p. 150, No. 2; "Heshbon 1968," p. 123. The 1968 field books make it clear that this coin (and the jar handle) came from the B.1:14 soil layers beneath the B.1:14 plaster layers (cf. above, n. 97).

would have been built along the southern edge of the projected roadway, and this scraped-off material would have served as fill in the low points behind it.

The dating of the first Stratum 12 plaster layer has been discussed above (cf. Strata 5-14). Although it is possible that the roadway could have been constructed as late as 111-114ff., at the present time a 70ff. construction date would seem more likely. The sub-plaster rock tumble and mixed soil would reflect the date of the pre-roadway occupations at the site (cf. below, Strata 13-16).

*Stratum 13 (ca. 31 B.C.-A.D. 70)*

*Description:* While there were no continuous or actually relatable occupational remains immediately beneath Stratum 12 (cf. below, Strata 14-16), there were some isolated installations which could be considered together here.

Cave (Cistern?) B.4:74, in the northeast part of B.4, had a ca. .40 m. circular opening (cut into bedrock) which was sealed over (beneath the rock tumble and mixed soil of Stratum 12) by a number of large stones (B.4:51). Debris filled the cave almost to the level of the opening, but it sloped down from that opening to reveal a fairly large (unexcavated) subterranean sector to the north, east, and south. Six superimposed soil layers (B.4:54, 59, 62-64, 67), constituting ca. 1.50 m. of debris, lay between the lower bedrock floor of the cave and the circular opening in the ceiling bedrock. Wide bedrock cracks ran through the opening to the cave. The latest pottery associated with all of these layers was Early Roman, but Late Hellenistic sherds were attested in Layers B.4:63 and 67.

There were a number of bedrock cuttings in the vicinity of the Cave B.4:74 opening, including a rectangular-cut depression (B.4:52; ca. .50 x .80 m.), a possible (water?) channel, and three circular (ca. .15-.25 m.) holes. The bedrock cracks ran through some of these installations, and they seemed to cut off this upper bedrock to the south (unexcavated). Immediately (ca. 1.50+ m.) to the west, bedrock was cut vertically and in a straight, ca. 3.00+ m. long, north-south line (into the north balk). Before excavation ceased in Stratum 12, this vertical cut was exposed to a depth of ca. .35 m.

In addition to these bedrock remains, several other isolated and tattered installations beneath Stratum 12 were exposed but not fully excavated. Circular *Ṭabun* B.4:66 was located next to possible Wall B.4:73 in the north-central portion of B.4, and B.4:75 was a thin plaster layer beneath B.4:72=B.3:31 which extended ca. .75 m. south of that Stratum 12 paving in the B.4 east balk. Locus B.2:54 was another fragmentary *ṭabun* which rested on an equally fragmentary soil surface (B.2:63) in the eastern portion of B.2.[100]

*Interpretation:* The partially excavated Stratum 13 installations would indicate that there was some kind of pre-roadway occupation in Area B. This occupation would probably have followed the 31 B.C. earthquake,[101] after which Cave B.4:74 (remaining open) would have served as a dump until it was almost filled with debris. Later it would have been sealed shut,[102] possibly just prior to the construction of the first Stratum 12 roadway(s).

Where bedrock was not exposed (B.1, B.2, and portions of B.4) there would have been other occupational activity, presumably on top of the Stratum 16 soil layers.[103] Except for the tattered installations of the eastern part of B.2 and north-central B.4, all remains of this activity would have been scraped off and utilized as fill during the Stratum 12 leveling operation.

The Early Roman pottery from Cave B.4:74 and from the Stratum 12 mixed layer, together with the sub-plaster 9 B.C.-A.D. 40 coin from B.1:14B, would suggest that the Stratum 13 pre-

[100] Other partially exposed and very tentative installations could also be noted here. Locus B.4:76 was a possible wall beneath Paving B.4:72 in the east balk of B.4 (associated with plaster Layer B.4:75?), and B.3:48 was a possible wall beneath rock Tumble B.3:43 along the east balk of B.3 (associated with plaster Installation[?] B.3:45?). Cf. B.1:23A, 34 and 35 (Stratum 14).

[101] Cf. above, Strata 5-14.

[102] The post-earthquake filling and the intentional sealing (B.4:51) of Cave B.4:74 would seem to eliminate the possibility that the Stratum 12 rock tumble could have been produced by the collapse of the Strata 13 and 14 walls during this earthquake. This would seem to indicate that the walls would have been built after the earthquake.

[103] The vertical bedrock line in the northeastern part of B.4 would definitely have been exposed during Stratum 13, but it cannot yet be determined when it was originally cut (cf. below, nn. 106, 111, 114; Stratum 16).

roadway occupation could probably be dated to ca. 31 B.C.-A.D. 70 (for additional interpretation, cf. above, Strata 5-14).

### *Stratum 14*

*Description:* There was also an architectural complex beneath the mixed layer of Stratum 12, the walls of which either cut into (B.1:17, 29=B.2:62; B.1:27) or rested on (B.1:21, 25, 28) the soil layers of Stratum 16.[104]

Wall B.1:17 ran east-west through B.1, and it appeared across the balk in the southern edge of B.2 (as partially exposed Wall B.2:62) in the widened form which it had taken already near the east balk of B.1 (B.1:29). The Stratum 12 mixed layer sealed over the wall, but it also sealed against it on the south. Soil Layers B.1:23A, 34, and 35, beneath the Stratum 12 mixed layer on the south, were also said in 1968 to have sealed against Wall B.1:17. On the north, however, the wall's foundation trench (B.1:40=103; B.2:55=69) cut through all of the Stratum 16 soil layers beneath the Stratum 12 mixed layer and the Stratum 12 plaster layers.[105] While the founding level of the wall sloped up from ca. 881.30 m. to ca. 884.15 m. between the west balk and the east balk of B.1, the uppermost preserved course of the wall was relatively level (ca. 886.00-886.30 m.) throughout B.1 and B.2. The wall was constructed without mortar, but its foundation trench produced small quantities of Late Iron II pottery in 1971, and a single, unidentifiable coin came from behind one of its (B.1:17) stones.

*Interpretation:* It was suggested in 1968 that the Stratum 14 wall complex might have belonged to a fortification system on the perimeter of the acropolis, and this tentative interpretation does not need to be modified in the light of the 1971 evidence.[106]

[104] For previous discussions of this complex, cf. "Heshbon 1968," pp. 123-126, Fig. 4, Pls. XI:B, XII:A; "Heshbon Pottery 1968," pp. 23ff. During the 1971 season, no new work was done in B.1 south of Wall B.1:17.

[105] This is a clarification of 1968 evidence (cf. "Heshbon Pottery 1968," pp. 22-29). Cf. below, nn. 109, 110.

[106] Because Wall B.2:62 has been only partially exposed, it is not yet possible to determine what the relationship of that wall was to the bedrock cut of B.4 and to the very tentative walls of Stratum 13 (cf. above, nn. 103, 100).

During the leveling operation of Stratum 12, the upper courses of the walls (and probably the related occupational remains) would have been scraped off and distributed as fill beneath the first Stratum 12 plaster layer.[107]

Since Wall B.1:17B=B.2:62 cut down into the Stratum 16 soil layers, and since that wall was sealed against on the south by the Stratum 12 mixed layer, it would seem reasonable to associate the Stratum 14 wall complex with the isolated installations of Stratum 13. Yet, foundation Trench B.1:103 and soil Layers B.1:23A, 34, and 35 produced only late Iron II pottery, so the dating of the complex must remain uncertain.[108]

### *Stratum 15*

*Description:* Loci B.3:40 and 46, under the Stratum 12 mixed layer (B.3:39) and over a possible pocket of Stratum 16 (B.3:41), were pockets of soil between bedrock in the northwestern part of B.3. Beneath B.3:41 was a pocket of sterile soil, and B.3:38 was bedrock itself in the northeastern portion of B.3. Late Hellenistic pottery came from B.3:40 and 46.

Cistern B.3:47, exposed in the central part of B.3 but not excavated, had a circular (ca. .40 m.) opening which was cut into bedrock *beneath* some massive blocks of cracked upper bedrock. Several large stones covered the opening, and above these stones (and between the bedrock blocks) was the rock tumble and mixed soil of Stratum 12. The small, circular cistern appeared to have been unplastered on the inside (tool marks were visible), and it seemed to have contained only a layer of dry-cracked silt near the bottom.

*Interpretation:* It would seem that minor remains of a Late Hellenistic occupation in Area B could have been preserved in the two B.3 loci, although there would apparently have been no structures associated wtih them. Cistern B.3:47, as yet undated, would have been one of the earliest installations in the Area,

[107] Cf. above, n. 102.

[108] The options would seem to be ca. 6th cent. B.C., ca. 2d cent. B.C., and ca. 1st cent. A.D. (pre-A.D. 66, possibly as early as 31 B.C.).

and it likely existed inside a cave complex which was subsequently smashed by an earthquake (31 B.C.?; cf. above). If the cistern predated the earthquake, the next season could establish from it whether or not there was a pre-31 B.C. Early Roman occupation at *Ḥesbân*. Cave B.4:74 could also have been occupied (or used) originally in Stratum 15.

### *Post-Stratum 16 Gap*

*Description:* There was no stratigraphic or ceramic evidence in Area B between the Late Iron II loci of Stratum 16 and the Late Hellenistic loci of Stratum 15.

*Interpretation:* This evidence would suggest that there was a gap in occupation in Area B (and at the site generally) between ca. 500 B.C. and ca. 200 B.C. (Persian and Early Hellenistic periods).

### *Stratum 16*

*Description:* In the southern part of B.1 Stratum 16 lay beneath Loci B.1:23A, 34, and 35 (cf. above, Stratum 14), while in the northwestern part of B.1 it was covered by the mixed layer of Stratum 12. Towards the northeastern parts of B.1 and northwestern B.2 it was found directly beneath the (level) Stratum 12 plaster layers,[109] but towards northeastern B.2 it seemed to be sloping down under the tattered installations of Stratum 13. Except for a possible pocket in bedrock (B.3:41) the stratum was not attested in B.3, and excavations in B.4 did not penetrate beneath Strata 12 and 13. Stratum 16 was cut into by the pits of Stratum 3 (B.1:8A), the structures of Stratum 4 (B.1:8B; B.1:10), and the walls of Stratum 14 (B.1:17, 29=B.2:62; B.1:27).

The stratum consisted of interlensing but distinct layers of soil and rock tumble (B.1:14C, 15B, 18, 19, 23B=33, 24, 26, 30-32=46, 36-39, 41-45, 47-56, 62-69, 75-102, 104-116; B.2:35B, 36-42, 56-61, 64-68, 70; B.3:41).[110] The layers were only partially

[109] In the northwestern part of B.2 the soil layers beneath the Stratum 12 plaster layers produced only late Iron II pottery and they were clearly shaved off level on top and were cut by B.2:69, the foundation trench of Wall B.2:62. The few late sherds from the corresponding 1968 loci in the northeastern part of B.1 have therefore been considered intrusive here (cf. above, n. 105; below, n. 110).

[110] Cf. "Heshbon Pottery 1968," pp. 22ff. Loci B.1:14C, 15B, 18, 19 and 24

exposed in B.2, but in B.1 they reached a maximum excavation depth of ca. 6.50 m.[111] All of the layers sloped down to the south, but while the upper ones also sloped down to the east, the lower ones reversed that direction and sloped down to the west. There were considerable quantities of ash and (occasionally partially-articulated) bone in some of the layers, and Locus B.1:90 produced a second ostracon.[112] The latest associated pottery was Late Iron II (7th-6th cent. B.C.).

*Interpretation:* Stratum 16 could still be interpreted as a massive fill. The absence of post-Iron II pottery would argue against the earlier suggestion that the fill material was scraped from the summit of the site at a later time.[113] The ash and bone would favor a "dump" interpretation,[114] and the pottery from the lowest layers might agree with this as well. On the basis of that pottery and the two associated ostraca, the Stratum 16 fill could probably be dated to the 7th-6th cent. B.C. Its upper layers would have been scraped off during the Stratum 12 leveling operation.

have been attributed to Stratum 16 on the basis of balk analysis and B.2 ceramic evidence (cf. above, n. 109). B.1:72-74 were unused locus numbers, and some of the 1971 numbers had 1968 equivalents. Loci B.2:58-61 and 64, in the eastern part of B.2, could belong to the mixed layer of Stratum 12 rather than to the soil layers of Stratum 16.

[111] Bedrock was not yet reached in B.1 at a level of ca. 880.00 m., while in B.3 and in the northeastern corner of B.4 it was exposed at a level of ca. 886.00 m. It is not yet known if this was a natural or an intentional change in the bedrock contours of Area B. If it was the latter, then the vertical cut in the northeastern corner of B.4 should be related to it (cf. above, n. 103; below, n. 114).

[112] For the 1968 ostracon from Locus B.1:52, cf. F. M. Cross, Jr., *AUSS*, 7 (1969), 223-229. The 1971 ostracon has been dated by Cross to ca. 525 B.C. (cf. below, "Heshbon Ostracon II," pp. 126-131). Locus B.1:90 was the lowest of several 1971 loci which equaled Locus B.1:52 of 1968.

[113] Cf. "Heshbon Pottery 1968," pp. 22ff.

[114] If the B.4 bedrock cutting was the cause of the radical change in the bedrock contours between B.3/B.4 and B.1, then that cutting would predate the Stratum 16 fill (cf. above, nn. 103, 111). A dump interpretation would presume some kind of occupation elsewhere in the vicinity, but thus far there has been very little evidence other than pottery for such an occupation at the site.

## *Conclusion*

It has thus been possible to describe and interpret 16 strata in Area B, often in the context of remains from other Areas. Historical interpretations have been suggested on the basis of the best controlled evidence from the site, although some strata have not been so interpreted (cf. Strata 15 and 16). Further excavations and additional stratigraphic analysis of existing data may serve to check both the descriptions and the interpretations which have been outlined here.

# AREA C

HENRY O. THOMPSON
American Center of Oriental Research
Amman, Jordan

Of the 1968 work reported previously,[1] Squares C.2 and C.3 were not continued except for a small probe trench in the southwest corner of C.2. Squares C.1 and C.4 were continued. Two additional Squares were opened this season: C.5, opened at the end of the 2d week, was down the steep slope west of C.1; C.6, opened at the end of the 6th week, was uphill (to the east) of C.4. Square C.5 was opened to continue the tracing of walls in C.1, and to search for the city's defense system. Square C.6 was part of a general plan to extend the east-west sector of the *tell* from Area C to Area A. All Squares lay along the east-west axis plotted for the site.

## *Ayyūbid/Mamlūk*

Surface soil Layers C.5:1 and C.6:1 were dark gray and root-filled, with an average depth of .20 m., as were similarly encountered in C.1-4 in 1968. The finds included painted and glazed pottery of the Ayyūbid/Mamlūk horizon familiar from the 1968 season, along with a few earlier sherds and the usual range of objects.

Beneath the C.5 surface soil (C.5:1) was the Ayyūbid/Mamlūk fill expected from the 4.00 m. depth known along the west balk of C.1. In C.5 this fill (C.5:2-5) followed the slope down to the west, but began to level out, ranging from 3.00-4.00 m. deep along the east balk, to 3.00 m. along the west balk. As in C.1, there were a large number of tip lines flowing from southeast to northwest, lensing in and out. Although our excavation did not try to follow individual lines, an attempt was made to follow the slopes of the fill layers.

[1] See H. O. Thompson, "Heshbon 1968: Area C," *AUSS*, 7 (1969), 127-142.

In harmony with the C.1-3 fill layers, the C.5:2-5 fill contained few stones but was rich in pottery and objects. Several bronze objects were of interest, such as a Christian cross, a bell, a coin of Al-'Azīz Muhammad (1216-1236), and two other Mamlūk coins (Nos. 74, 196, 203).[2] A coral fragment may possibly be considered indicative of trade with Aqaba. Fish bones were found in association with 12 of the 48 pottery pails saved from this accumulation.[3]

This heavy fill accumulation in C.1-3 and C.5 (in contrast to the 1968 evaluation) now appears to have been man-made rather than natural weather wash. The fill layers may have served as makeup for the Ayyūbid/Mamlūk Building C.2:10-C.3:3 (1968) founded in it, and for the related courtyard Wall C.1:2, 3, *et al.* However, the frustrating lensing tip lines, of which few persisted for any length, could not be easily followed stratigraphically. For this reason, all statements about the deep fill are of only a preliminary nature.

The exact relationship of the Ayyūbid/Mamlūk soil fills of C.4 (C.4:3, 5, 19, 17) and C.6 (C.6:5) with this deep fill of C.1-3 and C.5 remains problematic. It would seem that, as the immediately sub-surface soil fills, soil Layers C.4:3 and C.6:5 should be contemporary with the deep fill. If the contemporaneity of the fill and these two loci were accepted, then Ayyūbid/Mamlūk Building C.2:10-C.3:3 and the associated courtyard (Walls C.1:2, 3, *et al.*) would be the last of the surviving structures in Area C, because the "north building" of C.4 and C.6 and the other structures of C.6—of which foundation trenches have not thus far been detected—(cf. below) all appear to have been founded in soil layers below Layers C.4:3 and C.6:5.

In contrast to surface soil Layer C.5:1, soil Layer C.6:1 contained heavy rock fall or tumble, presumably from the numerous walls submerged in or slightly protruding from it. Wall C.6:2 continued as part of the north building first discerned in C.4 in 1968. As such, it included two wall faces, a north (inner) one

[2] All coin numbers are taken from A. Terian's forthcoming article "Coins from the 1971 Excavations at Heshbon."

[3] Cf. below, Ø. Labianca, "The Zooarchaeological Remains from *Tell Ḥesbân* (Heshbon)," pp. 133-144.

and a south (outer) one, with rubble and dirt fill between them. However, the wall itself was not dismantled in C.6, although its two faces were exposed to a depth of three courses. It averaged ca. 1.00 m. in width and extended eastward from the west balk for 3.90 m. As with its extension, Wall C.4:9, several of the top stones of the north face tilted to the north, probably as the beginning of a vaulted roof. The east end of Wall C.6:2 formed a corner turning south, and perhaps comprised the north jamb of a doorway in the east end of the building.

The south face of (north building) Wall C.4:2, of which excavation began in 1968, extended 4.75 m. westward from the east balk with five complete courses preserved. Two higher courses were preserved on the west and east ends, with a third course higher in the east balk. The first fully preserved course, and those above it, were similar in construction to Wall C.4:8. When dismantled, this wall yielded 14 pails of pottery, four of which were Umayyad. Objects included a coin (No. 64) of Justinian I (527-565). Wall C.4:9 (=C.6:2) was the inner face of Wall C.4:2. The remains formed eight courses of dressed and undressed field stones. Paralleling the line of Wall C.4:2, Wall C.4:9 emerged from the east balk 2.50 m. south of the north balk, and extended 3.00 m. westward into the Square. It was ca. .30-.50 m. thick, and yielded, upon dismantling, seven pails of pottery of which four were Umayyad and three had only a few Ayyūbid/Mamlūk sherds. A doorway was built through the lower six courses at the eastern edge of the Square. About half of the doorway remained in the east balk. The doorway was quite clear in outline in Wall C.4:9, but remained somewhat indistinct in Wall C.4:2. It was blocked in two stages (Loci C.4:60 and 61) to be discussed below.

A preliminary description of (north building) Wall C.4:8 was given in 1968. It extended southward into C.4 for 2.70 m. and had a preserved height of seven courses. One course was bonded to east-west Wall C.4:2. Dismantling of Wall C.4:8 produced Ayyūbid/Mamlūk pottery. Wall C.4:70 was distinguished as the inner (east) face of Wall C.4:8. It entered the north balk 2.70 m. west of the east balk and extended southward 1.70 m. into the Square, standing preserved to a height of eight courses. When

dismantled, it yielded five pails of pottery, three of which were Umayyad in date. Walls C.4:8 and 70 formed the western side of the north building. Its south side consisted of Walls C.4:2 and 9 (=C.6:2).

Wall C.4:10 was set perpendicular to Ayyūbid/Mamlūk Wall C.4:8 and ran into the north balk of the Square, as noted in the 1968 report. Walls C.4:8 and 10 appeared to have been contemporary from their corresponding levels and their masonry construction. However, they were not bonded, so Wall C.4:10 could have been later.

Wall C.4:15 was also first observed in 1968. It butted up against Wall C.4:2 and extended southwestward for 2.50 m. Its preserved length stood 1.25 m. wide and .70 m. high. It was two courses high and two courses wide as found. The ceramic evidence indicated that it may be dated to the Ayyūbid/Mamlūk period.

Wall C.6:8 was preserved in two parallel rows of crudely dressed stones, standing three courses high in the northeast corner of the Square. It ran into the east balk and appeared to be continuous with an east-west wall projecting from ground surface to the east of C.6. The portion in C.6 formed a large door or small gate (1.50 m. wide). It had a clear threshold with a small portion of a *huwwar* surface preserved over it which extended into the north balk.

In the remainder of C.6 were found several disconnected wall stumps. One stone found had a cross carved on one end. This may have fallen downhill from the church. The cross had holes at the ends of three of the cross arms plus other holes in a corner. However, if the "cross" stone was related to the building fragments uncovered in that vicinity, it raises the possibility of sacral use for some of these structures.

The dating of the north building (Walls C.6:2; C.4:2, 9, 8, 70), probably a house, must be relative. If, as suggested above, soil Layers C.4:3 and C.6:5, located directly under surface soil, should be considered contemporary with the Ayyūbid/Mamlūk fill layers of C.1-3 and C.5 (cf. above), the Ayyūbid/Mamlūk walls of the north building would have been built prior to the fill accumulation as they were founded beneath Layers C.4:3

and C.6:5. However, since our Ayyūbid/Mamlūk pottery chronology has not been refined to any great degree, it cannot now be said whether the Ayyūbid/Mamlūk use of the north building would have been months or years earlier than the C.1-3 and C.5 fill layers.

The same uncertainty must also hold for dating other elements in C.4 in relation to the north building. Beneath sub-surface soil Layer C.4:3 were Ayyūbid/Mamlūk fill Layers C.4:5, 19, and 17 (cf. above). Soil Layer C.4:5 (in which were coins from the 3d cent. A.D. and the Mamlūk period; Nos. 9 and 38) sealed over Cistern C.4:7. This would suggest that the last Ayyūbid/Mamlūk use of the cistern took place prior to the accumulation of the deep C.1-3 and C.5 fill. Ayyūbid/Mamlūk soil Layer C.4:19 lay against a rebuild of the cistern mouth. Soil Layer C.4:17, continuous with Layer C.4:19, lay over *huwwar* Surface C.4:28 and its associated *Ṭabun* C.4:36. Surface C.4:28 abutted Walls C.4:13 (Umayyad) and 15, both of which abutted Ayyūbid/Mamlūk Wall C.4:2.

Locus C.4:11, under surface soil inside the north building, comprised the final tumble of the vaulted roof and produced a Mamlūk coin (No. 193). Loci C.4:21 and 24, soil layers mixed with rock tumble and *huwwar* pieces, also appeared inside the building. A coin (No. 83) of Al-Ashraf Sha'bān (1363-1377) came from Layer C.4:24. Beneath C.4:24 was *huwwar* Surface C.4:26, probably the first layer to be considered an occupation layer.

If the three soil and rock tumble loci (C.4:11, 21, 24) could be related to the upper soil fill Layers C.4:3 and 5 outside the building, the people using Surface C.4:26 would have been the last to have used Cistern C.4:7. However, if soil Layers C.4:11 were contemporary with Layer C.4:3, C.4:21 with C.4:5, and C.4:24 with C.4:19 and 17, it could be concluded that C.4:24 was the occupation layer related to the last use of Cistern C.4:7. Or, Layer C.4:24 could be considered to have been gradual destruction debris, the occupants of Surface C.4:26 to have used the cistern at an earlier time, and its last users to have come from another sector of the site. This writer would relate the occupation of Surface C.4:26 with the last use of Cistern C.4:7.

There were four Ayyūbid/Mamlūk layers under Surface

C.4:26. All four (C.4:30, 34, 37, 43) may have been only uneven dirt surfaces. A bench, C.4:38 (cf. Pl. VI:A), was set on the lowest of these layers, C.4:43. Under one end of a column drum laid horizontally and used as part of the bench was a broken Ayyūbid/Mamlūk lamp containing 66 Mamlūk coins (Nos. 96-161 primarily dated 1260-1277) made of bronze cores coated with silver (Pl. XIV:A). The bench was plastered on top,[4] with the plaster continuing up the sides of Walls C.4:9 and 70. Soil Layer C.4:37 probably represents the continued use of the bench (the coin cache was found in connection with this layer), while the higher Layer C.4:34 nearly covered it, and Layer C.4:30 did so completely. All four layers are considered to have been contemporary with soil Layers C.4:19 and 17 outside the building, and all occupation groups accumulating Loci C.4:30, 34, 37, 38, and 43 could have used Cistern C.4:7.

During the time of the bench users, the doorway in Walls C.4:9 and 2 was probably already partially filled with dirt (C.4:61) and the upper part (C.4:60) was filled with stones (cf. Pl. VII:A). The outside of the doorway was then blocked by a huge boulder and by two more courses of stone, and against this outside blocking, Wall C.4:15 was built. *Huwwar* Surface C.4:28, associated with *Ṭabun* C.4:36, was founded on Early Byzantine soil Layer C.4:41 and ran up to Wall C.4:15. It is possible that Surface C.4:28 and Wall C.4:15 were founded by the people who accumulated Layers C.4:30, 34, or 37 inside the north building.

In summary, Ayyūbid/Mamlūk occupation in Area C appears to have had at least three major phases: (A) The building comprised of Loci C.2:10-C.3:3 and the associated deep fill; (B) the latest use of the north building including *huwwar* Surface C.4:26 and possibly soil Locus C.4:24; and (C) the north building bench (C.4:38), possibly including C.4:30, 34, and 37.

### *Umayyad*

Any Umayyad material in C.2, C.3, and C.6 is as yet unexca-

[4] A vaulted room in Square D.1, excavated in 1968 and of the Ayyūbid/Mamlūk period, had a plastered bench or shelf. Cf. P. Bird, "Heshbon 1968: Area D," *AUSS*, 7 (1969), 218.

vated. Umayyad evidence in C.4 was considerably more complicated than in C.1 and C.5. Ayyūbid/Mamlūk Wall C.4:8 of the north building was built over Umayyad Walls C.4:12 and 50, and it rested on Umayyad soil Layer C.4:51. The lower courses of Ayyūbid/Mamlūk Wall C.4:70, also of the north building, seemed to have been cut into Layer C.4:51 which was held to the east by Wall C.4:50. Umayyad Layer C.4:35 ran against the southern portion of Wall C.4:13, and, partially covering the C.4:68 water channels, ran to the C.4:7 cistern and was continuous with soil Layer C.4:27 and the lower portion of soil in a probe (C.4:18) along the south balk. These Umayyad loci suggest that there was an Umayyad use or reuse of the cistern. The southern end of Wall C.4:13 (Umayyad) also covered a portion of the C.4:68 water channels, and incorporated some reused slabs which had been set on edge, apparently to protect the water channels in bedrock. This southern end lay directly on Early Byzantine soil Layer C.4:67, which lay over Late Roman soil Layer C.4:75 and Late Roman water Channel C.4:68. The northern end of Wall C.4:13, which abutted Ayyūbid/Mamlūk Wall C.4:2, was of quite different construction on the east (smaller, undressed stones). This northern end also had a foundation trench (C.4:56 and 65) on the east side which cut into the Early Byzantine layer below (C.4:41). Wall C.4:13 incorporated (by being built over the top of) Wall C.4:45, which was apparently a Late Roman wall reused in Umayyad times (cf. below).

Wall C.4:12 was a north-south wall noted in 1968. It stood preserved two courses high and three stones long, and it may have been a rebuild of Wall C.4:50. Wall C.4:50 was built of field stones and stood preserved three courses high, one course wide, and 1.90 m. long. Wall C.4:13, also noted in 1968, was two courses wide and varied from three to four courses in preserved height. It was 5.00 m. long and ran from Wall C.4:2 into the south balk. It may have served a defensive function for the western perimeter of the city, or at least for the cistern sector, since it seemingly was too heavy a wall for a simple courtyard. A 661-750 (Umayyad) coin (No. 65) came from soil Layer C.4:23 which ran over the southern end of Wall C.4:13.

Wall C.4:45 ran northeasterly to the north of Cistern C.4:7. Its south face touched the west balk 5.00 m. north of the south balk, and stood 2.00 m. high at that point. From there it extended east-southeast for 3.50 m. where it turned east-northeast for another 2.40 m. The upper corner of its last stone almost touched the bottom corner of the lowest preserved stone of Ayyūbid/Mamlūk Wall C.4:15. The wall may have served as a retaining wall around the northeast side of Cistern C.4:7, since it kept clear the water channels cut in the bedrock. The east end and the upper courses of the west end were removed, and they produced Umayyad pottery. Both ends rested on bedrock, but it appears that Late Roman soil Layer C.4:74 ran against the huge boulders which composed the lower courses, so this portion of Wall C.4:45 could be Late Roman.

Wall C.1:7, which first appeared in C.2 (1968) as Wall C.2:11, formed the Umayyad structural evidence in C.1. This 8.00 m. long (in C.1) wall seemed in 1968 to have been reused as part of a retaining barrier for the deep fill of Ayyūbid/Mamlūk times (cf. above). It is now clear from the excavation of C.5 that Wall C.1:7 was only *part* of a retaining barrier, since in C.5 the deep fill continued to flow down the steep westerly slope of the *tell.*

It now appears that C.1:10 was a *huwwar* and stone layer against Wall C.1:7, and Surface C.1:11 and its makeup ran under that wall. The C.1:11 surface, which produced Umayyad pottery, was accumulated when the Early Byzantine water Channel C.1:15 (cf. above) was closed. Surface C.1:11 could have been simply natural accumulation during a time of abandonment, before the construction of Wall C.1:7; or it could have been fill for that wall. It seems likely that Surface C.1:11 equaled soil Layer C.1:33 to the north which produced a coin (No. 63) of Honorius (395-423).

Part of the purpose of C.5 was to locate and continue the excavation of Early Byzantine Wall C.1:8. Instead, Umayyad Wall C.5:7 was found. While it extended northwestward from the east balk in the general sector where one would have expected Wall C.1:8 to continue, it was off the expected line horizontally over .50 m. and was almost .50 m. lower. Moreover, it stood a single course high, two courses wide, and was composed of

an odd assortment of stones ranging from head-size to long stones set on end. In addition, pottery there was Umayyad while that of Wall C.1:8 was Early Byzantine. Wall C.5:7 provided a distinct separation between the deep Ayyūbid/Mamlūk (C.5:2-5) fill to its southwest and soil Layer C.5:6 to the northeast. Layer C.5:6 produced seven pails of pottery of which four were Umayyad. Wall C.5:7 was removed to expose beneath it a sandy layer (C.5:10) which was Early Byzantine in date.

*Early Byzantine*

Ayyūbid/Mamlūk Walls C.4:2, 9, and 70, all of the north building, rested on Early Byzantine Layers C.4:41=54=53. The northern end of (Umayyad) Wall C.4:13 cut into Layer C.4:41, while the southern end of that wall rested on C.4:67, an Early Byzantine layer under Umayyad Layers C.4:35ff. and over Late Roman Layer C.4:74. Layer C.4:41, in which was a Roman *aes* IV type coin (No. 178, probably 4th-5th cent.), was continuous under the walls of the north building and to the south under Ayyūbid/Mamlūk *Ṭabun* C.4:36 and its associated Surface C.4:28.

Soil Layer C.4:41=54=53 was compact, red, and flecked with *huwwar*. In C.4:53 was an articulated skeleton of an infant so small that medical opinion judged that it was either premature or still-born (cf. Pl. VI:B). A bronze buckle, with some corroded iron still attached, lay at the infant's right shoulder. That it was probably a clasp for clothing seems apparent as impressions of cloth fibers were clearly recognizable on the buckle. A large number of tiny beads at the waist may have been decoration on the cloth. The skeleton was partly under the large sherd of a storage jar.

Work this season showed the irregularly aligned (1968) Wall C.1:15 to have been capstones over a water channel built of two rows of semi-flat field stones set on edge to form a trough leading from Early Roman Wall C.1:14, under the preserved edge of Umayyad Surface C.1:11, to Wall C.1:8 through which it drained. The north end of the channel had been formed by removing a stone from Wall C.1:14. The channel was 3.50 m.

long and ca. .80 m. wide (cf. Pl. VII:B), and produced Early Byzantine pottery.

Wall C.1:8, first exposed in 1968, was 5.25 m. long and ran southeast to northwest across the southwest corner of the Square. It was a single course wide and had a clear foundation trench (C.1:28) cut into Early Roman fill on the northeast side. From this foundation trench came Early Byzantine pottery. In the lowest course of the two to three course high preserved wall was a curious "blank" filled with Early Roman debris (C.1:51). The only object in this debris was a small glass vase under one of the huge boulders, separated from it by only a few centimeters of dirt. It was the only complete glass vessel found to date on the *tell* proper (cf. Pl. XIII:A).

In C.5, sandy Layer C.5:10 (beneath Umayyad Wall C.5:7) was not completely removed, but in addition to two pails of pottery, parts of a human skeleton (C.5:9) were found in it. The remains included a bit of skull and arm, but very little from above the legs except the sacrum. The long bones and feet were articulated, but the torso remains may have been washed downhill.

### *Late Roman*

Late Roman remains in Area C are so far confined to C.4 and C.1. The cistern and water system in C.4 have been referred to above. The pottery contents of the latest use and abandonment of Cistern C.4:7, opened in 1968, were Ayyūbid/Mamlūk. A lip construction three courses high stood above the collar stone. The topmost course had an Ayyūbid/Mamlūk soil layer against it (C.4:19=17), while some Umayyad ceramics were found in soil which lay against the lower courses, the collar stone, and all the way down to bedrock (C.4:35ff.). This might suggest that the cistern was Umayyad in origin but that it was cleaned out and reused in the Ayyūbid/Mamlūk period. The dating, however, is complicated both toward later and earlier usages. Ayyūbid/Mamlūk sherds were found in the bedrock-cut basin (C.4:71) which lay in the south balk to the west of and connected to Cistern C.4:7 by water Channels C.4:68 (cf. Pl. VIII:A). And, as Ayyūbid/Mamlūk sherds were also found in

the cistern, one could posit that this water system was reused in the Ayyūbid/Mamlūk period. Water Channels C.4:68 included a channel cut into bedrock and a limestone slab *in situ* with a groove cut into its top. The channel sloped gently to the west to some point in or beyond the west balk. The eastern end rested on bedrock at the west edge of the other bedrock-cut channel which ran into Cistern C.4:7. However, the eastern end of the limestone channel was blocked with plaster.[5] Late Roman soil Layer C.4:75 (under Early Byzantine Layer C.4:67) ran to and under the limestone slab. An additional limestone slab was turned upside down and covered a portion of the bedrock-cut channel. Removal of this slab produced five sherds, with the latest dating Late Roman. Two more such slabs were set on edge and incorporated into Umayyad Wall C.4:13 where it entered the south balk, over, and presumably protecting the water channel. While not conclusive, the limestone slab evidence could point to a Late Roman date for the cistern and the channel system, or at least part of it since the whole system has not yet been completely excavated.

Roman and Late Iron II ceramic evidence appeared in increasing numbers in the lower soil layers of C.4, with occasional pails being dominantly pre-Early Byzantine. This phenomenon was true beneath C.4:67, the Early Byzantine soil layer over the limestone slab channel. This Early Byzantine soil Layer C.4:67 also lay over Late Roman Loci C.4:74 and 75, the latter resting on bedrock.

Bedrock showed a steep downward slope to the west from the northwest corner of the cistern, and in a pocket under soil Layer C.4:52 (Early Byzantine) in the northeast corner of the Square.

The Late Roman period in C.1 was represented in the southeast corner of the Square by Wall C.1:12, whose date postulated in 1968 was refined in 1971. The surviving top had a cobblestone

[5] N. Glueck described a cistern at Sela, west-northwest of Buseirah. Water was led to a cistern through a rock-cut channel via a settling basin. "When the cistern was full, the channel could be blocked off, and the water diverted through an aperture in the south wall to a reservoir" (*The Other Side of the Jordan* [2d ed.; Cambridge, Mass., 1970], p. 204).

appearance except at the north end, which had two roughly squared field stones in line with somewhat larger stones along the west edge. These formed the top of two courses of rough field stones. At the north end, it formed a corner turning east. Foundation Trenches C.1:31 (west face, north end only) and C.1:44 (east face) gave a pottery reading of Late Roman. *Huwwar* Layer C.1:45, beneath foundation Trench C.1:31, yielded a coin (No. 47) of Alexander Jannaeus (103-76). Wall C.1:12 extended into the east balk. To check its possible appearance in C.2, a probe trench was excavated. No clear wall evidences were found, but several tumbled stones lay in a line with the north end of Wall C.1:12. The tumble appeared in soil Layer C.2:14 and continued down into the Early Roman soil Layer C.2:15.

In the corner formed by Walls C.1:30 (north-south) and 49 (east-west) (cf. below), soil Layer C.1:20 produced Late and Early Roman pottery. The layer appeared to have been cut by a possible foundation trench (C.1:48) in the corner of those walls, and the pottery from that trench dated Late Roman. What was thought to have been a foundation trench for Wall C.1:49, Locus C.1:72, produced Early Roman pottery and one Late Roman sherd, presumed to have been contamination. Along the west face of Wall C.1:30, a foundation trench (C.1:71) gave sherds reading late Iron II. Beneath Layer C.1:20, but over foundation Trench C.1:71, ceramically dated Early Roman Surface C.1:25 touched both Walls C.1:30 and 49. A possible interpretation of this evidence is that foundation Trench C.1:48 represents a Late Roman rebuild of Early Roman Wall C.1:49 and Late Iron II Wall C.1:30 (cf. below, Early Roman and Iron II).

At the moment, there appears to have been only one Late Roman phase in isolated sectors of Area C.

### *Early Roman*

The Early Roman horizon in Area C is presently limited to C.1. Structurally there appeared to be at least two phases with an intervening stage of thick soil layers.

Walls C.1:14, 37, and 13—with their foundation Trenches C.1:42 and 59, 43 and 52, and 70 and 53, respectively—were all Early Roman.

The top preserved course of Wall C.1:14 (1968) was of well-cut limestone blocks, while the second course down was of larger, rougher blocks of limestone. It ran west from the east balk 4.45 m., with the westernmost stone of the lower course almost touching and in line with the highest preserved stone of Wall C.1:40 at its northern end.

Wall C.1:37 was also of limestone blocks, roughly shaped as was the lower course of Wall C.1:14. It ran perpendicular to and past the southern end of Wall C.1:13 (cf. below), but lay at a slight angle to Wall C.1:14—the north face was 6.40-5.90 m. from the north balk.

Wall C.1:13, initially exposed in 1968, was of crude construction with rocks varying in thickness from .10-.60 m. It ran in a north-northeast line, set 1.30 m. west of the east balk where it abutted Wall C.1:37. At a point .35 m. from the east balk where only the lower course was preserved, it ran under our C.1 stairs at the north balk. Its length was 5.65 m. and the width ranged from .55-.90 m. Its preserved two courses stood ca. .75 m. high. Compared to Walls C.1:37 and 14, the deeper founding of Wall C.1:13 could indicate its earlier construction. In soil Layer C.1:41, over Wall C.1:13 and under *huwwar* Surface C.1:39, was found a coin (No. 49) of Aretas IV (9 B.C.-A.D. 40).

A *huwwar* surface (C.1:36 and 39), traced primarily in the east balk, abutted Wall C.1:14. This wall was possibly the latest Early Roman structure in C.1 (and thus far known in Area C), with Walls C.1:13 and 37 preceding it, if not in an earlier structural phase, at least in an earlier stage of use.

Presumably all three walls would have been of domestic building use, probably with Wall C.1:37 related to Wall C.1:13, while Wall C.1:14 would have formed part of another building. Wall C.1:14 may have been related to Wall C.1:40 (cf. below) or a rebuild of it, since that wall (C.1:40) was of quite different construction and much deeper founding than were Walls C.1:37 and 13.

A thick soil layer (C.1:54, 61, 62), from .75 to over 2.00 m.

(south balk) deep in excavated portions, lay under the three walls mentioned above, and partially against Walls C.1:40, 63, and perhaps 30, with possible foundation trenches (C.1:71, 73, 57, respectively) cut in it for Walls C.1:30, 63, and part of 40.

Wall C.1:40 consisted of a line of large, irregularly placed rocks (though with a clear line forming a face to the east), 4.25 m. long running north from the south balk to Wall C.1:63. The width of the wall was 1.40 m., but the tumbled rocks between this line and the west balk would suggest that we have only the inner face, while the outer face has fallen downhill. At the north end of Wall C.1:40, traces of two more courses, each comprising just a single stone, were preserved. Two stones, one of which was half of a cistern collar stone, were removed from part of Early Byzantine Wall C.1:8 before it was realized that these were part of a continued wall; i.e., Early Byzantine Wall C.1:8 was built over and utilized part of Early Roman Wall C.1:40 (cf. above). Soil Locus C.1:35, which extended to Wall C.1:8 but was over Wall C.1:40, contained an Imperial Roman coin (No. 164).

Soil Layer C.1:57 was thought possibly to be a foundation trench along the west face of Wall C.1:40. It produced some sherds dated Early Roman, but with Late Iron II sherds dominant. However, this locus now appears to have been the loose soil interior of a wall (C.1:40) two courses wide, with the west (outer) course largely tumbled downhill. Locus C.1:38 was an Early Roman soil layer against Wall C.1:40 on the east face, at the south balk. As this was traced along Wall C.1:40, what seemed to have been a foundation trench appeared in Locus C.1:38, 1.50 m. north of the south balk. This trench (C.1:66) also gave sherds read as Early Roman.

Wall C.1:63 was first thought to have been part of Wall C.1:30 (cf. below), but a review of the evidence by the architects revealed that a slight offset in the line of the east face indicated a different construction. It stood preserved .90 m. wide and 1.65 m. long. A soil Layer (C.1:73), noted as a possible foundation trench along the east face of Wall C.1:63, gave sherds read as Early Roman. The removal of the small stones on top of Wall C.1:63 also yielded sherds read as Early Roman.

Seemingly bonded into Wall C.1:63 was Wall C.1:49 of rectangular, medium-sized stones set in an east-west line. It was .55 m. wide and .90 m. long, and ran from the west balk to Wall C.1:63.

Thus, Walls C.1:40, 63, and 49 appear to have been Early Roman, but this judgment will need further clarification from the work in the next season.

The relationship of the thick Early Roman layer (C.1:54, 61, 62) to Wall C.1:30 was stratigraphically unclear. This was part of our path to the C.1 stairs, and the foundation trench east of Wall C.1:30 could not be isolated. The foundation trench (C.1:71) west of the wall, however, produced Late Iron II pottery, and above this trench the Early Roman Surface C.1:25 ran against the wall. This relationship of Surface C.1:25 to Wall C.1:30 and to foundation Trench C.1:71 could indicate that there was an Early Roman reuse or rebuild of that Late Iron II wall (cf. above, Late Roman; below, Iron II). This theory is supported by a closely set row of chink stones below the first fully preserved course of the wall. The row, as well as the course below it, was set just .10 m. further west than was the highest preserved course.

The size of Wall C.1:40 and the general (north-south) alignment of Walls C.1:40, 63, and 30 would suggest a defensive line along the brow of the hill on this western slope. This remains a possible interpretation. The chief argument against it is that Wall C.1:49, which extended westward from Wall C.1:63, was bonded into it, and hence may have formed a room either to the north or to the south (with Surface C.1:25 as the floor and Wall C.1:30 as another wall).

One could thus divide the Early Roman period as follows: (A) One phase comprising Wall C.1:14 and *huwwar* Surface C.1:36 and 39, along with Walls C.1:37 and 13; (B) an intervening heavy soil layering; and (C) an earlier phase comprising Walls C.1:40, 63, and 49, along with reused Late Iron II Wall C.1:30.

### *Late Hellenistic*

Throughout Area C a few Late Hellenistic sherds appeared in a

few pails, particularly in Early Roman fills, but no clearly Late Hellenistic layers or structures were identified.

### *Iron II*

Attempts to follow the Early Roman soil layers proved to be as difficult and frustrating as following the tip lines in the deep Ayyūbid/Mamlūk fill. Several were traced and the tops of others were located. In the process, soil Layer C.1:55 was noted ca. .75 m. below Early Roman Wall C.1:14 at a level of 875.99 m. Its exposed dimensions were ca. .40 m. wide x .80 m. long, with a semicircular appearance. Pottery readings in two attempts to isolate the layer gave a few Early Roman sherds and mostly sherds dated Late Iron II.

Layer C.1:55 lay contiguous to Locus C.1:60 to the east. Also semicircular in appearance, C.1:60 lay between C.1:55 and the east balk, and measured .50 x .75 m. in width and length. An attempt to isolate its date produced some Late Iron II pottery and one possible Iron I sherd.

Layer C.1:67, beneath Early Roman Surface C.1:25 makeup, produced a few Early Roman sherds, but was dominantly Late Iron II in date.

While a conclusion based on limited samples remains doubtful, these layers would suggest that the excavation of C.1 had reached Late Iron II evidence.

Foundation Trench C.1:71 on the west side of Wall C.1:30 indicated that the wall was Late Iron II in its original founding, although Surface C.1:25 showed that it had been reused in the Early Roman period. It was built of large head-sized stones, roughly dressed into rectangular blocks. An extra course stood preserved where it abutted Wall C.1:63, from which point it extended 4.50 m. to the north balk at the stairs. The width of the wall varied from .75-1.25 m. Wall C.1:30 was, then, the latest of an unknown number of Late Iron II structural elements in C.1.

### *Summary*

After two seasons of excavation, Area C has been seen to contain a broad spectrum of the occupational and ceramic evidence at *Tell Ḥesbân*, from Ayyūbid/Mamlūk to Late Iron II. Most of

these had one or more structural elements with related layering. The major exception was the Late Hellenistic period. Thus far, only two loci of homogeneous Late Hellenistic pottery have been found on the *tell*, so the Late Hellenistic sherds in Area C are simply part of the sparse occupation picture for that period at *Ḥesbân*. However, Area C contributed a great deal of Umayyad evidence, which was otherwise quite weakly attested in the other Areas.

# AREA D

LAWRENCE T. GERATY
Harvard University

Excavation in Area D, on the south slope of the acropolis of *Tell Ḥesbân*, was originally undertaken (1) to investigate the apparent southern access route to the acropolis from the lower city, and (2) to link structures on the perimeter of the acropolis with structures in the center (Area A). The first of these aims was at least partially accomplished in 1968 by working the three 6.00 x 8.00 m. Squares laid out along the east side of the north-south axis.[1] The second aim was furthered in 1971 by concentrating our efforts on the northern sector of Area D contiguous with Area A. In addition to continuing excavation in the portion of Square D.1 north of Wall D.1:4, this necessitated opening two new Squares of unequal size in the hitherto undisturbed area between D.1 to the south and Squares A.3 and A.4 to the north. Square D.5 (3.75 x 4.00 m.) ran from the north-south axis in the west to a north-south wall on the east (the northern extension of Wall D.1:3) which appeared through the ground surface and served as the balk separating D.5 from D.6. The latter (4.00 x 8.25 m.) ran further east and lined up with the eastern boundary of Area A. No sooner had ground surface clearance begun in D.6 than a northern extension of Wall D.1:5 effectively divided it into D.6 West and D.6 East, each with its own supervisor. This combination of continuing D.1 and beginning D.5 and D.6 meant that all season we were working in widely differing chronological horizons. This procedure can be justified in that it enables us to describe a complete stratigraphical sequence in Area D from surface soil down to bedrock (D.1 and D.6E), and at the same time to relate at least a part of this sequence (D.5 and D.6) to the data discovered in Area A.

Our report consists of two sections: the first is descriptive, dealing with the progress of excavation in each Square, followed

[1] See P. A. Bird, "Heshbon 1968: Area D," *AUSS*, 7 (1969), 165-217.

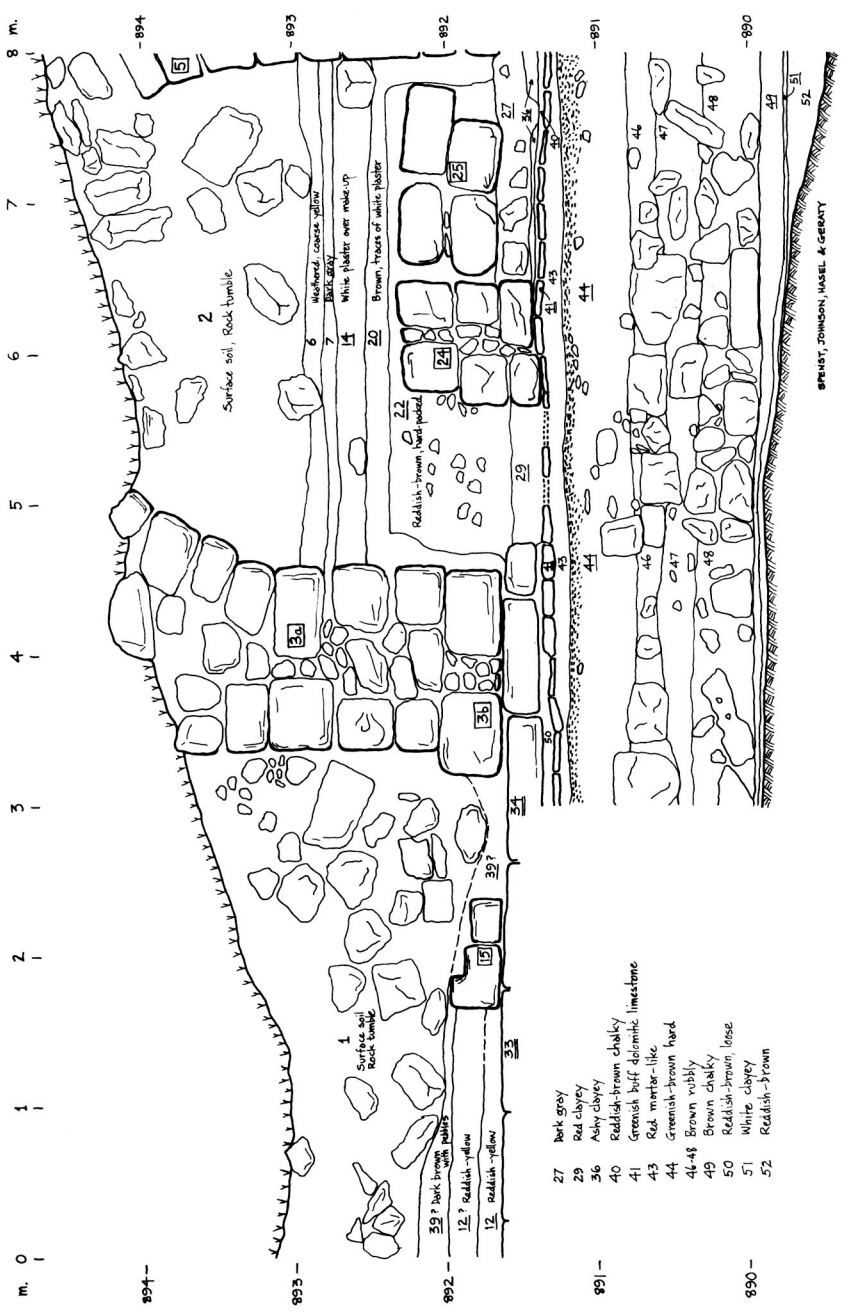


Fig. 4. Section of north balk of Area D, Square 1. Underlined numerals indicate surfaces, double underlined numerals are floors, and boxed numerals are walls

by the second which summarizes the results for a comprehensive interpretation of Area D.

### *Square D.1*

*Tying 1971 in to 1968.* A glance at Fig. 9 in the 1968 Heshbon report[2] will show the reader how D.1 north of Wall D.1:4 looked when we resumed excavations in 1971 (with the single exception that curtain Wall D.1:26 had already been dismantled in 1968); cf. the right half of Pl. IX:A in this report for a view of the Area covered by flagstone Floor D.1:33-34. The following discussion will be clearer if reference is made concurrently to the north balk Section in Fig. 4.

Since the flagstone floor was such an impressive structure, the Jordanian Department of Antiquities recommended that, at least temporarily, it be left intact, with the exception that we could take up the easternmost two rows of pavers in order to investigate the certainly undisturbed stratification beneath. Preparation for this latter operation involved the removal of the two stones of Wall D.1:32 as well as the stub of Wall D.1:3 that protruded into D.1 from the north balk. This proved to be an important opportunity to see whether D.1:3a and b were, indeed, distinct phases or contemporary. Of the 15 significant sherds from the bottom course of the wall (D.1:3b), four were Ayyūbid/Mamlūk. Three other factors lend weight to the conclusion that Wall D.1:3b was built to serve as the foundation course for the slightly narrower courses of Wall D.1:3a: (1) Its foundation trench dug through Surface D.1:22 gave every indication of having gone clear down to flagstone Floor D.1:33-34, and not having stopped at the top of Wall D.1:3b. (2) Precisely the same technique of using a wider foundation course for the rest of the wall was used in corresponding Wall D.6:3a. (3) Wall D.1:3b must post-date Walls D.1:15 and 24 and D.5:12a for stratigraphic reasons, not to mention the difficulties involved if one proposed that Walls D.1:15, 3b, and 24 were used contemporaneously—what would one do with .75 m. wide rooms?

It was convincingly argued after the 1968 season that Walls D.1:15 and 24 were contemporaneous, serving to divide up the

[2] Ibid., 171.

space provided by flagstone Floor D.1:33-34 north of Wall D.1:4, though the missing row of pavers to the west of Wall D.1:24 was difficult to understand.[3] The dismantling of Wall D.1:15 proved that Floor D.1:33 to the west of it and Floor D.1:34 to the east of it were actually one continuous flagstone floor. The few sherds that came from the wall were dated Umayyad, Early Byzantine, Early Roman, and late Iron II. The dismantling of the two courses of Wall D.1:24 further to the east yielded Umayyad sherds (along with Early Byzantine and UD). Wall D.6:56 may have been robbed out to build the room bounded by Walls D.1:4, 15, and 24, and Locus D.1:29 was filled in its place (no pavers being available). Surfaces D.1:29 and 36 were the original use surfaces on the west and east sides, respectively, of Wall D.1:24.[4]

*A Succession of Surfaces.* Though excavation in 1968 stopped on Surface D.1:36 to the east, it continued through Surface D.1:29 on the west, and on through a floor (D.1:41 and its makeup) of "light greenish buff slightly argillaceous poorly indurated dolomitic limestone" (geologist Reuben Bullard's description!) which, in 1968, we unpretentiously called "soapstone"[5] (and which may already have been penetrated by the wall robbers), to clayey Surface D.1:35. Before we could reach independently this same clayey surface in 1971 we had first to excavate five loci beneath Wall D.1:24 and to the east of the robber trench: (1) clayey Surface D.1:36 and (2) its ashy build-up, reddish-brown chalky Layer D.1:40, (3) Firepit D.1:42 on Surface D.1:41 in the northeast corner of the Square, (4) Floor D.1:41 built of the dolomitic limestone tiles that were later traced across the entire Square (coin No. 168, a Roman *aes* IV type of the 4th-5th cent.,[5a] was found in this floor, thus providing a date reference for the floor), and (5) its red mortar-like makeup, Locus D.1:43. These loci contained Umayyad and earlier sherds.

The thinness of these accumulated layers may be indicated

[3] Ibid., 178-181.
[4] Ibid., 181.
[5] Ibid., 178.
[5a] Editors' note: The coins from the 1971 excavations mentioned, by number, in this report have been identified by A. Terian in his forthcoming article.

by the following statement from the D.1 locus book: "It appears as though Wall D.1:24 is founded at its south end on Surface D.1:36, at its center on Surface D.1:40, and at its north end on Floor D.1:41." In fact, chunks of dolomitic limestone were used in the construction of the wall itself, possibly taken from the robber trench just to the west. Another interesting feature of the wall's construction was that its lowest course at the south end (where it abutted Wall D.1:4) contained a rough field stone unlike the cut stones used in the rest of the wall. It rested on the upper well-cut stones (which in turn lay on Surface D.1:44) of Locus D.1:45, a curious installation carefully constructed to abut Wall D.1:4.

*A Series of Fill Layers.* In any case, having arrived at clayey, hard-packed Surface D.1:44 (reached at the bottom of the robber trench in 1968 and then called Surface D.1:35), we were for the first time on the same surface throughout the working space. No sooner had we penetrated this crust, than we ran into four layers (D.1:44, 46-48) of typical rubble fill: rocks, gravel, loose dirt, air pockets, and 32 pails of sherds (possible Late Roman, Early Roman dominant, Late Hellenistic, late Iron II, UD). Beneath this 1.25 m. deep fill, on hard-packed, reddish clay Surface D.1:49 were found a .75 m. diameter firepit running into the east balk, a nail, spatula, and at least two smashed storage jars—good evidence for occupation.

Having reached a suitable temporary stopping place in this sector of D.1, we moved west to take up the two easternmost rows of pavers from flagstone Floor D.1:33-34. As expected, immediately beneath the pavers was a layer of red earth makeup (D.1:50) with Umayyad, Early Byzantine, Roman, late Iron II sherds, plus numerous tesserae, chunks of iron slag, and large fragments of glass. Beneath Locus D.1:50 lay Loci D.1:41, 43 (Umayyad), 44, 46-49 (Roman) at levels that matched up well with their counterparts already excavated in the adjacent sector to the east.

Now cleared down to Surface D.1:49 throughout, we were ready to continue through it. The surface's brown, chalky makeup was hard-packed, containing a few Early Roman and a considerable number of late Iron II sherds. Next came hard-packed white

*huwwar* Surface D.1:51 (again throughout D.1), that sloped gently from west to east following the general contours of bedrock, and yielded a few Early Roman and late Iron II sherds. It covered bedrock directly except for deep depressions in the southwest and northeast, where pockets of reddish-brown, hard-packed dirt were found (Locus D.1:52) to contain a few Early Roman and late Iron II sherds.

The remaining question concerns the founding of Wall D.1:4d. Though at first glance it did not appear to cut either Surfaces D.1:49 or 51, these both lay so close to bedrock that, for all practical purposes, we could say Wall D.1:4d was founded on bedrock. A clue as to why the wall and fill (for a Roman fort?) were so deep here may be found in the level of the cistern complex discovered in D.5.

### *Square D.5*

*Ground Surface Features.* The purpose for opening up D.5 has already been described: it was presumed that here the courtyard entryway discovered in D.1 (west of Wall D.1:3) would lead into Area A. The question was how. Would Wall D.1:15 and flagstone Floor D.1:33-34 beneath it—both of which ran into the D.1 north balk—come through on the other side? The only two obvious things were that Wall D.1:3 ran at least part way to the north, and that the terrain sloped down westward from that wall into a depression and thence rose again toward the west balk.

Loci D.5:1, 3, and 4 were successive layers of tumble (much of it possibly from the northern extension of Wall D.1:3, Wall D.5:2, the "outer" face of the western wall of the vaulted room which ran from the south balk, where it stood preserved to a height of six courses, to the north balk, where it had been destroyed down to two surviving courses) and accumulated soil that contained Ayyūbid/Mamlūk, Umayyad, Early Byzantine, Early Roman, and UD sherds, as well as an Ayyūbid coin (No. 184). The lowest of these layers (D.5:4) was found to have covered the mouth of an unusual cistern (D.5:5) which will be described below.

The last layer of actual tumble appeared to be Locus D.5:6

which covered the Square at the approximate level of the cistern collar stones. In it were Ayyūbid/Mamlūk, Umayyad, Early Byzantine, Early Roman, and some late Iron II sherds, along with two coins (4th cent. A.D. and Mamlūk). Under Layer D.5:4 in the southwest corner of D.5, however (i.e., between the south and west balks and the cistern collar), appeared the first two surfaces—a hard-packed pebbly earth surface and, beneath that, Surface D.5:14, another hard-packed pebbly earth surface but distinguished from the former by its distinct gray color. Both of these loci yielded sherds with the same readings as those of Layer D.5:6. Beneath the latter in the rest of the Square, lay Layer D.5:8.

*The Courtyard Entryway.* Layer D.5:8 sealed over the architectural remains we had hoped to find: (1) Wall D.1:15 did indeed come through into Square D.5 as Wall D.5:9, incorporating (in the south balk) the eastern half of a curious .75 x .75 m. block of stone (the upper surface being only .60 x .60 m. because it had been cut away on the northern and eastern edges) which penetrated the flagstone floor. Wall D.5:9 continued past Cistern D.5:5 into the center of the Square where it had been robbed away completely. (2) In the north balk, running out of the west balk and into the east balk (i.e., under Wall D.5:2= D.6:2) the upper course of Wall D.5:12 appeared. When the north balk was removed, Wall D.5:12a was found to have been a fine two-row (.93 m. wide), two-course (.50 m. deep) wall of header-stretcher construction similar to Wall A.2:8 discovered in Area A. Built into the wall where it entered the west balk was a threshold-doorjamb construction similar to those found in 1968[6] in Walls D.1:4c, 15, and 24, where two stones shared a depression carved out for the step and doorjamb, indicating that the door swung away from D.5 into A.4. The eastern of the two stones contained a door socket and the western stone included a vertical bolt hole. Wall D.5:12a rested on the slightly wider course, Wall D.5:12b. Wall D.5:12 (= Wall A.4:12) is the best candidate for the south exterior wall of the Area A church. Admittedly it is aligned about .80 m. too far north to be symmetrical with the plan of the church's north exterior wall (A.2:8),

[6] "Heshbon 1968: Area D," p. 180, Fig. 11.

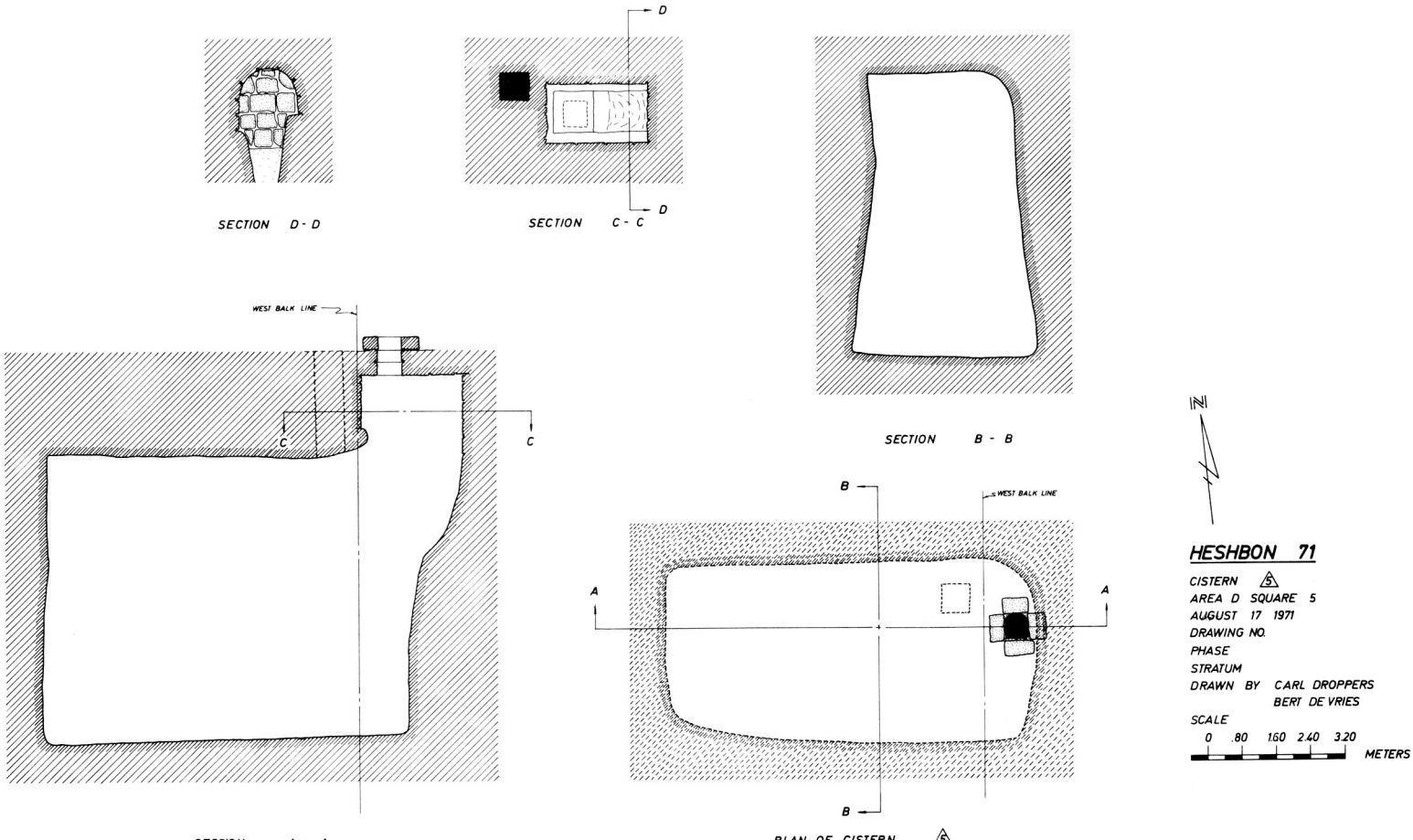


Fig. 5. Plan and sections of the cistern in Square D.5

but this may well be explained by the location of Cistern D.5:5, which would make a poor foundation for a church wall! (3) About .05 m. lower than the surviving top of Wall D.5:12a and beneath Wall D.5:9 lay the northern extension of flagstone Floor D.1:33-34=D.5:11. This floor was now found to extend from Wall D.1:4, with its threshold in the south, to Wall D.5:12, with its threshold directly opposite in the north. In a line between these thresholds lay the mouth of Cistern D.5:5, whose collar stones rested on Floor D.5:11 (or on a slight accumulation of soil above it?). While the pavers of Floor D.5:11 were all laid stretcher fashion in relationship to Wall D.1:4 as far north as Cistern D.5:5, between the latter and Wall D.5:12 several of the pavers were headers. Was this a part of the original construction or a later accommodation? At this time, one can only speculate. In any case, the pavers were obviously robbed out along the east balk—apparently in pre-Ayyūbid/Mamlūk times. A few of the pavers in the northwest corner of the Square were sunken—undoubtedly due to their having been near the mouth of the cistern and, perhaps, over a water channel. (4) Locus D.5:10 was a thin but hard-packed layer of reddish soil found in various spots on Floor D.5:11, but especially around Cistern D.5:5 west of Wall D.5:9; in fact, the cistern's lowest course of collar stones may rest on this layer, if this reddish soil did not just gradually sift in to fill up the crevices under them. Sherds from this layer were dominantly Umayyad with some Early Roman and three somewhat suspect Ayyūbid/Mamlūk.

*Cistern D.5:5.* Fig. 5, containing a Plan and Sections of the cistern, may be compared with the following description: access to the cistern was gained by a .55 x .55 m. opening in flagstone Floor D.5:11 in the southwest corner of the Square, .50 m. from the west balk. Two courses of stones raised its square collar .50 m. above the floor. From the top of this curbing to the top of the talus-like dirt pile in the cistern beneath the opening was a distance of 8.50 m. This entrance was at the east end of the oblong cistern whose dimensions were ca. 8.50 m. (east-west) x 4.50 m. (north-south) x 6.00 m. (depth from the ceiling in bedrock to the cistern floor—not including an additional 4.00 m. for the neck),

giving it an estimated capacity of 229,000 liters (60,600 gallons)![7] As one stood at the eastern end of the cistern and looked up, one saw the view in Pl. IX:B. Cistern D.5:5 had two access openings: the westernmost access was square-cut through bedrock in three gradually narrowing steps toward the ground surface, but was subsequently blocked—apparently by one stone. This access lay outside D.5 to the west. Not more than 1.50 m. to the east was the access opening already described. But the photograph makes it apparent that the original access was not there. It looks rather as though Cistern D.5:5 was once a natural cave entered laterally from the east. At some later time, the cave was enlarged and deepened for use as a cistern, the natural entrance to the cave then having been walled up, and the entire mouth covered with a vaulted ceiling of cut stones which left only the vertical entrance at the top. The floor and walls of the enlarged facility were completely plastered. Marks of the ancient water levels were still visible. Evidence indicated the cistern may have been fed by at least two water channels from the northeast, though these were not clearly noted from inside. A hole was noticed in the south wall near the ceiling.

Covering the entire cistern floor to a fairly uniform depth of .25 m. was a layer of dark gray silt, obviously having settled through water during use, but now dried and cracked into large chunks. Overlying this silt at the eastern end was a further build-up of debris—naturally highest (1.50 m.) directly beneath the easternmost mouth, but sloping gradually westward to a distance of 3.50 m. These layers were strewn with fallen plaster and contained the one missing collar stone from the mouth of the cistern. Careful work over a period of one and a half weeks yielded five distinct soil layers (D.5:5b, c, d, e, f=a) that together contained 23 pails of sherds (predominantly Ayyūbid/Mamlūk, but with a few Umayyad, Early Byzantine, and Roman), 25 coins (all Ayyūbid and Mamlūk except No. 53 which is of Pontius Pilate and dates to A.D. 29/30), five nails, four rings, two weights (one iron, one stone), two hooks, and one each of a grappling anchor,

[7] Capacity calculations for the cisterns of Area D were kindly provided by Robert Mazziotti of the Massachusetts Institute of Technology from measurements supplied by the author. See below for the capacities of Cisterns D.6:33 (p. 101), 48, and 47 (p. 107).

spur, bracelet, glass bead, flint knife, and a column fragment. The top silt layers were almost sterile while the bottom two layers produced 60 percent of the pottery and 90 percent of the objects.

Dating the cistern cannot as yet be precise though the *terminus ante quem* for its construction would certainly be the Umayyad period (because the flagstone floor covered it). A water channel (D.5:20) that may have led into it from the east was found to contain Early Roman sherds at the latest. The cistern was obviously cleaned out and reused in the Ayyūbid/Mamlūk period as is conclusively demonstrated by the ceramic and numismatic evidence. Its use may have been successive to that of Cistern D.6:33, described below.

*The D.5 Robber Trench.* Along the east balk, i.e., in the vicinity of Wall D.5:2, flagstone Floor D.5:11 had apparently been robbed out. When? Stratigraphically it had to be later than that phase of the Umayyad period when this floor was built, but earlier than the Ayyūbid/Mamlūk period when Wall D.5:2 was constructed (because fill Layer D.5:8 which coverel all the exposed architecture in D.5 also filled the robber trench and went beneath Wall D.5:2). Considering also the ceramic evidence already mentioned, the robbing probably occurred at the end of the Umayyad period. Why did it occur? Most probably the robbers were just after the pavers, because probes below Locus D.5:8 indicated loci undisturbed at least as far back as the Late Roman period. The stratification below the robber trench was complex; it may therefore be expedient to wait until a later season's report to discuss our probes in this sector. It might be noted that these probes revealed nothing later ceramically than Umayyad in any of the loci.

### *Square D.6 West*

*The Vaulted Room.* Before digging commenced in D.6 it was obvious that its western sector contained the rock-strewn collapse of the northern half of the vaulted room of D.1 (excavated in 1968). Both Walls D.1:3 on the west and D.1:5 to the east could be traced on the surface from the north balk of D.1 well

into the new Square. The questions were how far north they went and how they related to Area A. Between these two walls lay a depression: the collapsed vault. To the east of Wall D.1:5 and its northern extension, the terrain sloped rapidly away. When it became apparent that Wall D.6:3 (the northern extension of Wall D.1:5) continued into the north balk of D.6, effectively dividing our elongated Square in half, we separated our working force into two teams, one to work the western sector of D.6 (the vaulted room), the other to work its eastern sector (the slope outside). The surviving height of Wall D.6:3 (ca. 3.00 m.) made this arrangement permanent throughout the season. Thus the loci now to be described are confined to D.6W which was bounded by the north and south balks, Wall D.6:2= D.5:2 (the northern extension of Wall D.1:3) on the west, and Wall D.6:3 on the east.

Loci D.6:5 and 16 were stages of the vault's collapse, offering mute testimony to its nature. The debris above the latest occupational layer contained numerous baked bricks, usually of uniform size (.22 x .205 x .07 m.), several clay ball weights, two coins (Nabataean and Mamlūk), a quern fragment, and the inevitable selection of sherds from the Ayyūbid/Mamlūk and Umayyad periods (this reading was basically the same for each of the succeeding loci in the room).

The first traceable surface reached was Locus D.6:20, though its uneven, coarse nature was more indicative of weathering than occupation, and probably dates from the room's abandonment. The last occupation of the room must be connected with D.6:26, a .06 m. thick, gray ashy layer characterized also by thin patches of brilliant red sand and containing several more clay ball weights, and an Umayyad coin (No. 67). Below this locus were a one-course wall, D.6:29, running east-west in the south balk the full width of the room, and three other similar walls running northward from it. If they were founded after the use of Surface D.6:31, as seems most likely to us, they most probably served as structural supports for the fill used to level up for occupation Surface D.6:26 (this being required because of the lower floor level of Surface D.6:31 in contemporary use with Floor D.1:14 south of Wall D.6:29). In any case, Layer D.6:27, which came

between occupation Surfaces D.6:26 and 31, and which surrounded these walls, seems to have been fill for the last occupation Surface D.6:26. Surface D.6:31 was a hard-packed brown earthen floor with traces of plaster or *huwwar* that was easily traced throughout the room. Its makeup contained an Ayyūbid coin (No. 187).

Peeking up through Surface D.6:31 in the northwest corner of the room were the tops of the rough stones of one-course double-row Wall D.6:32 which may have served as a little retaining wall (one of whose stones was a roof roller), against which layer after layer of thick *huwwar* was laid in this northeast corner of the vaulted room, providing a cover for the mouth of Cistern D.6:33.

*Cistern D.6:33.* At the end of the 5th week of excavation, actual clearance of Cistern D.6:33 began, and it took the remaining two weeks of the season to complete the job. The accompanying Plan and Section of the cistern (Fig. 6) are self-explanatory as to its shape, dimensions, and essential features. Only the slimmest of our workmen could enter the .50 x .50 m. mouth and be lowered by rope through the 3.50 m. long neck (2.40 m. of which was artificially built up above bedrock), and down a further 1.00 m. from the ceiling to the top of the dirt pile which sloped gently in every direction to fill the 6.00 m. (east-west) x 4.40 m. (north-south) cistern proper (estimated capacity: 79,200 liters or 20,900 gallons). Nine distinct layers (D.6:33a-i) were painstakingly separated out before the floor was reached. Sifting each basketful of dirt that came from this 2.00 m. high dirt pile yielded the inevitable bones, glass fragments, and sherds (40 pails of them—dominantly Ayyūbid/Mamlūk but going back to Umayyad, Early Byzantine, Late and Early Roman, and late Iron II), but also well over a hundred objects including seven complete or nearly complete ceramic vessels (four lamps, two water jugs, and a strainer juglet), a glass lamp, 35 coins (mostly Umayyad, Ayyūbid, and Mamlūk; except for No. 215, Seljūq of Rum;[8] No. 48, Alexander Jannaeus [103-76]; No. 58, Maxi-

[8] This rare coin was examined by George C. Miles, Curator of Islamic Coins of the American Numismatic Society. In a letter to Siegfried H. Horn dated May 25, 1972, he states that the type seems to be unknown but that it

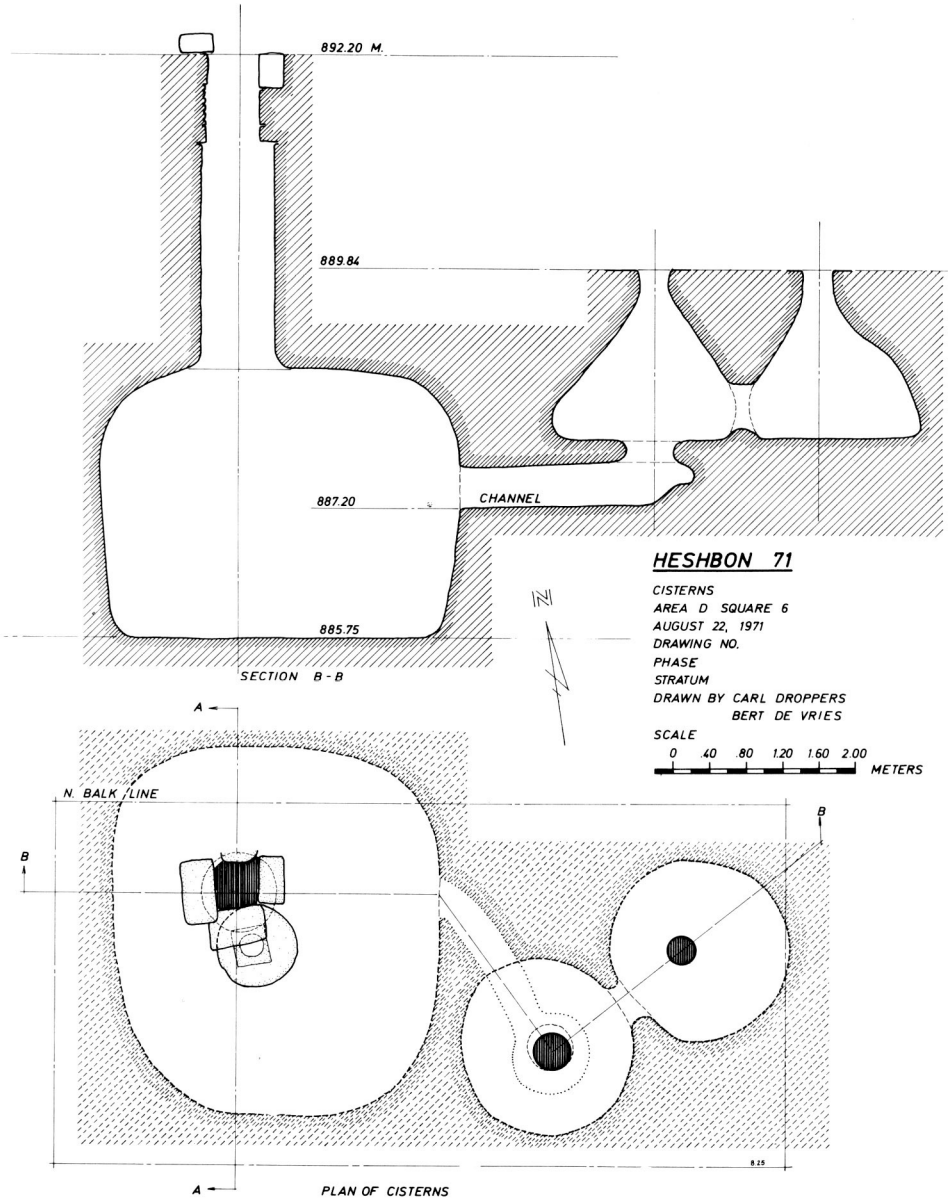


Fig. 6. Plan and section of the three interconnected cisterns in Square D.6

mian [296-305]; and No. 179, Roman *aes* IV type [4th-5th cent.]), 11 beads, ten clay ball weights, seven arrowheads, six rings, three bracelets, three knives, a number of bricks, nails, olive pits, and eggshells, and at least one each of the following: needle, button, sickle, key, spike, loomweight, spindle whorl, whetstone, chain link, iron horse trapping, wooden handle in a metal sheath, and part of a stone column!

An interesting feature of the cistern was that issuing from its eastern wall was a .50 m. wide channel that continued eastward through the bedrock for 1.70 m. before it was blocked by rocks. The Plan shows how it eventually connected up with two other cisterns discovered in the bedrock of D.6E. This feature indicates it was originally constructed in the Roman Period (if not before), though it was certainly cleaned out before its last use in the Ayyūbid/Mamlūk period. Its rock walls were sealed with two coats of plaster. Preliminary study argues for at least two separate use phases in the Ayyūbid/Mamlūk period based on the finds in Layers D.6:33a-e (the conically shaped upper portion of the dirt pile directly beneath the neck) as opposed to the finds in Layers D.6:33f-i (the fairly level portion of the dirt pile that touched all sides of the cistern), the latest possibly related to the building of the vaulted room.

*Below the Vaulted Room.* Locus D.6:36 was interpreted as the fill imported by the vaulted room builders, perhaps dated by an Ayyūbid coin (No. 190) found next to the cistern's mouth. Beneath this fill lay a reddish-brown soil layer, D.6:49, from which the foundation trenches were dug for Walls D.6:2 and 3. It would be sensible to consider D.6:49 simply a leveling layer before construction began (especially since it covered earlier Walls D.6:54 and 55, and may be compared with Locus D.1:22 from which the southern foundation trenches were dug) but it has to be more than that for at least two reasons: on it a collapsed *ṭabun* was preserved in the northeast corner of the Square and .50 m. to the southwest of the *ṭabun,* at ca. the same level, were the uppermost collar stones surrounding the mouth of Cistern D.6:33—obviously the use of both of these installations was contemporary with the use of Surface D.6:49. The

must be either late Seljūk of Rum or early Ottoman. It was independently identified as the latter by Terian.

ceramic range of the sherds from this locus was Ayyūbid/Mamlūk, Umayyad, and Late and Early Roman, so it should probably be correlated with the earliest silt layers to have been deposited in the cistern (D.6:33f-i), if not with the builders of the vaulted room.

Under Surface D.6:49 lay the remains of a substantial two-row wall (ca. .75 m. wide), D.6:54, the northern extension of Wall D.1:24 (but here preserved a course lower) which ran north next to the collar stones of Cistern D.6:33 (just to their east) until it abutted the eastward extension of Wall D.5:12, i.e., Wall D.6:55, which came into D.6W under Wall D.6:2 and paralleling the north balk. To the west of Wall D.6:54 lay a layer of reddish gravelly dirt, D.6:50, and to the east of the wall a layer of gray, ashy soil, D.6:51—both loci perhaps datable to the pre-Ayyūbid period on ceramic evidence. Under each of these loci, respectively, lay yellowish-brown, hard-packed earth Surfaces D.6:53 and 52—the surfaces upon which excavation stopped. Two miniature probes along the south balk on either side of Wall D.6:54 assured us, however, that we were just one locus away from the greenish buff dolomitic limestone floor that will hopefully allow us to tie D.6W securely to D.1 (for an earlier stratum) next season. In the meantime we left showing through Surface D.6:53 two well-drafted stones of a one-row wall (D.6:56) which ran north from the south balk .25 m. from Wall D.6:2. Left resting on Surface D.6:52 was a 1.50 m. long monumental architectural fragment and a millstone.

### *Square D.6 East*

*Ayyūbid/Mamlūk Terraces.* The appearance of the slope that comprised the east half of D.6 (east of Wall D.6:3) and why it was dug separately have already been described. It soon became evident through Probe D.6:4 along the north balk that soil layers could not be cleared in strips down across the ground surface because in Ayyūbid/Mamlūk times there had been a series of three superimposed terraces here (whose function is not entirely clear), each ca. .30 m. deep and constructed by building a one-course, one-row retaining wall behind which soil was filled to the level of the wall top. Terrace 1 comprised Sur-

face D.6:6 behind Wall D.6:7 and Terrace 2 comprised Surface D.6:9 behind Wall D.6:8. Unlike the previous two, Terrace 3 ran east-west along the south balk (at practically the same level as Terrace 2) and comprised Surface D.6:13 behind Wall D.6:12 (which, in turn, was associated with cobble Layer D.6:11 further to the east). These terraces were held in place by Walls D.6:60 and D.6:61, both of which were founded on Surface D.6:10 that covered all of D.6E and whose occupational build-up was denoted Locus D.6:14. Sherds from these loci were dominantly Ayyūbid/Mamlūk with only a few from earlier periods.

Below the reddish tan gravelly makeup for Surface D.6:10, fill Layer D.6:15 was found, containing two coins (Nos. 56, 169) of the 3d-5th cent. With the clearance of this tumble it became apparent that a major east-west wall, D.6:19, ran through the Square next to the south balk. The D.6:15 fill covered two mangers which had been incorporated into the top of Wall D.6:19b. Most of the tumble fell on Layer D.6:17 which differed from fill Layer D.6:15 only in that the large stones were gone and the color was now more yellowish than gray.

*The Tessellated Floor.* The first good occupation surface below Surface D.6:10, again covering the entire Square, was Layer D.6:21b, a .05 m. thick accumulation of soft gray soil resting on a badly damaged tessellated floor, D.6:23. Surface D.6:21b was unfortunately not dug separately from Surface D.6:21a (a yellowish coarse layer which may have been an ephemeral surface since there is evidence that one of the stones of Wall D.6:18 [cf. below] was associated with it)—hence the pottery reading for both was a few Ayyūbid/Mamlūk, Umayyad, Early Byzantine dominant, Early Roman, and late Iron II. Surface D.6:21b came from a time when the mosaic beneath was no longer appreciated, or had become too fragmentary for use. Column D.6:24 (1.20 m. long, tapering from a diameter of .285 m. at the top to .35 m. at the bottom) may have been reused (if it was *in situ*) in the southeast corner of Square D.6E on Surface D.6:21b. Likewise on Surface D.6:21b rested Wall D.6:18, the three large stones of which ran east from Wall D.6:3b, the fourth (a later addition) turning the corner into the north balk.

Tessellated Floor D.6:23 or its gray cement-like setting was

found in uneven patches throughout the sector bordered by Wall D.6:3c (west), Wall D.6:19c (south), and an unexcavated wall ca. .75 m. east of the east balk. It went through the north balk to and under Wall A.3:9, where it had already been discovered in 1968 (Floor A.3:13). Its geometric mosaic pattern of diagonal rows of .40 m. wide red squares set in a white background—the whole surrounded by a double band of blue tesserae—accommodated itself to each of these walls except the last one (Wall A.3:9), thus indicating the plan of the room for which it was built (except for the north end in Square A.3). Pl. X:A shows the pattern of an individual square, the center of which contained a diamond cluster of 41 red, white, blue, and yellow tesserae. The sherds from the mosaic setting were read as two Ayyūbid/Mamlūk intrusive, Early Byzantine, Late and Early Roman, one Nabataean, two Roman *terra sigillata*, and a few late Iron II. Apparently, during this time, Wall D.6:3c contained a 3.00 m. long step leading up to the location of the D.6W cistern except in the southwest corner of the room, where its three preserved ashlar courses abutted the three preserved ashlar courses of Wall D.6:19c (Pl. X:B). In the Ayyūbid/Mamlūk period, the long step of Wall D.6:3c was narrowed to become a .75 m. wide stepped doorway. Both sides of the doorway were filled in with more roughly squared stones (D.6:3b) and at least two courses were added to Wall D.6:19c in the same technique. At a still later date within the Ayyūbid/Mamlūk period even this narrow doorway was blocked up and over Wall D.6:3b and across (at right angles to) Wall D.6:19b, a wider foundation course was added in order to construct Wall D.6:3a—the eastern wall of the vaulted room of D.6W.

*Beneath the Tessellated Floor.* Loci D.6:35, 37, and 38 were brown, stony fill layers directly beneath the make-up for the mosaic patterned floor. In fact, they probably included some of the makeup since the earliest pails of sherds included a few Early Byzantine sherds in addition to the characteristic reading: Late and Early Roman, Nabataean, and a few late Iron II sherds—as well as a Roman *aes* IV type coin of the 4th-5th cent. Under these layers were Loci D.6:40 and 42, characterized by a massive fill of football-sized stones similar to that encountered

in Loci D.1:44-48. Walls D.6:39 and 41 were found running north-south in the western portion of this fill—whether they were accidental, planned free standing walls, or rough walls to structure the fill is a matter for debate. In any case, all four loci contained sherds that were dominantly Early Roman, Nabataean, and late Iron II. All this rubble fill came to rest on hard-packed Surface D.6:44 which covered the entire Square. Its brown sandy soil make-up furnished Early Roman, Late Hellenistic, and late Iron II sherds, as did Locus D.6:45, the last surface above bedrock. The latter, a crust of hard white *huwwar,* covered a makeup (build-up?) of yellowish-brown sandy soil and gravel, and went right up against Wall D.6:46 which ran on bedrock from beneath Wall D.6:41 in the north balk to the east balk. Though Wall D.6:46 did not cut Surface D.6:45 (and Surface D.6:44 covered it), it and Surface D.6:44 were both cut by Wall D.6:19d—though there was no preserved surface to associate with the latter.

*Cisterns in D.6E.* The last week in the 1971 season brought a double surprise in D.6E: in clearing Surface D.6:45 from bedrock, the mouths of two more cisterns appeared (Fig. 6). The .30 m. wide mouth of Cistern D.6:48, blocked with a single stone, was 1.00 m. west of the east balk, midway between the north balk and Wall D.6:19d. Though it contained two soil layers, dug separately, both layers contained Early Roman, Late Hellenistic, and late Iron II sherds. Through a narrow channel near the floor, the 3,100 liter (820 gallon) capacity Cistern D.6:48 connected with 3,400 liter (900 gallon) capacity Cistern D.6:47 whose mouth opened out of bedrock at the edge of Wall D.6:19d, nearly 2.00 m. to the southwest. This cistern, too, had two layers but of an entirely different nature: the upper one was a .25 m. thick layer of loose black soil which cascaded down over a pile of football-sized rocks (the bottom layer), spilling into Cistern D.6:48 through the aforementioned channel. Another narrow channel exited through a settling basin in the center of the floor of Cistern D.6:47, but it soon turned westward to empty into Cistern D.6:33. It was this latter phenomenon (undoubtedly noticed within Cistern D.6:33 when it was being cleaned for reuse in the Ayyūbid/Mamlūk period) that certainly

prompted the digging of a robber pit (D.6:43) through the southwest corner of tessellated Floor D.6:23 and the layers below it. Perhaps a clue to the reason for this mole-like operation was left by all the rocks piled into and above the settling basin of Cistern D.6:47—the new users of Cistern D.6:33 did not want to be concerned with contaminated water! Certainly a clue to the period in which the clandestine plumber operated was left by the six Ayyūbid/Mamlūk sherds (found in the loose black soil of the upper layer, but characteristic also of robber Pit D.6:43) that spoiled the otherwise "clean" pottery call: Early Roman, Late Hellenistic, and late Iron II.

### *Correlation of Data from Area D*

The following section attempts to delineate and describe the phases of occupation in Area D. A *tentative* stratigraphic and chronological key to D.1, D.5, and D.6 is presented in Fig. 7, providing a chart of vertical sequences and horizontal interrelationships. The data for the upper portion of D.1 (dug in 1968) may be compared with Fig. 8 in the 1968 report.[9] It must be noted that the removal (sometimes only partial) of balks between the following Squares has faciliated the correlation of loci now to be summarized: D.1 and D.5, D.1 and D.6W, D.5 and A.4, D.6W and A.3/A.4, and D.6E and A.3.

*Ayyūbid/Mamlūk.* Phase A of this stratum lumps together the latest occupation evidence in the Area: Wall D.1:4 was not only poorly rebuilt (D.1:4a) but its gateway leading into the acropolis perimeter was blocked by Wall D.1:9. This may mean that Cistern D.5:5 was no longer in use, indeed it may even have been covered by that time. The vaulted room was abandoned, if it had not already collapsed, but at least three small terraces were built outside its eastern wall.

Phase B incorporates the vaulted room of D.1 and D.6W and its three living surfaces (D.1:7=D.6:26 and 27; D.1:14=D.6:31; D.1:20=D.6:31, 34, and 36) with the first gateway through Wall D.1:4b and its two use surfaces to the south (D.1:13 and 11) as well as with Surface D.6:10 and its ashy build-up, Layer D.6:14, both to the east of the vaulted room. The entrance to

[9] "Heshbon 1968: Area D," pp. 168, 169.

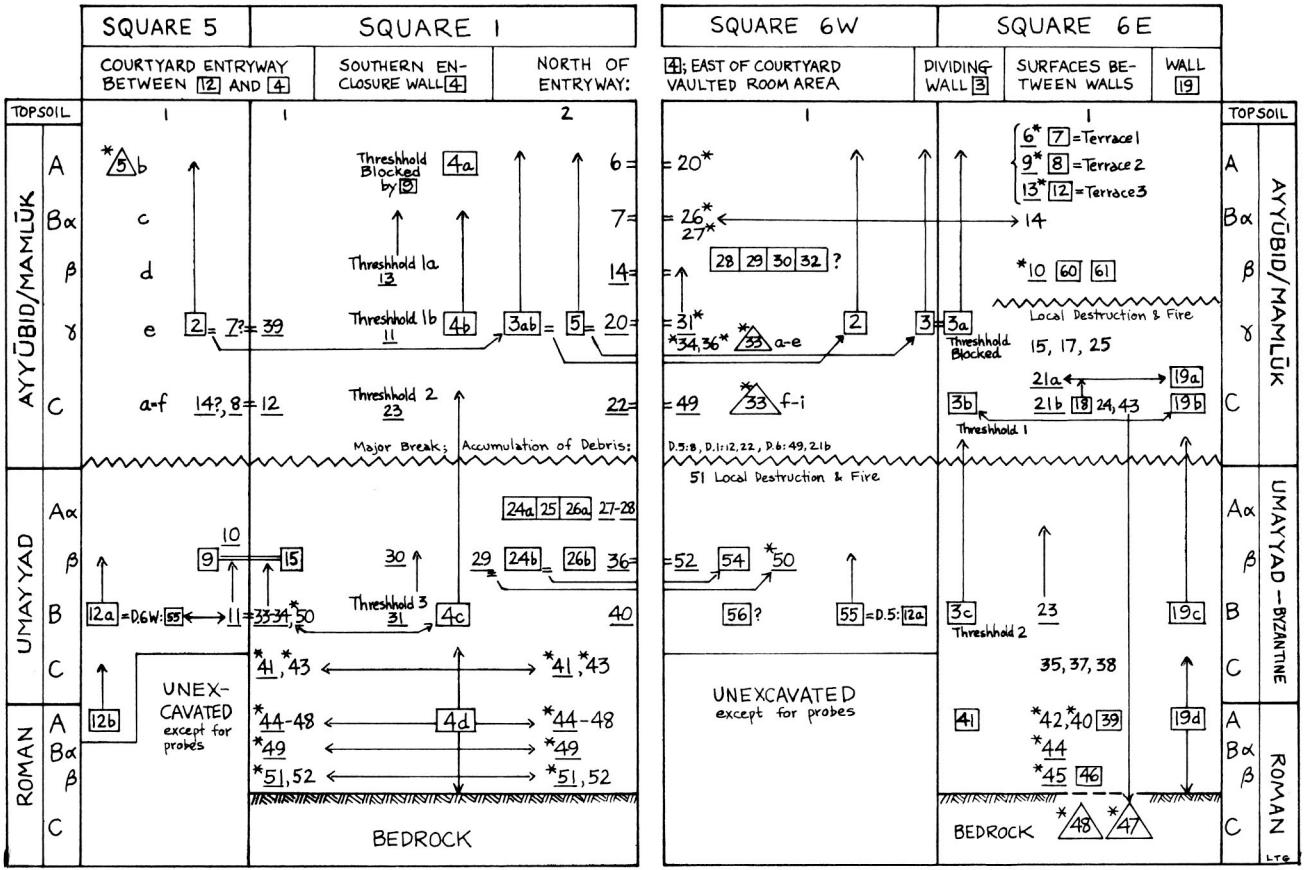


Fig. 7. Table showing tentative chronological order and relationship of principal loci in Squares D.1, D.5, and D.6. Key: Underlined numerals refer to surfaces, boxed numerals to walls, while numerals enclosed in triangles are cisterns

the vaulted room remains an interesting problem—its not being in the east, west, or south makes its location in the north virtually certain. Though removal of the north balk began at the end of the season, not enough of it was taken down to allow a detailed description of the room's northern wall and its doorway. In any case, Phase B was certainly the innovative one within the period of the Ayyūbid/Mamlūk occupation of Area D.

Phase C appears to have been the earliest occupation in the Ayyūbid/Mamlūk period—before the construction of the vaulted room and associated with Cistern D.6:33, but after the accumulation of debris Layers D.1:12 and 22, D.5:8, D.6:21b and 49. These debris layers indicate the abandonment of the site for some time, because these loci contemporaneously covered all earlier architecture except for the stubs of Walls D.6:19c and 3c, and D.1.4c. The new inhabitants of the *tell* rebuilt each of these walls (in a makeshift way) except the last (Wall D.1:4c) in which they established a new threshold (as they did also in Wall D.6:3). Apparently the surfaces of the debris that had accumulated over the *tell* were now used for occupation, particularly in the vicinity of Cistern D.6:33 which was cleaned out for reuse. Down some steps onto Surface D.6:21b, Wall D.6:18 was built.

*Umayyad.* Phase A seems to have been the last occupation for quite some time. Right at the end of this phase, the doorway through Wall D.1:24 was walled up rather neatly, apparently to orient it toward the east in association with new walls and surfaces. Perhaps the last occurrence, however, was a conflagration next door (Locus D.6:51) which buried several scattered architectural fragments. The phase as a whole was characterized by architectural continuity with Phase B.

Phase B was the innovative stage, at least in terms of building activity in D.1 and D.5. Wall D.1:4c with its threshold, the new flagstone Floor D.1:33-34=D.5:11 (and therefore probably D.5:12a) were all founded during this phase. As has already been suggested, it is possible that Wall D.6:56 served as the original eastern wall in connection with the flagstone floor.

Phase C, the earliest Umayyad phase, is known only from its light greenish buff slightly argillaceous poorly indurated dolo-

mitic limestone tile floor. Such a beautifully wrought floor (D.1:41) laid so carefully into a prepared makeup (Locus D.1:43) cannot have been simply foundation for something else—it must have had a life in its own right. Its Umayyad sherds prevent it from being associated in the same phase with Surface D.1:44, though it was related to Wall D.1:4d.

*Early Byzantine.* Tessellated Floor D.6:23, with its makeup loci, would have belonged to this period. The floor may have been reused later in the Byzantine period and even in the Umayyad period, but thereafter it would have been covered with debris layers and been out of use.

*Roman.* Again we have three phases, the latest (Phase A) certainly also the grandest, if height of walls and depth of fills are any indication. Both Walls D.1:4d and D.6:19d were founded on bedrock during this phase and were so well constructed (of giant field stones chinked with smaller rocks and red earth mortar), possibly for a fort, that they were preserved to a height of 2.00 m. and continued to serve as foundations for the rebuilds of all subsequent periods. Then in both cases, more than 1.00 m. of rubble was dumped inside the walls—presumably to bring Area D up to a level that would cover the newly constructed vaulted ceiling over Cistern D.5:5. Square D.1 furnished a good earth surface over all this rubble fill (Locus D.1:44) and though D.6E, too, undoubtedly originally had it, preparation to build a solid bedding for the mosaic patterned floor must have destroyed it. Ceramic analysis indicates a probable date of Early Roman continuing into Late Roman.

Not much can be said about Phase B which comprised the earliest occupational surfaces above bedrock (Loci D.1:49, D.6:44, D.1:51, and D.6:45) except that Surface D.6:45 was associated with Wall D.6:46 founded on bedrock. Phase B may be attributed confidently to the Early Roman period.

The inhabitants of Phase C appear to have been the earliest settlers on the acropolis (possibly Late Hellenistic?). Perhaps they were cave-dwellers, for the only evidences of them in Area D were the inverted top-shaped Cisterns D.6:47 and 48 carved out of bedrock and connected not only with each other by a channel on the floor, but with Cistern D.6:33 through a channel

cut into the (original?) settling basin of D.6:47, and cut in such a way as to allow the water level in all three cisterns to rise at the same absolute level. This may indicate that Cisterns D.6:47 and 48 served only to expand the system rather than as collection basins themselves, particularly since no trace of any channel was found leading into them in or above bedrock.

*Late Hellenistic.* A few Late Hellenistic sherds were found in mixed loci (primarily Early Roman) throughout Area D, but no homogeneous loci were encountered.

*Iron II.* Late Iron II sherds were frequently found in Early Roman fills and in other mixed contexts. No pure loci or late Iron II structures were identified.

## *Conclusion*

We have now a sampling (complete from two different Squares) of Area D's acropolis stratification from above the ground surface soil to beneath bedrock. Though we look forward to another season to clarify remaining problems and refine existing interpretations, Area D should hold no more major surprises.

# AREAS E AND F

S. DOUGLAS WATERHOUSE
Andrews University

On the eastern flanks of the hills immediately to the west-southwest (Area E) and on the southwest slopes (Area F) of *Tell Ḥesbân* rock-hewn tombs were examined.[1] Tombs of particular significance which the Heshbon expedition cleared were marked by chiseling their designated numbers above the respective tomb entrances. All tombs which were exposed at the time of discovery were found opened and rifled of their contents. Many of them had been plundered very recently, as evidenced not only by the lack of vegetational growth over the mounds of loose dirt thrown up in the process of searching for them, but also by the reports given us by local people. In one instance the grave robbers had actually been observed at their clandestine work.

Both Areas E and F contained many signs of stone quarrying. It was sometimes within these old quarries that cavernous tombs had been cut, the graves usually having been placed along a given line of rock outcropping. In Area F a number of vats (and possibly presses) were in evidence. The contents of the fill layers in the vats dated from the Byzantine Period.

The tombs which were exposed to view can be divided into four major types:[2] (1) chamber tombs with loculi. The inner chamber was roughly square in plan, with rectangular horizontal burial niches (loculi) cut straight back into the chamber walls on three sides. (2) Grave shafts cut horizontally into the

[1] Thanks are herewith expressed to Hassan Al-Nabulsi, Secretary-General of the University of Jordan, the owner of the land on which Area F is located, for permission to carry out excavations there.

[2] An exception would be a tomb in Area E which consisted of a natural, low-ceiling cave into which a series of loculi had been hewn. Also in Area E were found five chambers cut in the face of the rock cliff. The chambers were completely filled with soil.

hillside and ending in a single loculus. (3) Chamber tombs with adjoining alcoves (arcosolia) containing sunken or trough graves. (4) Tombs with rectangular vertical shaft openings, with one or two side recesses at the base, parallel to the sides of the shaft. The recesses frequently were comparable to the arcosolia of the chamber tombs. In some instances, one or two loculi were found to be cut horizontally at one or both ends of the shaft base.[3]

All four types of tombs were in evidence in Area E, while Area F contained only Types 1, 3, and 4. The chamber tombs with loculi (Type 1) and the single loculus graves (Type 2) display the characteristic features of the Late Hellenistic and Early Roman periods (ca. 198 B.C.-A.D. 135). The chamber tombs with arcosolia (Type 3) may date from Roman times, but they were particularly popular during the Byzantine Period. The tombs with rectangular vertical shafts (Type 4) also date from the Roman Period, but were more common during Byzantine times.[4]

In Area F, it was discovered that tombs of Type 1 occasionally included, in the rocky eminences which protruded above them, a small vertical rectangular cut in the rock, here provisionally termed a "stela mark." The typical mark in question usually measured ca. .50 m. long, .25 m. wide, and from .05-.08 m. deep. Perhaps such depressions were cut as sockets to support upright, funerary stelae. Besides those of Type 1, the only tomb to possess this distinctive grave mark was Tomb 4 of Area F, a tomb with a rectangular vertical shaft opening.[4a]

[3] See below, the discussion of Tomb F.7, where the point is made that tombs with side chambers apparently were built prior to those which had loculi at the ends.

[4] For the dates usually assigned to these four tomb types, see Jack Finegan, *The Archaeology of the New Testament* (Princeton, N. J., 1969), pp. 184-187; and W. L. Reed, "Tomb," *The Interpreter's Dictionary of the Bible* (New York and Nashville, 1962), IV, 663-668. Compare also the discussion by Crystal M. Bennett, "Tombs of the Roman Period," *Excavations at Jericho* (London, 1965), II, 516-545.

[4a] Editors' note: Only in Tomb F.4 was stratigraphic excavation procedure attempted. The double tomb, F.8/10, was only partially cleared out, although it had not been entered in recent times. The other tombs (notably Tombs F.1 and F.5) which had already been opened by modern tomb robbers and

### *Chamber Tombs with Loculi (Type 1)*

*Tomb F.1:* This was an exceptionally fine tomb, named the "Rolling Stone Tomb" because a disk-shaped stone, 1.27 m. in diameter and .36 m. thick, closed its entrance (see Fig. 8; Pl. XI:A). This stone could be rolled to either side of the low, central entrance which led to the main chamber. From this chamber radiated 12 loculi, four each on the north, east, and south sides. In the center of the main chamber a square pit had served as a sump, so that water seepage would not affect the burials.[5] The unusual manner of tomb closure is an architectural feature observed thus far only on West Bank tombs and can be dated in the Early Roman period up to A.D. 70.[6] The purpose of this type of movable door was to allow for sequential multiple burials. The tomb was probably cut as a family sepulcher to be used over a long period of time. It was most unfortunate that the tomb had only recently been looted.[7]

During the clearance of the forecourt an Early Roman lamp was found and two partial skeletons in the right part of the rolling stone's track. From the disturbed soil inside the tomb came pottery—all broken—which was predominantly Early Roman, although there were smaller amounts of Late Roman, Byzantine, and even some late Iron II sherds. The soil layer within the sump contained only Early Roman sherds.[8]

cleared of practically all antiquities were cleaned of their debris in order to allow study of the structures; no effort was made to excavate the dirt stratigraphically.

[5] It has been suggested that the depression served as "a place for the collection of skeletal remains" (Finegan, *Archaeology of the NT*, p. 185), or created so as to provide "a shelf for funerary objects" (Robert H. Smith, *BA*, 30 [1967], 87, 88). George E. Mendenhall, who visited the excavations at *Tell Ḥesbân* just after he had examined a number of tombs in the Middle Euphrates area, pointed out that the purpose of the architectural feature was to serve as a sump. Our findings tended to confirm that observation. See below, n. 8.

[6] Finegan, *Archaeology of the NT*, pp. 167, 202; Smith, *BA*, 30 (1967), 87.

[7] From what was learned from the owner of the field where Tomb F.1 was located, the discovery and robbing of this tomb took place during the spring of 1970. This information agreed with what we heard from the villagers of *Ḥesbân*.

[8] We discovered that the sherds found within a given tomb's sump provided information concerning the date of that tomb's construction. The major

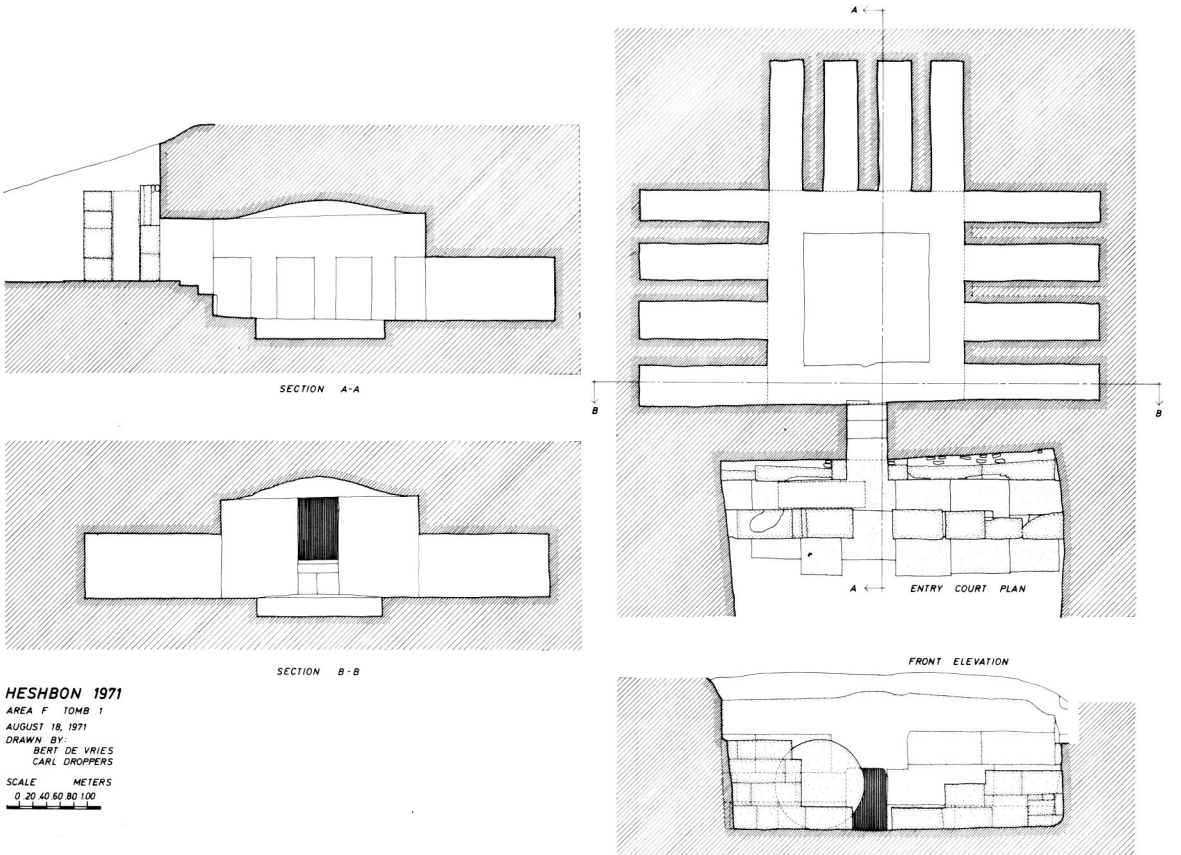


Fig. 8. Plan and sections of the Rolling Stone Tomb (F.1)

The skeletons were scattered throughout the tomb, but a count of the recovered mandibles showed that at least 77 individuals had been buried there. The only objects recovered from this recently looted tomb included some beads, rings, bracelets (see Pl. XV:A), and bone hairpins.

*Tomb F.6:* Although cut into the same rock outcropping, and directly to the north of Tomb F.1, this sizable tomb had escaped detection by the modern grave robbers. To the right of the tomb entryway, hewn into the dressed rock facade, was a deep, large, cup-like indentation. It evidently was designed "to hold water for ceremonial washing and possibly for libations for the dead."[9] The approach to the tomb consisted of three steps cut into the limestone. The steps led into a low arched doorway which was sealed by a flat rectangular dressed stone. Small chink stones were used to wedge the door-slab tightly in place. Within, the square chamber was typical of a sepulcher of the Early Roman period. Nine loculi (which were numbered from right to left) radiated from the chamber, three on each side except the west, which contained the entrance. Spaced between and above some of the loculi were four lamp niches. In two of these niches, still *in situ,* were "Herodian" lamps. In the center of the chamber floor was a large square sump.

Most Roman tombs at *Tell Ḥesbân,* including Tomb F.6, had been plundered long ago. What was left inside included disturbed skeletal remains (see Pl. XI:B), pottery, and a surprising amount (18 vessels) of partly intact glassware of various types. Some of the pottery had been broken by the ancient grave robbers. Since the ancients considered it their religious duty to throw earth upon an exposed corpse,[10] it is not surprising that at some point after the robbery a great amount of loose soil had been thrown over the disarrayed contents of both chamber and loculi. In the main chamber this dirt reached from the floor to

reason why the sump sometimes contained a "pure" locus was due to the fact that the soil filling the sump was laid down by water. The soil, when solidified as water seeped away or evaporated, effectively prevented foreign matter from intruding easily.

[9] Smith, *BA,* 30 (1967), 86.

[10] William Smith, ed., *A Dictionary of Greek and Roman Antiquities* (New York, 1845), p. 455.

the top of the front door, blocking ready access. While the artifacts in the tomb were entirely Early Roman, clearance of the tomb revealed that both the inside dirt layer and the stone slab, which sealed the doorway, were put there in Byzantine times.[11] In sum, this Early Roman tomb had been looted–in a time when pottery and glassware were not considered valuable–only to have been resealed sometime during the Byzantine Period (either by pious individuals, or, perhaps, by a government decree which had ordered the resealing of all exposed graves).

The first (and largest) loculus contained the skeletons of five adults. Each of the other loculi contained the remains of one or more bodies. Besides these human remains, the loculi contained such items as bracelets (in one instance the bracelet was still on the humerus), finger rings, glass beads, garment needles, buttons, a small scarab charm, a gaming piece, part of a wooden coffin, and nails. The most exciting finds were recovered from the loose soil at the opening to Loculus 1. Here, 11 glass vases of different shapes were closely grouped together (and fortunately not broken). Also found were a bronze spatula and a glass cosmetic applicator. A most striking find was a cosmetic box whose container was a shell. Into its ivory lid fit a swan's ivory neck, wings, and tail. (For some of the finds from Tomb F.6, see Pls. XIII:A, B; XIV:B; XV:A.)

*Tomb F.8:* The largest of the loculi tombs discovered, Tomb F.8 comprised an unusually long central chamber and 18 burial spaces. Twelve of the latter were loculi radiating from the southern and the northern sides. Six additional burial spaces were at the eastern side. At the time of discovery, the tomb had been "sealed" with a slab stone and the chamber had been filled with loose soil. Due to the dangerous condition of the chamber roof, a sector of the northern side was left uncleared so that the details of the tomb plan remain incomplete. Apparently, the opening of each loculus had been originally closed with a single

[11] In Tomb F.6 the sump contained sherds which all can be dated to the Early Roman period. Directly above the sump level, the soil fill contained sherds, none of which dated later than the Byzantine Period. The same held true for the soil and sherds in the shaft leading to the entryway and around the stone door slab.

stone slab. Also, at some time, all the burial spaces probably had been covered with capstones. Unfortunately, massive cave-ins had obliterated the architectural features of the main chamber walls and ceiling. A series of ancient tomb robberies must have taken place, since all of the loculi had been stripped bare of both their capstones and contents.

When the tomb was first entered, heaps of rubble, roof fall, soil seepage, and dirt piles blocked easy passage. Furthermore, what was first seen as an extremely long (12.30 m.) tomb turned out to be two tombs! It was found that a chamber tomb of arcosolia type (Type 3), Tomb F.10, had accidentally been cut into the east end of Tomb F.8.

In an attempt to ascertain the date of the tomb, the following factors may be noted. The architectural features examined were characteristically Early Roman. This observation is supported by the fact that the tomb was already in existence when the Late Roman chamber tomb was cut into two of its easternmost graves. Loculus 6, which was found with all capstones intact, was of paramount interest in this connection. Directly under the tightly fitted capstones lay the remains of what seemed to have been a thin layer of melon(?) seeds. While no objects were found, a few broken sherds within the grave gave evidence of an Early Roman burial.[12]

However, there is little doubt that the tomb had been reused for burial purposes during Late Roman times. The easternmost grave, Loculus 10, also possessed all capstones *in situ*. But this time the meager contents of the grave produced Late Roman, as well as Early Roman sherds. The fact that Loculus 10 lay directly under a Late Roman tomb chamber (Tomb F.10) helps explain the possible source of such secondary burials.[13]

Disturbances of the tomb were not limited to Late Roman times. Byzantine and Ayyūbid/Mamlūk sherds provided evidence

[12] When the pottery from Loculus 6 was read, a fragment of Ayyūbid/Mamlūk ware was noted. I consider this piece to be intrusive. As reported below, there were Ayyūbid/Mamlūk sherds in the dirt which filled the tomb chamber and the loculi. The predominant ware within Loculus 6 was Early Roman. Loculus 13, though not sealed by capstones, did not contain any sherds later than Early Roman.

[13] Late Roman sherds were found also in Loculi 1-4.

that vandals had entered the cavernous chamber sometime during the 4th-6th cent. and 13th-14th cent., respectively. Outside of a very few small objects (mostly beads), no artifacts of significance were uncovered. Loculi 4 and 12 contained sheep bones, possibly remains of a food offering.

### *Tombs with a Single Loculus (Type 2)*

*Tombs E.2 and E.3:* An investigation of a recently exposed tomb, E.3, led to the discovery of a hidden, nearby tomb which was subsequently designated Tomb E.2. Architecturally, both were of the same type. Each possessed a nearly horizontal shaft which sloped down to a single loculus. The approach shafts contained no steps, but the loculus of Tomb E.2 was sealed by a stone slab wedged tight by chink stones. The interiors of both tombs were found filled to the ceiling with a light tan soil of sandy texture. Neither tomb contained an intact burial. All that remained were small fragments of human bones mixed in soil containing both Early Roman and Byzantine sherds. The tombs, probably of Early Roman date, had been looted of their contents and, as the sherds indicated, were resealed during the Byzantine Period.

An unusual feature of Tomb E.2 was the fact that its single loculus had cut accidentally into a natural cave, which consequently formed a side chamber. This chamber was also filled to the ceiling with sandy-like fill, which, due to the very unstable condition of the rock ceiling, could not be cleared.

### *Chamber Tombs with Arcosolia (Type 3)*

*Tomb F.5:* Noting a depression in the soil, we began clearance and quickly uncovered four broad steps cut into the limestone. They led to a low vertically cut rectangular tomb entrance. This tomb had apparently been opened recently, robbed of most of its contents, and then again covered with dirt.[14] The tomb's facade surrounding the door comprised two fluted bas-relief pillars and a heavily dressed lintel. A swinging (still movable)

[14] A school teacher in *Ḥesbân* told me that this tomb had been plundered during the spring of 1970. Other reports seemed to confirm this possibility; see above, n. 7.

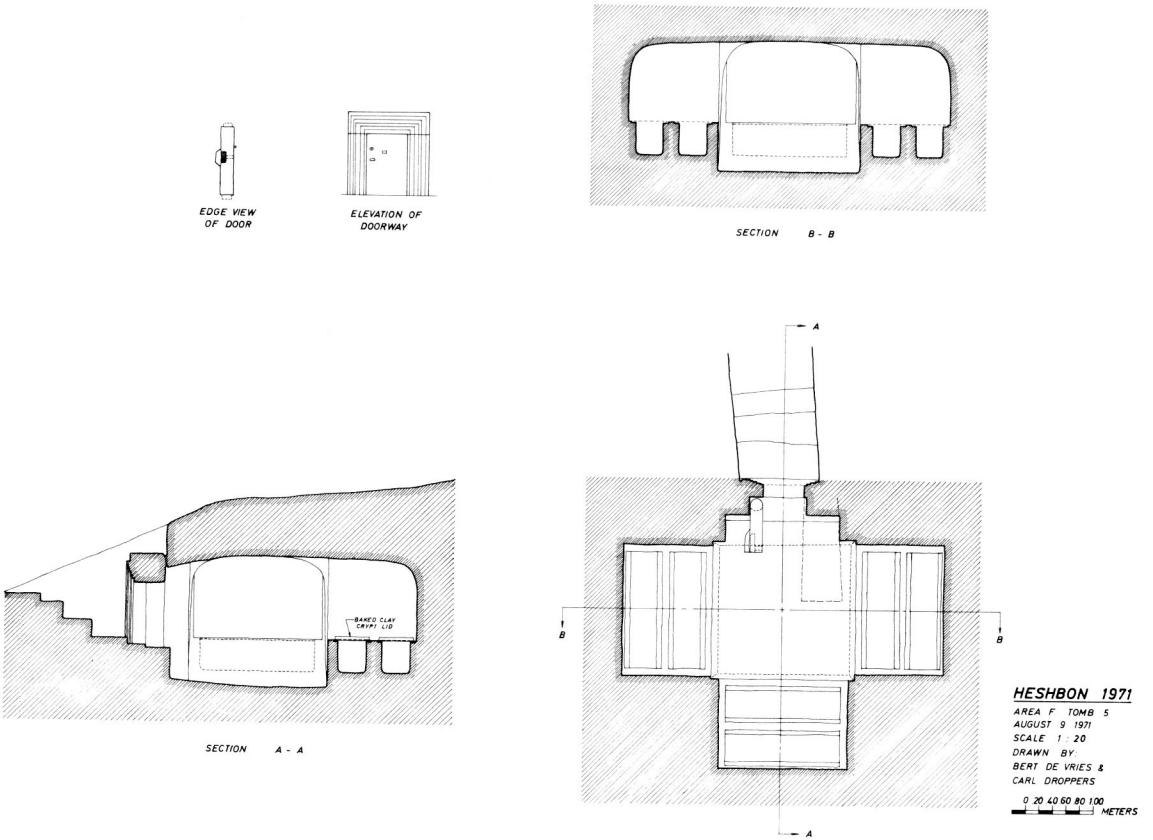


Fig. 9. Plan and sections of the Swinging Door Tomb (F.5)

stone door was attached (see Pl. XII). Within the tomb chamber were found three arcosolia, each containing two deep trough graves. The graves had been covered by square, ceramic, tile-like lids. The ceiling of the arcosolium facing the entrance displayed a thick patch of plaster, apparently applied to repair damage from an ancient cave-in. (Fig. 9.)

The tomb interior was covered by a thick fill of soil which had been disturbed by the modern robbers. All six of the grave troughs showed signs of having been thoroughly plundered. Fortunately, part of the soil in the central tomb chamber had not been disturbed. Here, on the floor, hard against those chamber sides which faced the three arcosolia, were unearthed 11 unbroken pottery vessels, including four lamps, two large jars, and a bowl. In sifting the soil in the graves, we found a few small objects such as bird-shaped glass beads, rings, bracelets, and two coins. One of the coins was of Philip I (243-249) and another was of Constantine II (337-340).[15] Broken pieces of glassware mixed with splintered pieces of human bones were reminders of the damage done by the looters. Both the sherds and artifacts found suggest that the tomb uses may be assigned a date at the end of the Late Roman and the beginning of the Early Byzantine periods (ca. 250-350).

*Tomb F.10:* A large chamber cut into bedrock at the eastern end of Tomb F.8 was not recognized as a separate tomb until much of the soil had been cleared from its interior. Set off from the central chamber were three arcosolia (to the north, west, and east). In the center of the tomb chamber was the square sump frequent also in Type 1 tombs. The original door was sealed with a large stone slab.

A study of the tomb showed that the western arcosolium had remained unfinished. Only one trough grave out of the three had been completed. The initial cutting for the other two had led to the accidental breakthrough into the lower earlier Tomb F.8. Since the other two arcosolia contained three trough graves each, the symmetrical arrangement of the tomb had been marred by this defect.

[15] A Terian, Nos. 55, 59, in his forthcoming article on the Heshbon 1971 coins.

In addition to the arcosolia graves, the tomb had also two recesses, one horizontal and the other vertical. Since these burial recesses did not fit into the symmetrical plan of the tomb, they may have been additions to accommodate later burials. The openings of both recesses had been closed by stone slabs, although nothing of consequence was found within except some loose dirt in the vertical recess.

Sizeable capstones covered all but one of the trough graves. Robbers had been there in antiquity and all but three of the trough graves had been seriously violated. The heavy stone covers and the stone slabs represent reburial work which took place sometime after the looting. The tomb itself dates to the very end of the Late Roman period, based on the pottery recovered.[16]

The dirt fill over the center of the chamber yielded an unexpected quantity of dessicated dates. At the eastern edge of the chamber's sump, several broken pieces of an unusual six-spouted lamp turned up. The thick fill also produced the cracked remains of two large Late Roman jars found respectively at the two southern corners of the tomb chamber, to the right and left inside the door. At the back of the arcosolium opposite the entrance a small juglet rested above and behind the center trough grave. In the four trough graves in the northern and western arcosolia the robbers had left only fragmented bones and two belt buckles, a ring, an iron bracelet, a gold earring, a broken alabaster vase, and a few beads. Two of the trough graves of the eastern arcosolium, however, were intact, while the third grave of that same group had been violated. From these graves a few distinctive objects came to light: two glass vases, a small bell with its clapper, a juglet, and various small beads.

### *Rectangular Shaft Tombs (Type 4)*

*Tomb F.4:* A bedouin by the name of Helmi Musa (belonging to the famous Ta'amireh tribe), desiring employment, showed

[16] The sump (see above, n. 8) contained only Late Roman sherds. The large jars on either side of the entryway were also Late Roman—as were the other datable artifacts found with the individual graves.

us a "stela mark" which he said indicated a tomb directly below. It was he who brought to our attention the fact that these so-called "stela marks" were closely associated with tombs. His observation proved rewarding. Digging through the ground surface soil soon revealed a rectangular-shaped vertical shaft cut into the limestone rock. Clearing the shaft to a depth of 1.12 m., we uncovered the tops of five large capstones which rested on narrow ledges running the length of both sides of the shaft. At 1.50 m. below the capstones the shaft floor led to recesses on each side (north and south) and loculi at each end (east and west).

Each of the two side recesses contained a grave which was found covered by both dirt and large capstones. Clearance of the south grave revealed that nine bodies had been placed in it, one atop the others, over an extended period of time.[17] Earrings, bracelets, and two brooch-like bronze fibulae were among the objects associated with the burials. In clearing the north grave chamber, the remains of four bodies, two gold earrings, a bronze ring, and a bracelet were found.

The east end loculus contained the remains of three skeletons, an incense shovel, two gold earrings, a large copper ring, and part of an iron key. In the west end loculus, the entire burial evidence had been smashed by ceiling fall. The bones within were all fragmented. Nevertheless, it could be determined that remains of an earlier burial had been shoved toward the rear of the loculus in order to make room for a second burial. Small skull fragments found turned out to be those of a very young child. Four glass bracelets were found intact in spite of the heavy ceiling fall.

Among the indicators which point to a Roman date for the tomb, the two fibulae and the incense shovel are worthy of

[17] Not only did the south grave contain nine skeletons within a space .50 m. wide and 1.75 m. long, but other clues were available. The skeletal material was in considerable disarray, and large stone fragments (suggesting broken pieces of capstones?) were found incongruously within the grave. This evidence suggests that the tomb had been repeatedly opened for secondary burials.

mention (see Pls. XV:C, XIII:C).[18] No whole pieces of pottery were found. The small, fragmented sherds recovered from the soil and the graves were probably Early Byzantine. The tomb had most likely been cut sometime during the Roman Period and had remained in use as a family tomb possibly into the beginning of the Byzantine Period.

*Tomb F.7:* The rectangular-shaped vertical shaft was 2.50 m. long, ca. .60 m. wide, and 2.20 m. deep. On the north end of the south side of the floor of the shaft was cut a small recess, with two upright stone slabs sealing the opening. Within the recess was a single burial. Outside of the few bones of a small child, only tiny sherds were present. Five of the sherds could be read; they were all Early Roman.

Two observations are pertinent. First, this tomb suggests that in Area F tombs with rectangular vertical shaft access had been constructed and used during the Early Roman period. Second, the tomb may illustrate the planned long-term use of the type of tomb under consideration. Rectangular shaft tombs were subjected to enlargement periodically as the need for more space arose. Possibly Tomb F.7 represents the beginning of what was planned as a family sepulcher.

Tomb F.9, a robbed tomb which we examined, not only contained the usual quota of four graves on the four sides of the shaft, but also a grave trough in the floor of the shaft. Here, again, it is suggested that multiple burials within the rectangular shaft tombs necessitated periodic enlargements. Evidently in the type of tomb under discussion, the recessed grave chambers were the first to be cut, the loculi being cut later. Finally, when all space had been used, a grave trough was cut into the shaft floor.

[18] The incense shovel is almost identical with one of the three found hidden by the followers of Bar-Kokhba, A.D. 132-135 (see Yigael Yadin, *Bar-Kokhba* [New York, 1971], p. 109).

# HESHBON OSTRACON II

FRANK MOORE CROSS
Harvard University

The excavations at Heshbon in the summer of 1971 have produced an additional ostracon written in Aramaic script.[1] The newly-found sherd, Object Registery No. 803, came from Area B, Square 1, Locus 90 in a context of late Iron II (7th-6th cent.) pottery.[2]

The ostracon measures 3.25 x 4.20 cm. at its maximum dimensions. Only the right side of the sherd preserves an original edge of the ostracon. Remnants of lines can be detected at the top and bottom of the pottery fragment.[3] The ostracon also exhibits broken letters on its left margin, indicating a missing left side. Thus we possess only the central, right side of the original ostracon, with three legible lines of text.

The reading of the brief text can be reconstructed as follows:

| | | |
|---|---|---|
| ]ך[ ] | 1. | [ |
| סכת פד]נא | 2. | plou[gh] tip(s)[ |
| ]תמכאל | 3. | Tamak'ēl [ |
| ]בני גבלא | 4. | men of Gubla' [ |
| ]מ א | 5. | [ |

Line 2. The script of this line is written with a dry pen, giving letters a narrow, long appearance. The initial *samek* is badly preserved but in my view certain. The following letters, *kap*, *taw*, and *pē* are very clear. *Dalet* has only the tail and a small

[1] On the Aramaic Ostracon 309, found in 1968, see F. M. Cross, "An Ostracon from Heshbon," *AUSS*, 7 (1969), 223-229.

[2] Private communication of Siegfried H. Horn, director of the Andrews University Heshbon Expedition.

[3] The first line is preserved only in a blurred line of ink on the left edge at the top of the ostracon, clearly the tail of a letter extending below the (theoretical) baseline of the script: the tail of a *nūn*, most probably, to judge from length and stance.

remnant of the right upper tick preserved. *'Alep* would be a possible reading also, but context strongly suggests the reading *paddāna'* (*padnā'*), "yoke," "plough," and the idiom extant in several Aramaic dialects, *sekkat paddānā'*, "plough tip."

Fig. 10. A tracing of the Heshbon Ostracon II

Line 3. The script of this line is well preserved in thick, squat letters. *Taw, kap,* and *'alep* are standard forms. The *mêm* is somewhat unusual but is known from such texts as Sachau P. 22,[4] and is the occasion of no difficulty. Only the characteristic tail of *lameḏ* is preserved on the left edge of the ostracon. The personal name *tmk'l* (*tamak'ēl,* "'El has supported"), its byform *'ltmk,* and its hypocoristicon *tmk'* are familiar from Phoenician, Aramaic, and Ammonite seals of the same general period.[5] This name appears to have enjoyed some popularity precisely in the Ammonite onomasticon, being extant on three or four seals in the very small Ammonite corpus.[6]

[4] Eduard Sachau, *Aramäische Papyrus und Ostraka* (Leipzig, 1911), Pl. 24. The papyrus is Cowley 52: A. Cowley, *Aramaic Papyri of the Fifth Century* (Oxford, 1923). The papyrus in question dates from the mid-6th cent. Cf. J. Naveh, *The Development of the Aramaic Script* (Jerusalem, 1970), pp. 16, 34, Fig. 3, l.4.

[5] *CIS,* II, 94 (see n. 6); and Galling (*ZDPV,* 64 [1941], 121-202) 51; cf. F. Vattioni, "I sigilli ebraici," *Biblica,* 50 (1969), 357-388, especially No. 17, p. 361. On Ammonite references, see n. 6.

[6] The seals in question are Reifenberg 33 (*Ancient Hebrew Seals* [London, n.d.], p. 41), republished by N. Avigad in *Encyclopaedia Biblica,* III, 80 (Pl. 3) which reads *tmk* ר ' ך *bn mqnmlk;* Diringer 17 (*Le iscrizioni antico-ebraiche palestinesi* [Florence, 1934], p. 176; Pl. XIX, 17) which reads *lbyd'l bn tmk'l;*

Line 4. The base of the initial *bêṯ* and the tail of the following *nūn* have largely been effaced; nevertheless the reading *bny* is not in doubt. The trace of an *'alep* on the lower left side of the (intact) *lameḏ* is visible. In the present context alternate readings (*daleṯ* or *rêš*) are most unlikely. The *bny gbl'*, "the men of Gubla'," "the Gublites," the tribe or people *Gĕbāl* (<**gubal*) living in conjunction with the territory of Edom is well known from the Bible, Ps. 83:8, where they are mentioned in parallelism with Edom, Ishmael, Moab, the Hagarites, Ammon, and the Amalekites. Josephus gives the name Γοβολιτις[7] for a district of Idumaea; in Jewish Aramaic the forms גבלא and גובלנא appear.[8]

Line 5. The faint traces of a fifth line of script appear on the abraded lower edge of the sherd. No single letter can be read with certainty. *Mêm* or perhaps *ḥêṯ* may be read as the second letter from the right margin; it may be followed by a *lameḏ* or *'alep;* after a short space, the top of a letter is discernible as the slant of the line moves off the ostracon; the traces conform perhaps to the top of an *'alep.*

the seal, Ammonite or possibly Moabite, published by Avigad, *EI,* 9 (1969), 1-9, especially No. 18, p. 8; and Pl. II, 18, which reads *l'ltmk bn 'ms'l;* and the seal *CIS,* II, 94 which should be read (in a cursive Aramaic script of the sixth century) *ltmk'l* [']*bd mlkm,* "Belonging to Tamak'el, servant of (the god) Milkom" (a trace of *'ayin* can be seen on the edge of the seal). The first of these, usually called Phoenician, is in a script of Aramaic derivation in fact, and in a script marked by excessively vertical letter-stances of precisely Ammonite style. The second seal, found in eṣ-Ṣalt in Transjordan, is less typical but almost certainly Ammonite. The third is evidently from Transjordan, as suggested by Avigad; in style its script shares the vertical stances associated with Ammonite, but exhibits a *mêm* usually attributed to the Moabite tradition. The fourth listed, though not inscribed in pre-Exilic Ammonite script, surely belongs with the other three in the Ammonite corpus. The epithet *'bd mlkm,* "servant of Milkom," is best understood as, not merely a devotee of the Ammonite deity Milkom, but as one, perhaps a priest, attached to a temple of the deity. One may compare Hebrew *mqnyhw. 'bd. yhwh* (unpublished) from 8th-cent. Israel; cf. also *'bd b'l,* Karatepe (*KAI* 26) l. 1/2; *'bd bt ṣdtnt, CIS,* I.1. 247-249; etc. On the corpus of Ammonite seals, see now Avigad, "Ammonite and Moabite Seals," *Near Eastern Archaeology in the Twentieth Century,* ed. by J. A. Sanders (Garden City, N. Y., 1970), pp. 284-295.

[7] Josephus *Ant* 2. 6; 3. 40.

[8] See B. Mazar, *Encyclopaedia Biblica* [Hebrew], II, 403f., and the literature cited.

The script of the ostracon has strong ties to the squat, broad style which marked the Aramaic cursive in the 7th and 6th cent. B.C., dying out most probably in the second half of the 6th cent. The best known representatives of this style are the Assur Ostracon (7th cent. B.C.),[9] the Saqqarah Papyrus (ca. 600 B.C.),[10] a tablet published by J. Starcky from the 34th year of Nebuchadnezzar,[11] and especially Sachau P. 22 (Cowley 52).[12] The script shows also some elements of the classic slender and shaded forms which developed in the late 6th cent. and prevailed throughout the 5th cent. B.C. Early exemplars of this style are the Bauer-Meissner Papyrus (515 B.C.),[13] the Hermopolis papyri (last quarter of the 6th cent. B.C.),[14] Sachau P. 30 (Cowley 1 from 495 B.C.);[15] and the Heshbon Ostracon 309 (end of the 6th cent. B.C.).[16]

*'Alep* is a typical 6th cent. cursive form shared with the Saqqarah Papyrus, Sachau P. 22, and Heshbon Ostracon 309. The middle diagonal is short; the right upper stroke is more crescent- than "v"-shaped. This type of *'alep*, usually with a longer diagonal, extends into the first two decades of the 5th cent. in consistent cursive usage.[17]

*Bêṯ* is relatively small, its right downstroke moving from the head in a slight diagonal down to the right before turning left, a trait of the "squat" style (Saqqarah, Sachau P. 22, and earlier, in the Assur Ostracon).

[9] M. Lidzbarski, *Altaramäische Urkunden aus Assur* (Leipzig, 1921), Taf. 1 (*KAI* 233).

[10] A. Dupont-Sommer, "Un papyrus araméen d'époque saïte découvert à Saqqarah," *Semitica*, 1 (1948), Pl. opposite p. 68 (*KAI* 266).

[11] Jean Starcky, "Une tablette araméene de l'an 34 de Nabuchodonosor," *Syria*, 37 (1960), 101 (*KAI* 227); its date is 571/70 B.C.

[12] See n. 4.

[13] H. Bauer and B. Meissner, "Ein aramäischer Pachtvertrag aus dem 7. Jahre Darius I," *Sitzungsberichte der preussischen Akademie der Wissenschaften zu Berlin*, Phil.-hist. Kl. 1936, pp. 414-424; Taf. 1, 2.

[14] E. Bresciani and M. Kamil, *Le lettere aramaiche di Hermopoli, Atti della Accademia Nazionale dei Lincei, Cl. di scienze morali, storiche e filologiche*, Serie VIII, Vol. 12, 5 (Rome, 1966).

[15] See n. 4.

[16] Cross, *AUSS*, 7 (1969), 223-229 and Pl. XXV.

[17] It appears sporadically in archaizing "formal cursives" of a later date. But cf. n. 18.

*Gimel* and *yōḏ* are ordinary 6th-cent. forms, but of little use in dating in view of their slow evolution in this period.

Two types of *kap* appear on the ostracon, the first (line 1) showing a broad double head on the left, and an uncurved downstroke, the second (line 2) exhibiting a ticked, single head, and a nearly vertical, slightly curved leg. These forms appear together in the Assur Ostracon, the Saqqarah Papyrus, and in the Arsames letters published by G. R. Driver.[18] The broad-headed form appears in the cursive as the exclusive form no later than the beginning of the 5th cent. (Sachau P. 30, 495 B.C.).

*Lameḏ* has the short downstroke of the "squat" style (see especially Sachau P. 22).

*Mêm* has been discussed above as an unusual form closest to the *mêm* of Sachau P. 22. Note that the right downstroke is straight, nearly vertical, and relatively short, all early traits marking the "squat" style. Compare also the *mêm*s of Heshbon 309 and the Saqqarah Letter.

The *samek* of our ostracon is a rare form, closest to the *samek* of the Saqqarah Letter,[19] to judge from its traces. Too much weight cannot be put upon it in dating.

*Pē* has the broad, angular head of the *pēs* of the Saqqarah Letter and the Bauer-Meissner Papyrus. Its downstroke is apparently uncurved.

The two forms of *taw* are useful for dating. The long, uncurved form (line 1) with the short, straight right arm cannot be later than the 6th cent.; the short *taw* in line 2 is reminiscent of the "squat" style. The right arm curves only slightly. In neither form does the right arm break through to the left of the leg, a trait of the 7th cent. script, occasionally surviving into the cursive of the early 6th cent. (Saqqarah Letter; Starcky Tablet).

[18] G. R. Driver, *Aramaic Documents of the Fifth Century* (Oxford, 1954). These letters are probably to be attributed to Arsames, son of Darius I, who was satrap in Egypt in the first decades of the 5th cent., and distinguished from the Arsames of the Elephantine letters (including Cowley 26). The alternate is to call their script archaizing (Naveh). But their script (unlike that of the Arsames scribe of Cowley 26) is systematically archaic, including its treatment of *kap*. Unhappily, the Driver letters contain neither dates nor historical allusions.

[19] The first *samek* of line 9 of the Saqqarah Letter is virtually identical.

To summarize: a number of letters conform to 6th early 5th cent. types, *'alep, gimel, yōḏ, kap, lameḏ,* and *nūn;* others have a range no later than the sixth century, *bêṯ, mêm, sameḵ, pē* and *taw.* The script as a whole shows evidences of the transition from the "squat" to the classic cursive which took place in the second half of the 6th cent. A date ca. 525 B.C. seems most likely.

The ostracon may be a docket recording the distribution of tools, or a letter giving instructions to agricultural workers. It is too badly broken to permit precise conclusions. Its script is Aramaic, and such forms as *gbl'* and *skt pd[n' ?]* suggest that the language is Aramaic rather than Ammonite (or a related Canaanite dialect). At the same time, the mention of *Tamak'ēl,* a popular Ammonite name, and of members of the Edomite tribe of Gebal guarantee its local origin. The sherd has special interest in registering the earliest, extrabiblical occurence of (southern) Gebal.

# HESHBON OSTRACON III

MYRIAM AYALON
Hebrew University, Jerusalem

This fragment[1] probably belongs to a small plate or bowl (rather shallow), although it is difficult to clearly identify the sherd.

The script is very fragmentary, and it is impossible to make any sense out of it. With some hesitation the following letters can be identified: (1) a final letter of some word, which looks like a *c* ( ك ), or less probably *d* ( د ); (2) a first letter which can be *b* ( ب ), *t* ( ت ), *n* ( ن ), or *i* ( ي ) attached to an *a* ( ا ), followed by an *l* ( ل ), to which was probably attached an *s* ( ص ), or perhaps *t* ( ط ).

Hence the reading could be either ؟ . . . لصـ . . ك با or ؟ . . . . لصـ . . د تا; however, its meaning remains elusive in either case.

On paleographic grounds, it is of the early North Arabic script, ca. 8th-9th cent.

At this point it should be added that among the Islamic pottery found at Susa there is a series of pieces bearing a very similar script. Although the inscriptions are much longer, they can hardly be deciphered, except for some occasional words. Their archaeological date is not always certain, but they were attributed to phase 2 (sometimes with a question mark). Therefore, they come from about the same period as Heshbon Ostracon III.

[1] This ostracon, Object Registry No. 886, was found August 4, 1971, in Locus C.4:59, in connection with pottery pail No. 315 which contained: Umayyad, Early Byzantine, Late Roman, few Early Roman, and few Late Iron II.

# THE ZOOARCHAEOLOGICAL REMAINS FROM *TELL ḤESBÂN*

ØYSTEIN LABIANCA
Loma Linda, California

## *Introduction*

The faunal remains recovered during the summer of 1971 at *Tell Ḥesbân,* Jordan, consisted of more than 22,000 bones and bone fragments of which about 21% (5,867 bones) were identifiable. The fragmentary state of the remaining 79% made it impossible to assign them to any particular species. Most of these rejected skeletal parts were splinters from limb bones of ungulates. The present report represents the findings of a preliminary study of 2,838 of the identifiable bones. This sample was made up of readily identifiable fragments, such as complete or partially complete mandibles (19.00%), metapodialia (14.20%), first phalanges (9.45%), humeri (9.45%), tibiae (9.25%), pelves (9.85%), scapulae (8.20%), radii (7.45%), femora (6.70%), maxillae (3.80%), second phalanges (3.60%).

The Squares[1] which contributed the most toward the total collection of the 5,867 identifiable bones were B.1 (958 = 16.33%), B.4 (673 = 11.47%), C.4 (794 = 13.53%), C.5 (689 = 11.74%), and D.6 (940 = 16.02%). Squares B.1 and B.4 are located south of and below the acropolis. Squares C.4 and C.5 are on the western slope of the *tell.* Square D.6, on the acropolis, contained a cistern in which were found an unusually large amount of bones (483 identified fragments).

As would be expected, 95% of the identifiable bones were re-

[1] The major sectors of excavation at *Ḥesbân* are called "Areas" and are identified by capital letters (A-F). Squares are smaller spaces within the Areas, and are identified by arabic numerals. Locus numbers are assigned to any discernible soil layer or "thing" (e.g., wall, pit, hearth) within the Square. Thus, the notation D.6:33 indicates Area D, Square 6, Cistern (i.e., Locus) 33.

mains of domestic animals (12 species). To these can be added two dozen species of wild mammals, birds, reptiles, fishes, and invertebrates. Together these comprise *Tell Ḥesbân's* presently known faunal assemblage:[2]

*Large Mammals*

Camel (dromedary), *Camelus dromedarius*
Domestic cattle, *Bos taurus*
Domestic donkey, *Equus asinus*
Domestic goat, *Capra hircus*
Domestic horse, *Equus caballus*
Domestic pig, *Sus scrofa*
Domestic sheep, *Ovis aries*
Dorcas gazelle, *Gazella dorcas* and/or *Gazella gazella* (mountain gazelle)

*Small Mammals*

Domestic cat, *Felis catus*
Domestic dog, *Canis familiaris*
Domestic rabbit, *Oryctolagus cuniculus*
Eurasian badger, *Meles meles*
Hare, *Lepus* sp.
Porcupine, *Hystrix hirsutirostris*
Red fox, *Vulpes vulpes*
Striped hyena, *Hyaena hyaena*
Syrian mole-rat, *Spalax ehrenbergi*
Weasel, *Mustela* sp.

*Birds*

Coot, *Fulica atra*
Crow, *Corvus corone*
Domestic chicken, *Gallus gallus*
Domestic goose, *Anser anser*
Domestic pigeon, *Columba livia*
Egyptian vulture, *Neophron percnopterus*
Griffon vulture, *Gyps fulvus*
Houbara bustard, *Chlamydotis undulata*
Ostrich, *Struthio camelus*
Raven, *Corvus corax*
Rock partridge, *Alectoris graeca*

*Reptiles*

Snake family, unidentified
Turtle family, unidentified

*Fishes*

Catfish family, unidentified
Mackerel family, unidentified
Parrot fish family, unidentified

*Invertebrates*

Freshwater mussel, unidentified
Freshwater snail, unidentified

[2] For his helpfulness with the identification of most of the bones not familiar to me, I am greatly indebted to Johannes Lepiksaar of the Naturhistoriska Museet in Göteborg, Sweden. The warm hospitality with which both he and his wife received me and the much appreciated instruction in zooarchaeology provided me great inspiration for the realization of this report. Others to whom I am indebted are Robert M. Little for his helpful suggestions and willingness to support and encourage me in my work with the bones; Judy Chapman and Hamat Tawfiq without whom all the tedious labor of cleaning and registering the bones would have been an insurmountable task; and finally, John Lauer whose computer programming made digesting the large quantity of bone data a realistic project.

### *Procedures*

A statement describing certain departures from and additions to the first season's field and laboratory techniques is in order. A "bone tent" erected at the excavation site accounts for some of the changes. While during the 1968 expedition bones had to be transported directly from the *tell* to the headquarters in Amman before being handled by the anthropologist,[3] the 1971 expedition's "bone tent" made possible a sorting of fragments in the field. Bones were left in the tent overnight to dry and harden. The following morning they were sorted by the anthropologist. Bones saved were then cleaned by dry brushing and registered according to the system described by Little.[4] Only clean and registered bones were transported to headquarters for further processing.

At Loma Linda University, the data recorded at the field station—findspot, animal sort, element (humerus, radius, etc.), type of fragment (distal end, charred, epiphysis, etc.), measurements—were transferred to 80-column cards. A computer program was written to provide collation of this information according to each of these categories; as, for example, all material arranged according to findspots or all material arranged according to animal sorts, etc.[5]

### *Domestic Animal Remains*

Sheep/goat remains were found in greater quantities than were any other domestic animal remains throughout all periods of human occupation thus far discovered at *Tell Ḥesbân*. They constitute roughly 71% of all collected bone material. More than 97% of these come from Squares B.1 (688 fragments), B.4 (122), C.4 (251), C.5 (338), and D.6 (543). The most frequently occurring bones were proximal or distal ends of limb bones, such as metapodialia, radii, tibiae, humeri, femora, first and second

[3] Robert M. Little, "An Anthropological Preliminary Note on the First Season at *Tell Ḥesbân*," *AUSS*, 7 (1969), 234, 235.

[4] Ibid., 233.

[5] Computer assistance was received from the Loma Linda University Scientific Computational Facility supported in part by NIH Grant RR-276-07.

phalanges, pelvis fragments, vertebrae, scapulae, and mandibles.

Sheep and goats seem to have constituted the major source of flesh food. This is evidenced by the fragmentary nature of practically all of these bones and by the number of cut, split, and roasted bones. Greatly assisted by the discussion of butchering techniques in the Deh Luran Plain,[6] it was possible to attempt a reconstruction of some aspects of the butchering process, at least for the periods represented in Square B.1.

Butchering marks on at least four different atlantes and on three axes suggest that throat-cutting was done with the ventral or "throat-side" upward. The forelimb seems to have been removed as a unit by some process which nearly always destroyed the blade of the scapula. (Only in a few instances involving young animals was this not the case.) Frequently cut-marks on the distal end of humeri and proximal end of radii suggest further efforts to separate the meat-rich humerus from the remaining meat-poor limbs.

Numerous butchering marks on vertebra fragments indicate that the vertebral column was sectioned into smaller pieces. The butchering process seems also to have involved the slicing of the pelvic bone through the sacrum and thereafter into smaller sections. Practically all pelvic fragments could be grouped into six standard pieces resulting from this procedure. The femur, which incidentally seldom showed butchering marks at the proximal end, was probably separated from the body along with the rest of the hind limbs by disjointing the proximal femural joint.

When the bones had been stripped of flesh, they were broken open, perhaps to enable the marrow to be extracted. This must have been done especially with marrow-rich bones like humeri as these were never found unbroken. In order to shake the marrow out of the shaft of the bone, the bone seems to have been tapped against a hard surface. Pitted and chipped shafts were not infrequent.

[6] Hole, Frank, *et al.*, "Prehistory and Human Ecology of the Deh-Luran Plain. An Early Village Sequence from Khuzistan, Iran," *Memoirs of the Museum of Anthropology, University of Michigan* (Ann Arbor, Mich., 1969), pp. 288, 289.

Even though only 264 bone fragments of cattle were identified, this number does not by itself prove that cattle were unimportant when compared with the number of sheep/goat bones (2012). Lepiksaar[7] has pointed out that the per capita food value indicated by each cattle bone recovered is considerably larger than that of sheep and goat. Thus we may safely infer that cattle constituted an important second source of flesh food.

Cattle remains were more evenly distributed in all the Squares than were the remains of sheep and goats, but even so 61% came from the following five Squares: B.1 (23 bones), B.4 (43), C.4 (27), C.5 (35), and D.6 (34). A great majority of the bones were first and second phalanges. The other limb and body bones were present in varying quantities with metapodialia in the lead.

Pig remains were well distributed in many loci at *Tell Ḥesbân:* A.1:28, 43, 58; A.2:25, 28, 35, 79; A.4:27; B.2:22; B.3:27; B.4:1, 6, 15, 16, 50, 55, 57; C.1:15, 38; C.2:14; C.4:19; C.5:1, 2; D.1:43, 44; D.6:35, 36, 45. Most of the bones were those of young animals. Only one charred metapodial from C.1:38 gives us any hint as to the preparation of pork.

Of the 44 camel bones unearthed, 19 were found in Loci B.1:94, 97, 100. Most of these bones were vertebrae. There was also one well-preserved metapodial and some first and second phalanges found in this spot. Other locations in which camel remains, mainly phalanges and metapodialia, were found include: A.6:18; B.4:5, 15; C.1:1, 7; C.4:25, 35, 55, 58; C.5:1, 3-5; and D.6:1.

Horses seem to have played no great role during any period of occupation at *Tell Ḥesbân.* Only about one dozen bones from Squares A.5:4; B.1:94, 97, 100; and C.5 could be identified as horse remains. These were either metapodialia or first and second phalanges. There was a significantly greater amount of donkey remains found: altogether more than 60 bones distributed predominantly throughout Loci B.1:44, 89, 94, 96, 97, 100, 103, 304; C.4:13, 19, 22, 35, 55, 58; and C.5:1-4. Some traces of donkey were also found in most of the other Squares, especially in Loci

[7] Lepiksaar, "Nytt om djur från det medltida ny Varberg," *Särtryck ur Varbergs Museums Årsbok* (1969), pp. 4, 5.

D.6:1 and 33. The bones were largely fragments and broken ends of limb bones as well as well-preserved phalanges. Loci B.1:94, 96, 97, and 100 provided an exception as at least 18 vertebrae, a pelvis, and a sacrum fragment were found in those loci.

Bones of cats were found more frequently than those of dogs: 37 to 10. The remains of these two animals were found strewn throughout most Squares: cats in Loci B.4:6, 11, 39; C.1:32; C.4:25, 39; C.5:3; D.5:88; and D.6:33; and dogs in Loci A.1:45; B.1:304; B.2:35; B.3:2; B.4:6; C.1:26; C.4:3; C.5:5; and D.6:33. Most of these remains were limb bones, although mandibles were also quite common.

"Domestic chicken" almost sums up the extent of poultry found at *Tell Ḥesbân* in 1971. Furthermore, poultry seems to have been especially important to the Ayyūbid/Mamlūk (ca. 1174-1516) inhabitants of our site as more than half of the 238 chicken bones and the nearly whole skeleton of the only domestic pigeon found were recovered from the Mamlūk fill in Cistern D.6:33. Aside from two goose bones found in Locus C.1:45, domestic goose remains were also limited to that same locus in D.6.

The only other Squares in which domestic bird bones were present in somewhat significant quantities were A.1, B.4, C.1, and C.5. It should be noted that while most of the domestic animal bones were broken, the fragile chicken bones were mostly unbroken. The reason for this is that bird bones are hollow and contain no marrow which could be extracted and eaten.

### *Wildlife Remains*

Gazelles seem to have been the mammals most frequently hunted by the occupants of our *tell*. Their remains, consisting of 20 limb bones, were distributed throughout most of the Squares: A.1:58; A.3:Surface; A.6:18; B.1:116; B.4:1, 10; C.2:12; C.4:2, 54; D.5:8; D.6:1, 20, 23, 31, and 33. Gazelles were probably hunted in the nearby mountains and plains to which they came from the surrounding deserts.

One of the more interesting remains unearthed in Locus C.5:5 was a nearly complete hyena mandible. Because hyenas are

numerous in Palestine and feed on carrion, they were naturally attracted to village refuse heaps.[8]

Red fox remains amounted to one mandible from Locus B.4:29, and one scapula and one radius from Cistern D.6:33. Foxes feed on fruits, insects, birds, mice, and carrion, and are as a rule common in cultivated fields surrounding villages.[9]

A femur of a Eurasian badger was found in Locus C.1:20. Badgers are abundant in the hilly and woody parts of the country, and their skins, valuable to traders,[10] may have been the reason for their presence at *Tell Ḥesbân.*

Another femur, identified as coming from a weasel, was found in Locus A.4:28. Its presence at the site is perhaps best explained by its diet: rats, mice and voles, moles, small birds, frogs, rabbits, and, at times, carrion. All of these abound in inhabited territory.

A porcupine femur from Cistern D.6:33 adds further to the faunal assemblage from that locus. Porcupines are reportedly thought of as good food by bedouins,[11] hence this remain may indicate that the Mamlūk inhabitants also favored it.

The Syrian mole-rat, abundant all over Palestine, was relatively well represented with three skull fragments from Loci B.1:13; D.5:51; D.6:50, and one femur from B.4:15.

An ulna and a femur, possible remains of the Egyptian hare common to the Jordan valley, were found in Loci C.4:49 and D.6:21. A pelvis fragment of a rabbit (*Oryctolagus cuniculus*) was found in C.5:3. Both of these animals probably served to supplement the meat diet.

Remains of eight species of wild birds were found: (1) partridges (one ulna from Locus A.6:25; one tarsometatarsus each from A.6:74 and C.1:7; one humerus and one ulna from C.4:25; one ulna from C.4:22; two ulnae and one radius from D.6:15; one humerus and one femur from D.6:33; one humerus from

[8] S. I. Atallah, "A Collection of Mammals from El-Jafr, Southern Jordan," *Zeitschrift für Säugetierkunde,* 32 (1967), 307.

[9] Ibid.

[10] F. S. Bodenheimer, *Animal Life in Palestine* (Jerusalem, 1935), p. 108.

[11] Ibid., p. 104.

D.6:47); (2) ravens (two ulnae and one tibiotarsus from D.5:5); (3) crows (one ulna from B.1:103); (4) coots (one humerus from B.4:14); (5) bustards (one humerus and two femurs from D.6:33); (6) griffon vultures (one tarsometatarsus and one coracoidium from C.5:2; one carpometacarpus from C.5:3); (7) Egyptian vultures (one radius from C.5:3); and (8) ostriches (one tarsometatarsus from A.6:18). These were among the types whose bones could be identified by comparison with specimens at the Naturhistoriska Museet in Göteborg.

Most of these birds, except perhaps the two vultures (because of their steady diet of carrion), probably formed part of the diet of the city's inhabitants. The partridge seems to have been the most commonly hunted bird listed as its remains were relatively plentiful. These birds are great runners and will not fly unless compelled to do so. According to Bodenheimer,[12] the Arabs exploited this characteristic of partridges and occasionally arranged "battues" in order to exhaust the birds, so that they could then kill them with sticks.

According to the sources available,[13] all eight species were at one time common in Palestine. All were year-round inhabitants except the Egyptian vulture, a summer breeder only, and the coot, common primarily in the country's waters during the winter.

Members of three families of fish have so far been identified. They are the Siluridae, a family of the suborder Nematognathi, or catfishes; Scaridae, or parrot fishes; and Scombridae, or the true mackerels. Pectoral fin spines of catfish were found in Loci C.4:17, 18, 27, 39, 63, and D.6:5.

The large assortment of parrot fish remains will be presented according to structures. The lower pharyngeal bones are readily identifiable as they are much enlarged and solidly united, their teeth being oblong and spoon-shaped and appearing as a mosaic on the concave surface.[14] Four such lower pharyngeals were

[12] Ibid., p. 172.

[13] F. Hüe and R. D. Etchécopar, "Notes ornithologiques du moyen-orient: I, II," *Oiseau et la revue français d'ornithologie,* 36 (1966), 95-109, 233-251; and Bodenheimer, *Animal Life,* pp. 133-180.

[14] D. S. Jordan, *Fishes* (New York, 1925), p. 604).

found in Loci C.4:97 and C.5:3 and 5. Upper pharyngeals were more numerous, and were distributed as follows: one from Locus B.2:1, one from C.1:17, two from C.4:18 and 54, and three from unknown loci in Squares C.3 and C.4. Other parrot fish remains were premaxillary, one dental dexter, and one caudal vertebra from Locus C.5:3, and one caudal vertebra from C.5:1.

Presently only one vertebra from Square C.1 (the locus is unknown; the pottery pail with which it was associated is 373) establishes the presence of mackerels at *Tell Ḥesbân.*

Catfish, primarily freshwater creatures, are common in the major lakes belonging to the Jordan system.[15] They inhabit the river bottoms from whence they were probably drawn and brought to our *tell.* Parrot fish and mackerels are marine and inhabit the warm seas of the Near East. Both have been reported as existing in the Gulf of Aqaba and in the Red Sea.[16] Their presence in the Mediterranean is also quite likely.

### *Comparison of the Bones from Squares B.1 and D.6*

A comparison of the remains from Square B.1 with those from D.6 reveals some interesting differences. Both Squares contained an approximately equal number of remains, 948 from B.1 and 940 from D.6. Furthermore, both Squares produced remains mostly from certain distinct periods: B.1 contained mainly finds from the Iron Age, while D.6 furnished mainly Ayyūbid/Mamlūk finds. (Incidentally 64% of the bones in D.6 came from the Ayyūbid/Mamlūk soil layers in Cistern D.6:33.)

In Fig. 11 the faunal assemblages of B.1 and D.6 are compared. It shows that there were twice as many individual species represented in D.6 as in B.1. Sheep/goat and cattle were of approximately equal importance in the two periods represented by the remains in the two Squares. Donkey, horse, and camel were significantly more common in B.1; whereas in D.6 chicken especially, but also numerous other wild mammals and birds, seem to have been more popular.

[15] Bodenheimer, *Animal Life,* pp. 417-420.

[16] H. Steinitz and A. Ben Tuvia, "Report on a Collection of Fishes from Eylath (Gulf of Aqaba), Red Sea: I; II, *Bulletin, Sea Fisheries Research Station, Israel,* 2 (1952), 1-12; 93 (1956), 1-15.

| | *B.1* | *D.6* | | *B.1* | *D.6* |
|---|---|---|---|---|---|
| Horse | 5 | 1 | Mole-rat | 1 | 1 |
| Donkey | 33 | 3 | Hare | — | 1 |
| Cattle | 48 | 34 | Porcupine | — | 1 |
| Sheep/Goat | 510 | 540 | Crow | 1 | — |
| Gazelle | 1 | 6 | Pigeon | — | 16 |
| Camel | 19 | 2 | Chicken | 1 | 122 |
| Pig | — | 1 | Partridge | — | 1 |
| Cat | — | 5 | Bustard | — | 3 |
| Dog | 1 | 2 | Goose | — | 1 |
| Red fox | — | 2 | Turtle | — | 1 |

Fig. 11. A comparison of the faunal assemblages in B.1 and D.6.

Fig. 12 compares the meat-poor bones of cattle and sheep/goat with their meat-rich bones in B.1 and D.6. The comparison shows little variation within the meat-poor bone categories but significant variation among the meat-rich bones. Square D.6 had nearly twice as many meat-rich bones of sheep/goat as did B.1 and, even though the cattle remains were few, their presence in B.1 is considerably more impressive than in D.6.

| MEAT-POOR BONES | | | | | MEAT-RICH BONES | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Cattle* | | *Sheep/Goat* | | | *Cattle* | | *Sheep/Goat* | |
| | *B.1* | *D.6* | *B.1* | *D.6* | | *B.1* | *D.6* | *B.1* | *D.6* |
| Metapodialia, u.d. | 8 | 6 | 5 | 14 | Scapulae | 1 | 0 | 54 | 69 |
| Metatarsals | 0 | 1 | 5 | 8 | Humeri | 5 | 0 | 48 | 58 |
| Metacarpals | 2 | 0 | 10 | 20 | Tibiae | 4 | 4 | 34 | 68 |
| Mandibles | 0 | 1 | 54 | 27 | Radii | 4 | 0 | 32 | 64 |
| First Phalanges | 5 | 13 | 29 | 27 | Pelves | 0 | 0 | 53 | 93 |
| Second Phalanges | 4 | 7 | 4 | 7 | Femora | 0 | 0 | 8 | 71 |

Fig. 12. A comparison of the meat-poor and meat-rich bones of cattle and sheep/goat in B.1 and D.6.

One final comparison between the bones from these two Squares was made to discover the age at which most of the animals were slaughtered. Remains of young animals can be easily detected because their bones are without epiphysial unions. We found nearly twice as many diaphyses (without heads) and epiphyses (without shafts) in D.6 as in B.1. It can thus be concluded that animals were slaughtered at a younger age by the

Mamlūks whose food remains were found in D.6 than by the earlier inhabitants whose food remains came to light in B.1.

### *Conclusions*

Thus far a list composed of 36 kinds of animal forms has been assembled from the remains found during the 1971 season of excavations at *Tell Ḥesbân.* This list includes eight large mammals, ten small mammals, two reptiles, three fishes, and two invertebrates. Domestic animals, especially sheep/goat and cattle, make up the majority of the identified fauna. Sheep/goat seem to have been the most important animals throughout all periods represented. Their bones, found in nearly all occupational levels, testify to their great economic value as the primary food animals.

Cattle were also of great economic value throughout most periods, as shown by the fact that 264 identified cattle bone fragments were found comparatively evenly distributed in most Squares. The least important of the domestic animals were pigs, which appear to have been slaughtered at a very young age.

Camels and donkeys seem to have been more common than horses; and remains of cats greatly outnumber remains of dogs.

Poultry at *Tell Ḥesbân* included domestic pigeons, geese, and chickens, with the last mentioned being by far the most evident. The fact that nearly half of the chicken bones were found in Cistern D.6:33 and that no chicken bones were found in Square B.1 might indicate that the Ayyūbid/Mamlūk inhabitants of our *tell* depended much more on birds than did the inhabitants of earlier times.

Gazelles, partridges, catfish, and parrot fish were the most popular game animals. Traces of other wild animals which may have contributed to the diet included porcupines, mole-rats, hares, rabbits, crows, ravens, coots, bustards, ostriches, and mackerels. Remains of hyenas, red foxes, badgers, weasels, vultures, snakes, turtles, freshwater mussels and snails were also found.

A comparison of the earlier remains from Square B.1 with the later ones from D.6 resulted in the following differences: (1) B.1

contained fewer different species but more domestic animals than did D.6, while the latter showed an increase in game animals and poultry; (2) meat-rich bones of sheep/goat were almost twice as numerous in D.6 as in B.1; and (3) animals were slaughtered at a much younger age in D.6 than in B.1.