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## HESHBON 1968

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ANDREWS UNIVERSITY

HESHBON EXPEDITION

THE FIRST CAMPAIGN AT *TELL HESBÂN* (1968)

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Set at the edge of the rolling Moabite plain where *wadis* begin to cut down sharply to the Jordan valley to the west, *Tell Hesbân* (Biblical Heshbon) commands a panoramic view to the east, south and west from its topmost elevation of 895 meters above sea level. Located 26 road kilometers southwest of Amman in the Transjordan, it is some 11 kilometers north of the present administrative headquarters for the district, Madeba. Jerusalem lies about 75 kilometers straight off to the west, and on clear mornings one can see the green of Jericho and the waters of the Dead Sea some 30 kilometers west at the bottom of the valley. Access to the modern village is provided by good asphalt roads from both Amman and Madeba.<sup>1</sup>

Since no accurate contour map of the site was available prior to the beginning of the first season's work, the conformation of the *tell* can be described only in a general way. Most striking is a rectangular shaped acropolis *ca.* 40 m. north-south by 30 m. east-west. Surrounding it on all sides is a gradually sloping shelf from *ca.* 40 to 60 m. wide from which a rapid drop to lower levels is discernible on all sides except the southwest. These two features comprise the main contours visible as one approaches the site and were the prime focus of attention in the first season's excavation (Plate X: A).

<sup>1</sup> For location of the site in relation to other centers of culture at various periods, cf. any standard Bible atlas, *e.g.*, H. G. May, ed., *Oxford Bible Atlas* (London, 1962), pp. 49, 57, 59, 61, 63, 65, 69, 73, 77.

Evidence of ruins continued on a long sloping ridge running southwest from the main *tell*. This included substantial walls of buildings in various states of disrepair. In addition, this ridge has become the location of the houses of most of the present villagers, built mainly along the access drive from the asphalt road which skirts the *tell* to the east.

Two other general features are noteworthy. The *Wadi Hesbân* drops rather sharply from the plain north of the site to form a deep cut on the west side of the *tell* running from north to south, subsequently turning west in its course down to the Jordan valley.

Across the *wadi* is another ridge of the limestone and chert native to the area. Pockmarked with an estimated hundred or more caves (some natural) still being used for animal pens, crop storage and winter dwellings, the ridge is sufficiently high to cut off visibility from the *tell* to the northwest at a distance approximately a mile from the acropolis. This comprised the most serious limitation to the excellent pattern of visibility range which enhanced the defense potential of the ancient city.

The weather pattern is the two-season climate characteristic of Palestine, dominated by a northwest wind which blew regularly throughout our working season with a definite cooling effect on the sun's heat even at mid-day. That this factor assists in sustaining the agriculture carried on in the surrounding plains is evident even to the casual observer.<sup>2</sup>

Conspicuous in the assessment of the total resources of the site is the lack of any ample natural sources of fresh water. That compensation in the form of cistern storage facilities should comprise a considerable proportion of ancient construction is no more surprising than the extensive use of such facilities by the modern inhabitants.

<sup>2</sup> On a few of our working days the wind was sufficiently strong to impede efficiency. It was felt primarily by the crews working on the west side of the *tell* (in dirt-moving operations) and by the architects and photographers (anchoring drawing boards and altitude photographic gear required special precautions).

*Heshbon's History From Literary Sources*<sup>3</sup>

The prominence of *Heshbân* is well attested in several historical periods from literary evidence available.

Heshbon is mentioned first in connection with the Israelite invasion of Transjordan some 40 years after the Exodus. At that time Heshbon was the capital of Sihon, king of the Amorites. However, according to Num 21:26-30, Sihon had expelled the Moabites from Heshbon, hence the Moabites must have been in possession of that city prior to the arrival of the Amorites. This is further confirmed by the fact that in the Pentateuch the area surrounding Heshbon is called "the plain of Moab" or "the land of Moab" (Num 22:1; 31:12; 33:48; 36:13; Dt 34:5, 6). However, in Moses' time the northern border of Moab was the river Arnon, some 40 kilometers south of Heshbon.

When the Israelites arrived from Egypt they requested from Sihon of Heshbon permission to travel through his land. When Sihon denied this request a war ensued, which the Amorites lost. In the course of the war, Heshbon was taken and apparently destroyed; at least the Biblical record speaks of "the children of Reuben" as having built (or rebuilt) Heshbon after the city was allotted to them (Num 21:21-26, 34; 32:37; Jos 13:15, 17).

Later, the city seems to have changed hands, for according to Jos 21:38, 39, it belonged to the tribe of Gad. The possession by Gad of the Heshbon area is confirmed by King Mesha of the 9th century who claims in the Moabite Stone inscription to have taken the territory north of the Arnon from the tribe of Gad who had occupied it (lines 10, 11). By the time of Judge Jephthah, Heshbon had been a city in which Levites dwelt (Jos 21:39; 1 Chr 6:81).

<sup>3</sup> This brief account of the history of Heshbon as known before excavation began is based on a B.D. thesis presented by Werner Vyhmeister and deposited in the James White Library of Andrews University. A condensation appeared in *AUSS*, VI (1968), 158-177.

In Solomon's time "the country of Sihon, king of the Amorites," in which Heshbon was situated, is mentioned as belonging to one of the districts into which that king organized his realm (1 Ki 4:19). In Canticles "the fishpools of Heshbon, by the gate of Bath-rabbim" (ch. 7:4) are mentioned. Bath-rabbim seems to have been the name of a city gate.

For two centuries the Bible is silent about Heshbon, but in the time of the prophet Isaiah (*ca.* 700 B.C.) Heshbon, together with Madeba, Elealah, and other cities, which had formerly belonged to Israel, appears to have been in the hands of the Moabites (Is 15:2, 4; 16:8, 9). It is possible that the city fell to them as the result of Mesha's conquest of the Gadite territory described on the Moabite Stone, although Heshbon is not mentioned in that inscription. That conquest took place in the second half of the 9th century and preceded Isaiah's prophecy by more than 100 years.

In a prophecy of Jeremiah (ch. 48:2, 34, 45) Heshbon shares the prophet's denunciation with other Moabite cities, indicating Moabite possession in the earlier part of Jeremiah's ministry. However, in a later oracle of Jeremiah (ch. 49:2, 3), Heshbon appears to be an Ammonite city, having apparently changed hands during Jeremiah's life. How and when this happened is uncertain, but it has been suggested that Eze 25:9, 10 casts light on this event. This passage refers to an invasion of eastern tribes and of the Ammonites, in connection with which Heshbon may have fallen into their hands.

During the Hellenistic period a strong Jewish population developed in Transjordan. In order to bring this region into the Jewish state founded by the Maccabees, their rulers—Jonathan in 147 and John Hyrcanus in 129—annexed territories beyond the Jordan. The last mentioned king captured Madeba (Jos., *Ant.* xiii. 9.1). Although Heshbon is not mentioned in the records dealing with these wars, there can be little doubt that it must have come into the possession of John Hyrcanus at that time, because it is listed among the cities of Moab that were in Jewish hands soon after, namely during

the reign of Alexander Jannaeus, who ruled from 103-76 (*ibid.*, 15.4).

During the time of Herod the Great (40-4), Esbus—as Heshbon was then called—became a fortress city guarding Herod's kingdom against the Nabataeans in Transjordan. At the outbreak of the Jewish-Roman war in A.D. 66 the city was sacked by the Jews (Jos., *War*, ii. 18.1), but it does not seem to have been held by the Jewish rebels for any length of time. After Emperor Trajan dissolved the Nabataean kingdom in A.D. 106, Esbus became part of the Roman province of Arabia Petraea. In the third century it was even allowed by the Emperor Elagabalus to coin its own money.

At what time Esbus became a Christian city is not known, but that it was the seat of a Christian bishop in the 4th century is attested by the records of the Council of Nicaea in 325, which repeatedly mention Bishop Gennadius of Esbus. Again the acts of the Council of Ephesus, held in 431, mention a bishop of Esbus whose name was Zosus. At that time the bishop of Esbus seems to have been subject to the patriarch of Antioch.

Soon after the invasion of the Arabs in the 7th century, Heshbon seems to have ceased as a Christian city. The last evidence of Heshbon's Christian character consists in correspondence of the 7th century between Pope Martin I and Theodore of Esbus concerning the latter's orthodoxy. After this correspondence, the name Esbus disappears from the literary sources, reappearing only centuries later in its Arabic form *Hesbân*.

After the Arabic invasion a clear historical reference is not found until 1184, when Ed-Dîn, a biographer of Saladin, the great Moslem leader who defeated the Crusaders, referred to *Hesbân* as a village. In his history of Saladin, Ed-Dîn says that the Franks, that is, the Crusaders, had taken up positions at *el-Wâleh* (the Biblical Elealah), while Saladin encamped close to a village called *Hesbân*, before advancing toward Kerak.

Another Arab writer, Abu el-Feda, who died in 1331, said that "the capital of the Belka is Husban." Also during the 14th century several other Arabic writers mention *Hesbân*. But after that there is complete silence with regard to this site until the 19th century, when, during the age of Near Eastern explorations, *Hesbân* is frequently described by travelers and explorers. However, they know it only as a ruin site, a desolate mound, void of inhabitants.

The present population of the village of *Hesbân* consists of four families who until a few decades ago were Bedouins. They were settled on the eastern slopes of the mound by the Nabulsi family, wealthy landowners who had moved to the *Hesbân* area from western Palestine toward the end of the 19th century. It is therefore unlikely that the present villagers of *Hesbân* have either a historical or an ethnic connection with the people of ancient Heshbon, Roman Ebus, or even with the *Hesbân* of the early Arab periods.

#### *History and Organization of the First Heshbon Expedition*

In the spring of 1966 several board members of the Archaeological Research Foundation of New York pledged to support three seasons of archaeological work under the sponsorship of Andrews University at some site in Palestine. The offer was accepted by the board of trustees of the university, and Siegfried H. Horn was appointed as director of the expedition, being at the same time authorized to lay plans for excavations to begin in the summer of 1967.

In the summer of 1966 Horn spent several weeks in Jordan looking over sites which needed archaeological investigation. He also asked certain prominent scholars, among them Martin Noth and Roland de Vaux, for suggestions. Traveling through Palestine and examining prospective sites, he found the villagers at one place adamantly opposed to archaeological work. At another he discovered that the site in which he was interested was owned by several landlords and that to obtain



a lease or grant would have involved long and tiresome negotiations, probably also much money. One appealing site lay in an area restricted by the military, and another was too far from human habitation to obtain labor and water.

But there was one site to which he returned again and again, a site with which he had already been greatly impressed when he saw it for the first time in 1953—Heshbon, the capital city of Sihon, king of the Amorites. In 1966 a new asphalt road was being constructed that passed the mound of Heshbon, giving easy access to the site, which had formerly been quite inaccessible. He also learned that the mound was government-owned, so that it would not be necessary either to rent or lease the area of excavation. Furthermore, he discovered that the local villagers and the elders were extraordinarily friendly and eager to see archaeological work done.

After the decision had been made to excavate at Heshbon an application for an excavation permit was submitted to the government of the Hashemite Kingdom of Jordan. Awni Dajani, Director General of the Department of Antiquities, kindly supported this request, and a permit was granted in due time.<sup>4</sup> The American Schools of Oriental Research promised cooperation, the use of its tent camp and digging equipment at Heshbon, and the use of its headquarters in Jerusalem. Several staff members of the Shechem Expedition, who had received their field training together with Horn, were willing to join the Heshbon expedition as area supervisors, and one as the expedition's chief archaeologist. Surveyors and photographers, an anthropologist, and certain college teachers and students from several countries applied for places on the

<sup>4</sup> Dr. Dajani, a dear friend of all Palestinian archaeologists who have worked in recent years in Jordan, died February 1, 1968. His passing was a great loss for his country and Palestinian archaeology. Tribute is here paid to a man and friend who cannot be replaced. In 1953 he was my (Horn's) travel companion through the length and breadth of Transjordan, and he taught me, a stranger and newcomer to the land, innumerable and valuable lessons. His friendship will not be forgotten.

staff, the understanding being that each paid for his transportation and maintenance.

All plans were laid to begin work at Heshbon June 5, 1967. The Director arrived in Jerusalem several days ahead of time and found a few staff members already there. The tent camp of the ASOR was transferred to Heshbon, and all arrangements with the government and the local people were made. But ominous war clouds were hanging over the whole Near East. Eight days before the excavations were to begin all staff members who had not yet left their home countries were advised by telegram to postpone their journey. But the tensions continued to rise, so that on Sunday, June 4, telegrams were sent out canceling the expedition. The tent camp was brought back to Jerusalem on the same day. The next day, Monday, June 5, the day when the work at Heshbon should have begun, the Israeli-Arab war broke out and put an end to all plans to excavate at Heshbon during that year.

After a few weeks of indecision it was recognized that even under the new situation as created by the Six-day War, archaeological work in Jordan should and could be continued. New plans were laid. Richard Hammill, president of Andrews University, pledged his support for a renewed venture. Some who had pledged money to support the expedition indicated that they would continue to help, and many of the 1967 staff members were willing to try again in 1968. A great boost was given to the new plans when G. Ernest Wright, president of the ASOR, promised to raise money for new equipment to be used on the east bank of Jordan, and to pay for the transportation of two key staff members who were also to be engaged in excavations at Shechem that same summer. The government of Jordan graciously renewed the excavation permit.<sup>5</sup>

<sup>5</sup> Thanks are herewith expressed to Rafiq W. Dajani, assistant director of the Department of Antiquities, who was most helpful in supporting the new application for an excavation permit and obtaining it. Not only to him, but also to Mikhael Jmei'an, Director General

Since two key members of the Heshbon staff were involved also in the Shechem excavations, the 1968 season of which was scheduled in June and July, the Heshbon expedition had to be scheduled so that it would follow the Shechem dig. This explains why it started as late as July. A special difficulty was created by Syria's remaining closed to American and British citizens, forcing staff members who drove cars, which were needed by the expedition, to make a week-long detour through eastern Turkey, western Iran and Iraq, in part over incredibly bad roads.

But in the end all difficulties were overcome. A large staff of 42 members, traveling by various means, assembled at Amman and carried out the Heshbon expedition according to plan, excavating at the site for seven weeks, from July 15 to August 30. Since the money provided by the ASOR was insufficient to purchase a complete tent camp for a major expedition and the political tension in the country seemed to make it advisable to spend the nights in a city, permission was sought from and most graciously granted by the president of the Middle East Division of Seventh-day Adventists to use the Adventist school building in Amman as headquarters.<sup>6</sup> The facilities were a real godsend. The half-hour ride to and from the site each day was an inconvenience more than offset by the facilities available at the Adventist School, which made our stay pleasant and materially aided in the success of our work.

The auditorium of the school served as dormitory for our 30 men. Five classrooms provided offices for registry operations, the architects and photographers, director and anthropologist, and sleeping quarters for women; the open hall in

of the Department of Antiquities during the summer of 1968, a word of thanks is due. Without their kind co-operation and friendly support our work would have been impossible.

<sup>6</sup> It is a pleasure to take this opportunity to express our own and our fellow staff members' deep-felt gratitude to F. C. Webster, president of the Middle East Division and to W. J. Clemons, president of the Jordan Section, for allowing us the use of the school.

front of the classrooms was used as a dining hall; a room underneath a stairway was converted into a darkroom for the photographers; the kitchen and storeroom were the domain of our cook and his three assistants; the back yard provided space for the seven automobiles that gave us mobility—five VW buses, one Volvo limousine, and an old Chevrolet carryall, bought for the ASOR, which served as truck.

The director was the first of the staff members to arrive in Amman. He spent several weeks purchasing equipment, setting up living and working quarters, making contacts with the government, and obtaining the necessary local working force. Several other staff members arrived early and assisted with various preparations. Some remained after the close of excavations for several days to complete records, and assist with the various activities of winding up the expedition's affairs in Amman. A "division of finds" was obtained, made by the Department of Antiquities of Jordan, and also the necessary permits to export the antiquities allotted to the expedition and those loaned for further studies, which, in the division of finds, had been retained for the national collections by the government representative.

The normal daily schedule called for a 3:45 A.M. rising in order to manage a first breakfast, the ride to the site, and a start of the work day by 5:00 A.M. A half-hour break for a second breakfast prepared and eaten on the site was scheduled from 8:30-9:00. A 15-minute break at 11:15 provided an opportunity for staff briefings of the work in each Area once each week. Even the local workmen in surprisingly large numbers took advantage of these opportunities to see what was being done in other Areas. The on-site eight hour work day ended at 1:30 P.M., followed by the drive back to Amman, lunch and a rest period. From 4:30-6:00 the entire staff was engaged in field dating the pottery (some teaching and all learning) or in the production of pottery profile drawings (most took turns learning and practicing the techniques). After the dinner hour there were lectures on special

subjects, reports on particular problems and general discussions by the staff in regard to their records and plans. Formal lectures were scheduled two or three evenings a week. The lights went out at 9:00 P.M.

Two-day weekends allowed several field trips to other antiquity sites on the east bank. Many of the staff took advantage of these opportunities regularly while some chose these days for study and rest.

The health of the group can be reported as having been quite good, although most staff members were plagued at one time or another by expected intestinal troubles that befall Europeans or Americans in the Near East before they become immune to the unaccustomed germs of that part of the world. No serious sickness or accidents interfered with our work. One Area supervisor fell from a high wall but luckily suffered no more than a wrist separation, which healed nicely in a cast; a Square supervisor sprained his ankle and was immobilized for several days, while another staff member, who was thrown out of a car when its door sprang open in a swerving movement to avoid hitting some people on the road, suffered only slight abrasions and some stiffness.

Assignment of staff duties resulted in part from the strategy adopted for the first season's work (see *infra*), and was kept flexible to some extent as the work progressed. Recognizing some shifts which are therefore ignored in this report, the basic assignments were carried out as follows:

Directing the expedition was Siegfried H. Horn. He formulated the aims to be reached and chose the Areas to be excavated. He dealt with the Jordan government and was in charge of the over-all work and all financial transactions of the expedition. Serving as Chief Archaeologist was Roger S. Boraas. He gave instructions in methods and techniques of excavation to those who had joined the expedition in order to obtain training in field archaeology. He also watched over all archaeological procedures to assure that the aims of the expedition would be reached and the best scientific methods applied.

Field excavations were carried on in four sectors of the *tell*, each called "Area" and designated by letter. The team working in each Area was headed by an Area supervisor, who had an associate to assist in the field recordings and drawings of plans and balks, so that the Area supervisor could be left free as much as possible to direct his attention to the excavation work in his Area. In each Area there were also several assistants called Square supervisors, who directed the actual operations and the workmen in each Square.

Area A, on top of the acropolis, was under the supervision of Bastiaan Van Elderen. His associate was Mervyn Maxwell, and the Square supervisors were: Barbara Bergsma, James Brashler, Marvin Hoekstra, Lois Stetler, and Peter Thorne.—Area B, on the shelf, below and south of the acropolis, was headed by Dewey Beegle, whose associate was Ed Grohman. The Square supervisors were: Andrew Bowling, Elaine Hutt and Richard Stetler.—Area C, on the western slope, was under Henry Thompson. His associate was Douglas Waterhouse, and the Square supervisors were: Paul Bergsma (half-time), Lenore Brashler, Kathy Hoekstra, Wayne Leys, Paul Meier and Siegfried Schwantes.—Area D, on the southern slope of the acropolis, was under Phyllis Bird, whose associate was Lawrence Geraty. The Square supervisors were: Keith Bulthuis, John Hutt, Norman Johnson, Chris Leys, and Arthur Spenst.

The surveying staff, frequently and ably assisted by associate Area supervisors and Square supervisors, was headed by Bert de Vries, with whom were associated Architect Paul Belton and his brother Geoffrey, and Draftsman Philip Evans. Their task was to stake out the areas to be excavated, to make top plans and elevation drawings of all architectural features, to ascertain levels in terms of altitudes in meters above sea level of all excavated features, and to make a contour map of the whole mound. Because of lack of time, only a beginning could be made with regard to the last-mentioned task. The survey of the acropolis and the surrounding shelf was com-

pleted (Figure 1), but only the base line of the whole mound was mapped when the excavations ended. The area between the shelf and the base of the mound must still be surveyed in coming seasons, as well as the surrounding areas of the mound, some of which show remains of ancient graves and tombs.

The chief photographer was Avery Dick. He was assisted by George Unger. Paul Bergsma, a Square supervisor, acted as part-time photographer for color work. The photographers made a complete photographic record of all archaeological operations and shot numerous pictures of general interest, but also photographed every architectural or other feature as uncovered and every object found. They were so efficient that complete sets of prints and publishable enlargements had been made of all photographs by the time the expedition completed its work.<sup>7</sup>

Robert Little served as the expedition's anthropologist. He registered and analyzed thousands of bones, unearthed two articulated skeletons, one a headless large cat, perhaps a lynx, the other a mutilated skeleton of a human female adult. After the close of the expedition more than 300 pounds of bones were shipped to America for further study.

The Department of Antiquities of the Hashemite Kingdom of Jordan assigned three of its officials as representatives: Fawzi Zayadin, an experienced archaeologist in his own right; Ghazi Besha, the curator of the Madeba regional museum; and Mohammed Odeh, a restorer of antiquities, whose skills were put to good use when we discovered mosaics in the ruins of a church on the mound. He removed these mosaics from their original beddings and restored them in new reinforced concrete beds for permanent preservation. Foreman for the 115 or more local workmen from the village of *Heshbân* and its environs was Mustafa Tawfiq, veteran of campaigns at *'Arâq el-Emîr* and *Tell Balâṭah*, and now residing in Amman.

<sup>7</sup> All photographs reproduced on Plates X-XXV, except where other credit is given, are the work of Avery V. Dick and George J. Unger.

Hester Thomsen was in charge of all pottery registration and pottery drawing in the headquarters. This was an exacting task, considering that about 12,000 pieces of pottery were registered during the campaign. Sarah Grohman was in charge of the washing of pottery and bones. She also typed the registry lists. She was assisted by three full-time Jordanian pottery washers.

Marion Beegle was registrar of finds. She cleaned the coins and all other objects as they were discovered, entered all data in the registry book and on cards, and drew them to scale.

Camp director was Vivolyn Van Elderen. She was in charge of the cooking and meals, the purchasing of supplies and groceries, and the cleaning of the headquarters. Veterans of west-bank excavations were pleased to see Mohammed Adawi as cook. Three assistants in the kitchen and a campboy, all refugees from *Balâṭah*, completed the headquarters staff. Anita, the daughter of the Van Elderens, served as messenger girl between Areas on the mound and ran other errands.

Several students from the University of Jordan's Department of History and Archaeology joined the crew to obtain practical training in field excavation and recording techniques, and their assistance is gratefully acknowledged. They not only served throughout the four Areas and with the survey team, but also assisted the anthropologist.

### *Strategy, Methods and Techniques Used*

The development of excavation strategy for the first season was governed by several fixed factors, including land availability, contour and surface evidence of the site, and resources of personnel and finances. Advance consultations between the Director and the top field staff resulted in a tentative plan including the following elements.

1. Because no accurate contour map of the site was available and because no preliminary sounding had been done on the site prior to the first season of excavation, these two



goals became primary. It was intended that preparation of the contour map might be done in advance of beginning excavation by a survey team which would arrive early for that purpose. One Area, limited in size, would comprise a "preliminary" sounding for purposes of establishing a guide to the stratigraphy to be expected on the site. The tactics intended for such an Area would be relatively rapid penetration of the strata within the limits imposed by careful identification of the layers, and establishment of a relative chronology as complete as possible. Clues to absolute chronology would assist in drawing conclusions about the historical periods represented in the debris on the site.

2. The prominence of the acropolis indicated the presence of remains of public buildings. Their excavation was therefore in order.

3. A third strategic aim was the interception of the major defense installations at some point along the defense perimeter.

4. When it became apparent that available manpower would allow a fourth Area to be opened, its precise character was kept flexible pending a close on-site inspection, but tentatively an investigation either of the main shelf construction ruins or some portion of the acropolis access routes was thought desirable.

5. Excavation would be carried out according to the principles of the Wheeler-Kenyon method, with primary attention being given to soil layers and their relationships as a means of discerning the stratigraphic history of the site. Field recording, discussed in detail below, was an adaptation from recently used procedures at *Tell-Balâṭah*, Gezer and Pella, aimed at orienting all data to the pertinent soil layer or feature therein. It had been refined by the Chief Archaeologist based on six weeks of field testing at the 1968 season of the work at *Balâṭah*.

Advanced training of the staff had begun with reading recommendations and the adoption of terminology and field recording principles which had been disseminated by the

Chief Archaeologist to the staff of the expedition planned for 1967. The same materials with minor modifications had been mailed to the 1968 expedition staff in January. General instructions were sent by the Director of the expedition concerning travel, accommodations and administrative policies in a series of three circular letters to all staff members. Training of staff inexperienced in field work was part of the overall purposes of the expedition and received major attention in the course of the season's work. Academic credit arrangements were available through Andrews University.

Terminology employed by the expedition will be of immediate relevance to understanding this as well as subsequent reports, so a summary is provided for the reader's convenience. The abbreviation "H 68" was adopted for identifying the 1968 season at Heshbon. A sector of the *tell* in which excavation was carried on was designated an "Area" and identified by a capital letter. As indicated in the staff assignments noted above, work was done in four Areas in the first season, hence the designation Areas A-D. Within each Area the portions opened for excavation, whatever their geometric shape, were each designated "Square" and identified by an Arabic number. "Plan" designates any drawing of a feature viewed from the top. "Section" refers primarily to the drawings of balk faces, both main and subsidiary balks. "Elevation" refers to the drawing of a feature from a given side view, whereas "Level" refers to the altitude above sea level based on computations in relation to the 895 m. bench mark on the highest point of the acropolis.

The fundamental unit in our recording system was the "Locus." It can be defined as any discernible soil layer or any "thing" (wall, pit, hearth) within or related to a given soil layer. Locus numbers were assigned in chronological sequence within each Square, and where helpful within the report, the simple formula of Area, Square and Locus designation has been put D. 2:13, indicating Area D, Square 2, Locus 13. A further convention for ease in reading the report is the use

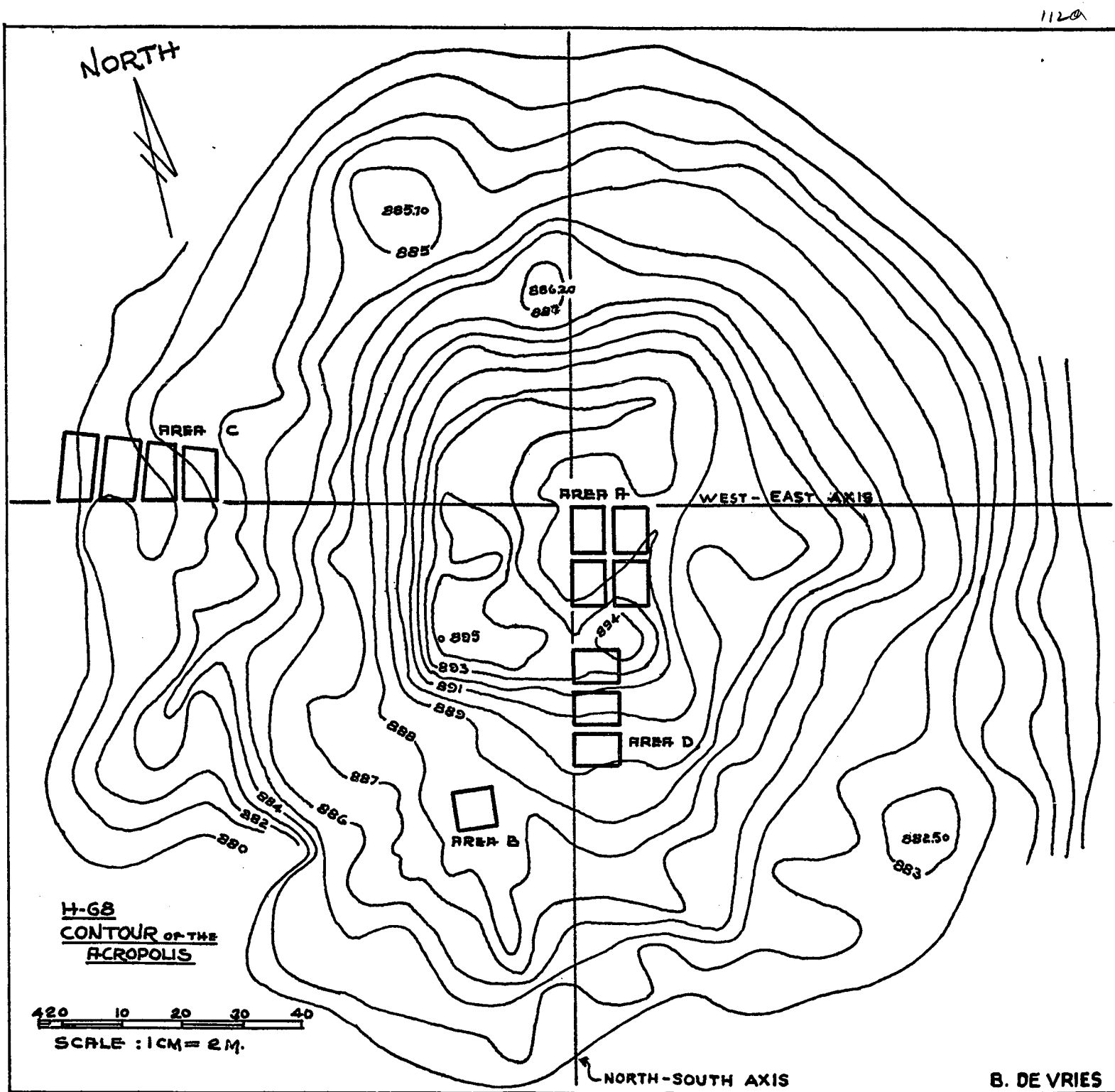


Figure 1. Counter map of acropolis of Tell Hesbân, showing the location of Areas A-D of the 1968 excavations

of certain symbols for particular types of loci. These include a line drawn around a locus number to form a rectangle, designating a wall, *e.g.*, D. 2:[34I]. For a layer comprising an exposed surface, a line under the locus number is used, *e.g.*, D. 2:25. For a definitely identified floor (related to architecture), a double line under the locus number is employed, *e.g.*, D. 2:4. For any of the miscellaneous domestic or industrial installations (ovens, cisterns, stairs, pits), a triangle is placed around the locus number, *e.g.*, D. 2.△19.<sup>8</sup> This serves only to call attention to the fact that the locus is not a normal wall or surface layer.

In the field, the center of the record keeping process was a Field Notebook kept for each Square in which all aspects pertaining to a given locus were entered on a 2-page locus sheet used for every locus identified.

Information gathered for each such locus included (1) a chronological record of its excavation and the excavation tactics employed, (2) a description of its characteristics, (3) measurements in three dimensions locating it in the Square, (4) precise measurements of its dimensions, (5) its relations to loci immediately above, around and beneath it, (6) appropriate levels for its top and bottom (or other level variations), (7) the pottery baskets associated with it (including the field dates and registered sherds for each basket), (8) the objects associated with it (including their registry numbers and a tentative identification of the objects), (9) reference to what Sections indicate its stratigraphic location (a complete set of Sections was drawn for every Square opened), (10) reference to what Plans (Square supervisors' Plans and especially the Architect's Field Sheet numbers) record its location in the

<sup>8</sup> Appreciation is expressed to L. E. Toombs for this suggestion made initially by him for the excavations at Pella, 1967. These symbols were used in all field reports and locus books, but for typographical reasons they are not used in this printed report. Here locus numbers are preceded by their designation, for example: Wall A. 2:12 refers to Locus 12 in Area A, Square 2, as being a wall; in similar way Surface C. 1:11, Cistern C. 4:7, or Floor A. 1:20 should be understood.

Square, (11) all photographs in which it appears (including the photo number, date, time, subject and view direction of the shot), and finally (12) a paragraph of entries in red ink indicating the interpretations of the locus, including the initial impressions and all subsequent revisions by dated and initialed entry. This verbal record was supplemented by scale drawings and sketches of the various loci under investigation in each Square reported daily in a top Plan. Additional helpful details were afforded through subsidiary Plan and Section sketches kept by the Square supervisors with each locus sheet. Alternate sheets of graph and lined paper provided the format for such recording. The result of using such a recording system is a collection of Field Notebooks, providing full and cross referenced information on every locus excavated, comprising the basic data of the season's work. Auxiliary material, such as the photographic collection, the architect's field sheets and inked drawings, pottery profile drawings, object registry and anthropologist's comments are all linked together through references in the locus sheet, providing a ready channel for later checking on any questionable item. The reports of the four Area Supervisors included below are founded on their correlations of such records within the Area in which they worked. That constant diligent attention to the maintenance of such basic record material was necessary for every Square supervisor is obvious.

For interpretation of the results, it was agreed to use a Period, Stratum and Phase designation sequence. Period refers to the general historical divisions of cultural domination on the site. Based on literary references we adopted the general period designations of Modern, Arab, Byzantine, Roman, Hellenistic, Iron III (Persian), Iron II, Iron I and Late Bronze for the first season. Within each Period, one or more Strata may be detected. Normally, distinctions between Strata would be on stratigraphic evidence of a major cultural break supported by ceramic, architectural and object data. Periods are therefore primarily historical designations while

Strata are primarily archaeological data distinctions. Identification of Strata is by upper case Roman numerals. Within a given Stratum, several Phases may be discerned. These would recognize primarily construction phases within a given complex. Major Phases are identified by capital letter, whereas lower case Greek letters were adopted for minor subdivisions. The chief interpretive task within each Square was the correlation of loci into the features (rooms, stairs, courtyards) comprising a Phase of occupation or its subdivisions. The chief interpretive task of the Area Supervisor thus became the correlation of loci from all Squares in the Area in order to form conclusions about the Phases, Strata and Periods represented by the debris treated in the season. As the season progressed it became helpful to use one additional convention in recording. Sometimes, due to extensive erosion or robbing of stones, it was not immediately apparent whether a wall or other architectural structure had gone through several rebuilds and uses and thus may have spanned more than one Phase or even more than one Stratum. In such instances lower case letters were used to indicate stages in the wall construction when the data were not sufficiently clear to warrant changing locus numbers.

A word concerning the field dating of the pottery is in order. In advance of the first season it was recognized that the ceramic horizon of the Transjordanian sites has not been explored sufficiently to allow refined chronological identifications by ceramic typology such as in the case for West bank sites. It was further recognized that the dependability of West bank ceramic criteria for dating purposes would necessarily be open to revision. This applied most obviously to local wares in any instance, but the attempt was made during field dating to give adequate recognition to unidentifiable or undistinguishable forms in each basket, recognizing that detailed study might necessitate revision of dating conclusions based on clues normal in West bank locations. As the first season progressed these recognitions were confirmed (cf. summary matters

*infra*). For such dating as ceramic evidence did allow, the principle of dating by the latest known sherd forms appearing was followed.

The on-site inspection of the *tell* by the director and the top field staff in the days up to and including July 14 led to the following plan for the first season's work.

The decision was made to locate the "preliminary" sounding on part of the shelf of the *tell* just south of the acropolis (see Figure 1). This was designated Area B and, to allow maximum stratigraphic penetration in the first season, comprised only one Square. Its placement in a sector free of surface evidence of walls or other hints of major construction was intended to allow excavation as free as possible of buildings and similar major features. In these considerations we were partly successful.

Investigation of the defense perimeter was designated Area C and was located on the west edge of the shelf at a point where two features dominated the surface evidence. A rapid drop-off into the *Wadi Ḥesbân* indicated that major defense construction had probably been located at the edge of such a natural contour. The surface traces of two possibly tower-like structures with a depression between them gave an appearance of a possible west side gateway construction. The placement initially of two Squares, finally extended to four, laid along a major east-west axis from the very edge of the shelf and running eastward through the north half of the "gateway" toward the acropolis comprised the extent of the Area. Surprises and frustrations were greatest in this Area.

The placement of a grid of four Squares, Area A, in the southeast quadrant of the inside of the acropolis rectangle was governed by two main surface phenomena. One was a series of four column bases set in a roughly east-west line and giving the impression of being part of the roof support of a major classical structure. The second phenomenon was a depression or gap on the east in the perimeter architecture surrounding the acropolis. This gave the impression of a possible east side

access from the shelf to the acropolis. The Squares of Area A were aligned so as to bisect this "entrance" on the south half and simultaneously lay bare the presumed northeast portion of the "building" hinted at by the column bases. The placement of this Area allowed the planned integration of all Areas with reference to a main east-west axis line connecting Areas A and C, and with reference to a main north-south axis line linking the other Areas to Area A.

The placement of Area D, the intentionally flexible sector in pre-season discussion, was based on three main considerations. Examination of the acropolis and south shelf ground surface features gave some basis for suspecting a main access to the shelf from the south-southwest. This seemed to be reinforced by the suspicion of a southern access to the acropolis. Chief evidence for the latter was a pair of partially submerged column drums standing upright in a north-south line as though remnants of roof support over a stairway or access path. The third consideration was the height of architecture on the perimeter of the acropolis, indicating the most recent ruins likely to be available on the acropolis. Area D was set along the line of the main north-south axis in such a way as to test two of the three considerations simultaneously. A series of three Squares was set, starting at the top of the perimeter architecture (so as to diagnose its character and use) and running south so as to bisect the hypothetical access to the acropolis from the south. On both counts the plan was successful. In both Areas A and D the architectural finds bore out the legitimacy of the strategy.

For the details of the first season's work in the various Areas we present herewith condensations of the Area supervisors' reports and interpretations of their findings.



## AREA B

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In order to provide adequate access for a deep sounding a Square  $7 \times 7$  m. was opened. Allowing for a stairway one meter wide and estimating possible excavation depth, the surface at the lowest levels of excavation would still be five meters square. Area B was also designated as a demonstration area in the procedures of the "probe and peel" method of excavation. Therefore all inexperienced personnel on the supervisory staff were on hand to observe the laying out and opening of B. 1 at the season's beginning.

Beneath the grass and surface soil were two occupational layers over fill (Loci B. 1:2 and 4 = 5) with some small scattered remnants of stone structures. Not enough architecture remained to determine the size and purpose of the installations. One exception was Locus B. 1:3, an oval-shaped mound of fist-sized stones (with mud mortar) lined with some larger stones. This installation (associated with Locus B. 1:4 = 5) measured 3.25 m. where the north balk intersected it, and it extended .90 m. into the Square. At first it appeared to be a burial cairn, but sectioning into the locus showed that it was solid rock fill with no skeletal remains whatsoever. Its precise function remains undetermined. The pottery in the mixed fill of Loci B. 1:2 and 4 = 5 ranged back to the Roman and Hellenistic periods, but the two layers clearly date from the late and early Arab periods.

Locus B. 1:3 was built on a pile of large stones, most of which were mason-cut. Later excavation revealed that the pile of stones was fill in Locus B. 1:10, an oval-shaped installation lined with mason-cut stones. Seven to eight courses of lining were ultimately uncovered. The pit for the structure was cut through three meters of occupational debris and fill. When the installation was constructed chink stones and loose, ashy soil were used to fill the space between the edge of the

pit and the stone lining. The result was an excellent example of a foundation trench (Plate XI: A and Figure 3). Whether the installation continued above ground level and whether it was covered are questions which the available data do not answer.

At one time the installation must have been a kiln (lime or brick) since .05-.07 m. thick layers of the inside faces of the lining stones (from top to bottom) were charred and partially separated from the rest of the block. The strong west and northwest winds at Heshbon probably provided the forced draft necessary for such a deep kiln, but the problem of the type of fuel used is still a puzzle. The contents of the kiln were removed down to the level of the bottom course of lining stones, but there was no indication of any fuel (charred or otherwise) in the excavated portion.

In order to make the Area safe for excavation the north balk was notched northward 2.25 m. at the top (for 3.50 m. of the balk length, the width of the kiln at the north balk). The fill in the notched sector gradually sloped down to the regular balk line (Plate XI: A). This operation revealed that the kiln was oval in shape, 3 × 4 m. wide. Furthermore, it gave a good profile of the contents of the kiln. On the east half to two-thirds were many large stones tumbled with open spaces between them. Most of these were mason-cut and they probably came from the acropolis area. This was true of the lining stones as well, and one stone in the bottom course appears to be a quarter of a column base. On the western side of the kiln a pile of burned limestone (ranging from fist-sized to smaller cobbles) covered the slope of the rock fall and extended from top to bottom of the kiln. Since the large stones were not charred like the lining stones, they were not likely part of the superstructure of the kiln. On the other hand, the open spaces between the tumbled stones and the lack of any fuel evidence militate against the view that the stones were placed there in preparation for being fired. It is more likely that after the kiln fell into disuse the pit was filled with its present contents.

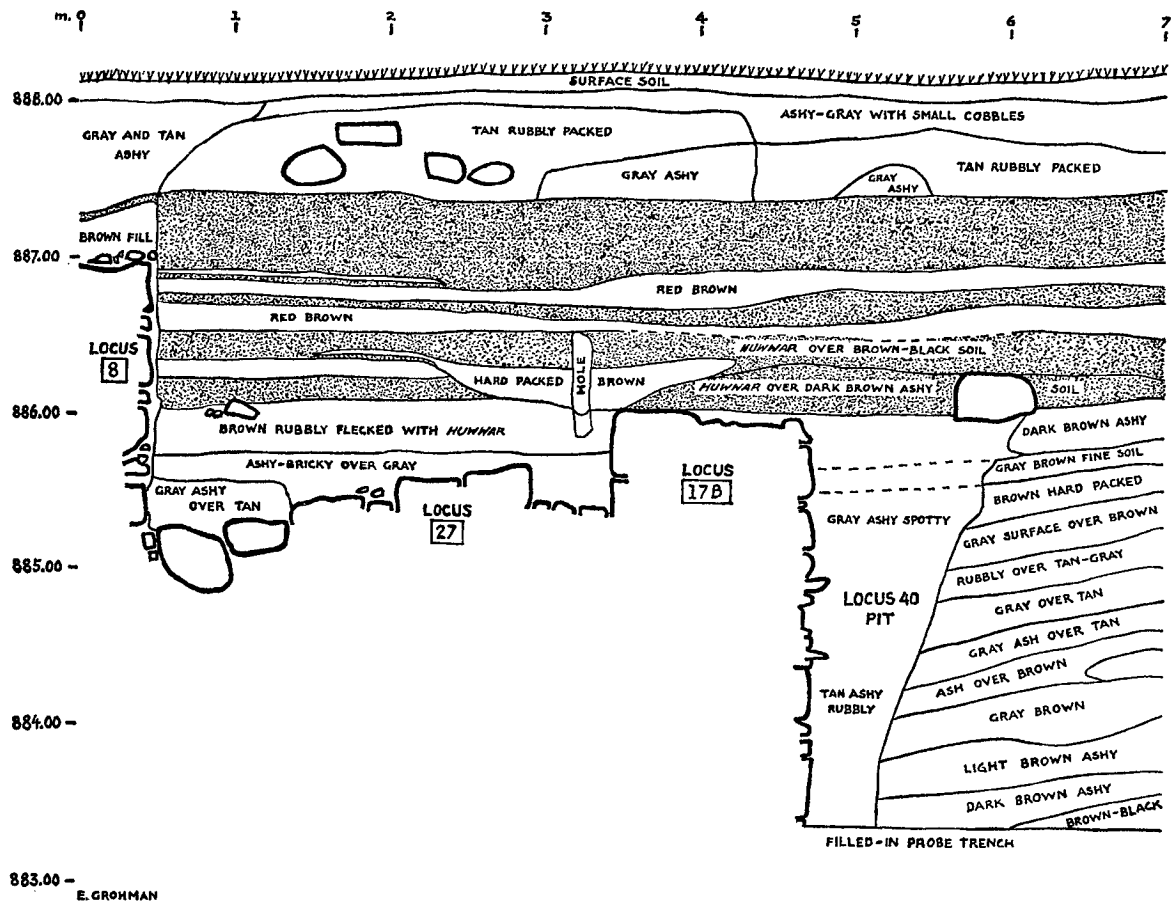
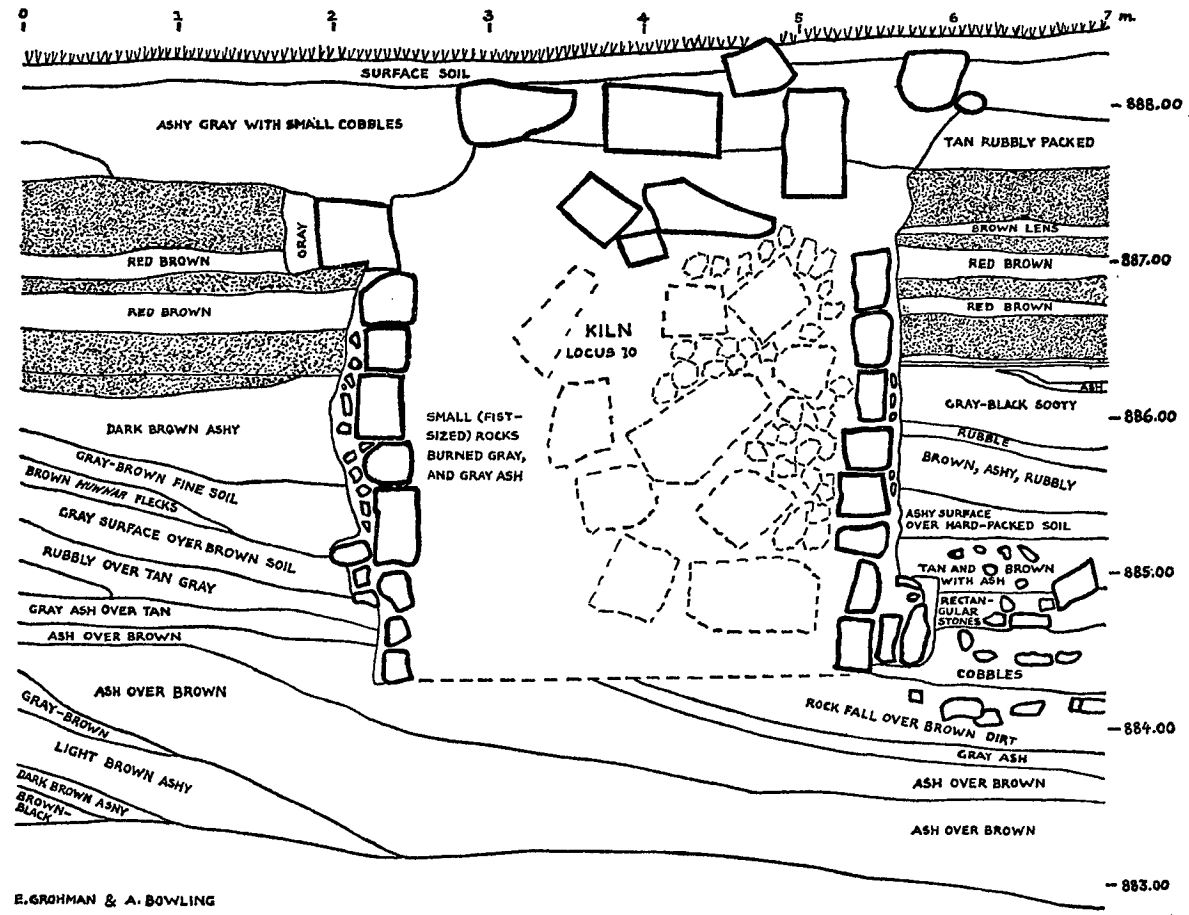


Figure 2. Section of west balk of Area B. Speckled layers indicate *huuwar*; boxed



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Figure 3. Section of north balk of Area B. Speckled layers indicate *hwwar*. Cf. Plate XI: A

The stones were dumped in first (leaving gaps between them) and then the charred cobbles of limestone were dumped into the remaining space. Whether the latter represent slag from previous uses of the kiln is still an open question.

The pottery from the fill behind the stone lining of the kiln, Locus B. 1:10, plus the dating of the strata cut by the kiln indicate that it dates from the early Arab period, and consequently the fill is later.

Another installation associated with the Arab period was Locus B. 1:8, a long pit running almost the length of the south balk. In the main it followed the line of a robbed-out wall, a remnant of which protruded from the west balk in the southwest corner. The wall dates from the Arab period, since its foundation trench cut through all the earlier strata. The pit seems to date from the late Arab period since it was dug from Locus B. 1:2 in the southwest corner, and the tip lines of stage b of the pit fill come over the stump of the wall and slope downward to the east. Stage a, the latest, filled in the center of the elongated pit.

Beneath Loci B. 1:2 and 4 = 5 appeared Locus B. 1:6, a *hurwar* surface extending over the entire Square except where cut by Loci B. 1:8 and 10. This thick (.42-.57 m.) layer along the east balk was virtually level, but from there it sloped down slightly to the west. The slope at the west balk was slightly to the south. The layer of *hurwar* was practically devoid of pottery, thus the ceramic evidence for a date was dubious.

Locus B. 1:6 turned out to be one of a series of *hurwar* layers interlaced with layers of red-brown soil containing a considerable quantity of pottery. The thickness of this series averaged 1.24 m. The lack of any walls or other structures made it impossible to ascertain the function of the *hurwar* layers. The steep-sloping *hurwar* surfaces in D. 3 (cf. Area D report, *infra*) have some relationship to those in B. 1. Hopefully, if adjacent Squares are opened in the next season the answer will be forthcoming.

It would seem that these *hurwar* layers were essentially

man-laid. There was evidence of patching and resurfacing among the layers, and a post hole (?) in the west balk dug from Locus B. 1:13 was clearly man-made. The theory of water-laid layers must account for a large source of loose limestone on the acropolis that would have provided enough material to be laid down by water in irregular accumulations each up to .57 m. thick. On the other hand, some of the thinner layers, both *huvwar* and red-brown soil, could well have been water-laid.

Loci B. 1:9 and 12, the thick layers of interlaced soil, have a definite sequence. Locus 9 dates from the Arab period whereas Locus B. 1:12 (aside from some contamination in the south central section from the Pit B. 1:8) is pre-Arab, largely from the Byzantine and Roman periods. The soil beneath Locus B. 1:14 = 15, the earliest of the *huvwar* layers, contained pottery mainly from the Byzantine-Roman horizons back through the Hellenistic period. Although these soil layers appear to be fill for surfaces (perhaps partially water-laid), the sequence gives a fairly accurate picture of the occupational history of the site. Locus B. 1:14 produced a Rhodian jar handle with the inscription ΕΠΙ ΑΡΑΤΟΦΑΝΕΥΣ and a helios head (Plate XXIV: B). This eponym is dated between 220 and 180 B.C.

It was during the removal of the soil under Locus B. 1:15 (along the east balk) that the upper stones of Wall B. 1:17 appeared. A subsidiary balk on the north side of the wall showed a foundation trench for stage a, the upper rebuild of Wall B. 1:17 which appeared only in the east portion of the Square. Since Wall B. 1:17 A was sealed over by the *huvwar* layer of Locus B. 1:15, it would date from the Roman or Hellenistic periods. Although it was difficult to determine at the time of excavation because of rock fall, the east balk shows quite clearly that there was an a-stage of a northern extension (perhaps a tower) bonded into Wall B. 1:17. On removing Wall B. 1:17 A and excavating north of it, the tower extension appeared clearly (Plate XII: A) and it was designated Wall

B. 1:29. Wall B. 1:17 B was 1.05-1.10 m. wide and it ran southeast to northwest. A subsidiary balk on the north side indicated that a foundation trench (.15-.25 m. wide; Plate XII: B) cut all the layers from Locus B. 1:24 down. The same was true on the south side of Wall B. 1:17 B from Locus B. 1:30 down. Clearly the extant Wall B. 1:17 B represents the foundation of a wall which was razed to ground level. Apparently the builders dug a trench about 1.50 m. wide, lowered the large field stones, and erected the foundation wall a course at a time. The narrow trench space on each side was sufficient to chink small stones under the large ones, and then to fill the space with soil (Pl. XI:B). In the east part of the Square the foundation trench came down on a large, thick rock fall (Locus B. 1:56) which the builders used as a base for the foundation wall. In the west half of the Square, where Locus B. 1:56 did not exist, the trench was cut very deep. In a test probe north of Wall B. 1:17 along the west balk 4.04 m. of the foundation wall were exposed without revealing the bottom. Such a deep foundation must have been intended to keep sappers from tunneling under the wall. The fact that Wall B. 1:17 B curves slightly northward near the west balk seems to indicate that it follows the contour of the mound perimeter and that it probably was a fortification wall for the acropolis area. Locus B. 1:40 (Fig. 2) was originally considered a pit, but since it narrows down and runs into the regular foundation trench about 2.50 m. east of the west balk, it may well be an extension of the trench where the wall was getting very deep.

At the west end of Wall B. 1:17 B Locus B. 1:23 ran up to it from the south and at times Locus B. 1:24 did so from the north, but no surface (neither north nor south) ran consistently up to Wall B. 1:17 B across the entire Square. The original surface associated with the wall may have been destroyed when the wall was leveled. In any case, the pottery from the foundation trenches (both north and south) dates from Iron III and earlier, therefore it would appear that the wall was erected in the Persian period.

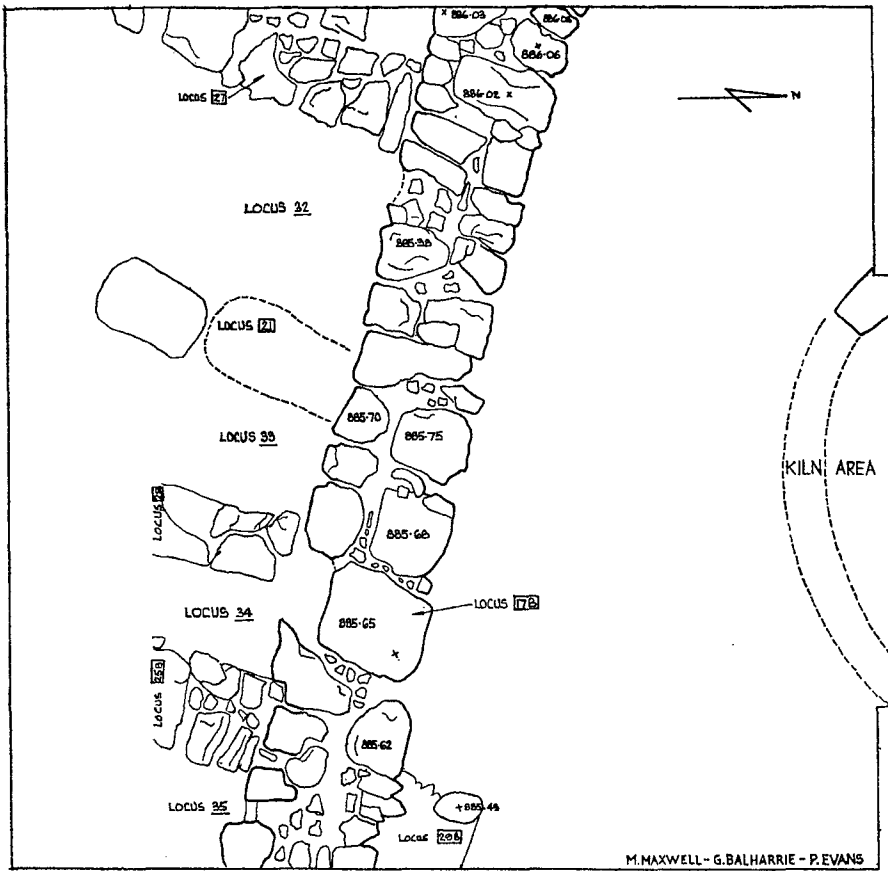


Figure 4. Plan of Wall 17 B in Area B and adjacent architectural features. Cf. Plate XII:B

Walls associated with Wall B. 1:17 were B. 1:21, 25, 27, and 28 (Pl. XII:A, Fig. 4). All of these were butted up against Wall B. 1:17 from the south. Each of the Walls B. 1:21 and 28 had only one course extant, while Wall B. 1:25 had two courses in what was considered stage a, and three in stage b. No foundation trenches were discernible with Walls B. 1:21 and 25, but one appeared on the east side of Wall B. 1:28 at the south balk. Locus B. 1:30 ran up to Wall B. 1:27 on the east



side, but underneath that layer was a clear-cut foundation trench. The latest pottery from the trench was Iron III. The depth of Wall B. 1:27 is uncertain inasmuch as the bottom was not reached after uncovering a depth over 1.50 m. Since Locus B. 1:30 ran under Walls B. 1:21, 28 and 25, Wall B. 1:27 must be the earliest wall associated with Wall B. 1:17. The large field stones in Wall B. 1:21 appeared to be the same as in Wall B. 1:17 A. Because of the large rock fall around Walls B. 1:25 and 28 it was not feasible to get surfaces relating them precisely; therefore it is not possible to date them more accurately than to the general period of early Hellenistic or late Iron III. The purpose of so many walls built in such a small space is a question. Possibly these were part of a gate complex with the small cubicles used as store rooms. Since only the lower courses of the foundations remained there were no related artifacts to give a hint as to their functions. Perhaps the expansion of Area B in another season will throw some additional light on the problem.

The loci excavated below Locus B. 1:19 to the north of Wall B. 1:17 B provided some interesting objects and pottery. Below Locus B. 1:24 was found the articulated skeleton (except for the head) of a lynx or cheetah-like animal (Plate XXI: A). Below this locus more and more Iron III and Iron II pottery appeared. Loci B. 1:44 and 49 each produced one piece of Early Iron Age bichrome pottery. In addition Locus B. 1:49 contained one piece of Mycenaean ware. Probably the most exciting and important object from Area B was the five-line ostrakon from Locus B. 1:52 deep in the probe along the west balk.<sup>9</sup>

Since the close of the season's work did not permit peeling all the layers revealed in the test probe, the probe was filled up to the top of Locus B. 1:52 and most of the rest of the Square north of Wall B. 1:17 B was peeled down to this surface. The first task in the next season will be a unique one—that of digging out one's own probe fill.

<sup>9</sup> See the article by Frank M. Cross, Jr. on this ostrakon on p. 223 of this number of the *AUSS*.

## AREA C

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Area C was located in a saddle along the western shelf. A footpath followed the low point of the saddle (average level: 880.40 m. above sea level) between two low mounds on the shelf. From there, the slope dropped steeply to a second footpath and by a series of natural terraces (outcroppings of bedrock) to the *Wadi Heshbân*. Each of the mounds had short lengths of several walls exposed above the surface (see C. 4 below), and each mound had three high points (average levels, north mound, 884.94 m.; south mound, 882.15 m.). The Area was planned as an investigation of the defensive system of the *tell*, and in the expectation that the formation of the saddle was possibly due to an ancient gateway.

The season began by opening a probe trench on the slope below and north of the saddle, 10.4 m. northwest of Area C. This location was chosen to serve as a dump for Area C. The trench was sunk to a depth of two meters and located only surface wash. This seemed to make the spot safe to cover with excavation debris and incidentally served as a prophecy of things to come. The two pails of pottery contained forms field-dated as modern, Arabic painted and glazed wares, Byzantine, Roman and one possibly Iron II.

Initially two Squares were opened in Area C. The Area was extended to include a third and fourth Square in the third and fourth weeks of the season respectively. Squares 1 and 2 were planned as 6 × 8 m. rectangles. In the second week, it was discovered that the main east-west axis of the *tell* lay 3.85-2.72 m. south, so Squares 1 and 2 were extended to this line. The Squares which were tentatively planned as rectangles became trapezoids. Levels of the Area ranged from a low of 879.65 m. at the northwest corner of C. 1 to a high of 883.37 m. at the northeast corner of C. 4.

In each Square, the surface soil was labeled Locus 1. It was a

loose gray soil full of roots and heavily strewn with stones, especially in Squares 2, 3 and 4. The average depth was .25 m., but it reached 1.00 m. in Squares 3 and 4. The pottery included modern ware, but consisted predominantly of Arabic glazed and painted sherds. There were small quantities of Byzantine and Roman sherds as well. Virtually every one of the 43 pails of pottery recorded contained undistinguishable and unknown forms recorded as UD. The objects included the usual surface collection of nails and miscellaneous metal fragments. There were also a bronze ring and copper ring, a copper chain, and several faience beads. An unusual glass bead had three faience balls as decoration on the outside. Fragments of worked basalt appeared every week of the season; among them were a portion of a rubbing stone and part of a millstone. Three Arabic coins, one Byzantine coin and three unidentifiable coins were among the finds from Locus 1.

The first observable feature in the surface soil of C. 1 was an L-shaped wall (C. 1:2, 3), exposed through and partially hidden by Locus 1 (Plate XIII: A). The wall was of uncut field stones. Center fill stones were .05-.10 m. thick while facing stones were .20-.30 m. in diameter. The wall was traced northward from the south balk of C. 1 and extended 4.17 m. into the Square before making a right angle turn to the east. The east-west portion extended eastward through C. 2 (Wall 5) and C. 3 (Wall 2) for 15 m. and began to turn south in a broad curve as it entered the east balk of C. 3. The east face of the eastern north-south portion extended into C. 4 (Wall 4) from .30-.40 m. Its average width of 1.10 m. can be traced in the balk between C. 3 and C. 4 and it extends south into the south balk of C. 4, as it did in C. 1, thus forming a large U. For most of its length the remains of the wall were two courses high. At times, it went to four courses, and once to six courses. The levels of the top of the wall varied from 880.44 to 881.71 m. What may have been a sill and two large stones (average diameter, .50 m.) at the 1.70 m. point suggests a door or gate.

Pottery (10 pails) within the wall and immediately under it was Arabic glazed and painted ware, a few Byzantine and Roman sherds, and a number of UD's. No clearly modern pottery came from the wall but modern pottery was excavated in soil fills below the wall. The soil fill immediately under the wall appeared continuous with Locus 1, but since the top of the remains of the wall was level with the surface of Locus 1, one can make the simple observation that the wall construction and destruction antedated the present exposed soil surface. This point was indicated also by the stone fall on both sides of the wall throughout its length. It was largely covered by the surface soil.

The soil in the west balk of C. 2 appeared the same on both sides of Wall C. 2:5. In C. 3 the layer (Locus 4) on the north of Wall C. 3:2 averaged .30 m. higher than on the south (Locus C. 3:5), a change discernible in the east balk of C. 2 (Loci 6 and 8) with distinct fill layers appearing to the north of the wall and under it which did not appear south of it. In C. 3 and part of C. 2 it may have been a terrace or retaining wall. The gate or door in C. 3 suggests possible use of the wall as an animal pen. Excavation showed no floor associated with it and no foundation trenches were discerned. This probably precludes its having had any function as a house wall, though it might represent a courtyard wall of a house located further south and partially described in the next paragraph. Objects included a bronze pin, a bronze hook, a bronze nail, and a red copper Arabic coin of Saladin.

In the southeast corner of C. 2 was a wall of cut stones (Locus C. 2:10). It was preserved to a depth of four courses (1.10 m.) and extended north from the south balk 1.10 m. and west 2.75 m. from the east balk. Its west end formed a clear corner. This wall extended through the intervening balk into C. 3 (Locus C. 3:3). Here a number of stones were visible at the surface prior to excavation. Most noteworthy of these was a door jamb .85 m. high (top level, 881.40 m.)  $\times$  .60 m. wide  $\times$  .50 m. thick. Wall C. 3:3 extended 3.10 m. east from

the west balk, along the south balk and formed a corner extending into the south balk. However, .30 to .50 m. below the surface lay three more rocks in line with Wall C. 3:3, thus possibly extending this wall an additional 1.70 m. eastward. It is noteworthy that the door is in a north-south line with the door of the courtyard wall (C. 3:2). Structure C. 2:10-C. 3:3 was more deeply founded than the courtyard wall, the bottom of which was in the surface soil, while the base of Structure C. 2:10-C. 3:3 lay below the bottom of the surface soil. The deeper founding would be natural for a house wall in comparison with a courtyard wall formed of natural field stones. While the latter wall may also have served as a retaining wall or terrace in its northeast corner, it hardly seems accidental that it forms a U around the "house." No distinction in date between the two could be made from pottery evidence. One can only say that the fill layers (C. 2:7; C. 3:5 and 7) around the lower courses of Walls C. 2:10 and C. 3:3 contained Arabic glazed and painted wares, a few Byzantine and Roman sherds and one Iron III form besides numerous UD's. A final statement on the date of the "house" must await the dismantling of Walls C. 2:10 and C. 3:3 in the next season, but the wall pottery, plus its stones exposed above the surface, certainly suggested that it is Arabic. This was reinforced by Pail 82 (pottery dated as Arabic, possibly Roman and UD) from small stones between the larger stones of Wall C. 2:10 and the south balk, but this material was so close to the exposed ground surface that contamination remains a strong possibility.

C. 4 also contained part of a structure which was partially exposed before excavation began. The stones were partly dressed. It was composed of Walls C. 4:2 and 8 (Plate XIII:B), and probably 9 and 10. The east-west Wall C. 4:2 extended west from the east balk for 4.5 m. and was placed from 2.5 to 3.5 m. south of the north balk. It was preserved to a height of three courses at both ends, but only one course remained in place in the middle. The space above the lower course in the

middle was full of rock fall extending back north to C. 4:9, a rather indistinct east-west line of eight stones, 3.10 m. long, which may be fall from Wall C. 4:2. Wall C. 4:8 formed a right angle with Wall C. 4:2 and extended into the north balk at a point 2.20 m. east of the west balk. It was preserved to a height from two to six courses. Wall C. 4:10 joined Wall C. 4:8 at a right angle .40 m. south of the north balk. It extended into the north balk (at an obtuse angle) at an irregular vertical joint about 1.05 m. east of the west balk with an exposed length of 1.50 to 2.00 m. It was not bonded to Wall C. 4:8. Its exposed face is five courses high but the lowest exposed course may not be the bottom of the wall. The interior of this structure was not excavated initially because of the complicated rock fall appearing within the north and east balks and because the slope of C. 4 suggested that the south and west faces be exposed first. However, a small portion of the surface soil was removed to reveal a hard yellowish layer of fine textured soil similar to C. 4:3. The nature of this structure remains undiagnosed until it is fully excavated. Since the portion adjacent to the north and east balks of C. 4 is so limited, excavation only in the present Square may not provide the answer. However, further excavation might give a firmer date, which is presumably Arabic as indicated by the exposed rocks prior to any excavation in the Square, by the deep fill of surface soil south and west of it, and by soil layers, C. 4:3 (Arabic glazed and painted pottery; Arabic coin) and C. 4:5 which seemed to run up against (no discernible foundation trench) Walls C. 4:2, 8 and 10.

Soil layer C. 4:3 was immediately below the surface soil (Locus 1) throughout most of C. 4. This Locus 3 averaged a thickness of .10 m. Soil Layer C. 4:5 lay below it. It covered the entire Square with an average depth of .30 m. but was badly broken by many large stones. Pottery was predominantly Arabic glazed and painted ware with a few Byzantine, Roman and possibly Hellenistic forms. When C. 4:5 was cleared, Walls C. 4:12 and 13, and Cistern C. 4:7 were exposed.

Wall C. 4:12 in its preserved form, resembled a platform on which the Structure C. 4:2-8 was built. However, it formed a different orientation than the latter, suggesting that it was an earlier structure, though perhaps used by the builders of C. 4:2-8 as a foundation. Locus C. 4:12 was composed of flat stones which averaged  $.40 \times .60$  m. Its exposed north-south length was 2.30 m. with its southwest corner 1.20 m. from the west balk and 3.70 m. from the north balk. More of C. 4:12 may be unexcavated to the north under C. 4:6, the soil layer below C. 4:5. While the west edge of C. 4:12 was distinct, the east edge was not, perhaps reflecting an earlier destruction.

At the southwest corner of C. 4:12 was a row of stones (at a few places, a second row was preserved) designated as Wall C. 4:13. Stones averaged .60 m. in size. Levels averaged 880.90 m. Like the northeast structure and Wall C. 4:12, Wall C. 4:13 remains of undetermined origin and use. However, several open spaces or crevices suggested the possibility that C. 4:13 was a covered water channel leading to Cistern C. 4:7.

The removal of C. 4:5 exposed the mouth of a cistern, designated Locus C. 4:7. Several stones blocked its mouth and prevented its being completely filled with debris. The mouth was .38 m. in diameter. The center was located 2.30 m. east of the west balk and 2.15 m. north of the south balk. When first entered it contained a cone of debris, the uppermost peak of which was 3.00 m. below the mouth. When excavated it proved to be 5.00 m. deep. There were 68 pails of pottery recorded from the cistern, the excavation of which was completed just before quitting time on the last day of excavations. Arabic painted ware dominated the ceramic horizon although Arabic glazed ware was also common. A few Roman pieces also appeared, along with the UD's. Several whole and restored vessels were registered as objects (Plates XXII and XXIII: A), among them two spouted jugs, three jugs, one jar, and a juglet. Among the objects was a Nabataean coin, one of three or four found in the 1968 excavations.

The excavation of Cistern C. 4:7 during the last week of

work precluded further excavation of the northeast structure, Walls C. 4:12 and 13, and Wall stubs C. 4:15 and 16. The latter two lay in the east and southeast quadrant of C. 4, below Locus 5. The cistern's location under Locus 5 suggested that it was contemporary with Walls C. 4:12, 13, 15 and 16 (if related to the northeast structure, it was the stage prior to the deposit of Loci 5 and 3). The cistern was carved in bedrock, suggesting that these other features may be founded on same. At least bedrock is not very deep in C. 4.

#### *Layers Below the Top Soil Features*

Below the top soil in each Square was a lighter yellow or gray soil extending over the Square. In C. 1, a probe trench was dug about .50 m. deep to what appeared to be a surface (Locus 4). In C. 2, Loci 6 (north of Wall C. 2:2) and 7 (south of Wall C. 2:2) were exposed. Attempts to follow these surfaces in each Square proved both deceptive and frustrating and eventually the soil of these loci was removed on a horizontal plane in 1.00 m. wide strips. Locus C. 2:6 was about .40 m. deep and a similar layer (C. 2:8) was exposed below it. An attempt to follow this layer ended with the same results. The possibility that this soil was erosion wash from further up the slope of the mound appeared to be substantiated by subsequent excavation. At the southwest corner of C. 1, these layers reached a depth of 3.50 m. below surface soil before the pottery made a definite consistent change to Roman (Plate XIV: B). This point was not reached in C. 2 before work there was terminated.

The surface of Loci C. 2:5 and 8 appeared to be "rippled" with a slope to the northwest, the "rippled" lines running from the southwest to the northeast. The excavation of Loci C. 2:5, 7, and 8 indicated that this "rippled surface" was composed of the top of tip lines of possible erosion wash which sloped to the northwest and tended to alternate between harder light colored layers and softer dark (almost ashy) layers. They varied a great deal in thickness. One measured .40 m. at one point while two meters further it lensed out and ended.



Some were quite indistinct when moist and could only be seen later in the balks. This erosion wash was rich in pottery, objects and bones.

C. 1 produced 194 pails of pottery from the three loci and C. 2 produced 93 pails. The Arabic painted and glazed wares predominated, with modern, Byzantine, Roman, a few Iron Age sherds and the inevitable UD's. However, as the excavation penetrated deeper (Loci C. 2:6 and 9), the standard painted and glazed wares decreased in frequency while different styles of both paint and glaze became more numerous. Noteworthy in this connection also is the observation that a fine white ware, glazed on both sides with designs in blue, virtually disappeared in these lower levels.<sup>10</sup> The expedition's first whole vessel came from C. 2:9. It was an Arabic vase of gray-green clay with a string-cut base and stood 62 mm. high, 60 mm. in diameter.

Among the objects were nails, pins, and rods, with bronze more common than iron. A number of glass and faience beads appeared, and fragments of worked bone. Noteworthy is an early Christian bone doll with a face carved on the wider upper flat surface of a somewhat spatula-shaped form, of which the blunt point was originally inserted into a cloth body (Plate XXIII:D). A lead pendant, only preserved in part, showed what appeared to be the figure of a man who seemed to be hurling a sling stone or who is an archer (Plate XXIII:C and Figure 5). Among the bronze coins, one Nabataean and another possibly Nabataean were of special interest. A coral bead may indicate Nabataean contacts, since the nearest known source of coral to Heshbon is the Gulf of Aqaba. Among the other coins, all of bronze, were six unidentifiable ones, eight Arabic coins and one Byzantine coin.

The eastern portion of C. 2:8 was a .50 m. thick layer of soft dark (almost ashy) soil which extended into C. 3:4 (see

<sup>10</sup> This latter pottery may be imitation of Chinese porcelain of a post-12th century date (Arthur Lane, *Early Islamic Pottery* [New York, 1948], pp. 3, 7, 32), although a local workman claimed that it came from Iran a century ago. The Lisbon Museum of Ancient Art displays it as 14th-century Persian ware from Sultanabad.

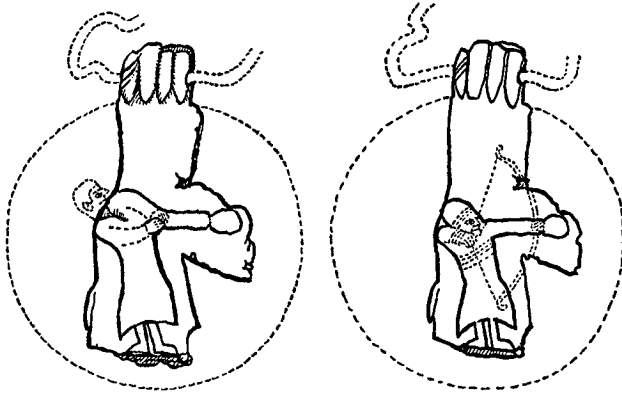


Figure 5. An artist's alternative reconstructions of the design on a lead pendant. The extant fragment shows a human figure either as a slinger or an archer. The shape and full size of the original pendant are unknown. For a photograph of the object see Plate XXIII: C. (Drawing: Greg Constantine)

the courtyard wall described above). In the latter, it was dug quite carefully and successfully separated from the soil above and below it in a probe 2-3 m. east from the west balk. The pottery was the usual mix (Arabic painted and glazed wares dominant, with a few modern, some possibly Byzantine, some Roman, and an occasional Iron Age sherd). Halfway across the Square the soil changed to wash impossible to discern by layers. In the north balk of C. 3 the change appeared to be a robber trench. Before the nature of this change was interpreted, a few large cut stones appeared. The line they formed was so vague that after determining the lack of any foundation trench or discernible stratigraphy against them, they were removed. At the base of these stones a portion of an oven and a fire pit were uncovered as well as what was presumably the first living surface found in Area C. This surface, designated Locus C. 3:8, was from 1.90 to 2.20 m. below C. 3:1 and was traced in an excavated area 0-1.15 m. south of the north balk, and 0-1.50 m. west of the east balk at a level of 880.35 m. The small size and the uncertain stratigraphy of the "robber

trench" made it difficult to determine the stratigraphic relationship of Locus C. 3:8 within our series of tip lines without further excavation. The same was true of Locus C. 3:11, a layer *ca.* .20 m. higher. It was traced from 0-2.00 m. west of the east balk and from 2-4 m. south of the north balk. It was bounded on the north by the fire pit mentioned above and on the west and south by a rough line of stones tilted in the soil as though representing the fall of a single course of stones off a wall to the west (possibly Wall C. 3:9). It was designated Locus C. 3:10.

A clue to the relative chronology of Loci C. 3:8, 11 and 10 was the Wall C. 3:9. An irregular line of stones 2.5 m. long and extending into the north balk, it bordered Locus C. 3:8 on the west and paralleled Wall C. 2:10 with a very narrow (.05-.15 m.) foundation trench between them. A similar foundation trench separated Wall C. 3:9 from Locus C. 3:7, a soil layer apparently continuous from C. 2. This continuity was probably true of C. 3:5 as well. In the eastern portion of C. 2, Locus 9, the same black layer referred to above was noted. Below it was what appeared to be harder brown soil with flecks of *huwwar*, gravel and charcoal. It was isolated in excavation but the pottery was the same mix as the rest of C. 2:9. This "layer" later appeared in the balk to be composed of three layers, each of *ca.* .20 m. thickness. The division between them was so vague that lines could not be traced for accurate drawing. The difference between the level of the sub-surface soil in C. 3 south and north of the courtyard wall (C. 3:2) was noted earlier. On the south this sub-surface soil was designated C. 3:5. Below Wall C. 3:3 (the Arabic "house"), C. 3:5 was made up of several tip lines of wash. These could not be traced to the north, but merged into a general wash, including several pockets of pebbly soil. This was merged with Layer C. 3:4 under Wall C. 3:2. A harder brown soil was exposed .75 m. below Wall C. 3:3 at the west balk. It rose to the bottom of Wall C. 3:3 at 2.25 m. east of the west balk, where it stopped abruptly on an almost straight north-south

line. The soil to the east of this straight line could not be distinguished from Layer C. 3:5. This indistinct wash continued to the east balk with no further surfaces distinguishable. Layer C. 3:7, however, could be traced to the north balk and to Wall C. 3:9, though C. 3:7 was separated from Wall C. 3:9 by the foundation trench described earlier. This wall would thus appear to be later than Layers C. 3:7 and 8. A probe trench (C. 3:6) was dug from the east balk to the straight line of Layer C. 3:7's termination to try to relate stratigraphically Layer C. 3:7 and the eastern portion of C. 3:5, and also to determine the bottom and possible extension of Wall C. 3:3. The soil in this probe exposed neither tip lines nor surfaces and was not distinct from C. 3:5. The clarification of the stratigraphy of C. 3 depends upon further excavation next season.

C. 3:4, 5, 6 and 7 (.10 m. of which was removed in clarifying the relationship to the foundation trench) produced 47 pails of pottery all with the same mix. Arabic painted and glazed wares again predominated. A few possible Byzantine, some Roman, a few possible Hellenistic, Iron III and Iron II pieces added to the picture. Definitely modern pottery appeared only in C. 3:4, but the UD's were numerous throughout these loci. C. 3:4 produced a bronze Arab coin, a green stone pendant, half a cosmetic palette of gray black stone and the upper part of a wide handle of a red-clay jar containing a rectangular Latin seal impression, of which the inscription reads: *C(aius) Bellici(us) Zmaragdi(us)*.<sup>11</sup> The handle shows that the original vessel had had a diameter of 430 mm. From Locus A. 3:6 came part of a Rhodian jar handle with the inscription ONΑΣΙ[. Among the known names of Rhodian potters which begin with these letters are: ONΑΣΙΟΙΚΟΣ and ONΑΣΙΜΟΣ.

Excavation of C. 2:9 disclosed a line of stones in the north-west corner of the Square just 2.10 m. below the surface,

<sup>11</sup> See the article by Volker Langholf on this seal on p. 230 of this number of the *AUSS*.

extending south from the north balk at a point .80 m. east of the west balk, and running northeast-southwest to the west balk 1.70 m. south of the north balk. This was subsequently designated Wall C. 2:11. The field stones varied from .20-.50 m. in diameter. Levels were at an average of 878.18 m.

Wall C. 2:11 unfortunately lay at the bottom of the stairway for the Square, making it difficult to excavate a perpendicular trench against it. An attempt was made to trace the tip lines of fill from the south balk to establish any potential relationship with Wall C. 2:10 (Plate XIV: A). Tracing the tip lines over such a long distance (11 m.) was quite difficult, but it seemed clear (as noted earlier) that Wall C. 2:10 was built upon wash layers backed up to the southeast by this wall. This presumably accounted for the direction of the flow of the layering of wash discussed above in relation to the "rippled layers." The difficulty of tracing the tip lines, plus deployment of supervisory personnel, combined with an excavation tactic to stop work in C. 2 until C. 1 should be in phase with it. The halt of excavation in C. 2 later proved to be the limit of excavation there for the 1968 season.

It was assumed that Wall C. 2:11, extending as it did into the west balk of C. 2, would eventually be exposed in C. 1. This proved to be the case in the course of removal of C. 1:6 wash, 2.50 m. below the surface (2.10 m. below a point level with the ground surface at the northeast corner). In C. 1 it was designated Wall C. 1:7. It extended from the east balk at a point 2.50 m. south of the north balk and ran 8.00 m. to the southwest to a point 1.50 m. east of the west balk and 2.50 m. north of the south balk (top level 877.75 m.). It was two courses wide and three courses deep, although on the west end only one course was preserved. The usual difficulty of tracing tip lines was overcome after a perpendicular probe trench 3 m. from the north "end" exposed a *hwwar* and stone surface (C. 1:9) running under the wall. Surface C. 1:9 was traced to the west and north balks and along a subsidiary east-west balk. In the process, two 1.00 m. wide subsidiary balks against

Wall C. 1:7 were removed layer by layer. At the deeper layers Roman ware became more frequent and even dominant. In a small triangle formed by Wall C. 1:7, the east balk and the center subsidiary balk, soil layers were excavated, with the lower ones producing Roman and UD pottery. Subsequent removal of the four stones on the southwest end of Wall C.1:7 produced Roman and UD pottery. This evidence from beneath it presumably confirms the Roman date of Wall C. 1:7.

A probe into Surface C. 1:9 exposed 2.40 m. of Wall C. 1:13, a crudely constructed north-south wall of small stones running parallel to and 2.00 m. west of the east balk, and under Wall C. 1:7. The probe extended 3.50 m. along the center subsidiary balk and 3.50 m. north to a point perpendicular to Wall C. 1:7. It reached a depth of .20 m. Removal was delayed because it interfered with dirt removal traffic to the stairs along the north balk. This delay proved to be the terminus of excavation in the north half of C. 1. The pottery from Surface C. 1:9 was Roman and UD, with a number of Iron III pieces. Two pails contained three pieces of Arabic ware (the latter paint and glaze wares noted above); but with possible contamination from the nearby traffic of basket boys, these three sherds were discounted and the locus was considered Roman in date.

In the southeast corner of C. 1 excavation reached a hard *muwawar* and stone layer (Locus C. 1:10), similar to Surface C. 1:9 in consistency. In the southeast corner (where it was almost .40 m. thick), its top level was 878.10 m. A pebbly fall (also evident on the east face of Wall C. 2:11) made it impossible to trace Layer C. 1:10 to the face of Wall C. 1:7, but it appeared to come down to a level with the bottom of the wall. The pottery was Roman, Iron III, UD and possibly Hellenistic. Excavation of Layer C. 1:10 stopped at a Surface C. 1:11 along the center and the east balk. Surface C. 1:11 probably runs under Wall C. 1:7. Layer C. 1:10 extended along the south balk 3.30 m. west of the east balk. At this point it ran over Wall C. 1:8. Excavation of Layer C. 1:10 also exposed tops of two walls, C. 1:12 and 15. The first was

traced north from the south balk for 3.25 m., almost parallel to the east balk, and was from .75-1.00 m. wide. It was made of small stones tightly packed together except for about .25 × .25 m. at the north end. Its west face was excavated to a depth of .60 m. but the bottom was not reached this season. The top had a level of 877.70 m. Since it was under Layer C. 1:10, it is presumed to be Roman or earlier in date pending further excavation.

Wall C. 1:15 was an irregular line of stone of varied size and shape with three courses preserved at the north end (top level 877.53 m.) where it touched Wall C. 1:14, and one course preserved at the south end. The excavated portion was 3.00 m. long, .36-.40 m. wide, paralleling Wall C. 1:12, 1.50-2.00 m. (north end) and 2.25-2.60 m. (south end) west from the east balk, and .50 m. north of the south balk. Since it was also under Layer C. 1:10, it presumably was Roman or earlier in date. Its northernmost stone had an irregular hole which may have been a badly weathered door socket, suggesting a door or gate in connection with Wall C. 1:12.

Wall C. 1:14 was an east-west line of well dressed stones partially exposed under Wall C. 1:7, and Surface C. 1:11. It was of undetermined length under Surface C. 1:11, but the west end (top level 877.11 m.) was 3.75 m. west of the east balk. Wall C. 1:14 was excavated to a depth of .35 m. but its bottom was not exposed in the 1968 season. Its founding and function must be determined in future excavation.

Wall C. 1:8 was first exposed by a probe trench along the west balk. Subsequent excavation showed it extended from the west balk (top level 876.97 m.) 4.40 m. north of the south balk, to the south balk, 2.55 m. east of the west balk. It was composed of large (.20-.90 m. diameter) field stones and appeared to be one course wide and three to four courses deep on the southwest face when excavation stopped at the end of the season. The northeast face was not yet exposed. The pottery from the soil that was found with the lowest courses was Roman. The date is confirmed also by its presence under

Wall C. 1:7 and Layer C. 1:10. When it first was exposed, it was thought to form a right-angled corner with Wall C. 1:7. The removal of the southernmost stones of the latter indicated no bonding and no direct contact between the two walls.

In summary, Area C's Arabic occupation (counting from the top down) has two or three phases. Phase A is the U-shaped wall and the Building C. 2:10-C. 3:3 within it, plus the northeast corner structure in C. 4. The unity of the latter is assumed for convenience since nothing definitive beyond the bonding of Walls C. 4:2 and 8 can be demonstrated at this point.

Phase B is represented by the fill in the cistern. If the interpretation of its relationship to Walls C. 4:12 and 13 is correct, these features would also be part of Phase A. The great bank of wash in C. 1 and C. 2 might stand with Phase B, or represent a prior period of erosion. The limited pottery evidence and tenuous stratigraphic connection between C. 3 and C. 4 (it is presently unclear whether C. 3:5 = C. 4:3 or 5, both, or neither) do not allow dogmatism at this point. The filling of the cistern and the build-up of the bank would seem to go hand in hand. However, the extensiveness of the bank of wash might suggest an intermediate period prior to Phase B. The difficulty with the latter thesis is the unknown quantity of time necessary to accumulate these tip lines of wash. The Area C dump was built to impressive size by human labor in seven weeks. If all of the fill in C. 1 and C. 2 comes from natural erosion from upper slopes, there is no currently available measure for the time necessary.

The Roman stratum of Area C, which is the second period of this Area so far discerned, remains still largely unexcavated, although it was exposed in C. 1. At least two Phases would seem to be represented with Wall C. 1:7 as Phase A. Phase B would be the earlier Loci C. 1:9, 10, 11, 12, 13, 14, 15 and 8. Since the character and function of Wall C. 1:8 is not yet clear, one can note that it might represent a Phase C on the grounds that it was covered by Layer C.1:10. This remains for future investigation.



It is of interest to note that the Byzantine period is not yet clearly represented in Area C except by some pottery and coins in the wash layers.

## AREA A

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Area A is located inside the highest architectural perimeter of the mound. The level at the top of the perimeter is mapped at 895.00 m. above sea level. Exposed architectural features on this part of the mound indicated the presence of some major structure—temple, church, palace? Three column bases plus the foundation stone of a fourth base provided some orientation and an east-west line was drawn in alignment with them. This east-west axis was fixed to pass through a depression (a possible gateway or entrance) on the east side. It continues to the western side of the mound and forms the south balks of all four Squares in Area C. The north-south axis was fixed to pass through a depression on the south edge of the elevation and thus integrates with Area D constituting the west balks of all three Squares there (Fig. 1).

Four Squares, measuring six by eight meters (with a one-meter balk between them), were excavated in Area A. Squares 1 and 2, their north balks being the east-west axis, and the west balk of Square 2 being the north-south axis of the *tell*, were opened at the beginning of the excavation. Squares 3 and 4, lying south of Squares 1 and 2, respectively, were opened at the end of the first week of digging. All four Squares were excavated at different times during the succeeding weeks with work in only two Squares going on simultaneously.

### *Description of the Excavation*

*Square 1:* Prior to the excavation there were scattered stones on the surface (some partially exposed), but they were

not in any discernible alignment. Some stones in the southwest corner formed a serpentine "wall" with surface stones and column fragments in Squares 3 and 4. This does not appear to have been part of any structure.

The surface and plow soil was designated as Locus A. 1:1. The bulk of the sherds were modern, painted and glazed Arabic with a few Byzantine, Roman, Hellenistic and UD's found in almost every pail throughout the season (this is to be understood even where the UD's are not specifically mentioned). The removal of Locus A. 1:1 exposed some portions of walls and fallen stones. An accumulation of fallen stones along the north balk was designated A. 1:2. The removal of the soil between and around the stones revealed that they were in no alignment and appeared to be fallen stones from some demolished building or wall. The range of identified sherds is modern, painted and glazed Arabic, possibly Byzantine, and a few Roman. Wall A. 1:3 ran east to west. Its east end at the north balk was poorly preserved. The wall, 3.35 m. long and 1.00 m. wide, consisted of field stones and a few dressed stones in two rows without a foundation trench. Only one course of the wall was preserved. The pottery consisted of painted and glazed Arabic wares, and a complete Arabic lamp. The west end of the wall formed a corner with Wall A. 1:4 which ran to the south, with its south end petering out at the south balk. It is 7.05 m. long and .80-1.00 m. wide. Painted and glazed Arabic wares with some possible Roman sherds came from this wall. A reddish-brown soil layer (A. 1:5), .35-.50 m. deep, was bounded in the southwest corner of the Square by Walls A. 1:3 and 4. Many tesserae of two different sizes were found in it. The pottery was modern, painted and glazed Arabic, and some Byzantine. Wall A. 1:6 of dressed stones ran east to west, butted into Wall A. 1:13 and ended about .20 m. from the west balk. Only one course of this wall was preserved, which lies on top of Wall A. 1:12 and is correlated with Wall A. 2:7. No Arabic sherds were identified; some were possibly Byzantine or Roman.

Wall A. 1:7 ran east to west with four flat pavement stones level with the top surface of the wall located in the southwest corner of the Square. Only one course is preserved and it rests on dirt. No Arabic sherds were identified; only Roman wares could positively be recognized. Two large field stones in the southwest corner, labeled Locus A. 1:8, were visible on the surface and were part of the serpentine wall (already mentioned) which continued in the northwest corner of Square 3 (A. 3:2) and the northeast corner of Square 4 (A. 4:3). Wall A. 1:9 runs east to west along the south balk out of the east balk for a length of 3.80 m. It is butted against the north side of the semi-circular Wall A. 3:5. The stone on the west end of the wall has a Corinthian capital leaf pattern carved on it. Two courses are preserved. One pail of sherds was derived from this locus and contained Byzantine wares and UD's. In the center of the Square was Locus A. 1:10, two large storage jars, each originally *ca.* one meter high, east of Wall A. 1:4. They appeared to be part of an Arabic storage complex (Plate XV: B). The western jar was placed upside down on Floor A. 1:11, with a separate stopper placed inside the mouth of the jar. This arrangement was not leak-proof and shows that the jars may have been used for dry goods. The level of the center of the western jar was 891.38 m. A floor of hard-packed yellow earth associated with Walls A. 1:3, 4 and 9 was designated Locus 11. Locus 10 rested on this floor. The pottery of A. 1:11 was Arabic.

Wall A. 1:12, 1.05 m. wide, 2.10 m. long, running east-west, was built in header-stretcher fashion. Two courses of dressed stones, .70 m. high, were preserved. Wall A. 1:6 was built on top of this wall. A. 1:12 continues into Square 2 as Wall A. 2:8. Sherds range from painted and glazed Arabic to Byzantine and Roman. Another wall, A. 1:13, runs south to north from Wall A. 1:9 to *ca.* 1.10 m. south of the north balk. It is of cut stones of varying size with mortar on the top surface. The pottery consists of painted and glazed Arabic sherds with some possibly Byzantine and Roman wares.

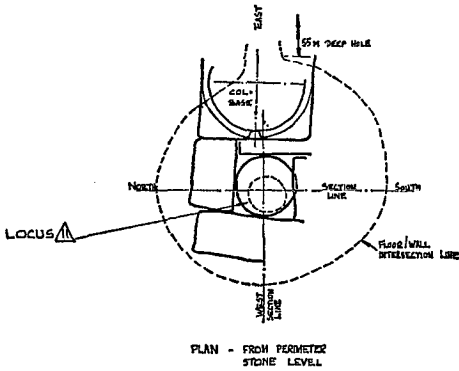
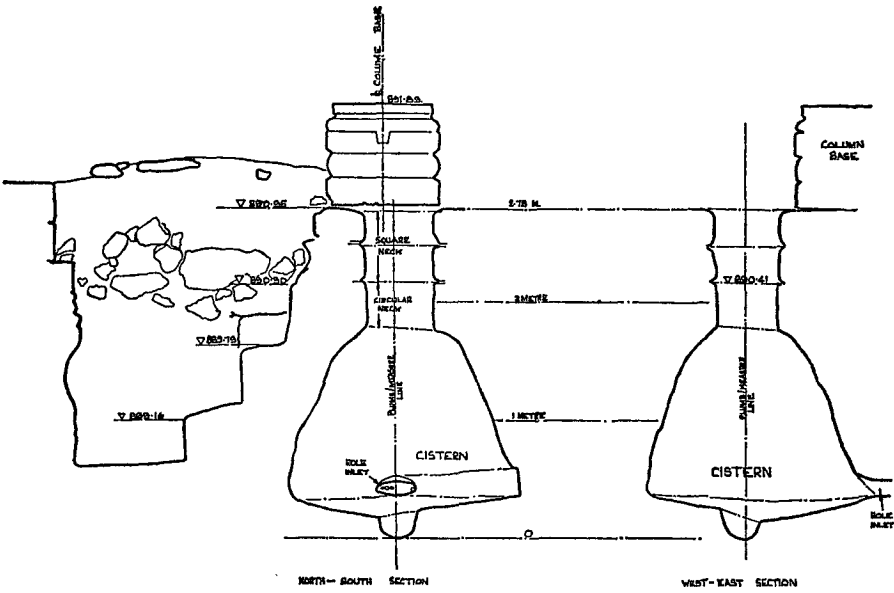
Underneath Floor A. 1:11 was a .10-.20 m. thick layer of *huwwar* (Locus A. 1:14) mixed with red soil. It produced some painted Arabic sherds, and some possibly Byzantine and Roman pottery with the inevitable UD's that appeared in almost every pail. Under Locus A. 1:14 and above Locus A. 1:25 was a layer of very loose, crumbly, gray-black soil (Locus A. 1:15) with Byzantine, Roman, and possibly Hellenistic and Iron I pottery, also the head of a ram figurine. North of Wall A. 1:9 was a group of level pavement-like stones (Locus A. 1:16), 2.10 m. long and 1.45 m. wide. Under Wall A. 1:13 was a wall running north to south with one course of roughly dressed stones preserved (Wall A. 1:17). Only Roman pottery was registered from it. The foundation trench, .40-.50 m. wide, of loose red-brown soil along the east face of Wall A. 1:17 was designated A. 1:18. The pottery was mainly Roman. Locus A. 1:19 consisted of a double row of field stones (two courses high), which possibly underlay Wall A. 1:3. It may have been an east-west wall. Some painted Arabic sherds, together with Byzantine and Roman wares came from it. A poorly preserved plaster floor (A. 1:20) associated with Wall A. 1:12 ran under the pavement-type stones of Wall A. 1:7. Under this plaster floor (A. 1:20) was a layer of *huwwar* mixed with red soil (Locus A. 1:21) .05-.10 m. thick. From it came Byzantine and Roman sherds. Underneath Locus A. 1:21 was a layer of red soil (Locus A. 1:22) containing many fallen stones. Locus A. 1:23 was the designation of the foundation trench along the north face of Wall A. 1:12. A. 1:24 was a crudely constructed wall running along the west balk beginning at the north balk. Although excavation of this wall was not completed, Byzantine and Hellenistic sherds have been identified from within it. Underneath Loci A. 1:15 and A. 1:26 was a hard gray layer (A. 1:25), .15-.25 m. thick, containing Roman, possibly Hellenistic and Iron III sherds. The level at the center was 890.79 m. Wall A. 1:26 ran east to west under Locus A. 1:16 north of and parallel to Wall A. 1:9. The wall, 1.40 m. wide and 4.00 m. long,

consisting of two rows of rough field stones, was not completely excavated. North of Wall A. 1:26 lay Locus A. 1:27, a layer of gray-black soil. It was not completely excavated. The range of available sherds was Roman, Hellenistic, and Iron III.

*Square 2:* The exposed column bases which served as an orientation line before excavations started were located in the south balk of this Square. Prior to the excavations there were scattered stones on the surface (some partially exposed), but they were not in any discernible alignment.

The surface soil with an average depth of *ca.* .15 m. was designated as Locus A. 2:1. It produced painted and glazed Arabic, Byzantine, Roman, Hellenistic and UD sherds. The three column bases in the south balk were labeled Locus A. 2:2. The level on the top is 891.80 m. Wall A. 2:3, .40 m. wide, ran for a length of 2.25 m. from the north balk to the south. Its associated pottery was Arabic. Loci A. 2:4, 5, 6, 9 and 10 were various sections of a water channel system uncovered in this Square (Plate XV:A). The channels were made of irregularly shaped stones. They were *ca.* .30 m. wide and *ca.* .20 m. deep, and plastered inside. Only a few cover stones were preserved. The pottery date for the latest fill was Arabic.

Fragmentary remains of a wall (A. 2:7) were found on top of Locus A. 2:8; apparently it is to be correlated with Wall A. 1:6. Its associated pottery was painted Arabic and Byzantine. Wall A. 2:8 ran east-west across the entire Square, its north face 4.10 m. south of the north balk. It is 1.10 m. wide. The level on the top is 891.22 m. It is of excellent construction and consists of three courses of well dressed blocks of stones laid in header-stretcher fashion, being the continuation of A. 1:12 (Plate XIX:B). Sherds associated with the wall range from some painted and glazed Arabic, to Byzantine and Roman. A. 2:11 is a bell-shaped cistern, *ca.* 2.00 m. wide and deep, with a settling basin, .40 m. deep, at the bottom (Figure 6). It is located between two of the column bases (A. 2:2). The fill produced Arabic pottery and UD's.



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Figure 6. Plan and sections of Cistern 11 in Area A, Square 2, also showing the trench dug north of the cistern with the several ledges of bedrock

Locus A. 1:12 is the designation for a fragmented plaster surface in the southeast corner of the Square which possibly joined one pillar base (Locus A. 2:2) with Wall A. 2:8. The sherds are possibly Byzantine and Roman. A *murware* surface 11.-25 m. thick, below Locus A. 2:12, was labeled A. 2:13 and had the same pottery as the overlying surface. Underneath Locus A. 2:13 was a red-brown soil layer, A. 2:14, .33-.42 m. thick, containing medium-sized rocks, and the same kind of pottery as A. 2:12 and 13. The foundation trench, .70 m. wide and 52. m. deep, on the north side of Wall A. 2:8, containing Byzantine/Roman wares, was designated Locus A. 2:15, and that on the south side of the same wall, .55 m. wide and .55 m. deep, with the same pottery received the Locus designation A. 2:16.

A probe trench was dug between Cistern A. 2:11 and Wall A. 2:8 to determine the extent, contour and character of the bedrock into which the cistern had been dug. This trench was 1.10 m. wide, 2.00 m. long, and reached a depth of 2.50 m. from the top of Wall A. 2:8 when bedrock was reached. Several soil layers were distinguished. The first rock protrusion into the trench was found at the level of the collar of the cistern. A second protrusion, .22-.30 m. wide, was .45 m. below the first one. A third protrusion, .55 m. wide, lay .50 m. below the second one; .40 m. below this was bedrock across the entire trench.

*Square 3:* Prior to the excavation there were scattered stones on the surface and a few column fragments in the northwest corner.

The surface and plow soil (Locus A. 3:1) had an average depth of .15 m. It contained sherds that ranged from painted and glazed Arabic to Byzantine and Roman. Locus A. 3:2 was part of the serpentine rock line in the northwest corner, found also in the southwest corner of Square 1 (A. 1:8) and the north-east corner of Square 4 (A. 4:3). A multicolored mosaic floor fragment with an arc-shaped border and adjacent face stones in the northeast corner with a UD pottery con-

text was designated as A. 3:3 (Plate XVI: A; XVIII: A). The mosaic was lifted from its underlying bed of cement (Plate XVI: B), restored on a new bed of cement and transferred to the regional museum of Madeba. The level of the mosaic's surface ranged from 891.92-891.94 m. Wall A. 3:4 was the connector between the mosaic floor with the face stones and the outer Wall A. 3:5. It was a crude filler wall following the inside arc of Wall A. 3:5 (Plate XVI: A and B). Byzantine and Roman sherds came from it. Wall A. 3:5 was an arc-shaped wall of hard, finely-dressed blocks of stone preserved only two courses high (Plate XIX: A). The level at the north end on the top of the upper course is 891.59 m. The wall was disrupted by the intrusion of a cistern (A. 3:8) (Plate XVII: A). Wall A. 3:6 of irregular stones, *ca.* .40 m. wide, ran east-west in the northwest corner under Wall A. 3:2 and lay on Surfaces A. 3:11 and 14. The wall began at the west balk and ended 2.70 m. east of the west balk where it made an angular turn to north-northeast, running thus only about .70 m. The stones along the south side and around the corner were plastered.

Locus A. 3:7 was a surface of cement/plaster covered with small pebbles corresponding to the area described by Locus A. 3:3. It extended to its presumed original dimensions on the north, south and east and to the balk on the west. A vaulted Cistern A. 3:8 was cut into the arc-shaped Wall A. 3:5 along the east balk (Plate XVII: A). The preserved part had a depth of 2:00 m. It was plastered on the three exposed sides and the bottom. Pottery date of the latest fill was painted and glazed Arabic wares. Wall A. 3:9 was a single-course line of stones running east-west near the south balk abutting the outside edge of Wall A. 3:5. Locus A. 3:10 was the underlayment, about .25 m. thick, for Floor A. 3:3, between the last mentioned floor and Surface A. 3:7. Its small amount of pottery was predominantly Byzantine and Roman. Surface A. 3:11 of cement/plaster covered most of the area surrounded by Wall A. 3:5 and reached as far as part of the west balk. It



is hard and relatively smooth, also well preserved. Levels averaged 891.35 m. On it were found large quantities of painted plaster, among which one contains a crude human face (Plate XXIII: E) and another one the Greek name [Δ]ΑΝΙΗ[Α] (Plate XXIV: A). The pottery was mainly Byzantine and Roman. A bag-shaped pit, A. 3:12, was dug into Surfaces A. 3:11 about .42 m. deep. The pottery date of the latest fill was possibly Byzantine and Roman. A diamond-patterned mosaic Floor A. 3:13 lying between Wall A. 3:9 and the south balk had a predominantly Byzantine pottery context. (Since the floor continues into the south balk, it was not removed.) Surface A. 3:14 of cement/plaster in the northwest corner was bounded by Wall A. 3:6, the north balk, and the west balk, and corresponds to the Surface A. 3:11 on the other side of Wall A. 3:6. The pottery is mainly Byzantine and Roman. A relatively poor plaster/cement Surface A. 3:15 was encountered in the same area as Surfaces A. 3:11 and 14, but underneath them, associated with predominantly Byzantine and Roman pottery. Underneath Surface A. 3:15 was the hard-packed Surface A. 3:16 of light-brown dirt, with an average top level of 891.05 m. The pottery date is Byzantine, Roman and possibly Iron Age. Wall A. 3:17 consists of a one-course line of partially dressed stones running east-west aligned to a line drawn from the inside edge of the west end of Wall A. 3:5 to the west balk in the southwest part of the Square. The level at the top was 891.43 m. Wall A. 3:18 was at least four courses high and ran between Wall A. 3:5 and the south balk, forming a passageway along the south edge of Wall A. 3:5. Top course level was 893.69 m. A wall at least three courses high and one course wide protruding from the west balk was designated Wall A. 3:19. Its top level was 892.31 m. Two small mosaic fragments (A. 3:20) in the southwest corner of the Square were left *in situ* since they seem to continue into the south balk. Loci A. 3:21, 22 and 23 are crude walls uncovered underneath Surface A. 3:16. They have been exposed but not yet excavated. The available pottery is

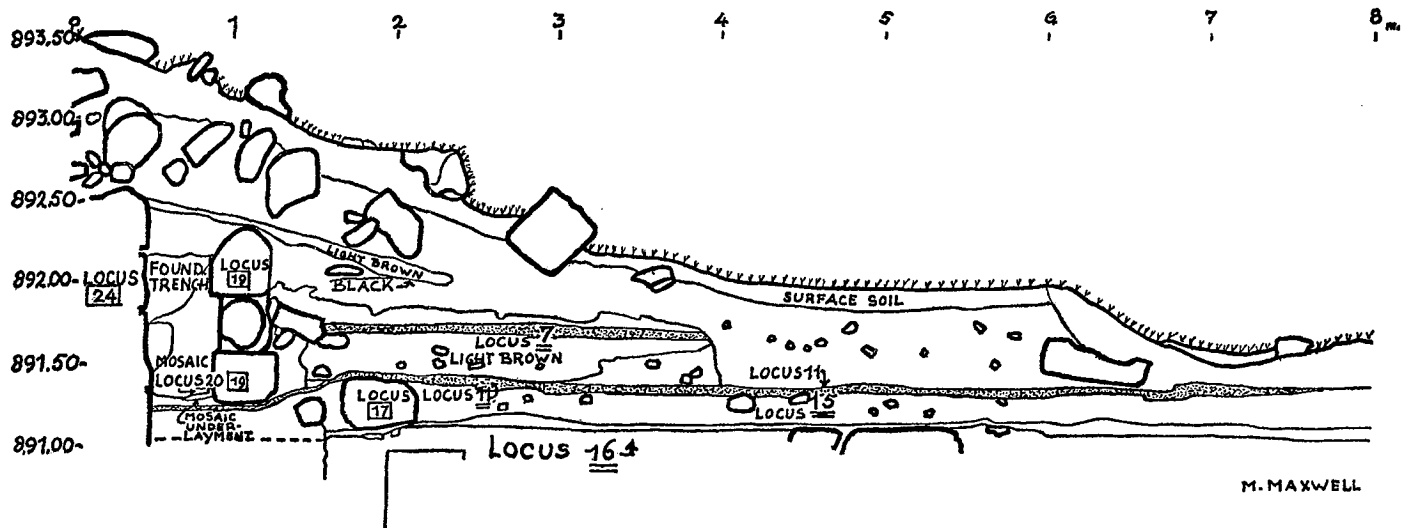


Figure 7. Section of west balk of Area A, Square 3. Speckled layers indicate *harrar*, double-underlined locus numbers indicate floors, and boxed numerals are walls

Roman and Iron III. A five-course wall just visible in the south balk is designated A. 3:24. Wall A. 3:25 protrudes from the north balk and runs from the west end of the north leg of the arc-shaped Wall A. 3:5 to the west balk. It lies above Surface A. 3:15 but underneath Surface A. 3:14.

*Square 4:* Prior to excavation there were scattered stones on the surface and a few column sections in the northeast corner. The Square was considerably higher in the southeast corner (cf. Figure 7). This feature made excavation by layers complicated at first, but the heavy concentration of fallen stone in the southeast area of the Square indicated that a major structure originally stood south of the Square and its debris constituted this higher portion.

The surface and plow soil was designated as Locus A. 4:1. It had an average depth of .50 m. and contained painted and glazed Arabic, Byzantine and Roman sherds. A two-course wall, A. 4:2, was found in the southeast corner of the Square, partly in the south balk and running west from the east balk for about 2.00 m. A column fragment, A. 4:3, lying along the east balk on the surface formed part of the serpentine Wall A. 3:2 in the northwest corner of Square 3 and the southwest corner of Square 1 (A. 1:8). The water Channel A. 4:4 (being the continuation of A. 2:4, 5, 6, 9 and 10), lying right underneath the topsoil ran from the north balk to the south balk parallel to and 1.50 m. east of the west balk. The pottery obtained consisted of painted and glazed Arabic, Byzantine, and Roman wares. In the northeast corner of the Square, also right under the topsoil, there was stone Surface A. 4:5, 1.80 × 2.75 m., consisting of three rows of flat, irregular stones with an uneven surface. The top level was 891.35 m. Pottery associated with it was Byzantine and Roman. In the southeast corner of the Square, Wall A. 4:6 lay north of Wall A. 4:2 having a small column base (plastered to the mosaic Floor A. 4:8) in its lowest course. Above it stood a larger column base, while another large column base (A. 4:7) was standing west of it. The pottery was painted and glazed

Arabic ware. The mosaic Floor A. 4:8 with a geometric multi-colored pattern was bordered by Walls A. 4:6 and 9 (Plate XVII:B) and measured .81 x .66 m. with an extension of .30 x .13 m. (Plate XVIII : B). It was removed, restored and transported to the Madeba museum. The pottery was painted and glazed Arabic, Byzantine, Roman wares and one sherd each of the Hellenistic and Iron II periods. Wall A. 4:9 ran along the east balk and was plastered to the east edge of Floor A. 4:8. It consisted of one course of well cut stones. The one-course Wall A. 4:10 ran along the south balk lying directly below Wall A. 4:2.

Along the north balks and near the Cistern A. 2:11 in Square 2 was Pit A. 4:11 which produced Arabic pottery from its fill. Wall A. 4:12 ran from the east balk to the west balk, .50 m. north of the south balk, lying below the foundation stones of Column Base A. 4:7. It consisted of dressed rectangular blocks and was *ca.* 1.00 m. wide. The average top level was 891.04 m. Possibly Byzantine and Roman pottery was associated with it. In the southeast corner of the Square was *hwwar* Layer A. 4:13. It terminated about halfway between the north and south balks with disturbed fill of dirt and debris north of it. Its pottery was predominantly Byzantine and Roman. A small portion of *hwwar* Surface A. 4:14 lay along the east side of the Square below Floor A. 4:8 and Layer A. 4:13. Underneath this *hwwar* Surface A. 4:14 was a Surface A. 4:15, .20-.25 m. thick, of plaster and dirt mixed with limestone along the east side of the Square. The pottery dates from Byzantine, Roman and Hellenistic times. Surface A. 4:16 of packed earth was traceable over the entire Square from east to west along Wall A. 4:12. It had possibly Byzantine, Roman and Iron Age pottery. The hard-packed earth Surface A. 4:17, *ca.* .06 m. in depth, of ruddy brown color, ran along the east balk and over the eastern half of the Square. Its sherds were of the Roman and Iron Ages. Another hard-packed earth Surface, A. 4:18, .10-.19 m. in depth, ran along the east balk over the eastern half of the Square and underneath Surface A. 4:17. Its pottery date is Roman, Hellenistic

and Iron III. It produced a well preserved coin of Tyre of the 1st century B.C. Underneath Surface A. 4:18 was a third hard-packed dirt surface, A. 4:19, containing chunks of plaster, in the eastern half of the Square. It had the same pottery range as the surface above it. Bedrock with an undulating surface (level average: 890.28 m.) over the entire Square was designated A. 4:20. A circular, cone-shaped pit in the bedrock north of Wall A. 4:12 became Locus A. 4:21. Its diameter at the top is .73 m., its depth .75 m. The pottery date of the latest fill was Iron III. A thin, gray ash layer, A. 4:22, was located north from the south balk, reaching to Wall A. 4:12 by which wall it was cut. A neat cobblestone Pavement A. 4:23 was found below Layer A. 4:22. Only a small section of each was exposed along the south balk.

*Removal of Balk Between Squares 1 and 3.* Upon the completion of the drawing of the south, east and west balk sections of Square 1 and the north, east and west balk sections of Square 3, the balk between Squares 1 and 3 was partially removed near the end of the excavation. The purpose of this operation was to ascertain the integration of walls in Squares 1 and 3. Of special concern was the relation of the arc-shaped Wall A. 3:5 and Walls A. 1:9 and 17 (possibly also Wall A. 1:13). It was found that Wall A. 3:5 ends in the balk at a point even with its southern counterpart on the southern side of Square 3. Wall A. 1:9 was found as being built against the north side of Wall A. 3:5 with a fill of small stones between the two walls. One large block (a reused decorated stone) forms a corner with the western end of the north leg of Wall A. 3:5 (Plate XIX:A). Between this block and the north-south balk separating Squares 1 and 3 from Squares 2 and 4 (to the column base at the juncture of the balks) more of Wall A. 1:7 was exposed. A one-course wall made up of stones protruding into Square 3, their top surface being a few cms. below the surface of Wall A. 1:7, was exposed and designated A. 3:25. No direct alignment of Wall A. 3:5 with a wall running north-south in Square 1 could be ascertained.

*Interpretation of the Architectural Remains Uncovered in Area A*

The excavation of the four Squares described above rather clearly exposed three strata, and the following discussion will seek to describe and delineate phases of occupation within these strata. The standard designations of these strata are:

- Stratum I = Arabic  
 Stratum II = Byzantine  
 Stratum III = Roman <sup>12</sup>

*Stratum I, Phase A: Very Late Arabic.* Possibly the very latest occupation phase in Area A is the serpentine wall (A. 1:8, A. 3:2 and A. 4:3) made up of some cut stone blocks and column fragments lying on the surface largely exposed. Exact dating is not possible, but it appears to be very late Arabic. Likewise, no conclusions are possible as to its purpose or functions. It may have served as a kind of temporary boundary and enclosure. The column fragments are obviously from an earlier structure.

*Stratum I, Phase B: Late Arabic:* The general outline of the ruins of the acropolis suggests that at one time there were major structures on the north, south and west side. These buildings surrounded an open court, which was exposed on the east side (or possibly with relatively low buildings on the east side). Not only the ruins but also the climatic features and location of the acropolis suggest this. This layout would give the courtyard exposure to the morning sun from the east and protection from the afternoon sun and prevailing winds from the west in the afternoon. The existence of the large courtyard with pavement stones (according to local legend and possibly partly preserved in some loci [A. 1:7 and A. 4:5])

<sup>12</sup> It is becoming more and more evident that the terms Byzantine and Roman for the early centuries of our era are too indefinite. To make the dividing point *ca.* A.D. 300 ignores that which might properly be designated Early Christian prior to that time. Similarly, a distinction between Byzantine and Early Christian is proving very helpful in archaeological work in Turkey. Perhaps with greater refinement of the pottery chronology (possibly at Heshbon) of these early Christian centuries, a more definitive terminology can be structured.

provided a good flat surface for the collection of water by means of the water channel system in Squares 2 and 4 (Loci A. 2:4, 5, 6, 9, 10 and A. 4:4; Plate XV:A). Included in this system would be the cistern between the column bases in the balk between Squares 2 and 4 (A. 2:11) (Figure 6).

A possible dating for abandonment of this water channel complex is Late Arabic. Admittedly this is very indefinite and the sherds included painted and glazed ware. Furthermore, the complex was directly below the surface. Also, exact chronological delineation of Arabic pottery has not been fully developed. On the other hand, the existence of this water channel complex in the presumed courtyard of Arabic public structures of a character still unknown suggests a date after those structures. Hence this dating must remain tentative until further excavations delineate the structures on the acropolis perimeter.

*Stratum I, Phase C: Early Arabic.* In the eastern half of Square 1 the remains of a storage complex were identified. These included sizable remains of large jars (A. 1:10), walls (A. 1:3 and 4) and surfaces (A. 1:5 and 11). It is possible that this complex was contemporaneous with the water-channel system described above. However, the Arabic Cistern A. 3:8, dug from a higher level than that of the water system described above, suggests that it was filled by run-off water from buildings. Since the water channels cutting through a courtyard could hardly be contemporaneous with the use of the courtyard and surrounding buildings, it seems plausible to suggest that the Arabic building remains antedate the water system. Walls A. 3:9 and A. 4:2 may belong to these Arabic buildings; future excavations must ascertain that definitely.

*Stratum II: Byzantine.* A discussion of the Byzantine stratum immediately raises the question regarding the identification of the ruins. The interpretation of this entire stratum will be dependent upon this identification. Hence this basic question will be discussed first, although it necessarily will involve some evaluation of the ruins.

It is the judgment of this investigator that the total impact of the evidence points to the identification of these ruins as those of a church. Admittedly, the case cannot be absolutely or firmly established, but the cumulative effect of a number of items points in this direction. These items will be discussed first, and consideration will be given later to certain problems involved in this identification.

1. The shape and position of Wall A. 3:5. This is a semi-circular wall oriented to the east. The shape of this wall and its extent are typical for an apse of a Byzantine church. This is so patent that further documentation is not necessary. Furthermore, the orientation to the east also is a typical characteristic of early churches.<sup>13</sup> Hence Wall A. 3:5 certainly qualifies in these respects as the apse of a church.

2. The shape, construction and date of the mosaic floor in the apse (A. 3:3). The preserved east edge of this mosaic floor is semicircular, suggesting that it is prescribed by the arc of an apse. Some of the stones of an (inner) apse have been uncovered east of the mosaic (Plates XVI:A, B; XVIII:A). This apse was smaller than that described by Wall A. 3:5. Although the design of the mosaic is not distinctly Christian, it is not without parallel in Christian churches, and its tentatively ascertained date in the latter part of the 6th century A.D.<sup>14</sup> puts it in the pre-Arabic period.

3. The position of the row of column bases (A. 2:2) and parallel wall (A. 1:12 and A. 2:8) (Plate XVII:A). A frequent

<sup>13</sup> "Let the building be long, with its head to the east" (*Apostolic Constitutions*, II.57).

<sup>14</sup> Ute Lux of the Deutsches Evangelisches Institut für Altertumswissenschaft des Heiligen Landes, a recognized expert in mosaics, after seeing a photograph of the apse mosaic wrote to Horn by letter of November 29, 1968: "Ich würde das Apsis-Mosaik in die 2. Hälfte, bzw. in das letzte Viertel des 6. Jahrhunderts datieren." However, of the geometrically-patterned mosaic from the main aisle she says: "Es handelt sich um jene neutralen geometrischen Muster — sie scheinen mit grösseren Steinen eingelegt worden zu sein —, die keinen Anhaltspunkt einer Datierung bieten, vielmehr schon lange vor dem 6. Jh. anzutreffen sind und bis ins 8. Jh. hineinreichen."



style of early Christian churches is the basilica. A feature of the basilica-type church is a double row of pillars supporting the roof and separating the main aisle from the side aisles.<sup>15</sup> The position of the column bases (three in the balk between Squares 2 and 4 and the foundation stone of a fourth one west of the Area) in relation to the apse described above fits into this scheme.

4. The evidence of the inscription on plaster fragments found in Square 3. On August 2, 1968, two pieces of painted plaster were found with Greek letters on them (Plate XXIV:A). These were found in the removal of Surface A. 3:7 and the exposure of Floor A. 3:11, just east of Wall A. 3:6. The letters, arranged as a partial semi-circle, were ]ANIH[. These have been identified as the medial letters of the Greek name Δανιηλ.<sup>16</sup> The semi-circle suggests they were placed over a painting of Daniel. This likewise points to a building in which Daniel would be revered—a synagogue or a church. The use of Greek and frequent use of the Daniel motif in Christian art favors identifying the building as a church.

5. The existence of a church at Heshbon on the basis of literary sources. Heshbon was the seat of a bishopric in the early Christian centuries—Bishop Gennadius was present at the Council of Nicaea in A.D. 325 and Bishop Zosus at the Council of Ephesus (A.D. 431) and that of Chalcedon (A.D. 451). In 650 there was a Bishop Theodore at Heshbon.<sup>17</sup> This evidence of Christian occupation is also indicated by a stone capital discovered on Mt. Nebo which is decorated with crosses and contains the letters Εσβους. S. J. Saller suggests that the people of Esbous (Heshbon) presented this capital to the church of Moses on Mt. Nebo.<sup>18</sup>

<sup>15</sup> Michael Gough, *The Early Christians* (London, 1961), pp. 125-144.

<sup>16</sup> This identification was made by Volker Langholf of the Universität Hamburg by letter of October 16, 1968, addressed to Horn.

<sup>17</sup> See *supra* p. 101 and Vyhmeister, *AUSS*, VI (1968), 168-171.

<sup>18</sup> S. J. Saller, *The Memorial of Moses on Mount Nebo*, I (Jerusalem, 1941), 265, 266.

6. The dating of the ruins. The sherds found in context with the various structures and the mosaic in the apse apparently date the buildings in the Byzantine period. This proves nothing as to the existence of a church, but it does indicate a chronological setting appropriate for a church.

7. The location of the ruins. The literary evidence suggests a major Christian settlement at Heshbon. A prominent place for the location of the church would be on the acropolis, where the ruins under discussion are located. (Fig. 7a depicts an architect's sketches of a tentative reconstruction of the church at Heshbon.)

The following interpretation of the archaeological data therefore assumes that a major structure in Byzantine times was a church located on the acropolis of Heshbon. The validity of this assumption will be discussed later. This procedure is followed for the sake of clarity, not to prejudice the reader unfairly. The following phases of building and use of the church are suggested:

- Phase A $\alpha$  and A $\beta$  = Late Byzantine
- Phase B = Intermediate Byzantine
- Phase C $\alpha$  and C $\beta$  = Early Byzantine<sup>19</sup>

1. *Stratum II, Phase A $\alpha$  = Late Byzantine.* The major evidence for this phase is the mosaic Floor A. 3:3 (Plate XVIII:A). As suggested above, the border of the floor was semicircular and thus was described by the arc of an "apse." One stone immediately along the outer edge of the mosaic was preserved—possibly a part of the elders' bench inside the apse. It appears that with this phase of construction, the church (at least the apse) was reduced in size. Wall A. 3:4 appears to be a filler wall between the larger apse of the

<sup>19</sup> Perhaps this should be designated Early Christian since this period may overlap with Late Roman. Presently, the delineation of pottery typology in the 2d, 3d, 4th and 5th centuries has not been sufficiently refined. Further analysis of Heshbon materials is required before more can be affirmed. It is possible that this phase begins in the 2d or 3d century.

earlier church and the small one of the smaller and later church. The mosaic was discovered about .25 m. below the ground surface. Most of the wall constructions seem to have been destroyed or robbed. The floor level cannot be identified in Square 2 or 4—possibly being disrupted along with associated walls in the formation of the courtyard and subsequent water drainage system.

It is possible that the fragmentary Walls A. 1:6 and A. 2:7 are to be associated with this period. However, the evidence is scanty and connection by soil layers non-existent (due to closeness to the ground surface) and thus this can only be a suggestion. These walls could also be related to Phase A $\beta$  described below.

2. *Stratum II, Phase A $\beta$  = Late Byzantine.* This is an earlier phase of the smaller church described above. It is to be identified in the cement/plaster Surface A. 3:7 and the *huurwar* Layer A. 4:13. The extent of the Surface A. 3:7 eastward was the same arc described by the outer edge of the mosaic Floor A. 3:3. Possibly in the digging of the Cistern A. 3:8 along the east balk this area east of the Floor A. 3:3 and Surface A. 3:7 was completely disrupted. In Square 4 the west edge of Layer A. 4:13 is butted by Wall A. 4:9 as a kind of retaining wall providing a "step-down" from the apse to the main aisle of about .22 m. The lower level or floor of the main aisle may be partly preserved in the mosaic Floor A. 4:8. To the south of this mosaic floor was Wall A. 4:9, forming a room of which the other walls have been disrupted, unless the excavation to the south in a future season will provide more data.

3. *Stratum II, Phase B = Intermediate Byzantine.* This is to be identified with the cement Surface A. 3:11 and Surface A. 3:14 as well as the *huurwar* Surface A. 4:14. Both are at the same level and apparently there was no "step-down" from the apse to the nave or main aisle in this period. The apse is to be identified with the surrounding Wall A. 3:5. The Surface A. 3:11 covered the area inclosed by Wall A. 3:5. The

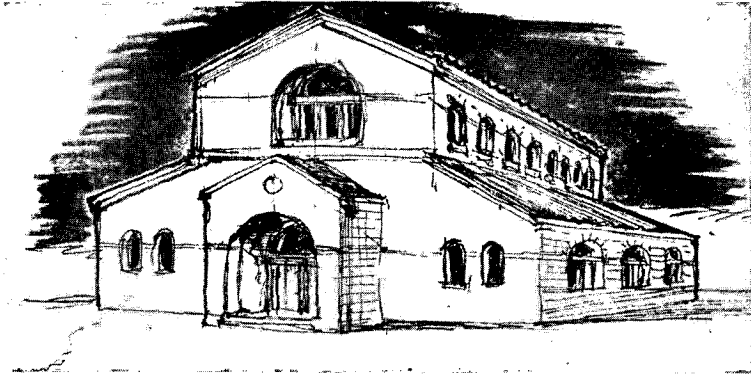


Figure 7a. Architect's sketches of a tentative reconstruction of the  
Early Christian Church at Heshbon

Top: View from the southwest — Entrance  
Bottom: View from the northeast — Apsidal end

many fragments of painted plaster found above surface A. 3:11 presumably came from the walls and possibly from the dome of the apse. This would indicate that the apse (of this phase) was rather extensively decorated with biblical scenes.

Walls A. 1:9 and A. 3:9 are abutting the outer edge of Wall A. 3:5. Since the outside face of Wall A. 3:5 is not finished, it would seem that these outer walls were contemporaneous with Wall A. 3:5. An Arabic storage complex had been built north of Wall A. 1:9 (see *supra*, p. 144) and this may have removed any trace of rooms or structures from Byzantine times in this area. In Square 3 south of Wall A. 3:9 a portion of a mosaic floor has been uncovered which appears to be contemporaneous with Wall A. 3:9. However, the determination of what type of structure or room was formed by this floor or by Wall A. 3:9 must await further excavation south of Square 3.

Wall A. 3:6 also belongs to this building phase (it was set upon Surfaces A. 3:11 and 16). However, its function in this location is a conundrum.

Wall A. 1:7 belongs to this phase of building since it lies above the plaster Floor A. 1:20 which is associated with an earlier phase. It appears to be some kind of subsidiary wall joining the end of Wall A. 3:5 with the easternmost column base. The column bases may have been used in this phase of building, but a portion of their bases must have been covered.

No definite relationship of this phase with the main east-west Wall A. 1:12 and A. 2:8 is evident. However, since there is a relationship of the apse with this main east-west wall in the immediately preceding phase (phase C $\alpha$ ) and the remains are higher than the level of Phase B, it seems that they were present in Phase B and perhaps were part of the structure.

A north-south wall connecting the end of the apse with the east-west Wall A. 1:12 cannot be identified. Wall A. 1:13 is a possibility. However, there is a jog in the wall and its connection with Wall A. 3:5 is not direct. It is possible that originally there was a doorway here, which later on was rather crudely filled in.

4. *Stratum II, Phase C $\alpha$  = Early Byzantine.* This phase is perhaps the most extensively identified in the ruins. The surface or floor of this phase of building and use is identified by the plaster Floor A. 3:15, plaster Surface A. 4:15, plaster Floor A. 1:20 and plaster Surface A. 2:12. Floor A. 1:20 and Surface A. 2:12 may associate the column bases with the main east-west Wall A. 2:8. Floor A. 3:15 is bounded by the apse Wall A. 3:5.

Again the identification of a north-south wall connecting the end of the apse with the main east-west wall is difficult. Wall A. 3:17 is a possibility. Two troublesome factors are the date of its foundation trench—Roman—and its termination before reaching the end of the apse. The former factor may be explained by its being a Roman wall reused in Byzantine times or that the designation Byzantine is too general and there is a measure of overlapping here. The latter factor may have been occasioned by the presence of a doorway (such a doorway appears on the south side of the apse in Square 3).

5. *Stratum II, Phase C $\beta$  = Early Byzantine.* This phase is identified by Surface A. 3:16 which is the original floor level with Wall A. 3:5. The continuation of this surface into Square 4 is indefinite. Below Surface A. 4:15 there are a number of surfaces very close together. These may be associated with this phase. If so, it may indicate that there was a "step-down" in floor levels in the apse and main aisle in this phase. Whether this phase made use of the column bases in their present location is doubtful. There is no clear soil connection and their present level would be too high. It seems that the column bases were brought in connection with the construction of Phase C $\alpha$ . It is possible that the walls serving as foundations for the column bases in Phase C $\alpha$  were originally the walls or segments of the walls of the church in Phase C $\beta$ , which apparently did not have the full basilica type of construction.

The foregoing analysis and interpretation assumes the identification of the structures as phases of the building of a

church. The arguments for this have been set forth above. Objections to this identification will be considered next.

1. One objection is the absence of a distinctively Christian motif in the Mosaic A. 3:3. However, mosaics found in Byzantine churches in Madeba and on Mt. Nebo<sup>20</sup> show features similar to the mosaic under discussion. Ute Lux, an expert in mosaics, in examining the photograph of the mosaic wrote: "Der Meister des Mosaiks der Apsis gehört zweifelsohne der 'Madebaschule' an. Offensichtlich handelt es sich hier um ein sehr beliebtes Thema: symmetrisch zu Seiten eines Obstbaumes angeordnete Tiere, in diesem Falle wohl Rinder (vgl. das Apsis-Mosaik der Kirche des Lot und Procopius in el-Muhayyet."<sup>21</sup> A similar design with animal shapes similar to the animal in the mosaic under discussion can be seen in the details of a floor mosaic from the great church at Mopsuestia in the plain of Eastern Cilicia which is dated in the 5th century.<sup>22</sup>

2. Another objection stresses the lack of clear connection of building remains in one Square with those in another Square. This primarily concerns the integration of the main east-west wall (A. 1:12-A. 2:8) with the so-called apse (A. 3:5). The above discussion has recognized the complexity of this problem. However, the integration suggested in Phase C $\alpha$  above, whereby the apse, the column bases, and the wall are correlated by the Surfaces A. 3:15, A. 4:15, A. 1:20 and A. 2:12 answers this objection to a large extent for the earliest Phases. The presence of doorways, reconstructions within a phase, removal through later occupation and similar phenomena could account for the break in continuity of integration of later Phases asserted in this objection.

3. Another objection cites the presence of Arabic pottery in some contexts, especially in the northern half of Square 1.

<sup>20</sup> Saller, *op. cit.*, II (Jerusalem, 1941), Plates 81-113.

<sup>21</sup> For reference to this letter see Note 14. In her letter she refers to Saller and B. Bagatti, *The Town of Nebo* (Jerusalem, 1949), Plate 14, 1.

<sup>22</sup> Gough, *op. cit.*, Plates 70, 71.

What type of structures lies to the north of Squares 1 and 2 (or the main east-west wall) is not presently known. If the east-west wall (A. 1:12-A. 2:8) is the north wall of the church and if the whole area was occupied in Arabic times (by a citadel-like complex and courtyard and later by a water channel system), disruption and contamination of earlier layers becomes a real possibility. In addition, as suggested above, Early Christian materials can overlap with Roman materials, so that identification of items as Roman could still be part of a Christian complex.

It must be remembered that only a portion of the structure to be identified has been uncovered. The entire south side and western end have not been exposed. Hence all identifications and descriptions must be tentative to that extent. The total impact of the evidence points to a Christian church. This investigator does not want to be dogmatic about this. He does consider the above judgment a strong possibility and presently feels fairly confident that this was a Christian church at Heshbon. Hopefully, future excavations will settle the issue with more compelling evidence.

Otto Meinardus, in a report on the excavations of a church near Jericho,<sup>23</sup> describes ruins very similar to those at Heshbon, including mosaics with purely geometrical designs. Of interest regarding the question of dating, Meinardus mentions that the Persians destroyed all Christian churches in the *Wadi Qelt* and the Jericho area in A.D. 614. How this relates to churches in Transjordan needs further investigation.

*Stratum III: Roman.* There is evidence for a Roman occupation in the layers just above bedrock in Square 4. These are not very extensive and further excavation is necessary to relate them to Wall A. 4:12.

Below Surface A. 3:16 a number of crude walls with stone fill between were uncovered. The fill appears to have been put

<sup>23</sup> Otto Meinardus, "The Byzantine Church of St. Andrew in Jericho," *Bulletin de la Société d'archéologie Copte*, XVIII (1965-1966), 181-195 and plates.



in to level the area for Surface A. 3:16. The sherds found in context with these walls were Roman and some Iron III. Of interest is the fact that these walls go below the level of bedrock found in Square 4. Apparently the bedrock in this area is very undulating and the highest point of bedrock seems to be the cistern between the pillar bases, from where it gradually slopes off to the southwest in Square 4. The probe trench in Square 2 seems to indicate that the bedrock was deliberately quarried or faced on that side.

Roman sherds have been identified in every Square, usually at the levels where work terminated this season. However, the line of demarcation between Byzantine and Roman is rather dubious. At present, it appears that the Roman Walls A. 1:12 and A. 2:8 were reused in Byzantine times.

Further excavation will be necessary to delineate clearly the Roman levels on the acropolis at Heshbon.

#### AREA D

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Area D was laid out with the primary aim of exposing the main entrance to the acropolis area from the lower city to the south. To this end three  $6 \times 6$  m. "Squares" were plotted to the east of the north-south axis across the eastern half of the south slope of the acropolis of the mound. Their common west balk bisected a gateway that was visible at the summit somewhat east of the center of the south ridge. It then slanted along a presumed path of access on the slope below framed by a pair of standing columns (outside the Area) on the west end. Square 1 straddled the summit where the line of an enclosure wall was just visible through the mass of rockfall that camouflaged the upper slope. Square 2 stretched across the slope below, incorporating on the west the aforementioned wall line that appeared to climb the slope toward the gateway in the summit wall. Square 3 was staked out on a small fairly level shelf.

The final alignment of the Squares was dictated by a second aim of excavation in this Area, *viz.*, the hope of eventually linking structures on the perimeter of the acropolis with structures in the center, specifically those to be excavated in Area A. To this end the Squares of both Areas were laid out in such a way that the north-south axis became the west boundary of both Areas during the 1968 season.

The initial appearance of the Area was of a hillside strewn with boulders and crowned with a stone heap. The removal of this surface tumble, however, revealed a quite different picture. In place of the sloping mound a broad enclosure wall ran along the south perimeter of the acropolis area with rooms and courtyards against the wall within. A meter or more below on the outside of the wall was a more or less level terrace, sometimes walled at its lower end, below which the terrace gave way to a slope dropping off rapidly to the south and west. Between the upper wall and the surface below ran a broad stone ramp or terrace with steps to the south, plastered porch or forecourt to the north, and a low wall along the upper edge framing this elevated access to the acropolis area. This picture, won by the removal of surface earth and rock-fall, describes the basic outlines of construction in Area D throughout the entire period of occupation revealed by the first season's excavation.

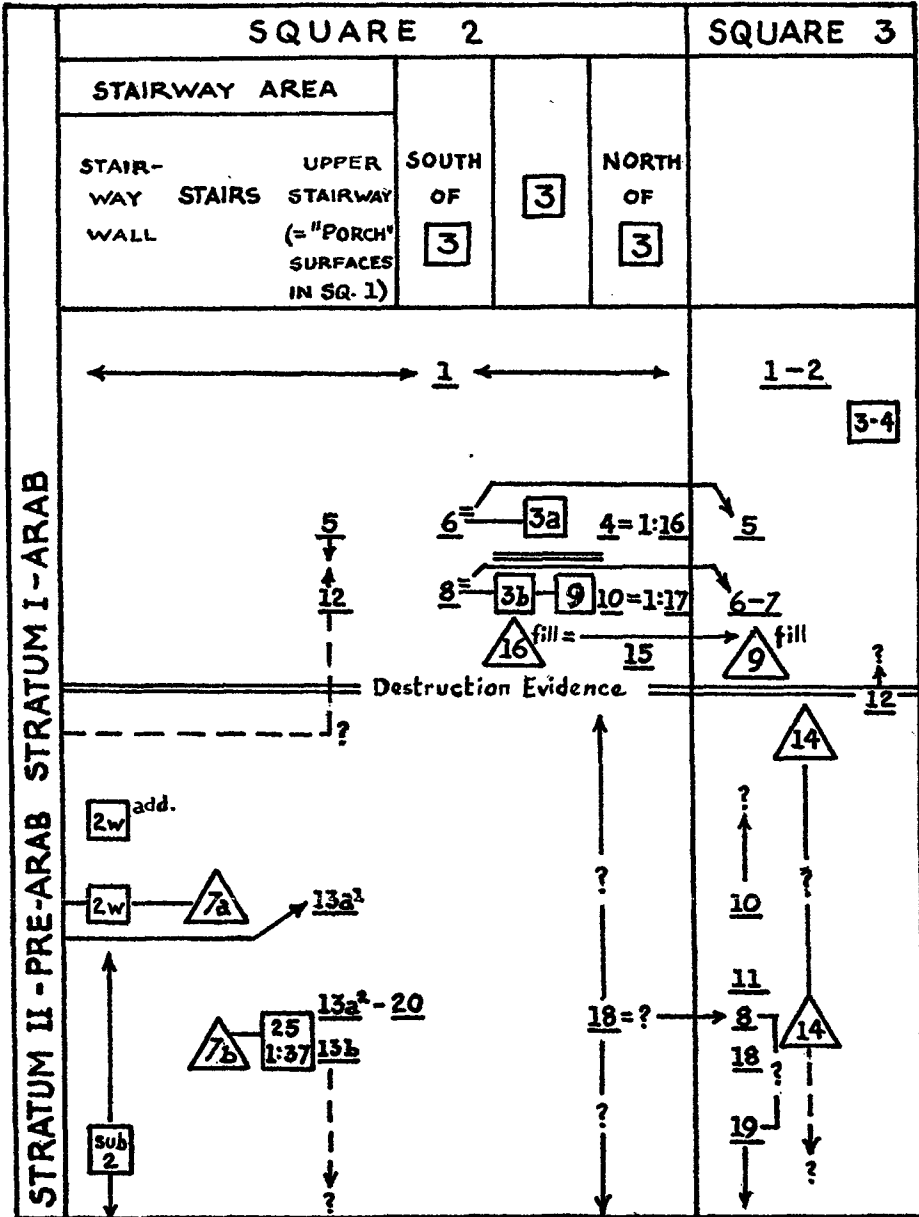
Most of the season was spent in the excavation of Arab remains (Stratum I), of which at least three, possibly four, phases can be distinguished. By the end of the season, however, all Arab surfaces and structures had been removed, exposing earlier data. For most of these earlier layers an adequate analysis must await a further season of digging. Where ceramic evidence was available, our analysis was not sufficiently exact, distinguishing only characteristically Roman sherds in a mass of pre-Arab UD material. In addition, key connections between surfaces in different parts of a Square or of the Area and between surfaces and walls had been broken in ancient times or were not observed carefully

enough in digging. Without closer ceramic dating the judgment of relative contemporaneity and sequence in these cases is a precarious one that can at best be only tentative until further evidence is forthcoming. For the purpose of this report, remains from all levels where characteristic Arab pottery was lacking have been lumped into a single stratum category, Stratum II (pre-Arab), a category that must be revised and differentiated as Byzantine and/or Roman (Roman sherds were found in connection with all of these) on the basis of further digging and ceramic analysis. No attempt has been made to distinguish phases in the Stratum II material, except for the last, II A, where reasonable certainty of contemporaneity can be determined on the basis of architectural unity and dependence. Though Stratum II cannot be adequately dated, it can be roughly ordered into a relative chronological sequence that leads directly into the more controlled sequence of Stratum I.

A rough and very tentative stratigraphic and chronological key to the whole Area is presented in Figure 8, providing a chart of sequences, interrelationships and dependencies, plus a ceramic guide insofar as this was possible. Many parts of this sequence will eventually have to be moved, but the backbone of the whole system is Wall D. 1:4, which in its several phases provides the basic continuity through the whole series of excavated remains (Plate XX: A).

Our report begins with a description of the remains of Stratum II, since the remains from Stratum I, the Arab period, consist largely of the reuse and eventual rebuilding of architecture from the previous period, and the period is ushered in by a building project that is simply an addition to a Stratum II structure. The basic outline of the building in the Area is essentially the same throughout the whole excavated sequence. All the connecting architecture—and almost all the architecture found—was found in Squares 1 and 2. Square 3, which shares some surfaces with Square 2, is described





refer to surfaces, boxed numerals to walls, while numerals enclosed in triangles are other structures, such as a stairway, etc.

separately, because of the quite different occupational remains and distinct problems encountered there.

*Stratum II.* The last major structure built in Stratum II was the acropolis enclosure Wall D. 1:4c along the south edge of the summit of the mound. The latest construction in this pre-Arab period has been preserved in only one to two courses of ashlar masonry laid in part directly on the foundation, in part upon the first course of an earlier wall, D. 1:4d. How high this foundation of giant undressed field stones stood above the surface of the mound is not known, since neither founding level nor surfaces contemporary with its construction have been reached and a probe slightly to the south was carried to two meters below the gateway level in D. 1:4 without penetrating below Arab levels. Wall D. 1:4d may have been founded on bedrock.

Wall D. 1:4c is constructed of two rather widely separated faces of varying thickness, the whole averaging 1.70 m. in width at foundation level (Figures 9 and 10). It runs across the whole eight meters width of the Square, its outer face roughly paralleling the south balk at a distance from it of *ca.* 1.40-1.30 m. Near the west balk line and extending into the balk stood a gateway, estimated to have been *ca.* 1.00 m. wide, which opened into a paved courtyard, D. 1:33 and 34, of giant flagstones (some 1.00 × .50 m. in dimension) on the north. This courtyard covered the whole 2.75 m. wide area north of the enclosure wall and continued eastward along the wall until it broke off 3.75 m. from the east balk. Upon this surface was laid a narrow (*ca.* .70 m. wide), two-row north-south wall, D. 1:15, perpendicular to Wall D. 1:4, which it abuts *ca.* .50 m. east of the east doorpost; from there it extends northward into the balk. Access to the room thus created was obtained by a doorway just inside the north balk. Further east another north-south wall, D. 1:24, of roughly similar width and construction and with a doorway from the east near the north balk, abutted Wall D. 1:4c 1.50 m. west of the east balk. This wall may have served at some time as the east



wall for a room framed by Walls D. 1:15 and 4 on the west and south, though the surface connection has been lost by the abrupt end of the flagstone paving *ca.* 1.00 m. west of Wall D. 1:24. An additional later and independent use is suggested by a series of earth surfaces and flimsy walls to the east of it.

To the south, outside the gate, an earth and *huwwar* surface extending *ca.* one meter east of the east gatepost in Wall D. 1:4c and some three meters or more to the south formed a kind of porch in front of the gateway at the head of what seems to have been a stairway or stone-built ramp running down to the south. The contemporary surfaces and/or structures outside the wall to the east of the raised stair area have not been recovered; excavation there was halted in Arab levels 1.75 m. below the threshold level in the D. 1:4c wall (Plate XX: B).

Details of reconstruction in the south stairway area are unfortunately difficult to recover, in part because the stratigraphic situation is exceedingly complex, in part because evidence outside the Area needed to reconstruct a full picture of the plan is lacking.

The earliest stairs-and-porch/forecourt arrangement seems to have been created in part from an earlier construction, but also to have established a new pattern for the zone of access to the south acropolis gateway. The earliest architectural remains visible in this area are a series of steps (Loci D. 2: sub-7 and sub-2) that suggest a broad stepped terrace on this slope of the mound. The lower three steps, which in digging were not given a separate locus designation from the later steps (D. 2:7), were constructed from thin (*ca.* .17 m. thick) rectangular stones, *ca.* .70 × .45 m. in size, laid end to end lengthwise in staggered rows across the slope so that each step was the height and width of a single stone. The longest stair row as recovered consisted of four stones and extended *ca.* 2.50 m. east of the west balk; but the original dimensions of the terrace-staircase can no longer be determined with certainty, since the south and east edges of the remaining



structure show signs of earlier robbing and mark the west edge of a giant robber trench or pit that extended an additional four meters to the east (to within 1.50 m. of the east balk) and four meters south of the southernmost step (2.50 m. into D. 3).

North of this lower group of stairs and visible only on the east where the east face of a superimposed wall (D. 2:2) was removed was a level strip of stone paving/terracing followed by another series of three low shallow steps. This latter series was formed of stones of approximately the same dimensions as the lower series but laid crosswise with long sides together and with the upper courses overlapping the lower ones by *ca.* .25 m. to leave a tread about .40 m. in depth. How far north this stepped terrace continued is not now apparent, since part of the terrace was clearly robbed out in ancient times and the whole north part of this sector is covered by a terrace of later date and different construction. Whether it conceals an extension of the earlier construction (as may be suggested by what can be seen from the east of the third course down in the D. 1:sub-10 terrace) can only be learned in another season of digging. No date can as yet be assigned to this structure hopefully dubbed "the Roman stairs" to distinguish it from the later stair construction in which it was in part reused. A *terminus ante quem* can be set, however: It is pre-Arab in date and is superseded by at least one, if not two, succeeding pre-Arab constructions in the same sector.

The next phase of building in the stairway area can also not be dated with any exactness beyond the verdict that it must be pre-Arab; it is sealed at one end by pre-Arab surfaces. It consists essentially of a long one-row wall (D. 2:25-D. 1:37) of somewhat rough, poorly fitted and aligned ashlar blocks. *Ca.* .70 m. wide, this wall begins with a large cornerstone set on the top of the three lowest steps, *ca.* 1.25 m. east of the west balk and the same distance from the south balk. Then it angles off in a north-northwest direction, continuing through the north balk and into D. 1, where it stops at the west end of Wall D. 1:4, .50 m. below the D. 1:4c gateway

threshold. This curious angle, diverging from the orientation of all earlier and later structures thus far uncovered in the Area, puts the wall too far west to be connected with the D. 1:4c gateway. The wall is nearly level, and at its present level it is too low to be connected with either the c or d construction stages of Wall D. 1:4. If Wall D. 2:25-D. 1:37 was used with Wall D. 1:4 it was presumably higher, at least at the north end, and accompanied by higher surfaces to the west. Its function is at the present time not clear.

To the west of Wall D. 2:25 near the south end, a broad step was created (Locus D. 2:7b), two to three rows wide, above the bottom group of three "Roman steps" and intermediate in height between the last of these three and the level of the first course of the wall. This step was built in line with the angle of the new wall—though a final row added to the south of the step "straightened" the edge to parallel the lower steps. A second step, integrated into the wall itself, raised the level in the stairway/entryway to the level of the wall.

The last basic alteration of this zone of ascent in the south slope was a direct response to the construction of Wall D. 1:4c and gateway. This two-stage construction is not so apparent in the top course remaining, since it is continuous on the south face; it is markedly clear, however, in the course beneath, where a break midway in the wall is accentuated by different heights and different styles of construction on the east and west ends. The outer (south) face of the wall is built entirely of headers—large, long, somewhat worn ashlar blocks set directly upon a foundation of giant uncut field stones. To the west of the break five exquisitely cut and fitted ashlar blocks (in the sequence, stretcher, stretcher, header, square, stretcher) are laid upon a leveling layer of small field stones that top a foundation of boulders similar to that farther east. The top levels of the stones in this row are all identical, 892.15 m. The first stones in the row have chiseled patterns cut into the face, all different and all differently executed, but all to be distinguished from the rough chisel-patterned boss with

smooth margins—a style found on stones of a wall in Area A. 2. One of them had been cut down from a larger size and shaped to receive the large doorjamb stone, in the process of which two of its smooth margins were lost. The others, judging from their different patterns, may also be reused stones. All the stones in this course had sharply and squarely cut edges on the face side.

The difference between the east and the west ends of Wall D. 1:4c is also apparent in the inner (north) face of the wall. To the west the inner face is very uneven, built of huge boulders and smaller, irregularly shaped stones like the foundation courses on the south. As a result it varies in width, being narrower near the gatepost. To the east, the construction and the width appear to be much more regular, though the inner face there also employs the same rough field stones used in the west end. However, one dressed stone was found next to the east balk and three more, so badly weathered that original dimensions are not certain, are grouped together opposite a place in the south face where a long, shallow, flat depression was cut into the front two-thirds of the five stones next to the middle break. Between these worked stones and the dressed stones in the north face a single dressed stone was laid sideways in the middle of the wall, creating something of a “smooth” surface through the wall at this point. The original function of this construction is no longer apparent.

The second course of Wall D. 1:4c (south face) is constructed of the same finely fitted stones as course one (west), and though they show more wear, conspicuous especially in the rounding off of the top edge, they clearly match the lower course (west); one of the stones has a chiseled chevron pattern that matches a stone in the lower course, while one stone over the older east end wall still shows the same finely tooled margins, and sharply cut straight lower edge that characterized the first course west end. Furthermore, the whole second course is set back *ca.* .10 m. from the lower course, beginning at the edge of the doorjamb block and continuing all the way into the

east balk. It is composed entirely of stretchers, or square stones, forming a narrow face row, except for the first two stones next to the doorjamb. The second course (south) also shows a break in the two parts of the wall, over the break in the course below.

The north face, however, does not seem to support this "continuity of construction" thesis. The west end is again narrower, even narrower than the lower course and is "paved" across with small irregularly shaped flat stones. The east end is wide and of uniform width (*ca.* 1.65 m.) over the whole last three meters; its north face is formed of flat, faced stones, mostly dressed. The interior fill also employs a number of flat stones giving the impression of paving. While the construction narrows toward the west, the relatively smooth and level top surface and the fact that the dressed stones continue over the earlier break in the lower course may be indications that the second course (north) was originally a single-unit construction. The situation on the north face may have been influenced by later building against the inner face of the wall and thus may have a different and even more complicated history of building and rebuilding than that of the south face.

It is difficult to say how much of the foundation belonged to the old wall (D. 1:4d) and how much to the rebuild (D. 1:4c). The fact that the later wall (D. 1:4c) was built at the same foundation height as the earlier wall (D. 1:4d) raises problems as to which surfaces and walls belong to which construction stage. Little can be said about the dates of the two walls—or two construction stages. Sherds from the fill between courses one and two (= under D. 1:4c) were Roman and UD's. Fawzi Zayadine's opinion that the chisel patterns on some of the stones in the D. 1:4c wall are of Byzantine origin is the closest dating evidence we have for the later wall.

Where the entrance was located in the older wall cannot be determined from present available evidence; it is probable, however, that it was not far from the D. 1:4c entrance, since this is the only area that gives evidence of an earlier terrace

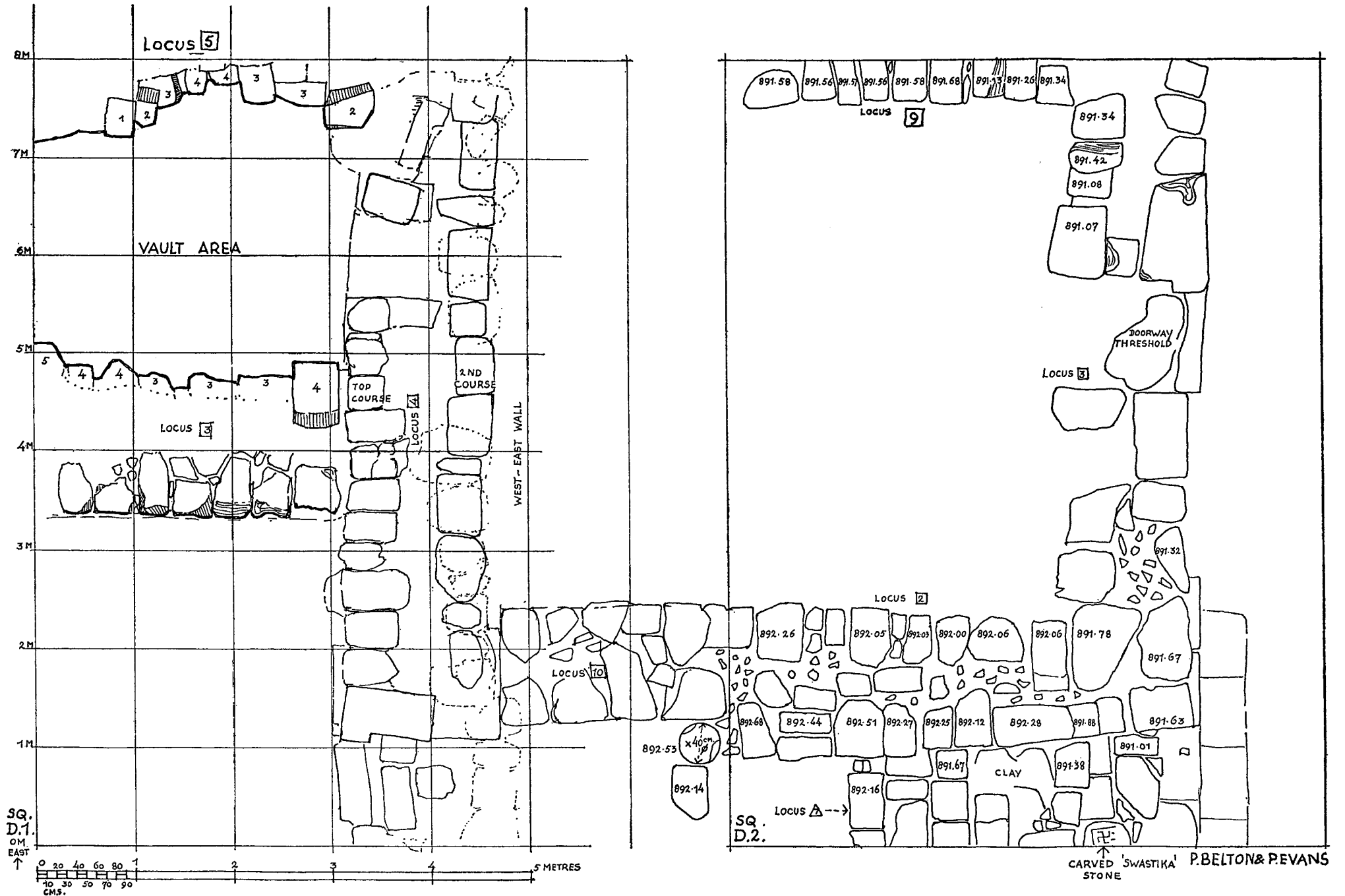


Figure 10. Plan of Area D, Squares 1 and 2, showing the principal architectural features of the Arab Stratum I

that would raise the level of the entryway to the height of the earlier foundation. If the "diagonal wall" was in any way connected with the D. 1:4d entryway, the entrance should have lain to the west of the later one. The gateway used with the D. 1:4c wall seems definitely to be a part of the D. 1:4c wall construction and it is this gateway, reused and rebuilt, that is maintained through all succeeding phases of construction and use. The original D. 1:4c gateway is an example, as is the D. 1:4c wall, of the finest mason's skill represented in any Area D construction uncovered in the entire first season; none of the later construction in and upon it is comparable. The south threshold stone which was set deep into the south terrace was at least 1.50 m. in length by .60 m. in width, and was carved to produce a .35 m. wide step on the south edge and to receive the grooved and socketed doorjamb that overlapped the threshold stone on the east end. The doorjamb in turn was fitted into the lowest course of the wall by carving out the corner of the first course of stones to receive the higher doorjamb. The north part of the threshold and doorjamb block was created from a number of additional large stones finished and fitted into a single architectural unit with the same fine craftsmanship visible in the D. 1:4c wall. The threshold stones display a drag line from the inward swinging door that completed this picture.

North of the D. 1:4c-d enclosure wall were found a number of walls and surfaces used with that wall. For the earliest of these, Walls D. 1:24 and 15 and Surfaces D. 1:33 and 34, no ceramic evidence is available from this season's digging, and the possibility must be acknowledged that some or all pre-date the D. 1:4c construction, a possibility that is in part dependent on the unsolved question of how much of the north face of the original wall was left.

Just below (.15 m.) the threshold level inside on the north a fine flagstone paving (D. 1:33-34) was found which covered the entire northwest quadrant of the Square over to 4.25 m. east of the west balk. Here it breaks off--at a point almost

directly opposite the break between the d and c phases of Wall D. 1:4, south face. This coincidence, however, is less illuminating than it would first appear, since it was the west half of D. 1:4d, *i.e.*, the part of the wall that would have been contiguous to the paving (D. 1:33-34), that was robbed out most thoroughly, while it is the east end of the paving that is missing. The explanation for the loss of the end of the paving seems more likely related to later construction in the area north of Wall D. 1:4 than to the history of the wall itself.

Directly beneath the east edge of Pavement D. 1:33-34 and extending some .50 m. beyond it, an earlier floor of soapstone tiles was visible. The original extent of this paving is unknown, as it is covered by Pavement D. 1:33-34 on the west, while excavation stopped short of this level east of Wall D. 1:24. It did once extend at least as far east as Wall D. 1:24, however, since it is visible that far in the north balk and also in the north end of the subsidiary balk under the west face of Wall D. 1:24. In any case, this tile floor had also been broken through along the west edge of Wall D. 1:24.

It seems that Wall D. 1:24 was built in conjunction with Pavement D. 1:33-34, although objections to this assumption can be raised. The reconstruction of the early history of construction inside the enclosure wall can then be summarized as follows. The earliest paved surface excavated was a soapstone tile floor which may have been associated with the earlier D. 1:4d wall. In that case it may also have been broken away to the west, as was the associated wall. Pavement D. 1:33-34 might then be construed as the main surface connected with the rebuild (D. 1:4c) of the old wall, laid against the new threshold and along the inside of the wall eastward over (the remnant of) the earlier stone tile surface. It was bounded on the east by a north-south crosswall (D. 1:24) whose outer (east) face rested on or close to the surface of the earlier tile floor, but whose inner (west) face began only at the level of the new floor (D. 1:33-34).

The D. 1:33-34 paving shows some signs of having been conformed to the irregular line of the north face of Wall D. 1:4, though it is not impossible that the north face of the wall was built later, cutting into the earlier surface, which was then patched. In that case Pavement D. 1:33-34 would have to be connected with Wall D. 1:4d or part of an even earlier hilltop construction, and a new explanation would have to be found for the relationship of Surface D. 1:33-34 and Wall D. 1:24. Whatever its original date, it was clearly the primary surface associated with the D. 1:4c gateway to the south.

The area paved by the flagstone Surface D. 1:33-34 was bisected by a north-south wall, D. 1:15, abutting the east edge of the composite D. 1:4c gatepost, extending into the balk on the north. The fact that virtually no soil had accumulated on D. 1:33-34 before Wall D. 1:15 was laid (and no foundation trench is apparent) suggests that it was constructed immediately or very shortly after the completion of D. 1:33-34 (unless the whole of an older surface was cleaned down to this level). If it was paired with Wall D. 1:24, then it must have belonged to the original layout of the space immediately inside the newly rebuilt Wall D. 1:4c. Wall D. 1:15 is built against—and therefore after—the D. 1:4c doorjamb and is somewhat broken at the southeast end where the east corner of the gatepost block is also broken and weathered. The wall was preserved in only one course; it was evidently robbed out to this level since no tumble was found near it that could be associated with it. It framed a narrow courtyard on the west inside the (presumably) main south gateway, and a room built east of the wall. Access to this room was gained through a door evident at the north balk line, whose threshold-doorjamb construction, while simpler, is very similar to that of the D. 1:4c gateway and is of a type not found in later walls in this Area. The threshold step and the bases for the doorjamb (raised arms on either side of the threshold) are formed by carving out a depression on the inner side of the wall into a block of closely fitted stones in the first course of the wall



above floor level (see Figure 11: A). This is in contrast to the separate-stones-for-separate levels threshold construction of later walls (see Figure 11: B).

The wall was relatively narrow (.70 m.), but well built of two rows of dressed stones with minimal fill in the center. The outer (west) face was somewhat wider, built of smoother, more regular stones and of more even construction.

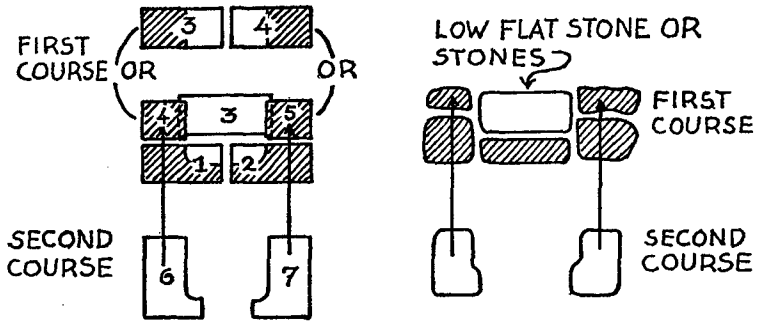


Figure 11.

A. Basic pattern (top plan) of gate-way construction in D. 1:15, 24 and 4c  
 B. Basic pattern (top plan) of threshold design in later walls, D. 1:4b and D. 2:3b  
 (Variations within each of the basic patterns are due to overall size, size of stones available, etc.)

For the east wall of the room thus formed three candidates may be suggested: (1) the "original" wall at the edge of the present termination of Pavement D. 1:33-34, now gone except for a line of small rough stones still clinging to the east edge; (2) a wall on top of Pavement D. 1:33-34, somewhere to the east and now totally disappeared; (3) Wall D. 1:24, a north-south wall of rather similar proportions to those of Wall D. 1:15 and with an entrance of similar design opening into the paved area from the east and located just inside the north balk—or almost opposite the door in Wall D. 1:15, 3.25 m. east of Wall D. 1:15 and parallel to it.

The lower threshold stone in the west face of Wall D. 1:24 was laid directly on the old tile floor, and the outer (east) face

of the wall was founded at about the same level. West of Wall D. 1:24 only one surface was found associated with the wall: Locus D. 1:29, a clayey red earth layer with many stone chips or pebbles in it, found at about the level of the west threshold of Wall D. 1:24—which is also the level of Pavement D. 1:33-34. Ceramic dating of Roman and UD offers as yet no possibility of fixing the date of this surface within a sequence of pre-Arab construction and destruction north of the D. 1:4c or D. 1:4d wall. From the available evidence it seems that Surface D. 1:29 is not an original occupation surface, but a robber fill, deposited after the flagstones of Pavement D. 1:33-34 were stripped out along the inner face of Wall D. 1:24. Thus D. 1:29 is later than the wall.

The only candidate remaining then for the original surface east of Wall D. 1:24 is Pavement D. 1:33-34, and this identification makes the best sense in view of the evidence concerning both wall and paving. The inner (west) face of Wall D. 1:24 had only two courses of dressed stones—beginning at the level of the Pavement D. 1:33-34, while the outer (east) face had three. Thus one stepped up from the outside from a level approximately that of the tile floor into a room paved at a higher level. Wall D. 1:24 is thus best understood as a mate to Wall D. 1:15, constructed in connection with Pavement D. 1:33-34 and framing the eastern extension of that surface.

Outside Wall D. 1:24 on the east the lowest surface uncovered was a dark gray, clayey, packed earth surface, D. 1:36, that appeared to just cover the foundation level of the wall on the east, and lay .25-.30 m. below the level of the threshold step. On this undated surface and against Wall D. 1:24 a short partition wall, D. 1:26, was built, *ca.* 1.25 m. long and of one stone thickness. This curtain wall fenced off a space about 1.25 m. wide at the corner formed by Walls D. 1:24 east and D. 1:4 north. It may originally have been used as a kitchen because a *tabun* (baking oven) was built against the east end of it. No other sherds were found in connection with it.

Above Locus D. 1:36 on the east, at about the level of the east threshold step in Wall D. 1:24, were found two presumably contemporary earth surfaces, D. 1:27 (north of D. 1:26) and D. 1:28 (south of D. 1:26), that would appear to signal a new building phase north of Wall D. 1:4c. If, as seems possible, these surfaces can be roughly correlated with construction or destruction further west for which less dating evidence is available, then the date of these surfaces is especially important. Unfortunately, however, the ceramic evidence is not reliable, as D. 1:27 was not well enough distinguished from the layer above it, and because pottery from the foundation trench for Wall D. 1:5, that ran through both surfaces, may very likely have contaminated the readings from both, D. 1:27 and 28. It may be that these surfaces and related construction belong to the first phase of the Arab period, in which case the transition from Stratum I to Stratum II in this area was made without any major destruction, but with continued use or reuse of the basic IA structures accompanied by some innovation. The transition from pre-Arab to Arab occupation in the area south of the wall—where it can be much more accurately and narrowly observed and dated—followed just this pattern of basic continuity with minor innovation.

D. 1:27-28 was an occupation surface, not simply a layer of accumulation on the earlier floor. A wall, D. 1:25, was built upon it stretching eastward from the north edge of the gateway in Wall D. 1:24. Its full width and length cannot be judged, since its north face is hidden in the north balk and its east end was robbed out near the east balk where the foundation trench of Wall D. 1:5 cut through it. It is preserved to a height of two courses approximating the level of the remnant of Wall D. 1:24. Wall D. 1:26 may also have been heightened in connection with the new surface. As excavated, the top (second) course seemed very unsteady, and the last stone toward the east apparently covered the broken edge of the *tabun* built against the first two courses. Quite possibly

Wall D. 1:26 was originally a low curtain wall of only two courses, and was later raised with the higher surface, D. 1:27-28, that covered the *tabun* and most of the earlier wall.

It seems likely that this new building east of Wall D. 1:24 was associated with a change in that wall and with additional, related changes to the west. At some time before the wall collapsed and the space on either side filled up with debris, the doorway in Wall D. 1:24 was walled up—rather neatly, as though continued but different use of the wall was intended. If this doorway blockage was an indication of new use rather than disuse, D. 1:27-28 is the only surface that can be associated with it.

The change in Wall D. 1:24 and the new surface to the east also give a clue concerning the origin and date of Surface D. 1:29 on the west. This was the last surface associated with Wall D. 1:24 on the west and the surface on which the tumble from the collapse of Wall D. 1:24 lay. Since there was little accumulation on that surface prior to the fall of Wall D. 1:24, it should be roughly contemporary with the surface east of the wall that also received part of the collapse, Surface D. 1:27-28. This suggests that the walling up of the D. 1:24 entrance and the robbing out of the earlier floor to the west of the wall were related events that pronounced the extinction of the old D. 1:15-4c-24 room.

The cause for all these changes may possibly be found in a little understood construction, Locus D. 1:3b, that changed the whole picture north of the D. 1:4c wall. Locus D. 1:3b was a broad (1.20-1.40 m.), sprawling wall of two widely spaced faces with a fill of small field stones and rubble mixture. It was planted directly between Walls D. 1:15 and 24, on a thin layer of dirt and pebbles that had accumulated on Surface D. 1:33-34. Like all the other major walls near the acropolis perimeter, it too abutted Wall D. 1:4c on the south and disappeared into the north balk, and, like Wall D. 1:15, it too was only preserved to one course in height. The function of this wall and the reason for its placement remain a mystery,

especially since it seems necessary to assume that both walls, D. 1:15 and 24, were still intact and continued in use after the construction of Wall D. 1:3b. On the west it was connected to Wall D. 1:15 by a short Wall D. 1:33 consisting of two large stones laid between Wall D. 1:3b and the south door-jamb of the D. 1:15 entrance. Unless the position of this cross wall is mere chance, it would seem that the D. 1:15 doorway was still in use, and that some sort of narrow hall or vestibule was created to the north between the two walls; but the answer to where it led and with what it connected is hidden in the north balk.

*Stratum I, Phase C.* How long the fine paving (D. 1:33) north of the wall (D. 1:4c) was kept up is difficult to calculate. By the time D. 1:3b was built, dirt and pebbles had already begun to accumulate on the portion of it east of Wall D. 1:15, viz., D. 1:34, but whether the same was true outside the wall is less certain. The west balk, however, attests to a series of earth surfaces that built up over Pavement D. 1:33, each thicker—and thus higher—against the wall/threshold, tapering away to a lower level toward the north. Since two of these surfaces appear to have invaded the gateway, we must assume that the threshold level was raised by the addition of more threshold stones at a higher level—or that the gateway had no door for a time. Eventually a completely new threshold level was constructed, paved with a number of various sized stones, including one with a socket for the pivoting door post. This was placed so as to make use of the older D. 1:4c east door-jamb, but the position of the socket inside the Square near the west balk shows that the gateway had been narrowed on the east before or at the time of this construction.

It seems likely that by the time this last D. 1:4c threshold was constructed D. 1:15 (at least) and perhaps D. 1:3b had been leveled down to first courses and covered. Although Surface D. 1:12a was not dug as a continuous surface inside the gateway area, the same brickly red earth by which it was identified was first noted over the remains of Wall D. 1:15,

and the strip of similar material at approximately the same level along the east balk was given the same designation. What is clear, however, is that this last D. 1:4c threshold and at least the latest of the several earth surfaces to the north prior to or connected with this threshold belong to the Arab occupation, Stratum I. Thus it would seem that sometime during the transition to or at the beginning of the Arab period, buildings inside the acropolis area were razed and lost from sight while the gateway remained in continued use, as witnessed by the several surfaces, pre-Arab and Arab—to the north and south—that belong to the several D. 1:4c threshold levels.

South of the new enclosure Wall D. 1:4c the same two zones of architecture remain that were noted for the earlier period; to the west a raised terrace or ramp leading up to the gateway in the enclosure wall, to the east a lower surface at the base of the acropolis wall. How low this surface was when the D. 1:4c construction took place is not known, since no definitely pre-Arab surfaces were excavated in this area in the 1968 season, but unless extensive robbing in later times must be reckoned with here, the surface was probably at least 1.50 m. below the D. 1:4c threshold level.

To the west, the new D. 1:4c gateway was provided with a long "porch" or level, surfaced forecourt at the head of a series of steps that began near the south balk of D. 2. As noted, the stratigraphic situation is complex and connections between the north and south sections of the access area are broken, so that an exact reconstruction of building and use phases in the area where steps and surfaces met is no longer possible. It is clear, however, that D. 1:31 is the first surface in use with the D. 1:4c gateway whose connections with the gateway remained unbroken, and it is this surface that is the first of a series of seven, rising in uninterrupted sequence in the space immediately south of the gateway from pre-Arab times into the late Arab period when this entryway finally ceased from use. This sequence of surfaces beginning with

D. 1:31 has provided us with the best ceramic evidence in the Area, if not on the mound altogether, for the transition from pre-Arab to Arab occupation and for transitions within the Arab period.

Locus D. 1:31, as excavated, was a yellowish clayey layer, that may have had a *huwwar* surface topping it and that in some places, especially toward the south, merged into a thick layer of *huwwar*. In the west balk it is visible, if rightly identified, as a series of *huwwar* surfaces of varying depth over and between layers of yellow clayey soil. Since the surface was worn and difficult to trace it is not possible to say with certainty whether the surface covered the whole area in which we thought to recognize it. Whether it was use surface or simply make-up for the plastered and walled entryway laid on top is not certain.

Locus D. 1:31 was a rather thick layer of surfacing overlying a stone terrace on the east, and a layer of dark earth and small stone fill on the west over the D. 2:25-D. 1:37 structure. The earth fill over D. 1:37 suggests that the terrace had already been built to its present height when the upper courses of that wall were removed. Beyond this suggestion, however, the relationship of the terrace to Wall D. 1:37 can only be explained, on the basis of information presently available, with a large measure of speculation. The terrace construction may antedate the wall (the wall being set into it), it may have been constructed in connection with the wall, or it may have been constructed after the wall, but while the wall still stood. If the terrace is a composite construction, a combination of these possible reconstructions may be required. Assuming that the stone foundation structure was intended to be covered by a surfacing layer, the height of the terrace corresponds well to the D. 1:4c threshold. Since, however, we have noted that a distinction of height probably cannot be made between the D. 1:4c and d constructions, it may just as well have been intended for use with D. 1:4d.

The terrace is built up of layers of medium to large sized

stones, appearing as three distinct courses when viewed from the east or the south. The top two courses bulge outward toward the east (because they were set more loosely with considerable earth fill?) over a course which, from the one stone visible at the southeast corner, suggests it may have been part of the "Roman" terrace—though the evidence is at present inadequate to make any clear judgment. The top two courses on the south consist of irregular building stones, some clearly reused. At the south end the courses are laid in rough rows parallel to Wall D. 1:4 and to the cross rows of the "Roman" stairs. The first two rows from the south are of large stones, but beyond this up to Wall D. 1:4, the top course at least consists merely of an irregular jumble of medium sized uncut stones. The north terrace build-up was a distinct construction from the D. 2:2 or D. 2:sub-2 construction further south; the line of the south terminus of the terrace is clearly visible in the east face of D. 2:2-D. 1:10.

What the contemporary structures to the south looked like is more difficult to say. A few widely spaced stones, some huge, some average-sized, some dressed, others semi-dressed, were found east of Wall D. 2:25. However, it is not clear when they were put there nor to what structure they had belonged.

Turning now to new construction in the sector south of the D. 1:4c gate which is better attested and more fully comprehensible, we recapitulate briefly the earlier evidence. By the time Surface D. 1:31 was laid, a two-zone construction of surfaced terrace and stairs had been established in the avenue of access. How early this began after Wall D. 2:25, and with what wall it was connected to the north, are no longer clear, nor is their relationship to Surface D. 1:31, since a major disruption of surfaces and walls in the sector took place prior to the laying of Surface D. 1:31. The south terminus of D. 1:31 can not be clearly portrayed either, but that of the surface immediately above it (D. 1:30), which has apparently the same southern terminus, can be reconstructed with some certainty. Because of this fact, it is tempting to view D. 1:31



as make-up for the new construction (walls and surfaces) which is laid directly upon it. A serious drawback to this, however, is the ceramic evidence. The pottery from D. 1:31 was read as Roman and UD, while that from D. 1:30 contained a quantity of red-on-orange painted ware (but none of the characteristic early Arab painted ware) that is possibly very early Arab. Either this ware is accidentally missing from D. 1:31 or it was an earlier surface—perhaps badly worn away since little if any trace of *huwwar* was found on it—in the same sector whose earlier structural connections to the south were lost in the later building. If D. 1:31 is make-up for D. 1:30, an Arab Stratum I construction, then the broken surfaces beneath may represent the first construction with the D. 1:4c wall and gateway on the south.

The next construction project in the sector south of the D. 1:4c gate, however close or far in time from D. 1:31, was the walling in of the whole access route and the construction of a new staircase at the south end. The new stairs (D. 2:7a) consisted partly of a rebuilding of D. 2:7b and partly of new construction. At the south end the new staircase made use of the two or three highest “Roman” steps and also of the bottom step in the D. 2:7b-25 construction. It also used the second step, but added another course upon it and to the south of it. Beyond this step to the north and higher still, a further step two rows wide was added. This reached the height of the north terrace surface (D. 1:30 or 31), but was broken off over a meter short of it. Presumably the paving that originally bridged the gap was later robbed out.

The new wall (D. 2:2) that was constructed along the east edge of these stairs did reach the surfaced terrace, framing it with three rectangular stones set side by side lengthwise to form the northern terminus of the wall, or at least of the west face. Wall D. 2:2 was built at the same time as the D. 2:7a stairway and was in part bonded into the stair construction. It is more nearly parallel to the west balk than D. 2:25. It is constructed entirely of face stones and rises in distinguishable

courses. This is in marked contrast to the east face, which has no clear course construction and is built of most irregularly sized and shaped stones in combination with a few dressed stones. The east face may not be original with the earliest wall but a later addition. The wall itself, as the stairway, saw some later additions; when and how substantial these were cannot be determined with any certainty.

The three-stone framing device at the north end of Wall D. 2:2 suggests that the surfaced space to the north was somewhat broader than the stairway. This is confirmed by the wall that frames this surfaced portion (D. 1:10), meeting wall D. 2:2 in line with the easternmost of the three head stones. Wall D. 1:10 begins *ca.* .30 m. east of the east edge of the D. 1:4c entrance or *ca.* 1.30 m. from the west balk and continues south roughly parallel to the balk until it meets Wall D. 2:2. Unfortunately the bottom course, D. 1:10b, which is laid directly upon Surface D. 1:31, cannot be traced this far south; it broke off before reaching the south balk. However, the surfaces connected with this first course, D. 1:30a and b, seem to continue to the north end of D. 2:2, so it is presumed that Wall D. 1:10b did too. Furthermore, Wall D. 1:10b is more similar in construction to the western part of Wall D. 2:2 (built of dressed stones, well fitted) than the courses built upon it (D. 1:10a), and would seem to constitute an ideal mate or continuation to the north. If Wall D. 1:10b had a period of use before D. 1:10a was added, one would expect it to have been one course higher, to match the height of Wall D. 2:2. It is unlikely, however, that any of the D. 2:2-D. 1:10 wall ever stood more than a few courses high. Whether the first wall was broader than the remnant preserved is problematic. A few dressed stones along the east may be left from an earlier wall. As excavated, the east face at this level was a mixture of large and small stones with the space between the faces filled with earth and small stones.

On top of the west face of Wall D. 1:10b at least two more courses were laid (D. 1:10a), the first of rather small, rough

stones, the top of large semi-finished boulders. How much time, if any, elapsed between D. 1:10a and b is not certain. The pottery from D. 1:10a contained one Arab painted piece; no Arab sherds were found in D. 1:10b. Again, the east face does not match the west, but because of the great size of the stones in the west face, the two faces are closer together, with less fill, and appear somewhat more as one wall—though they are not the same height either.

Complicating the reconstruction of a picture of this building on the D. 1:31 terrace surface is a piece of evidence awkward in size and position. Shoved up against the south face of the D. 1:4c wall and gateway threshold and resting on D. 1:31 at the west end, at least, though the east end has been undermined, was a large section of an architrave, *ca.* 1.50 m. long and extending some .60 m. beyond the east edge of the terrace. Its origin and function in this position are a puzzle, as there are no columns immediately connected with the entrance from which it might have fallen. We may speculate, however, from what is visible of the D. 1:4c wall and threshold, *viz.*, reused stones, sometimes of mammoth proportions expertly recut to serve new needs; that perhaps the architrave was selected for the construction of the threshold doorjamb-block and then not used. It may have been left standing on the surface outside the wall, perhaps used briefly as a bench. Whatever its original or intended use, it was built into the east face of Wall D. 1:10. Since, however, the east face of Wall D. 1:10 cannot be accurately dated, the date of the stone is difficult to place.

To summarize our discussion of the new construction in the area south of the D. 1:4c gateway, we would say that on structural grounds Stairway D. 2:7a, Walls D. 2:2 west, D.1:10b west (or simply D. 1:10 west), and Surface D. 1:30 constitute a single architectural unit and that it is the first construction after the D. 1:4c gateway that can be traced more or less continuously throughout this southern access area. But if the architectural evidence has been correctly evaluated and

reconstructed, the ceramic evidence requires some careful consideration.

At first glance, the ceramic evidence would seem to exclude the possibility of the reconstruction we have offered. Wall D. 2:2 and Stairway D. 2:7 were read as Arab (probably early), Wall D. 1:10b as pre-Arab, and Surface D. 1:30 as very early Arab. But the evidence must be considered more closely. Wall D. 2:2 and Stairway D. 2:7a were constructions that were used continuously throughout the Arab period down to the last Arab occupation, presumably. Neither can be considered a sealed locus. Wall D. 2:2 was rather certainly added to in later times. The presence of Arab sherds in such a loose construction in use in the Arab period does not seem necessarily to require that the original construction came from that period.

With Wall D. 1:10 somewhat more precision in sherd collection is introduced, but dangerously small samples; Wall D. 1:10b read UD with no Arab pottery; Wall D. 1:10a had one Arab painted piece in two pails that were otherwise possibly Byzantine, Roman and UD—plus a bronze Arabic coin, date unknown. The best controlled evidence and the largest samples come from the D. 1:30 surfaces, two *huwwar* surfaces *ca.* .02 m. apart overlying D. 1:31 and confined to the area framed by Wall D. 1:10, the first surfaces in use with Wall D. 1:10b. Surface D. 1:30 contained no sherds of the characteristic early Arab painted ware. It did contain recognizably Roman sherds and a quantity of fine painted ware (thin and hard fired, with simple, broad curvilinear red paint designs on red-orange to buff slip). This painted ware is also found in the layer above, D. 1:23, a plaster floor, but in combination with the characteristic Arab paint. It is absent in the surface below, D. 1:31, which is entirely Roman and UD.

We have chosen to take the Surface D. 1:30 reading as diagnostic for the new construction and to read it with Wall D. 1:10b with which it fits nicely. Since the next surface above D. 1:30 (which is Arab) involves a construction change

in Wall D. 2:2 west, the original D. 2:2 west should go with Surface D. 1:30; and in fact the south edge of the remnant of Surface D. 1:30 preserved in the west balk, and the line of the original north end of D. 2:2, coincide perfectly.

Even if the evidence for this new construction can be pushed back to the earlier date of Surface D. 1:30, the fact remains that we have entered the Arab period—or is this ware Byzantine? <sup>24</sup> This raises the question of just where and how the transition to the Arab period occurred and also opens the question concerning how D. 1:4c and assumed contemporary structures to the north were dated. This can be summarized as follows: D. 1:4c wall and original gateway produced only a small collection of pottery which was read as Roman and UD. Surfaces D. 1:33-34 and 36, and Walls D. 1:15 and 24 provided no ceramic evidence. The first Surface D. 1:31 had Roman and UD wares, and the first building phase of Surface D. 1:30 had UD painted, Roman and UD sherds. We then ask, does this evidence represent one or more building phases? In answer, we have attempted to group our data into major building periods to see if these can be correlated for different zones or features of architecture in our Area.

The D. 1:4c wall begins a new building phase, being preceded by a break. To the north two phases use this wall: (1) to the first phase, contemporary with the wall, and not datable, belong Surfaces D. 1:33-34, Walls D. 1:15-24, and Surface D. 1:36; (2) to the second phase, probably early Arab, involving building changes and using the D. 1:4c wall, belong Walls D. 2:3b and D. 1:24b, and Surfaces D. 1:27-28.

<sup>24</sup> The ware is entirely different from the thick Arab painted ware and the paint and surface treatment also differed. The ware is much more like the Byzantine/Roman wares, though a bit thicker. Unfortunately, it was not until we had excavated Surface D. 1:30 that we attempted to distinguish this painted ware from our "Arab paint" or "Early Arab." It would be very important now to know where else in the Area (and mound) this paint occurred, especially where to the exclusion of the later Arab paint. It occurred nowhere else in similar clarity in the 1968 season.

After this a major break occurred in which all architecture was destroyed, including Wall D. 1:4c. Extensive robbing occurred elsewhere in the Area.

A new phase begins with a new wall, D. 1:4b, which is late Arab. To the south two or more phases are evident before D. 1:4b. Surfaces D. 1:11 and 23 and Wall D. 1:10a belong to the last of these phases, while Surface D. 1:30, Walls D. 1:10b and D. 2:2 and Stairway D. 2:7a belong to the preceding phase, which was apparently pre-Arab.

The main question is: Can the building phases south of the gate be connected with those on the north? Can the dating evidence, which is clearer on the south, be used to date phases on the north? Is the first building phase with D. 1:4c on the south pre-Surface D. 1:31 or is it Surface D. 1:31, or is it Surfaces D. 1:31/30 (with D. 1:31 make-up for D. 1:30)? If the latter, then a rough correlation between undated Surfaces D. 1:33-34, Walls D. 1:15 and 24 and Surface D. 1:36, but also of Surface D. 1:30, Walls D. 1:10b and D. 2:2 and Stairway D. 2:7a, should be possible. In that case Surface D. 1:30 should be diagnostic for the whole first D. 1:4c building phase—and for D. 1:4c itself. Then this major complex of new building initiated by D. 1:4c is either Byzantine or very early Arab, depending on the eventual identification of the UD painted ware. If it should prove to be the former, then it is noteworthy that the transition from Byzantine to Arab period in this area is one of basic continuity, involving the reuse of earlier structures, rebuilding and adaptation of others and some new building within the older structural framework. The most radical break comes within the Arab period, sometime between the early and late Arab occupations, when almost everything from the preceding period is leveled. Next season's digging should answer some of these questions, but it is still necessary to formulate hypotheses and outline possibilities that will make sense of the evidence at hand.

The next surface above D. 1:30, Locus D. 1:23, introduces

a new ceramic horizon and some architectural modifications in the basic system set by Walls D. 1:4c and 10 and Wall D. 2:2, but it is essentially only a later surfacing of D. 1:30 and was laid only .05-.08 m. above D. 1:30a. By the time Surface D. 1:23 was laid, the top courses of Wall D. 1:10 had been set in place, continuing the line of D. 1:10b all the way to the stone triad at the north end of Wall D. 2:2. Sometime after this, Wall D. 2:2 west was lengthened and the plastered forecourt area correspondingly shortened. A small column drum was set vertically into the ground against the west face of Wall D. 1:10, .60 m. north of the original terminus of Wall D. 2:2 west and 1.80 m. south of the D. 1:4c gatepost. The space between the earlier shorter Wall D. 2:2 west and the column drum was then filled in with small stones, that were also used to fill the narrow space between the drum and the uneven west face of Wall D. 1:10b. Over the small stone fill to the south a capstone was laid giving the appearance of solid wall construction along the whole line of the extended wall. The height of the column drum roughly level with the third course of Wall D. 1:10, and the top of Wall D. 2:2 to the south suggests that these two walls have been preserved in their original height, and that they constituted a relatively low retaining wall framing the stairway and porch.

Locus D. 1:23 was a hard thick plaster surface with a rather rough finish. It covered the new shortened forecourt area, stopping on the south in line with the new "gatepost." On the east the plaster seems to have continued up the face of D. 1:10. It is still preserved in a continuous line from the floor to the second course in the corner where wall and column drum meet. Here it joined the column to the wall, smoothing over the gap between the two courses and plugging the gap between course stones and wall. On the north it rose some .25 m. also in a continuous line to plaster the face of a new composite threshold built in the D. 1:4c gateway. The marks of the mason's trowel on the plaster were still clearly visible when excavated.

D. 1:23 is the first surface south of Wall D. 1:4c containing the characteristic early Arab painted ware found in abundance in all upper levels. It signals a new period of occupation that is mostly a reuse of the basic structures of the preceding period, especially D. 1:4c, which remains the backbone of building in this period. The corresponding surface north of the gate, D. 1:12a, is also the first surface containing the characteristic Arab painted sherds. D. 1:28, the surface connected with the new building east of Wall D. 1:24 which gives the most trustworthy ceramic evidence for the new period of building north of D. 1:4c, had one Arab painted sherd, one UD paint and an uncounted but probably small number of possibly Byzantine/Roman and UD ware. If correlated with the new building phase to the south it is probably Arab.

The next surface above D. 1:23, Locus D. 1:11a and b, a thick plaster surface with a thick resurfacing a couple of centimeters above, seems to presume some lapse of time, represented by considerable accumulation of dirt on the D. 1:23 surface—*ca.* .15 m. However, no change in architecture accompanies it. It used the same upper D. 1:4c threshold as D. 1:23, but is level with the threshold stones. At the south end a single stone step marked the transition between the stair area and the new surface. Surface D. 1:11 was level with the top of the step; the level south of the step is unknown. The ceramic evidence seems to corroborate the architectural evidence; whatever the time span between this and the preceding surface, no significant changes had occurred in architectural or ceramic culture. The pottery is still characterized by the painted Arab ware and no glazed sherds were found in this locus.

Between Surface D. 1:11 and the next surface above, a major break in the occupation of the area occurred. The D. 1:4c wall, which had been the key to the architecture in the transition from the Byzantine(?) to the Early Arab period, was destroyed—apparently to nearly ground level on the north. Only the large multi-stone doorjamb block remained



standing some .40 m. above the rest of the wall and every other structure in the Area. When, why, and by whom this destruction took place are questions whose answers are not provided by our evidence. Perhaps the period immediately following the destruction corresponds to the long silence concerning Heshbon in the literary sources especially prior to the Mamlukian period. Not only were the buildings destroyed at the end of the early Arab period, the stone seems to have been removed wholesale for use elsewhere, as, with the exception of Wall D. 1:24, no signs of tumble from these structures remain. Quite possibly the massive robbing operations at the foot and along the east edge of the "Roman" stepped terrace occurred at this time—and perhaps the top of the D. 2:7a stairway was lost then too, though it is noteworthy that the stairway area seems to have passed relatively unscathed through the widespread destruction—perhaps because it was only a low wall to begin with, but perhaps also because some limited occupation continued in the acropolis area making use of the old stairway.

Again our evidence cannot tell us how long after the destruction and robbing the reconstruction took place, whether the destruction and robbing occurred simultaneously, or whether the destruction followed a period of degeneration and decline. The evidence of some .60-.70 m. accumulation on the floors D. 1:27-28 east of Wall D. 1:24 would suggest that some time had elapsed. This accumulation preceded the .20 m. of fill used to level up a floor over this debris. The debris is of course much higher here than elsewhere, since it incorporated a substantial amount of architectural tumble. If this initial accumulation had been distinguished in digging from the leveling layer laid over it, it would have given the best clue to the time lapse. Unfortunately this was not possible, and even where an attempt has been made to distinguish relative levels from which pails of pottery were dug up, almost every pail contained some of the glazed ware which characterizes the new building period.

*Stratum I, Phase B* (Late Arab). The next period, which is the last main occupational phase, was a period of extensive building in Area D. It is characterized in general by a poorer, more makeshift quality of construction than that of the previous period, but it was of considerable scope and vigor. It retained the pivotal features of the previous period, *viz.*, the enclosure wall with the gateway in the same place and the same walled ascent, rebuilt them where necessary and augmented them with new structures in new places and of new design. Evidence from walls and surfaces in both Squares 1 and 2 fix this new building and occupation phase firmly in the Late Arab period—or more specifically, in a period marked by the use of glazed wares, which are not attested in any previous layers, but are found in virtually all pottery samples from Phase B loci.

In D. 1, at the beginning of the period little remained visible above ground, except for the outer (south) edge of the D. 1:4c wall—*ca.* 1.00 m. of foundation probably and two dressed courses (*ca.* .60-.65 m.) plus the doorjamb block on the west. The old gateway was filled up with .25 m. or more of earth, and the north edge of the old D. 1:4c wall was probably covered. A few meters north of the wall the debris level may have been lower and the northwest end of Wall D. 1:3b may have protruded enough to suggest a line for a new north-south wall. To the east the debris over and around Wall D. 1:24 also reached almost to the level of the Wall D. 1:4c remains, and was probably leveled up to this height all the way north before new building commenced in this sector.

The new construction in D. 1 consisted of the rebuilding of the perimeter wall, D. 1:4b, using the remnant of the earlier wall as a foundation, and the incorporation into this wall on the north of a vaulted room, perhaps one of a series in a three- or four-sided caravanserai type complex surrounding an open court in the acropolis area (Figure 12). For some reason the construction of the vaulted room required comparatively deep foundations, perhaps because of the slope of the mound

to the north and east of Wall D. 1:4b, perhaps too because a stub of Wall D. 1:3b was exposed to the north. In any case the debris surrounding and covering the remaining lower courses of Wall D. 1:24 was leveled approximately to the level of the Wall D. 1:4c remnant and foundation trenches sunk for the Walls D. 1:3a and 5 of the vault. D. 1:3a, the west wall, was founded on the one-course remnant of Wall D. 1:3b, while D. 1:5, the east wall, was sunk to the depth of the foundation level of Wall D. 1:3b, some 3.30 m. to the east (just outside of the east balk line). Of the two walls, eight courses of Wall D. 1:3a and parts of ten courses of Wall D. 1:5 remained intact at the time of excavation. Both walls, D. 1:3a and 5, abutted the remnant of Wall D. 1:4c on the south. Above the old wall level, Wall D. 1:3a was built free-standing, with a vertical west face and arching east face; the south end terminated roughly in line with the north face of Wall D. 1:4. The new wall, D. 1:4b, was then built across or against the south end of the vault wall and bonded in places with mortar. The bonding of Wall D. 1:5, whose west vault face alone appears within the Square, seems to have been accomplished in a somewhat different manner. It appears to extend somewhat into and over the line of Wall D. 1:4, and the new Wall D. 1:4b seems to accommodate itself in part to this—the lowest courses of Wall D. 1:4b terminate *inside* the southerly extended Wall D. 1:5, while the upper courses march past or into the end of Wall D. 1:5 and seem to be bonded to it. The reason for the difference in the construction of the two walls (D. 1:3a and 5) in this regard is not clear; perhaps Wall D. 1:4b terminated at the east end of Wall D. 1:5 or turned a corner there.

Wall D. 1:4b must have stood considerably higher when built than when excavated. As excavated, the west end of the north face was preserved no higher than the height of the (new) D. 1:4b doorjamb—roughly three courses above Wall D. 1:4c. The bottom course was laid directly on the earth that covered the irregular, badly worn away north face (west

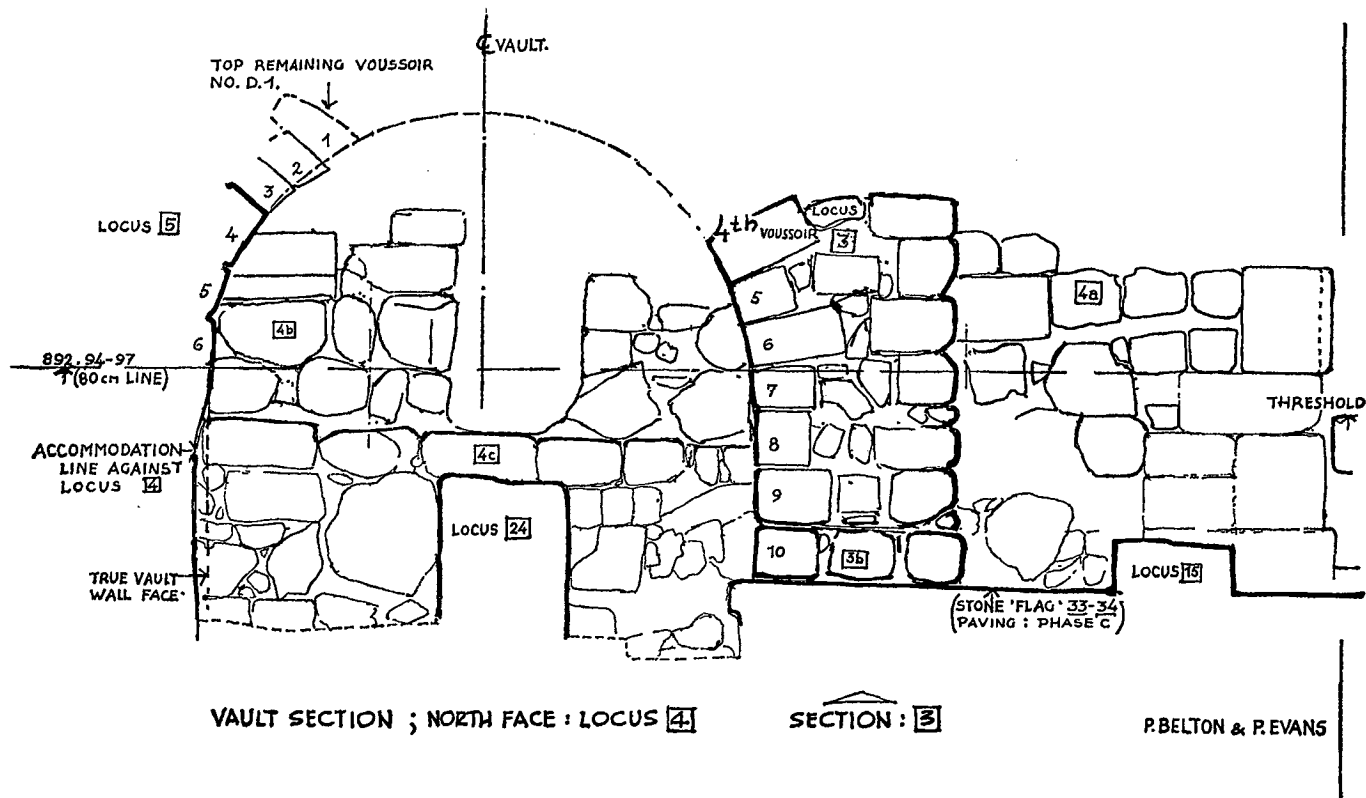


Figure 12. Section of vaulted room and other structures in Area D, Square 1, looking south

end) of Wall D. 1:4c. To the east against the ends of Walls D. 1:3a and 5 an additional course was preserved, giving a maximum height of four courses. Of the south face only two regular courses remained. The south face was built entirely of dressed stones in courses of comparatively level and regular appearance, though badly out of line when excavated. The north face in contrast was much more irregular, employing large boulders for the lowest course and allowing courses to rise and fall in roller-coaster fashion according to the size and shape of stones at hand. D. 1:3a and 5 were well constructed walls in which the courses were kept remarkably level, by chinking where required.

The contrast between the construction of Walls D. 1:3a and 5 and the north face of Wall D. 1:4b at first prompted the opinion that the walls could not be contemporary. Observation of highly differentiated building techniques in contemporary walls of different use and orientation and in the inner and outer faces of a single wall, particularly the enclosure wall (D. 1:4c-d) seems, however, to rob the argument from consistency of style of any final independent authority. The south face in fact may be considered quite comparable in construction to Walls D. 1:3a or 5 if allowance is made for the uneven line by assuming some disturbance, perhaps that which caused the collapse of all but the bottom two courses. Furthermore, the varied evidence for mutual accommodation between Walls D. 1:4b-c, 3a and 5 together with the different lengths of the two north-south walls make it virtually impossible to conceive of the vault as originally constructed free-standing without a south end wall—in addition to the fact that such a reconstruction makes less sense of the sequence of surfaces associated with the architectural remains than an originally end-walled vault. Clear evidence for rebuilding or distinct construction stages are also not forthcoming, though it is an attractive hypothesis to explain some of the puzzling unevenness. Even if this could be shown, it now seems necessary for us to assume the basic hypothesis of original contemporary

construction for Walls D. 1:4b, 3a and 5 as an architectural unit.

The first use of the vaulted room is represented by an earthen floor, D. 1:20, laid directly over the Sub-floor D. 1:22 and covering the foundation trenches at a height level with the top of the old D. 1:4c wall remains. Domestic usage is indicated by the liberal remains of a *tabun* found flattened on the floor and by the wealth of bone and organic material evident in the debris upon the floor, as well as by the fragments of a basalt millstone and part of a marble bowl found in soil upon the floor. The pottery from this surface contained a consistent representation of the glazed pottery that marks the period. How long the surface remained in use cannot be gauged. Piles of small stones had accumulated in all the "corners"—perhaps while the room was still in use. A thinner layer of occupation debris lay across the rest of the floor. Over this uneven accumulation was spread a layer of soft powdery white dung ash (?), that was too soft and uneven to trace as a surface, and above this the fill for the next occupation surface was laid.

In the next stage the room seems to have been converted into some sort of living room. Floor and walls were plastered (several times) and a low brick-surfaced—or red plastered—bench (D.1:8) was built along the whole south end of the room against Wall D. 1:4b. Over this, at about the level of the bench, a window (or door), *ca.* .80 m. wide and at least 1.00 m. high opened to the south through the thick outer wall. A window or door at this same spot—off center—seems to have existed in the first course of Wall D. 1:4b also, corresponding to the level of Floor D. 1:20. This earlier opening was filled up to a little above the bench level in the next room, but a small niche was left at the wall edge into which the bench and the wall plaster of the room were fitted. The height of the ceiling at the apex of the vault for this room is estimated (by the architect) to have been *ca.* 1.60 m., of the lower room *ca.* 1.80 m.

The conclusion that this aperture in Wall D. 1:4b was a window and not a door is based on (1) an estimate of the

contemporary surface level outside (south of) the wall, (2) the absence of a door socket and bolt slot and / or notched door-jamb, and (3) the assumed function of Wall D. 1:4b, *viz.*, as an enclosure wall with limited access from outside through the main gates, such as the gateway near the west balk, and access to inside rooms from the courtyard. Thus we conclude that the door to the vaulted room lay to the north within the acropolis enclosure. We do not know enough analogies from other Arabic architecture of this type to speculate why the window was so low. Alternatively, the aperture could be a door leading to the roof of a structure built on the lower terrace—or, if contemporary with the latest phase in D. 2, to a now missing stairway from the higher Surface D. 1:16.

The ceramic evidence from Surface D. 1:14, lying above that of D. 1:20, was identical in both cases. It seems likely that the time lapse between them was slight since the nature of the later room treatment corresponds best to the first building stage in the IB phase of D. 2. At present, however, we have no way of telling. It could be contemporary with the later phase in D. 2. The distance between Surfaces D. 1:14 and 20 is *ca.* .20 m.

The sector west of the vaulted room and north of the main south gate seems to have been left as an open earth-surfaced entryway or courtyard framed by the vertical west face of Wall D. 1:3a and with a "floor" (D. 1:39) that sloped downward considerably away toward the north from the wall.

The gateway of the D. 1:4b wall was relatively narrow, maintaining the line set by the second D. 1:4c threshold. The west edge of the new gateway is just visible in the balk. It appears that no special doorjamb stone was used on that side—or it has been replaced. The east side of the gateway used the jamb of the earlier wall as its foundation base line and added a slightly skewed large, single-grooved and slotted block of the conventional style at the north (inner) edge of the gateway. This changed the direction of the door from the previous, conventional arrangement, making it swing out to

open rather than in. The new arrangement put the bolt hole outside the door stop, which was in line with the inner face of the wall. Since, however, the position of the bolt hole so close to the long notch in the doorjamb shows that the bolt must have worked inside the door itself rather than behind it, the handle and lock could conceivably have been worked from inside the wall. Or was the door perhaps not locked at all? A lock on the outside seems senseless. The socket for the door was in the lower stone of a stepped threshold at the north edge of the gateway. Corresponding to the reversed position of the doorjamb, the threshold was constructed of two long rectangular stones, the lower, socketed stone was set deeper, within the gateway, but outside (south of) the door line, while the higher step stone on the north (a reused lintel fragment) was at the inside edge of the wall. Later this stepped threshold was leveled by the addition of two smaller stones above the earlier and lower southern stone. Since no socket is evident at this level, it would appear that the gateway was an open one.

South of the gateway no new building is apparent along the avenue of access to the new gate, and the problem is to decide how much of the old structures, specifically steps and walls, were still in use. Since the D. 1:10-D. 2:2 wall line must have remained visible and seems at some time subsequent to original construction to have been augmented in spots, it may be assumed that it still framed the ascent from the south in the IB period. The most serious problem for reconstruction is the dearth of surfaces in this sector. None, either in D. 1 or D. 2, were distinguished in digging, but two threshold levels plus a later wall across the access route demand at least two surfaces. The west balk provided hints of at least one—at an appropriate level for the last surface. It was drawn as Locus D. 1:13, an extension of surface actually located in digging some .10 m. below the later cross wall (D. 1:9). This should probably be designated D. 1:13b and the surface on which the wall (D. 1:9) rested as D. 1:13a.

An additional surface, also not recognized in digging, must



probably also be reckoned with, because a large part of a crater or cookpot was found under stones that form the west doorpost of D. 1:4b. It suggests that the new threshold and west doorjamb were built upon a layer of earth *ca.* .10 m. high that had accumulated in the gateway area after it had gone out of use. This surface must have covered the discarded pot, since its preserved part was not cracked by the stone on top and no fragments belonging to it were found in or near it.

None of these surfaces, either north or south of the entryway, were paved or plastered. They all seem to have been earth surfaces including perhaps a layer of small stones or gravel. The forecourt seems no longer to have been maintained as a level, paved surface, and the surface that can be traced in the balk, D. 1:13, slopes down away from the wall—some .25 m. by the time it reaches D. 2. There, it probably appears as D. 2:5. It was difficult to trace, but being the first surface encountered below the topsoil it must have been the last surface surviving in the Area. This would correspond best with D. 1:13a. The presently available evidence leaves several problems in connection with this and possibly other surfaces in D. 2's upper layers.

The stairs themselves appear to have been maintained in use, at least during the first part of the IB period, with only minor modifications, specifically the addition of a further step at the head of the stairs consisting of a single rectangular stone block.

East of the raised stairway a number of more or less level surfaces were found stretching from the foot of the stairs, where they were contained by an east-west wall, north to the foundation of the perimeter wall (D. 1:4). Though more than a meter's distance separated the lowest from the highest, none of these surfaces can definitely be placed before the Late Arab period (IB), since all contained the characteristic glazed sherds by which the period has been identified. Since our (lack of) knowledge of the ceramic phases in the Arab period did not permit a more refined breakdown of the periods in which

glazed pottery was used, we can only assume rough contemporaneity of the new building in D. 2 with the new building in D. 1 where the same sherds were found and describe the sequence separately in each Square. The correlation of sequences from the two main architectural zones, threshold-stairway-courtyard, and the vaulted room must remain a largely speculative venture in the absence of more refined indicators for transition within the period.

The new construction in D. 2 followed and in part covered a massive robbing and filling operation that must have occurred sometime between the IB phase and the phase immediately preceding (IC). The date of the robbing operation cannot be fixed with any certainty, but the fill belongs to the phase of the new building, IB. At the time the digging took place, the lowest of the bottom three "Roman" steps was covered with earth; the robber trench cut down along the edge of this bottom step, tracing its southern edge, then turning north along the east end of the three bottom steps, leaving a ragged and uneven end that suggests an original extension of the stairs further to the east. The north end of the pit (D. 2:16-D. 3:9) was difficult to recognize and trace, especially since the earth layer to the north (sub-surface layer to D. 2:15 or 10) was composed of material little different in color, composition and ceramic remains from the fill in the pit.

It appears that this pit was filled up in the Late Arab period as an immediate preliminary to new building operations on the lower terrace/slope. The fill of dark loose soil rich in sherds and bone material was dumped at one time, its alternating layers of blackish and orangish earth forming tip lines that slope consistently from west to east and, less sharply, from south to north (exactly the opposite direction from that of the natural wash surfaces on this part of the mound). The homogeneity of the fill is underlined by the abundance of glazed pottery found at every level right to the bottom and by the absence of horizontal or other layering in the pit.

Directly upon (or slightly into) this fill a wide (1.30-1.40 m.), double faced, east-west wall (D. 2:3) was built, parallel to the enclosure wall, D. 1:4, and abutting D. 2:2 on the east, so that its south face roughly matched the south end of D. 2:2. This wall extended across the Square 5.50 m. to the east balk, apparently terminating in or near the balk line. Approximately midway between the balk and Wall D. 2:2 an entrance, *ca.* 1.10 m. wide, opened into a *huwwar*-surfaced "courtyard" to the north (D. 2:10-D. 1:17). A giant (1.20 × .60 m.), roughly carved limestone block with groove and bolt hole served as doorjamb on the east. The matching stone on the west was ungrooved. The threshold, a two-piece construction with front (south) step set deep into the pit fill below and a flat stone set behind it in the gateway, appeared at first to have no socket. Apparently two stages must be reckoned with in the threshold, a later one which is nearly level, in which the lower threshold was raised to almost the height of the step by the addition of one or more flat stones and a socket, and an earlier stage in which the lower threshold consisted of a single, rough smoothed flat stone—with a door socket on the east, just below the doorstep and bolt hole in the doorjamb. From this it would appear that the entrance never had a gate and that the gateway was built of reused materials, rather indifferently put together. The two threshold levels can probably be correlated with two main surfacings of D. 2:10.

The original height of the wall is unknown; the estimate would depend partly on the estimated function of the wall. Three courses at most were preserved for the excavator; the uppermost, visible on the surface, was in part at least a later addition. The line between the two phases of use was, however, difficult to determine exactly. In some places where the wall was more severely worn or damaged, late additions may be found quite low in the wall. The original wall, D. 2:3b, was built of dressed or semi-dressed stones, varying considerably in size and shape, some clearly reused. The two faces were widely spaced, a situation so exaggerated by the conditions of its

collapse (*viz.*, that the upper courses of the north face fell inward on the courtyard floor, pulling the lower course with them away from the outer [south] face), that the remains of the north face that were still standing were at first not recognized as belonging to the same wall construction as the south face.

The eastern terminus of Wall D. 2:3b is somewhat problematic. At its highest level, which consists mostly of late additions to the south face (= D. 2:3a), the south face appears to continue several meters to the east. At a lower level it can be seen clearly to enter the east balk. The inner (north) face, on the other hand, seemed to stop before it reached the east balk, and it is questionable whether any trace of it can be found in the balk. Furthermore, a north-south wall, D. 2:9, whose west face projected from the east balk, met Wall D. 2:3b (north) just where it stopped on the east. From the well matched courses at the corner it appears that the two were an integrated and likely a continuous construction. In that case it is also quite possible that the outer face of the D. 2:3b wall, in contrast to the D. 2:3a construction, also turned northward just east of the balk line, forming an east face for Wall D. 2:9.

Wall D. 2:9 was preserved two courses high at the south end and three at the north. It ran from the north face of Wall D. 2:3b (2.50 m. from the south balk) into the north balk, breaking off in a tumble of fallen stones just as it emerges into D. 1, slightly over 1 m. from the foundation of Wall D. 1:4. It was built entirely of dressed stones, somewhat more uniform in size than those in the remains of Wall D. 2:3b. Evidence from its construction suggests that the row exposed in the east balk—and later removed from the balk—was perhaps one face of a double faced wall, despite the fact that the balk gave no immediate or unambiguous evidence of another face. The bottom course of Wall D. 2:9 consisted entirely of stretchers, while the top courses were constructed primarily of headers, many up to one meter in length. Such an arrange-

ment would seem to presume a two-faced construction. The fact that the balk left by the removal of the west face showed only earth and small stones with the outlines of only a couple of large stones—a picture similar to that of the cross section of Locus D. 2:4, the later fill over the courtyard floor, seen in the north balk—may be due to the width of the wall. If Wall D. 2:9 was built like Wall D. 2:3b, the balk would be an accurate representation of a longitudinal section of the fill between the two faces.

Walls D. 2:9 and 3b were in any case in contemporary use, even if they should prove to be separate constructions. Together they formed the south and east walls of a *huvwar*-surfaced (D. 2:10a and b) courtyard at the foot of the acropolis enclosure wall. To complete this picture, there is some indication that a single-row wall corresponding to Wall D. 2:9 on the east was built along the east face of D. 2:2-D. 1:10 or D. 2:sub-2-D. 1:sub-10 to form the west wall of this courtyard structure.

Within this walled area a slightly raised dirt platform was described in the southwest corner by a line of loaf-sized stones running north from the west gatepost for almost two meters, then turning west where it can be traced for another .75 m. The area outlined by these stones was filled with earth up to the tops of the stones, then paved with the same *huvwar* surfacing as the rest of the courtyard area. It must have been built at the time of the first surfacing of the area, since no second *huvwar* surface was found under it. Whatever its use, it apparently received less wear than the rest of the area, since it showed no sign of resurfacing.

We have described this walled and surfaced sector as an open courtyard because of its size, construction, position, and the absence of any clear indications that it was roofed. The walled enclosure is too large ( $5 \times 5$ -5.50 m.) to be vaulted by the contemporary construction techniques evident in the Area. It is also too large to be roofed with beams without intermediate walls, columns or other supports. Of these latter, no

evidence was apparent, nor was anything found that could be recognized as roofing material debris.

The use of the sector also remains undetermined because of our ignorance of analogies for this type of structure. One suggestion we heard, *viz.*, that it might have been a parking place for horses outside the inner, walled acropolis area, seems difficult to reconcile with the generally good condition of the floor, which seems to have had too thin a surface to sustain the treatment of shod hoofs. However, two crescent-shaped iron horseshoes were found in D. 1 against Wall D. 1:4 which apparently came from upon or above Surface D. 1:17. Some evidence of domestic use was found: (1) a fine Arab crater or cookpot, glazed inside, unglazed and fire-blackened outside, was found on the floor, broken *in situ*, near the center of the north balk and about one meter south of a curious semi-circular rock formation (Locus D. 1:18), that distinguished itself from the rest of the tumble, but whose use remains a mystery—no fire was used with it, so it cannot have been a fireplace; (2) small amounts of charcoal and burnt bone; (3) a basalt millstone fragment, and a large end piece of a saddle quern. All of these could have been part of the later accumulation and fill and unrelated to the original use of the enclosure/room. Another interesting find connected with this area and still wanting architectural interpretation was a quantity of brick fragments plus a number of whole bricks, almost all of which were found close to the floor level.

South of Wall D. 2:3, a *huwwar* surface, D. 2:8 = D. 3:7, covered almost exactly the area of the filled-in pit (D. 2:16 = D. 3:9). When excavated, the surface was rather rough and patchy, showing considerable signs of wear—from weather or man or both. The main sector of use—along the wall between the gateway in Wall D. 2:3 and the stairs—was thicker, giving evidence of at least two resurfacings, which were often simply localized patching jobs that could not be traced across the whole surface. The first surface was laid directly on the pit fill except in the southwest corner, where it

covered a yellowish clayey deposit on the lowest "Roman" step. Here, Surface D. 2:8b met the second step, leaving just the top exposed; Surface D. 2:8a, as dug, just covered the second step.

The D. 2:8-7 surface is of pivotal significance for the stratigraphy of this phase since it links stairway (and possibly D. 1:4 gateway, if stair-gateway-surface connections can be made) sequences with the building and occupation sequences on the lower terrace. Surface D. 2:8 outside the courtyard was contemporary with D. 2:10 inside the walled sector since both, at approximately the same levels, were the primary (and only) surfaces used with the D. 2:3b threshold. At the same time, Surface D. 2:8 was also connected with the stairs in such a way as to show that they were still exposed and in use.

The next phase of construction in D. 2—still within the Late Arab period—is more an indication of disuse than of use. The *hwwar*-surfaced courtyard has become a rock-strewn terrace. The vaulted room in D. 1 is likely in a state of disrepair and abandonment. Only the stairway area remains in use—but the stairs themselves are covered with a layer of dirt and stones. The length of the break between these two building stages in D. 2 is hard to gauge. The .80-1.10 m. separating D. 2:10-D. 1:17 from the next surface above, D. 2:4-D. 1:16, must be attributed in large measure to planned filling operations and not to natural accumulation, since the gateway in Wall D. 2:3b was walled up to contain it. The .25 m. separating Surface D. 2:6 from D. 2:8—or the .10-.25 m. between the possibly earlier Surfaces D. 2:5 or 5b in the stairway—may be a better gauge for the time lapsed.

In any case, sometime in the Late Arab period, the D. 2:3b and 9 walls collapsed inward on the courtyard, leaving only two to three courses standing. Over this fall, which was left on the *hwwar* surface, a deep fill of earth and small field stones was laid to the height of the remaining wall on the east and south. The roughly level terrace excavated by this operation reached to the top of the foundation courses of Wall D. 1:4

and was covered all over with a layer of small uncut field stones; the whole of this fill together with the "surface" was designated D. 2:4-D. 1:16. Prior to this terracing operation the gateway in Wall D. 2:3b had been "walled up" along the line of the south face with a plug of irregularly shaped and sized stones, and in places where Wall D. 2:3b had not been preserved high enough, an additional row of stones (D. 2:3a) may have been laid along the south to form a retaining wall for the fill. The stones of this top course are noticeably more irregular than those of the bottom courses, lending strength to the hypothesis that they were a later addition and not simply part of the original wall that was preserved to a higher level.

The contemporary surface south of the terrace wall should probably be identified with D. 2:6 (perhaps = D. 3:5), a pebbly earth surface found about .25 m. above Surface D. 2:8 in roughly the same sector, though because of a large rockfall near the stairway it could not be traced all the way to the west balk. D. 2:6 is the first surface over D. 2:8 and the last surface below the ground surface humus. The surface that corresponds to this position and level in the stairway area is D. 2:5, between the D. 2:7a stairs and humus—and to the north between the D. 2:12 surface and humus.

In D. 1 no new building or occupation evidence, apart from the second threshold level in D. 1:4b, is apparent that can be correlated with the D. 2:3a and 6 phase in D. 2. The collapse of the vault roof into the vaulted room might possibly be contemporary with the collapse of Wall D. 1:4b; however, if it is associated, as is more likely, with the collapse of D. 1:4b, it cannot be contemporary with the fall of Walls D. 2:3b and 9, since Wall D. 1:4b fell on the D. 2:4-D. 1:16 surface that covered the fall from the courtyard building. In any case the collapse of the vault followed at least two occupation layers, Surfaces D. 1:20 and 14, plus a period of abandonment in which possibly two stages can be discerned. The first surface above D. 1:14, D. 1:7, may be only a weather hardened level



of occupation debris upon the last plaster floor, or it may represent the last poor use of the room. The next layer above, D. 1:6, clearly stems from a period of disuse. It was an uneven layer—or better, a series of layers—of accumulation with a weathering surface that could not be traced consistently over the whole sector.

The architectural tumble in the vaulted room lies over this layer of accumulation, contrasting with the situation in D. 2, where it appears that the Walls D. 2:3a and 9 collapsed upon a surface that was possibly still in use or at least showed no signs of a longer period of disuse. Since no distinction could be made between the final fall from structures on the south edge of the acropolis perimeter and the tumble that covered summit and slope before excavation began this summer—except for the dirt fill—we assume that this collapse was one of the latest events in the occupation history of the Area. The vault collapsed inward, filling up most of the remaining cavity, while the upper and outer part of Wall D. 2:3a fell outward, forming a heap that rose 1.50-1.75 m. to cover the edge of the west face of the two meters of the wall that still stood. Additional tumble lay over the top of the remnant of Wall D. 2:3a and the filled-in room cavity concealing the outline of the remains beneath.

At the same time, apparently, Wall D. 1:4b fell outward (south), pulling away from Walls D. 2:3a and D. 1:5 in places, while the outer (south) face fell away almost completely, leaving only two courses standing upon the earlier foundation of Wall D. 1:4c-d. This tumble piled up on the terrace D. 2:4-D. 1:16 to the south, forming a stone embankment that sloped from the edge of the south face of Wall D. 1:4b some six meters to the south, petering out about 3-3.50 m. short of the terrace retaining wall, D. 2:3a.

*Stratum I, Phase A.* Perhaps not all this fall should be laid to a single collapse. There are indications of a third phase of building in the Area before final abandonment, but this last phase is

itself an indication of the end of the period and of occupation in the Area. An effort seems to have been made to rebuild the outer edge of Wall D. 1:4, which had been almost entirely lost. A single row of large, irregularly sized uncut—or semi-dressed?—field stones was set upon the outer row of the wall. Whether this new wall D. 1:4a, was once higher is difficult to say. Some of the stones found in the tumble on the slope below appear to have been of similar type, but most were the badly worn, rough-dressed ashlar of the IB phase building. In any case, this last attempt to preserve and use the wall that served as the anchor point for all construction in Area D from the earliest surfaces uncovered this season shows that the vaulted room was no longer intact. The old doorway/window was filled up as was the room itself, and the new wall marched on past the old opening.

Not long afterwards, perhaps even before this last repair of the circumvallation wall was made, a small one-row wall two courses in height (D. 1:9) was built across the south opening into the D. 1:4b gateway on top of the last surface, D. 1:13, the entrance that had been in “continuous” use from (probably) Byzantine times at least. Walls D. 1:4a and D. 1:9 may be contemporary with the latest additions to D. 2:3a, but there is no way to know with any certainty. What is certain is that these last feeble building efforts signify an equally meager occupation in the Area; none even bothered to carry away the stones of the fallen structures to build new buildings until relatively modern times. IA then is simply a last phase of repair of old wall lines with no attempt to rebuild old edifices or to create new ones. In terms of chronology it may be anywhere between the end of the Late Arab period and the “modern” period, most likely toward the former, since the building is in every case directly upon IB structures and surfaces (but, in the rebuilding of walls, time lapse within a single cultural occupation is difficult and perhaps impossible to measure).

*Square 3.* The structures in Squares D. 1 and 2 were continuous, part of a common, if not always reconstructible, building complex, and so they were described together. Square D. 3, on the other hand, contained no structures contemporary with the main buildings in D. 1 and 2 and shared only a few surfaces and/or earth layers with D. 2. In the period covered by our excavation this season, D. 3 lay outside the zone of construction and occupation on the acropolis mound. It described a sector on the lower slope below a series of structures that saw successive rebuildings and many resurfacings, a sector that caught the sediment washed down from the upper buildings with the yearly rains and reflected, in its many *huwwar* wash surfaces and the quantity of tesserae in the layers between, the laying of floors and plastering of walls above and their disintegration. At times it shared the surfaces that lay outside the lower terrace wall and steps in D. 2 (D. 2:8 = D. 3:7; D. 2:6 = D. 3:5).

Below D. 3:7, which represents the latest main surface in D. 3 and perhaps the only occupation surface (with the possible exception of Surface D. 3:12, whose purpose and use remain unknown) lay a large pit (D. 3:9 = D. 2:16), stretching along the greater part of the north balk and cutting off all the surfaces to the south from any direct connection with D. 2. Only in the northeast corner was a series of layers preserved which may prove to have connections with D. 2 at lower, earlier levels than Surface D. 3:7. Outside of Pit D. 3:9 and a .60 m.-thick platform of chunky *huwwar* (D. 3:12) in the southwest corner through which Pit D. 3:9 cut, the rest of the Area described by D. 3 consisted of a series of wash layers and surfaces, that sloped more or less steeply to the south and the west as they descended. They represent successive deposits of silt and mud wash, often accompanied by masses of rockfall that tended to pile up toward the lower south and west end of the slope. These layers of mud deposit had in places such smooth, hard surfaces that they appeared almost to have been laid floors, but none could be traced very far, since the thin crust of a surface was

easily broken and the same action that built up these layers also worked to destroy them. Pockets and gullies of erosion cut by settling pools or streams of water were frequent in these layers.

As a result of this complementary but stratigraphically confusing phenomenon of sequences of layer build-up and erosion, surfaces could scarcely ever be traced across the entire Square. A number of hard, smooth-finished *hwwar* surfaces (D. 3:8, 18 and 19) were found near the ground surface in the northeast corner, traced as they descended southward and lost when they gave out before reaching the south or west balks. New surfaces (D. 3:10, 11, 12 and 13) which could not be connected with the surfaces in the northeast corner and which sometimes appeared as intermediate surfaces were picked up in the southeast and southwest quadrants of the Square. Only one, D. 3:10, appeared to continue across most of the south half of the Square.

In addition to the big pit on the north, D. 3:9 = D. 2:16 (which was first located in D. 3), Square 3 boasted two other pits, both along the south balk. D. 3:17, a pit just barely extending beyond the excavators' steps in the southeast corner, gave evidence of a wealth of *tabun* ash and other domestic refuse, but could not be excavated. D. 3:14, a fairly large pit with at times bafflingly indistinct contour, was found along the middle of the west balk. Because its west edge lies directly beneath a cut in the thick *hwwar* deposit, D. 3:12, it was first thought to have been dug from upper, Arab levels. The upper pottery in the "fill" was also Arab, but the lower pottery was "Roman" with a complete absence of Arab sherds, so the pit must have been filled (first) in Roman times, but only partially filled, so that the upper fill is Arab. The balk also suggests the hypothesis of successive layerings; in fact it was repeatedly doubted that D. 3:14 could be a pit since the layers of deposit in it followed the same degree of incline as the other surfaces or wash layers in the south balk and were at first indistinguishable from them.

Near the bottom of this pit were found remains from at least three human skeletons, one a female, almost complete except for lower mandible, left arm, and legs from the knees down. This skeleton was articulated from the base of the neck downward; the head, three cervical vertebrae and a shoulder blade were, however, detached. The woman, estimated to have been about 40 years old, appears to have died from a large tumor in the left chest, in the cavity of which its calcified remains were found, having the shape and size of an ostrich egg. None of the skeletal remains, including the other skull, long bones and jaw fragment, seem to have been associated with primary burials. All were to a greater or lesser degree "disturbed," resting in and among the heap of stones in the bottom of the pit. The meaning of such a disposition of human remains is not immediately clear to us. The ceramic evidence associated with this level in the pit was characteristically "Byzantine/Roman."

Only two structures were encountered in this season's digging in D. 3: (1) an L-shaped stone fence (D. 3:3-4), one course high and two rows wide, resting only a few centimeters under the ground surface of the mound and presumed to be of relatively "modern" construction, though it could belong to the IA phase in D. 1 and/or last additions to D. 3:3a (pottery evidence is inconclusive); (2) a wall, D. 3:16, first noted below ground surface level in or at the east edge of the big robber pit, D. 3:9. Since only the top of it had been exposed in stratigraphic digging to the east of it, its date cannot be determined from this season's work. The foundation level has not yet been reached, though excavation of the pit revealed three courses on the west.

To summarize our work and its results in D. 3, we must say that it has been an important if often trying school for stratigraphic digging. As our understanding of the nature of this area and its peculiar features grew and as our accuracy in tracing surfaces mounted, we were able to garner a number of fine, large samples of pottery from layers dug in sequence, and

were able to show a sequence of ceramic corpora much more fully representative than those available from the occupation surfaces and structures higher on the mound. This ceramic series obtained from D. 3 wash layers also extends further into the pre-Arab period than our digging had yet progressed in D. 1 and 2. Thus it should give us a key, when properly studied, to the ceramic horizons and periods of occupation to be met on the heights above.

### THE RESULTS OF THE FIRST SEASON'S WORK

As the four Area reports indicate, the stratigraphic evidence was rich and varied, as were the finds, ceramic and architectural complexes. In attempting an overall correlation summary, the records currently indicate the most finely subdivided stratigraphic evidence for the Arabic (five subdivisions of three phases in Area D) and Byzantine (five subdivisions of three phases in Area A) periods. The review of the evidence will indicate, by periods, what the four Areas have produced in the first season's work.

*Arabic.* Evidence for this period occurred in all four Areas excavated. In Area B a few soil layers were found and one possible occupation surface (not associated with architecture), also a pit and a lime kiln. In Area C the evidence included the U-shaped "enclosure" wall partly visible at the start of the excavation, a small portion of a room at the south edge of the Area (the nature of the building remains undetermined), and the only partially excavated structure in the northeast corner of C. 4. A possible second phase of the period is suggested by the cistern fill in C. 4. In Area A, Phase A is limited to a serpentine alignment of stones and column sections which may have served as some sort of pen or enclosure wall. Phase B (considered Late Arabic) comprised the courtyard drainage system with its associated cisterns in A. 2 and possibly A. 3. Phase C includes the storage complex of A. 1 and possibly two fragmentary wall remnants in A. 3 and 4.

As indicated above, the most complex Arabic evidence occurred in Area D. Phase A comprised some sort of enclosure wall in D. 3 and a relatively poor rebuild of the outer east-west face of the acropolis architecture in D. 1 and a blocking of the gateway at the head of the southern access to the acropolis. Phase B incorporated the "vaulted room" of D. 1 with three living surfaces (one furnished with a plastered "bench" or shelf) with use of a major access route from the south which included a gateway or doorway into the acropolis perimeter architecture and at least two use surfaces continuing from D. 1 down the slope into D. 2. Outside the acropolis perimeter architecture (in which the vaulted room was incorporated) and east of the access route stood a walled open court indicating two exposed surfaces in the course of its use (D. 2). It had been cut into by a large pit at the south edge of the Square which was found at the north portion of D. 3 as well. The size and shape of the pit indicated that a robbing of walls had occurred. An earlier stage of this phase seems to have comprised a leveling operation most evident in the courtyard of D. 2. Phase C is indicated by the second gateway or doorway construction giving access to the acropolis perimeter architecture. It included a sequence of two hard plaster surfaces used in the access space. Beneath the vaulted room, a domestic complex was indicated by new wall alignments and a series of earth occupation surfaces. In D. 3 a pit took at least part of its fill during this stage of occupation. The earliest remains in Phase C may be a transitional stage from the next lowest stratum, but they are provisionally included in the Arabic material pending more detailed studies of the objects and ceramics. They comprised a fine flagstone paving with two walls indicating divisions of perimeter architecture and included a well-worked and larger edition of the gateway from the southern access. The access consisted of well constructed stone stairs in uneven tread widths and bordered on the east by a well-built border wall.

Tentatively, one may venture a correlation of Phase A in

Areas C, A and D on the grounds of the poor quality of workmanship and generally temporary nature of the constructions of enclosure walls and rebuilds. More refined distinctions will depend on the completion of numismatic identifications and refinement of ceramic distinctions. Beyond this, no clear basis is yet available for correlating the other Arabic phases with those of Area D. This may become available on stratigraphic grounds with the linking up of Areas A and D in a future season. Possibilities for placing Phase B in Area C into the relative chronological span of Area D seem slim, barring the yet-to-be-excavated structure in C. 4 and the dating evidence which may turn up there. It would seem that Area C's Phase B is at least later than Area A's Phase C if our reading of ceramic evidence is substantiated by the detailed analyses.

*Byzantine.* Uncertainties of dividing Byzantine from Roman pottery forms plague us here. Area B indicates in the thick accumulation of *huwwar* and soil layers some possible Byzantine occupation. No fine subdivisions were possible. Area C provided evidence for the Byzantine period only in the ceramics and objects embedded in the wash layers disassociated from architectural remains. Area D may open up some Byzantine material in the course of the next season, but the Area supervisor's hesitance in identifying the pre-Arab Stratum II material is wise pending the completion of the inquiry into these layers next season. The Roman pottery indications may mean a gap on the perimeter of the acropolis during the period, as well as in the access route constructions.

From the first season's work, it is Area A which yields the greatest potential for refining our knowledge of the Byzantine period. Phase A comprises in its latest stage the most substantial mosaic floor fragment found to date, with the "inner" arc apsidal wall to which it was joined. The earlier subdivision of the phase comprised another surface, also interpreted as a floor. All of this evidence provides the stimulus for the interpretation of the building remains as part of a church.



Phase B comprised primarily the larger apsidal wall with two associated surfaces in A. 3, the flanking walls outside the apsidal remnant, and possibly one surface fragment in A. 4. The two subdivisions of Phase C are sequences of one and two surfaces associated with the larger apsidal wall in A. 3 and with the long east-west wall in A. 1 and 2. The present judgment places the column bases with Phase B, but indistinct evidence of the founding layer of the present position of these bases awaits further testing. That they are reused in their present locations is evident more from some dirt layered under them than the clearly classical lines of their design. Generally one must observe that Area A stratigraphy has been subject to frequent massive disturbance, and hopefully the linking of Area A and Area D in a future season might provide both specific connections with Area D's pre-Arab remains and clarify the interpretation so strongly suggested by the elements of surviving architecture uncovered to date. No surely Byzantine material is yet available from Area D. Possibly the partially investigated stage of the southern access to the acropolis will yield more certain conclusions with another season's work.

*Roman.* If the horizon of Arabic and Byzantine material can best be seen by "stacking" Area A under Area D, it is yet unclear where the most helpful Roman material will be evident. In the first season's work Area B produced some evidence of architecture possibly for the period or for the Hellenistic occupation which preceded it. This is in the form of the upper rebuild of the major wall that split the Square east to west and the fragment of a cross wall possibly contemporary with it. In Area C a rather complicated network of walls, possibly Roman, was just coming to light as the season ended. Further work will illumine their nature and importance. In Area A the evidence combines some unworked stone walls not yet fully traced in A. 3 and two better constructed early stages of wall construction in A. 1 and 2. That bedrock occurred so near the starting surface in A. 4 lends

caution to expectations of extensive Roman or pre-Roman remains on this sector of the site, but another two weeks of work in that Area would verify or disprove that suspicion. As indicated in discussion of the Byzantine period, whether Area D will show Roman material immediately beneath the Arab remains there is yet to be confirmed.

*Iron III (Persian).* The only substantial evidence for this period uncovered to date is the large, deliberately prepared foundation wall in Area B. The completion of investigation of its founding will be of major interest for the next season. Conjecture about the presumably associated architecture would have to be tested by an expansion of the Area.

*Iron II, Iron I and Late Bronze.* The evidence for these periods is limited to ceramic types known from west bank ceramic horizons as samples have survived into later layers. Indications of the volume of such identifiable material brook well for expecting substantial stratigraphic deposits on the site. The Areas on the shelf of the *tell* seem most likely to produce such evidence, from all present indications.

*The Ceramic Evidence.* An additional word is in order concerning the ceramic evidence. Detailed analyses may yield criteria sufficient to refine the Arabic ceramic corpus beyond present possibilities. Reference has already been made to samples of imitation Chinese porcelain (see *supra*, p. 134). There would seem to be a basis in the material of Area D for refining the appearance of paint types and glaze styles if such are typologically significant for dating an upper Moabite site. It is clear that certain Roman wares, including genuine and imitation *terra sigillata*, as well as Nabataean materials, were used on the site. Hellenistic forms most readily identified were inverted bowl rims and a few Attic black imported wares.

The most surprising new forms occurred in what we consider the Iron III (Persian) evidence. New forms included double disc bases (a disc within a disc), outset rims (the jog appearing on both the interior and exterior profile lines) and black ring burnishing. Customary red burnished wares and

characteristic cookpot-rim forms seemed to match Iron II styles as found on the west bank. All of this will need the usual detailed analysis for its full importance to be clarified.

In conclusion, the first season's results have demonstrated conclusively the richness of material representing several periods available on the site. They have also held out fascinating problems begging further inquiry. While certain cautions have arisen about the seriously disturbed state of evidence within the acropolis area, chief among them being the evidence of high contours of bedrock in that sector, it is clear that the explorations yet possible on the public land, particularly if integrated along the main north-south and east-west axes, should eventually provide a clear picture of the major stages in the site's occupation history. Numerous auxiliary projects also beckon. The detection of the Roman road in the vicinity, exploration of the necropolis, and planning and exploration of some of the more recent structures on the southwest ridge, are just a few suggestions.

## AN OSTRACON FROM HESHBON

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A small ostracon in Aramaic script was found in the first season of excavations at Heshbon (modern *Hesbân*) in the summer of 1968.<sup>1</sup> The sherd, Registry No. 309, came from Area B, Square 1, Locus 52, the lowest level reached in the 1968 campaign, associated with pottery dating in large part from Persian times, in small part from earlier periods.

The sherd as presently preserved measures 5.4 × 5.3 cm. at its largest dimensions. Unhappily it has been broken on three sides as we can judge from its incomplete text, that is, on the top, bottom and left; the right side is evidently intact in view of the calcium deposits on its edge and its parallelism with the right margin of the lines of script. The break on the left, at least, appears to be recent, and there may be some hope of recovering more of the ostracon. The surface of the ostracon is marred by three gouges, no doubt from the blows of the workman's pick. These appear black on photographs, but can be distinguished clearly from ink marks with the naked eye.<sup>2</sup>

The text of the ostracon (Pl. XXV: B; Fig. 13) reads as follows:

   ]°ל בן 1. Bin l°[  
   ל עזי'א 2. 'Uzzi' [el

<sup>1</sup> Siegfried H. Horn, director of the Andrews University Heshbon Expedition, has kindly assigned publication of the ostracon to the writer.

<sup>2</sup> In Figure 13, the gouges are marked, two on line 3, one on line 4, with dotted lines. Shaded areas within or adjacent to the dotted lines are remnants of ink. It should be said that unusual efforts have been made, at Heshbon to protect ostraca or graffiti. Iron Age potsherds were brushed with a dry brush before being subjected to water. A technique of dipping potsherds in water and examining them before cleaning, developed first, I believe, by Professor Yohanan Aharoni, at 'Arad, has been followed in part at Heshbon.

3. בן רפא' ] Bin Rapa' [  
 4. בן פסמי ] Bin Psammī [  
 5. עידן | Nanāyiddin |



4 נענעג אגט זוט

Figure 13. A tracing of the Heshbon Ostrakon and significant letters of its script

Line 1. The *bêt* of *bin* is marred at the top by a deep chip in the potsherd which obliterates the right shoulder of the letter. Following *lamed* are remnants of a second letter, very faint and indeterminate; a *hêt* is possible: *l'h* [*y*]? <sup>3</sup>

Line 2. The broken *'alep* at the end of the line appears to me to be certain. In this case the reading '*uzzi*'ē[*l*] imposes itself. Cf. the common biblical name '*Uzzi*'ēl.

<sup>3</sup> On the name *lhy*, see now J. Naveh, "The Scripts of Two Ostraca from Elath," *BASOR*, No. 183 (1966), pp. 27 f., and n. 9; G. Ryckmans, *Les noms propres Sud-Sémitiques*, I (Louvain, 1934), 120.

Line 3. Following *bn* is a long gouge in the sherd. Ink remnants preserved at the top of the gouge appear to be *rēš* or *daleš*. Following is the letter *pē'*, faintly preserved but certain. On the left edge of the line is a stroke which conforms best to *'aleš*, but is quite uncertain. *Rāpā'* or *Rēpā'ēl* are possible reconstructions.

Line 4. The reading *bn psm̄y* is clear despite the gouge which largely obliterates the *samek̄*. On the left top of the indentation is ink following the curve of *samek̄*; almost all of the lower, rounded sweep of *samek̄* is visible. The name *psmy*, Psammī, is well known from Egyptian Aramaic texts.<sup>4</sup> It appears to be a hypocoristicon of Egyptian *psm̄tk*, in Aramaic script *psm̄šk*.<sup>5</sup>

The Psammī of the Hermopolis papyri is the son of Nabūnatan (nbwntn; the name is Aramaean), the father of Makki-bānīt (< Mankibānīt) and Waḥpere' (Egyptian Hophra-Apries).<sup>6</sup> The Psammī of the Brooklyn papyrus is the father of 'Attarmalkī. We shall return to this curious mixture of Babylonian, Egyptian, and Aramaean names found in Egyptian Aramaic texts and, as we shall see, in our Heshbon ostrakon.

Line 5. This line with its name and number is apparently the only complete line in the ostrakon. It makes clear that the original ostrakon consisted of names and numbers, evidently a record of payment or rations, or a record of goods shipped

<sup>4</sup> Cf. E. G. Kraeling, *The Brooklyn Museum Aramaic Papyri* (New Haven, 1953), Pap. I, 13; and especially E. Bresciani and M. Kamil, *Le lettere aramaiche di Hermopoli*, *Atti della Accademia Nazionale dei Lincei*, "Classe di scienze morali, storiche e filologiche," Serie VIII, Volume XII, 5 (Rome, 1966), *passim*, esp. p. 381. Cf. N. Aimé-Giron, *Textes araméens d'Égypte* (Cairo, 1931), 2. 1 and 34.4; and G. R. Driver, *Aramaic Documents of the Fifth Century B.C.* (Oxford, 1957), II, 4 (p. 43), and III, 3 (p. 45).

<sup>5</sup> For the Neobabylonian transcriptions, see K. Tallqvist, *Assyrian Personal Names* (Hildesheim, 1966 [reprint]), pp. 181 f.

<sup>6</sup> See J. T. Milik, "Les papyrus araméens d'Hermoupolis et les cultes syro-phéniciens en Égypte perse," *Biblica*, XLVIII (1967), 546-622, esp. 547 ff.

or received. The name Nanāyiddin is a fairly common name in Babylonia in the 6th century B.C.<sup>7</sup> It is a transparent formation composed of two familiar elements, the name of the goddess Nanāy,<sup>8</sup> popular in Neobabylonian, Persian, and Hellenistic times as Nabū's consort, both in Babylonia and among the Aramaeans, and the familiar onomastic element *iddin*, "has given." One may compare such names as *nnyh̄m*<sup>9</sup> and *br-Nny*.<sup>10</sup>

The script of the Heshbon ostrakon is to be compared palaeographically with the scripts of the Hermopolis papyri (last quarter of the 6th century B.C.), the Meissner Papyrus (515 B.C.),<sup>11</sup> Elephantine Papyri, Cowley 52 (late 6th century B.C.)<sup>12</sup> and Cowley 1 (495 B.C.),<sup>13</sup> and the inscriptions of Sheikh Faḍl (early 5th century B.C.).<sup>14</sup>

<sup>7</sup> *Alep* in line 2 is broken. However, it is clear that the form is that of the 6th-century Aramaic cursive. This form with its right stroke in the form of a horizontal "V" persisted in the chancery script<sup>15</sup> of the 5th century, but was replaced in

<sup>7</sup> Cf. K. Tallqvist, *Neubabylonisches Namenbuch* (Helsingfors, 1905), p. 159. The name is written Na-na-a-iddin.

<sup>8</sup> See D. O. Edzard, *Wörterbuch der Mythologie*, ed. H. W. Haussig (Stuttgart, n.d.), I, Mesopotamien, p. 108, and references. Note also *Navata* of 2 Maccabees 1:13, 15. Tallqvist lists some forty names formed with *Nanāy* (see n. 7).

<sup>9</sup> Cf. *nnyh̄m* in the Hermopolis Papyri (cited above in n. 4).

<sup>10</sup> Cf. Hatraic *nny* and *brnny*, H. Donner and W. Röllig, *Kanaanäische und aramäische Inschriften* (Wiesbaden, 1964), II, 294 f., and references.

<sup>11</sup> H. Bauer and B. Meissner, "Ein aramäischer Pachtvertrag aus dem 7. Jahre Darius' I.," *Sitzungsberichte der Preussischen Akademie der Wissenschaft, Phil.-Hist. Klasse* (Berlin, 1936), pp. 414-424; esp. Taf. I and II.

<sup>12</sup> A. Cowley, *Aramaic Papyri of the Fifth Century* (Oxford, 1923), pp. 1 ff.; E. Sachau, *Aramäische Papyri und Ostraka*, II (Leipzig, 1911), Papyrus 22, Pl. 24.

<sup>13</sup> Sachau, *op. cit.*, Pap. 30, Pl. 30.

<sup>14</sup> N. [Aimé] Giron, *Ancient Egypt*, XIII (1923), pp. 38-43. I am indebted to Dr. Joseph Naveh for new photographs of these inscriptions. Cf. his dissertation, shortly to be published: *The Development of the Aramaic Script* (The Hebrew University, 1966), pp. 57 f. [Hebrew].

<sup>15</sup> Naveh, in the study cited in n. 14, has distinguished systematically a "conservative" and a "vulgar" cursive style in fifth-century scripts. His analysis is no doubt correct. Our "chancery cursive" corresponds to this "conservative cursive."

the ordinary cursive by a form with a more or less vertical right arm.

*Bêt* is still quite elongated as in late 6th-century and early 5th-century styles. The top preserves a narrow form with sharp, upward ticks on either side.

Two features of *dalet* are to be noted, the bold slant of its right leg from left down to the right, a trait of 7th- and 8th-century styles, and the stubbiness of the form, again an early (pre-5th century) character. The closest parallels are in the P. Cowley 52, in the Hermopolis papyri, and in the Meissner papyrus, as well as earlier documents.

The *zayin* in line 2 is broad at the top and angled left to right. This is a very archaic form, much like that of P. Cowley 52 and earlier hands.

*Yod* in the Heshbon ostrakon is very large, composed of two separate strokes, the left stroke having been drawn from right to left. By the beginning of the fifth century there is a strong tendency to draw the letter without lifting the pen in the ordinary cursive, and the letter grows progressively smaller. There is also a tendency for the left stroke to move upward from right to left which appears in the Meissner Papyrus of 515 B.C. The *yod* in l. 2 shows a slight move in this direction. Closest to the Heshbon hand is once again P. Cowley 52 (as well as much earlier hands).

The stance of *lamed* shifts from a slant down right to left (before the broad loop) in the 6th-century, to a stance close to the vertical in 5th-century hands. The Heshbon form is of the earlier type. Compare especially the Hermopolis forms.

*Mem* is one of the best letters for dating, having a complex evolution in the 7th to 5th centuries. 7th- and 6th-century forms are characterized by the right down-stroke moving straight, uncurved from a squarish shoulder downward. The left down-stroke is relatively short, beginning well above the horizontal. The Heshbon form finds close parallels as



early as the Saqqārah Papyrus (601 B.C.),<sup>16</sup> as late as P. Cowley 1.

*Nūn* is not especially useful in this period. In the chancellery hand it evolves little in the 7th-5th centuries.

The *'ayin* of the Heshbon script is characterized by its near circular form and small opening to the top. Its traits are relatively early typologically, though such forms may appear sporadically well into the 5th century.

The Heshbon *ḥē'* in each example exhibits a rounded head and slightly curved downstroke. One may compare the form of Hermopolis Papyrus I, 5 which is identical. The lower curve develops late in the 6th century and continues through the 5th century.

Unhappily, the form of *samek* in line 4 of the ostrakon is too uncertain to be analyzed palaeographically. Its traces may be made to conform with either 6th- or 5th-century styles.

Our palaeographical analysis has revealed that most of the letter forms of the Heshbon ostrakon can be fitted to a date shortly before or shortly after 500 B.C.: *'alep*, *hēt*, *mēm*, *nūn* and *ḥē'*. The remaining letters are typologically earlier, especially *zayin*, *lamed*, and *dalet*. We prefer a date in the last quarter of the 6th century, 500 B.C. in round numbers.

The most striking feature of the Heshbon Ostrakon is its mixture of names, two West Semitic, one Egyptian, and one Babylonian. As we noted above, a similar mixture of names obtains in the Aramaean and Jewish population of Egypt in the Persian Age. One suspects that Psammī was not a native Egyptian, nor Nanāyiddin Babylonian, but Aramaeans or Aramaized Arabs who moved over the caravan routes which crossed in Heshbon, the King's Highway connecting with North Arabia and the Gulf of Aqabah in the south to Rabbat Ammon and Damascus in the north, and the westerly road to Jericho, Jerusalem, and Joppa.

Another significant feature of the Ostrakon is its use of the

<sup>16</sup> A photograph may be conveniently found in Donner and Röllig, *op. cit.*, III, Taf. XXXIII.

Canaanite (Hebrew or Ammonite) element *bn* plus Canaanite or Egyptian patronymics. The scribe, while using an elegant Aramaic cursive script, was writing in his native dialect. One may compare the similar use of the Aramaic script for writing Hebrew in Judah in the era of the Restoration.<sup>17</sup>

<sup>17</sup> See the writer's paper "Judaeen Stamps" *Eretz Israel* IX (1969) [the Albright Volume], 26, 27, Pl. V: 3, 4.

## A LATIN POTTER'S SEAL IMPRESSION

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The sherd which contains the Latin seal impression here discussed was found August 13, 1968, in Area C, Square 3, Locus 4, at Heshbon. It bears the Object number 211. This locus consists of a layer of wash on the western slope of the *tell* containing Arabic, Byzantine, Roman and some Hellenistic pottery, and among the objects an early Arabic coin. The sherd measures 80 × 56 mm. It is part of a wide handle of a huge bowl of which the mouth had a diameter of 43 cm.

The seal impression applied to the soft clay before firing consists of a rectangular frame, 48 × 22 mm. in size, in which there is a text of two lines. All letters and strokes are impressed into the clay, in spite of the optical illusion presented by the photograph. The narrow side of the frame was placed close to the edge of the rim and runs almost parallel to it. The text is fairly well preserved and can be read in part.

Most of the thousands of stamped Latin impressions on vessels as well as on bricks and tiles that have been found among the debris of the ancient world are "trade-marks." Usually they contain only the name of the manufacturer, either in the nominative or genitive.<sup>1</sup> The proposed reading of the Latin Heshbon seal is:<sup>2</sup>

Ċ · BĒLLICI  
ZMĀRAGDI

The dots above the letters indicate defective letters, regarding which the following remarks are to be made:

*Line 1.* The first letter C is not quite clear but fairly certain.

<sup>1</sup> Cf., e.g., R. Cagnat, *Cours d'épigraphie latine* (3d ed.; Paris, 1898), pp. 316, 317.

<sup>2</sup> The reading is based on a photograph.

The stamp seems to have been defective in this respect.—The following sign is an “interpoint” commonly used as a word divider.—The second letter is a B. The lower part of the bottom curve is damaged, but the remaining traces make the reading certain.—The E is problematical. The shape resembles a C, but the reading requires an E, which may have had the familiar form of the Greek ε. However, the horizontal stroke in the center and the lower curve have been lost.

*Line 2.* The remaining traces of the third letter fit an A, which the reading requires.—Of the fourth letter the top of the R is gone, but the very rare K, the only other possibility, can be excluded.

The seal contains a typical Roman name consisting of (1) *praenomen*, (2) *nomen gentile*, and (3) *cognomen*. The *praenomen* Gaius always appears as the abbreviation C. The *nomen gentile* Bellicus or Bellicius is well attested, both forms occurring indiscriminately.<sup>3</sup> The genitive form -ci may be the usual contraction of a fuller -cii. The *cognomen* Zmaragdus or Smaragdus occurs frequently in Roman as well as in Greek inscriptions.<sup>4</sup> However, the Heshbon sherd seems to be the only example where Zmaragdus appears in combination with Bellic(i)us. It is attractive but perhaps far-fetched to suppose that Gaius Bellic(i)us Zmaragdus was a descendant (of a freedman?) of the illustrious Bellic(i)i who flourished in the first and second centuries A.D. Although the social status of our unknown Latin pottery manufacturer cannot be determined, it is obvious from the tripartite structure of the name that he was not a slave.

<sup>3</sup> Cf. E. Groag and A. Stein, eds., *Prosopographia Imperii Romani*, I (2d ed.; Berlin, 1932), 361-363. Clay stamp impressions of manufacturers named Bellic(i)us are listed in *CIL*, XIII, 3, 1, No. 10010/284 (on pottery vessels), and *ibid.*, XV, 1, No. 887 (on bricks).

<sup>4</sup> See, e.g., the index to H. Dessau, *Inscriptiones Latinae selectae* (Berlin, 1892-1916), and Louis Robert, *Noms indigènes dans l'Asie-mineure gréco-romaine* (Paris, 1963), pp. 275, 276.

AN ANTHROPOLOGICAL PRELIMINARY NOTE ON  
THE FIRST SEASON AT *TELL HESBÂN*

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Archaeological expeditions working in Palestine have seldom had the benefit of the presence of a trained anthropologist. Except for excavations carried out at prehistoric sites or in tomb areas, physical anthropologists (not to speak of cultural anthropologists) have rarely been staff members of any archaeological expedition in Palestine. Bone material from occupational levels has therefore seldom been subjected to systematic and professional study. The only bones saved, besides those coming from burials, were worked bones, such as pieces of furniture inlay, spatulas, needles and other objects made of bone; knuckle bones (astragali) presumably used at all times as game pieces, and rarities such as the plastered skulls found at Jericho. But the great bulk of bone material, being the discarded remains of food consumed by the ancients, has not attracted many archaeologists and has usually been discarded.

Yet the study of the bone material can be rewarding. Subsistence patterns provide valuable information about a population and the fauna and flora that surround it. Such patterns can be developed from an analysis of bone material recovered from field excavations. Further analysis can provide clues as to sizes of populations in a given area and can reveal changes in food habits or in domestic animals as well as the availability and variety of wild animals. Information can also possibly be obtained on additional cultural patterns such as butchering techniques and cultic practices.

It was for this reason that the Heshbon expedition, beginning with the planning stages, provided for the inclusion of an anthropologist so that any organic matter found,

especially the bone material which could be expected to turn up in great quantities, would receive professional attention. The author of this preliminary note served on the staff of the first Heshbon expedition in this capacity. The present note serves to acquaint the reader with the system of recovery, registry, and identification, and give him preliminary information on some of the more unusual finds of bone material. A final report can only be given after further studies in this country of all the recovered and kept bone material—more than 300 pounds.

*Identification System.* It was decided, as far as possible, to make the identification of bone material uniform with that used for the pottery and objects registry. Therefore an individual bone specimen could read H68, A3-89-6, BF 537, meaning that it comes from the 1968 season of Heshbon, originates from Area A, Square 3, was associated with pottery that made up Pail 89, and was found in Locus 6. The number 537 is the individual bone registry number.

A registry book was kept and numbers assigned from 1 to 10,655. Any of the registration numbers would be preceded by the capital letters BF (= Bone Fragment). In addition to the four Area designations A, B, C and D a fifth one, "Miscellaneous," was used for items of special interest that were found on the surface of the *tell* in sectors other than those being excavated, for items brought to us by workmen where the exact location was not known, and for those few specimens which accidentally had lost their identification.

Items registered fell into two categories: (1) those that seemed to be of special interest because of shape, size, color, or rarity; and (2) those found in a locus of special interest such as a sealed locus, *viz.*, one that could definitely be identified with a chronological period. In addition, it was decided to register all bone fragments from Area B because this deep probe was made to establish the stratigraphic sequences for the entire *tell*.

*Field Techniques.* All Square supervisors were given a paper bag for each pottery pail. Each bag carried the same identification as the tag of the pottery pail. All bones or bone fragments were placed in the bag as they were uncovered. Some workmen were quite skillful in removing fragile bone fragments from the soil and getting them into the bag intact. When articulated skeletal material came to light, the anthropologist was called. He completed the excavating with the assistance of skilled nationals, prepared the skeletal pieces for official photographing *in situ*, and then removed them for laboratory treatment, identification and registry.

*Laboratory Techniques.* The bone material was taken in the bags, still in the pottery pails, to the headquarters. There the bags were separated from the pails and placed in a special staging area where they accumulated until they could be cleaned. For cleaning, the bone material of one bag at a time was put into a basin containing room-temperature water. After a minimum soaking the soil was removed with a soft hand-brush, and the bones were rinsed and dried on mats in the sun. When the bones were thoroughly dry, they were placed back in their original bags and transferred to tables in the laboratory for sorting, marking and identification.

The anthropologist then discarded all unidentifiable fragments, and of disarticulated material all ribs and long bone fragments that were not part of proximal and distal ends. All identifiable fragments were kept, as well as all bones and fragments found in articulation. On all bones to be preserved, a strip of white lacquer, 1 × 5 cm., was painted, and after that had dried, the bone received its identification number in India ink, plus the registration number as soon as a specific bone was entered into the registry book. Some bones required a clear acetate top-cover over the India ink lettering, but in most cases this was not necessary since the ink adhered well to the white lacquer background.

After this procedure the Bone File card was filled out. This is a 14 × 19½ cm. card designed for the Heshbon expedition.

The information which was on the bone bag was transferred to the card and the bag was discarded. Also the total number of pieces retained was recorded on the card. It would have been ideal if at this point the type for each bone (humerus, femur, etc.) could have been recorded along with the common name of the animal from which the bones came and the Latin species identification. This was impossible because of time and personnel limitations.

With the statistics entered upon the card, bones were then regrouped for further analysis. All similar skeletal parts were put together, *viz.*, all humeri in one container, all femora in another, etc. This facilitated species identification. When this information became available it was placed on the Bone File card along with the animal's common name, and the card was indexed and was then ready to supply the necessary data for final interpretation.

Because of an emergency at the beginning of the season which required the anthropologist to assist with surveying work during the first two weeks, so much bone material accumulated during that time that he was never able to catch up with the backlog during the remaining weeks of excavations. In fact, the quantity of bone material was so large that it would have been impossible in any event to bring the work to the desired level of processing by the time the excavation closed down. The material of the last several days could not be processed at all for lack of time. It was only cleaned and shipped in marked bags to America, where the work of registry and identification must be carried out.

*Statistics.* The following statistics are taken from the Bone File cards and do not include the unrecorded material found in the last three days of excavations. The result is that the final total of collected bone material will differ from the numbers given in this preliminary report. A total of 6,682 bones and bone fragments were recorded. From Area A, 636 pieces, about 9½%, were recovered. Area B provided 1,167 pieces, or almost 17½% of the total. Area C accounted for the



majority of recovered material with 3,813 pieces or somewhat over 57%. From Area D came 1,066 items or a little under 16%. The minimum number of bones and/or bone fragments found in any one locus was one, while the maximum for one locus amounted to 1,108. However, in most cases bone fragments would not run more than 30 to 40 pieces in any given locus.

*Human Skeletal Material.* A small amount of human bone material was found. In a pit (D. 3:14) in Area D three skull fragments came to light which probably came from two male individuals. The ceramic evidence indicated a Roman context. The lack of articulation and the scattered condition of both bone fragments and sherds indicated that they came probably from a fill, and that the fragments had accidentally been brought in from another area in Roman times.

Nearby, in the same pit, a nearly complete skeleton was recovered. The body did not seem to have been buried in any formal way. It lay on its back, extended and legs crossed. However, the lower legs had been severed just above the knees and were missing. It is possible that the lower leg portions had been broken off and removed when, at a date following interment, an intrusive pit was dug there. The right arm was extended and completely intact. The left arm was missing and the left scapula was wedged between two rocks, about 30 cm. higher, *i.e.*, closer to the surface, above the rib cage.

The strangest feature of this discovery was that the third, fourth, and fifth cervical vertebrae lay in articulation on top of a rock on the same level with the left scapula and perpendicular to the direction of the vertebral column. The rib cage was in perfect orientation and all vertebrae were in place right up to the atlas articulation with the skull, except for the exact amount of space needed for the three missing cervicals. The skull was complete and in excellent condition except for the teeth, which were all missing in the maxilla. The mandible, however, was completely fragmented and only the right third

including the ramus with two teeth was recovered. Of greatest interest was a tumor found in the left rib cage. It consisted of three rounded calcified pieces, the largest, about the size of a grapefruit, being fractured and full of dirt. The other two pieces were much smaller and intact. The exteriors had a bone-like texture and color, but were very thin, and they were perforated all over. The inside of the largest piece showed substantial deposits of a calcium-like substance. The pathological examination of this material is not yet completed, for which reason nothing more can be said at this time.

The soil connected with the skeleton contained many small body sherds of the Roman period. Nothing was found with the skeleton to indicate clothing or any artifacts. A tentative field identification would indicate that the sex was probably female, that the overall body height was about 1.60 m., age about 40 years, and skull characteristics pointed to Egypt as country of origin. Was a female slave killed, or did she die in some other violent manner during the Roman period? Further studies after the arrival of the skeleton in this country (it is on loan by the department of Antiquities of Jordan) may modify some of the conclusions presented in this provisional report.

*Animal Bones.* The most interesting animal skeleton was a completely articulated skeleton of a large canine minus the skull; 214 pieces of bone were recovered from it. The head had been decapitated and was not found.<sup>1</sup> One of its hind legs was burned to the bone (Plate XXI:A). It came from Area B, from a Hellenistic context (below Locus B. 1:24). With the greatest reservation the suggestion is made that possibly some cultic practice was involved in the killing and disposal of this animal.

<sup>1</sup> In earlier, preliminary reports on the Heshbon expedition, such as in the article that appeared in the *BA*, XXXII (1969), 26-41, the animal was designated as a feline. When the skeleton finally reached America in May 1969, making a comparative analysis possible, it appeared that the animal in question belongs to the canine family. The lack of the skull and of any comparative material in Amman was responsible for the earlier, erroneous designation.

The great majority of the bone collection, however, consists of animal bones representing food consumed by the population which resided at the site. Both wild animals and domestic animals are represented, and it is hoped that future studies of the available material will enable us to obtain patterns of subsistence of the people during successive occupations of ancient Heshbon. They may also aid us in making estimates with regard to the number of people who occupied the ancient site at a given time; in this way our knowledge of past political situations may also be increased.

For example, in Area A, in levels of the Christian church, samples of *sus* (swine) began to appear. Prior to this, much *capra* (goat) and *ovis* (sheep) was in evidence. The exact strata where swine bones appear will be strong evidence for pagan or Christian occupation. Its termination may well indicate the beginning of Muslim occupation. This can be interesting cross-check information in connection with the evidence provided by the pottery and other materials.

In all Areas fish bones were in evidence; several long tapering pieces that have a saw-tooth-like top edge have been identified as the pectoral fins of a large carp-type fish. These may be related to the greenish-colored bony structures that look like what the Arabs call "half beak" or "Balfida," a large market fish imported from the Red Sea area.

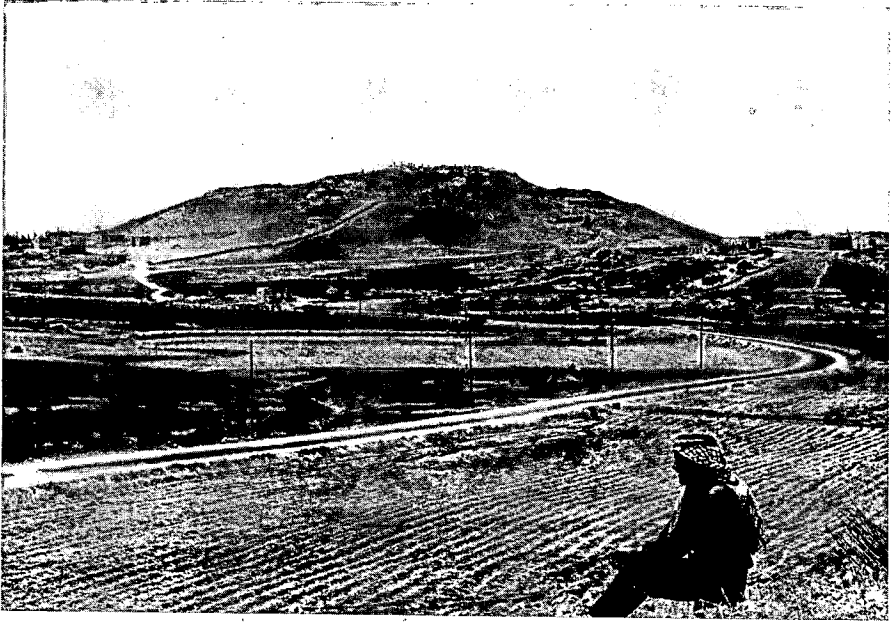
Several spurs were found and were no doubt related to order *gallinae*. It is not possible to ascertain whether they come from turkey, pheasant or even *gallus domesticus*, the common chicken. Since the chicken originated from the jungle fowl of Asia its migration through trade to the Heshbon area would be expected.

A small mandible from Area C has tentatively been identified as *mustelidae*, but whether martin, otter or some other we do not yet know.

The mandible of a large long-nosed dog was found in Area D. Area B produced a fragmented upper maxilla of a dog, but this fragment indicated a very short nose. A man-

dible coming, in all probability, from a fox was found in the same Area.

Much more remains to be done not only in identifying the material but also in recognizing trends. If we see a high percentage of wild animal bones in a given stratum, it may indicate that agriculture and the keeping of domestic animals were temporarily halted because of war or famine. We also want to look in our further studies for changes in the overall estimated weight of domestic animals down through successive periods as well as possible trends of anatomical changes.



A. *Tell Hesbân* from the northeast. The acropolis and the shelf between the acropolis and the lower slopes of the mound are clearly noticeable



B. The staff of the 1968 Heshbon expedition

PLATE XI



A. Area B: the lime kiln protruding from the north balk, and cutting through several occupational strata to a depth of three meters



B. Area B: north face of Wall 17B of the Persian period. The foundation, lying deeper than what is visible in the picture, was not reached in the 1968 season



A. Area B: view from the top on Wall 17B (running from top to bottom). To the left are cross Walls 27, 21, 28 and 25B, lying south of Wall 17B. The structure at the right of Wall 17B is an auxiliary balk

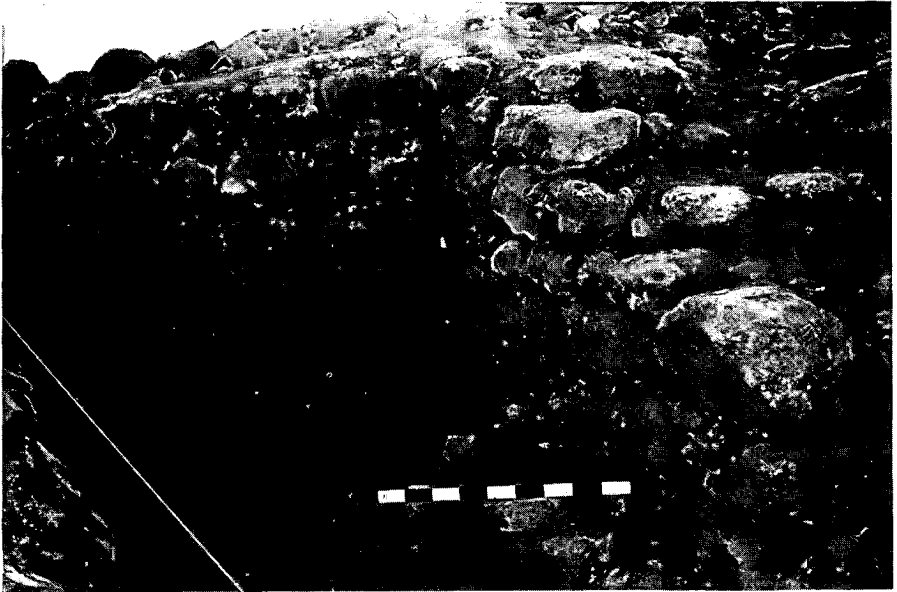


B. Area B: the narrow foundation trench on the north side of Wall 17B, visible in the auxiliary balk between the meter stick and the wall to the left

PLATE XIII



A. Area C: aerial view of the L-shaped enclosure wall (C 1:2-3 and C. 2:5)

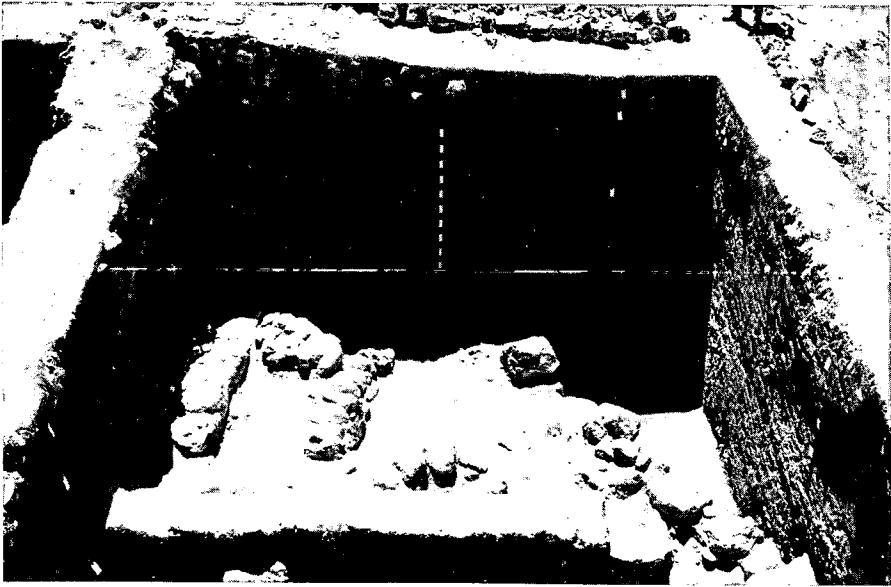


B. Area C: Structure C. 4:10-8 in the northwest corner of Square 4

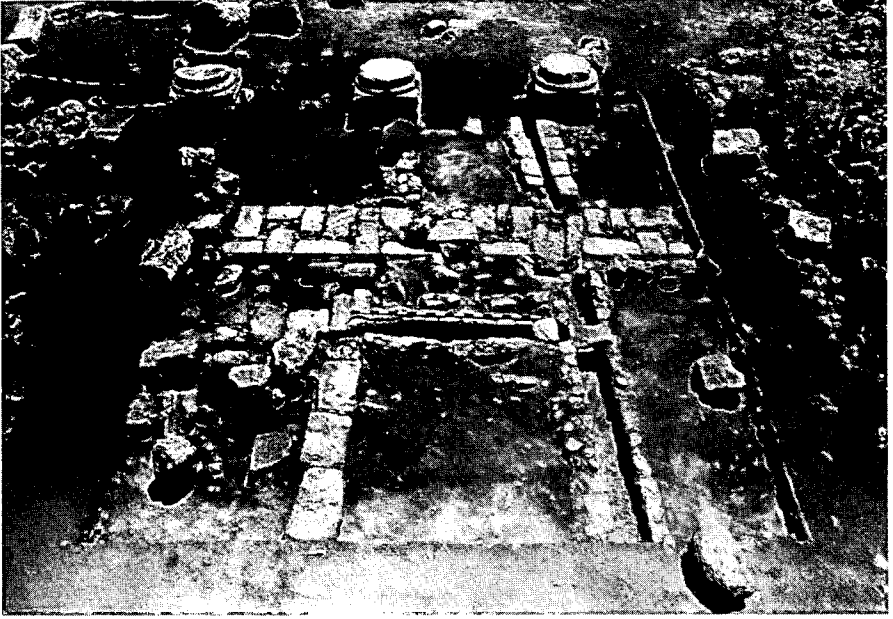




A. Area C: south balk of Square 2 showing the tip lines of the layers of wash, and Wall C. 2:10 to the left



B. Area C: Square 1 at the end of the first season's work, with the first encountered architectural remains visible, probably of Roman origin



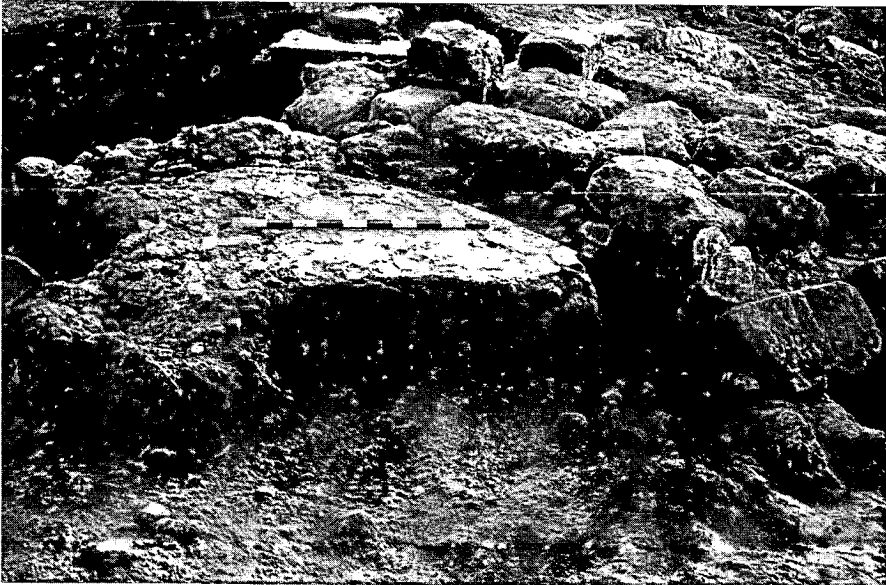
A. Area A: Square 2, looking toward the south, showing the Arab water channels running from north to south (cutting through Wall A. 2:8) and from east to west



B. Area A: storage area in Square 1 with remains of huge storage jars excavated

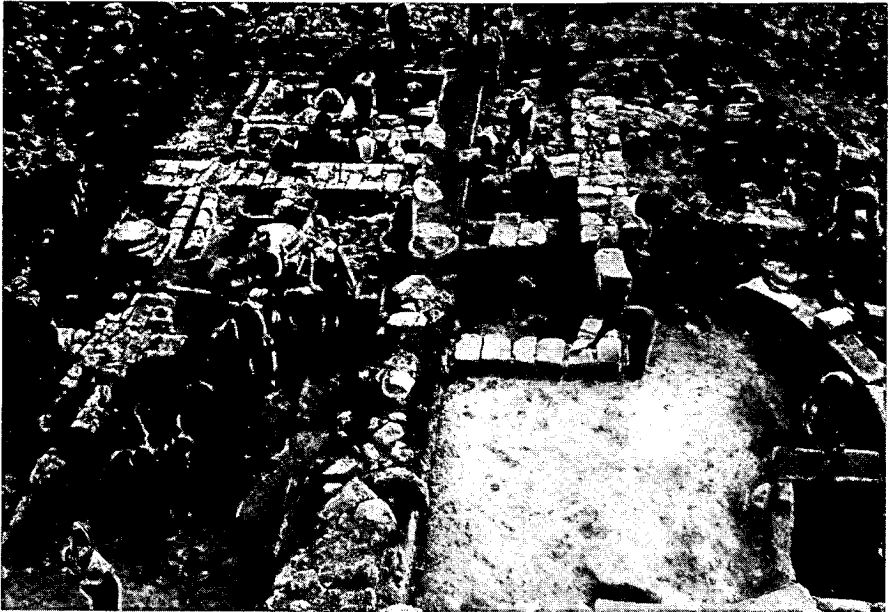


A. Area A: Appearance of the mosaic floor fragment (A. 3:3), covered with plaster (below the meter stick), and of the arc-shaped apsidal stones (A. 3:5) in Square 3. The crude filler Wall A. 3:4 is between the mosaic and Wall A. 3:5

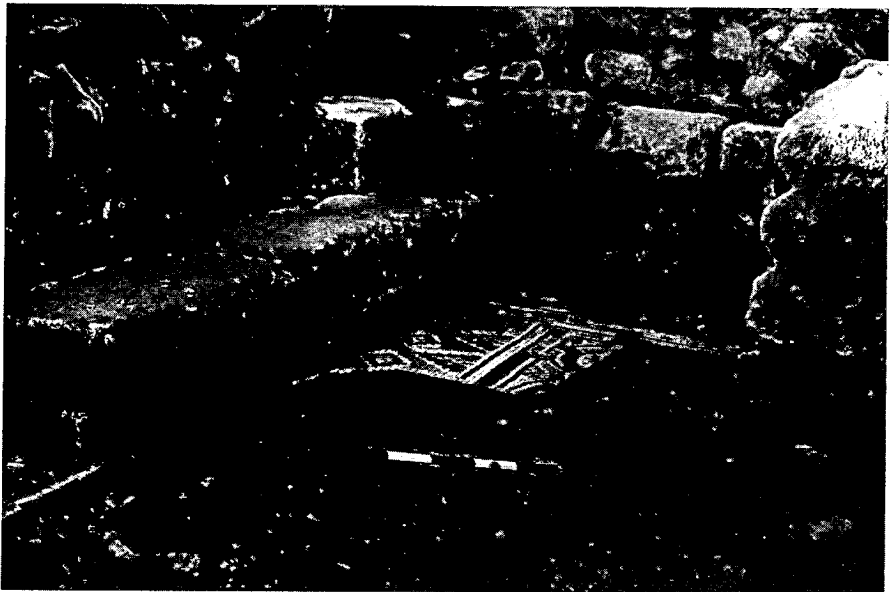


B. Area A: cement bed of the apse mosaic after its removal. Filler Wall A. 3:4 is visible behind it

PLATE XVII



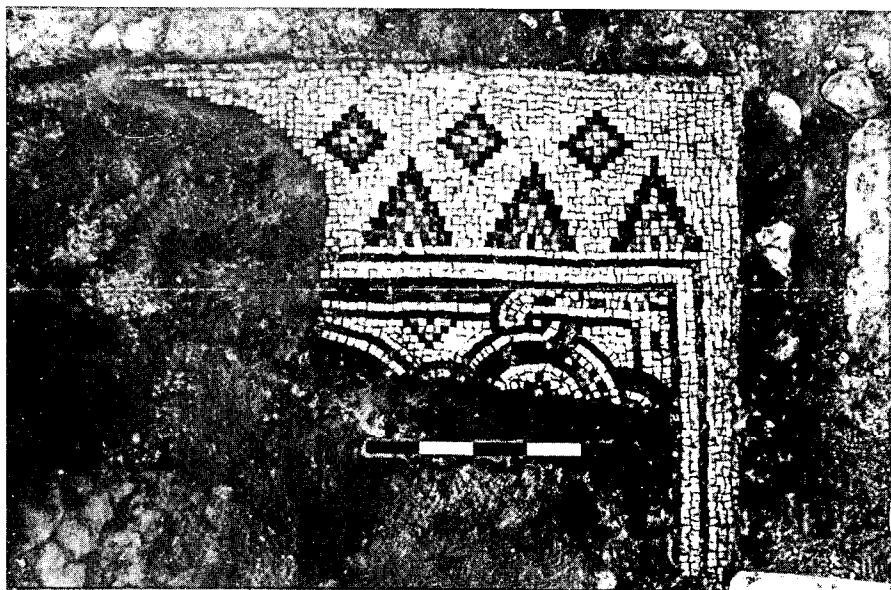
A. Area A: looking north over all four Squares. In the right foreground is the apse of the church with its intrusive Arab cistern (A. 3:8). In the center, running from left to right, are three column bases of the church, and behind them the church's north wall (A. 2:8)



B. Area A: mosaic floor fragment (A. 4:8) shown as found in relationship to architectural features surrounding it



A. Area A: the apsidal mosaic fragment (A. 3:3) from the 6th-century church



B. Area A: the fragment of a mosaic floor (A. 4:8) from the central aisle of the church

PLATE XIX



A. Area A: the end of the northern leg of the apse wall (after removal of the balk between Squares 1 and 3) and junction with Wall A. 1:9. The left stone on which the meter stick rests is reused and bears a Corinthian capital leaf pattern carved on its north face and its bottom face



B. Area A: north face of north wall of the church (A. 2:8) in Square 2. The two column bases behind it stand on the balk between Squares 2 and 4

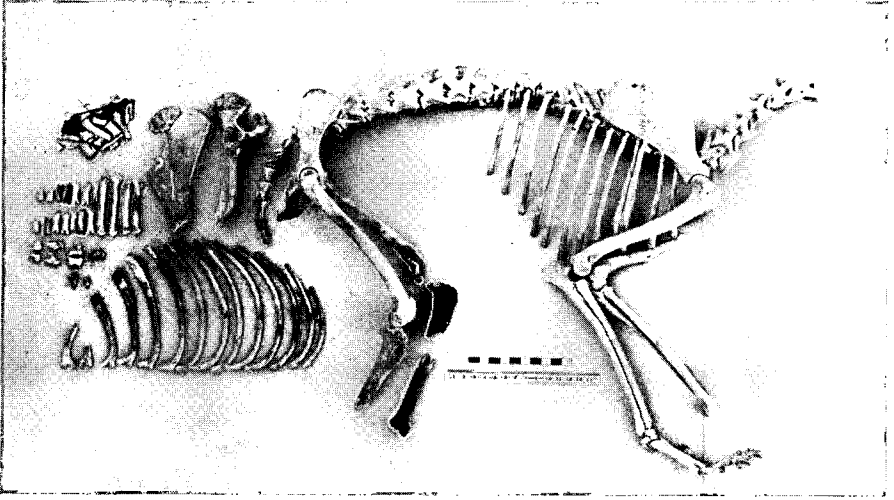


A. Area D: Square 1, looking east. Wall D. 1:4 running from west to east with gateway in the foreground. Wall D. 1:3 is to the left and behind it are the remains of the vaulted room



B. Area D: the stairway in Square 2 with Wall D. 2:2 on the right

PLATE XXI

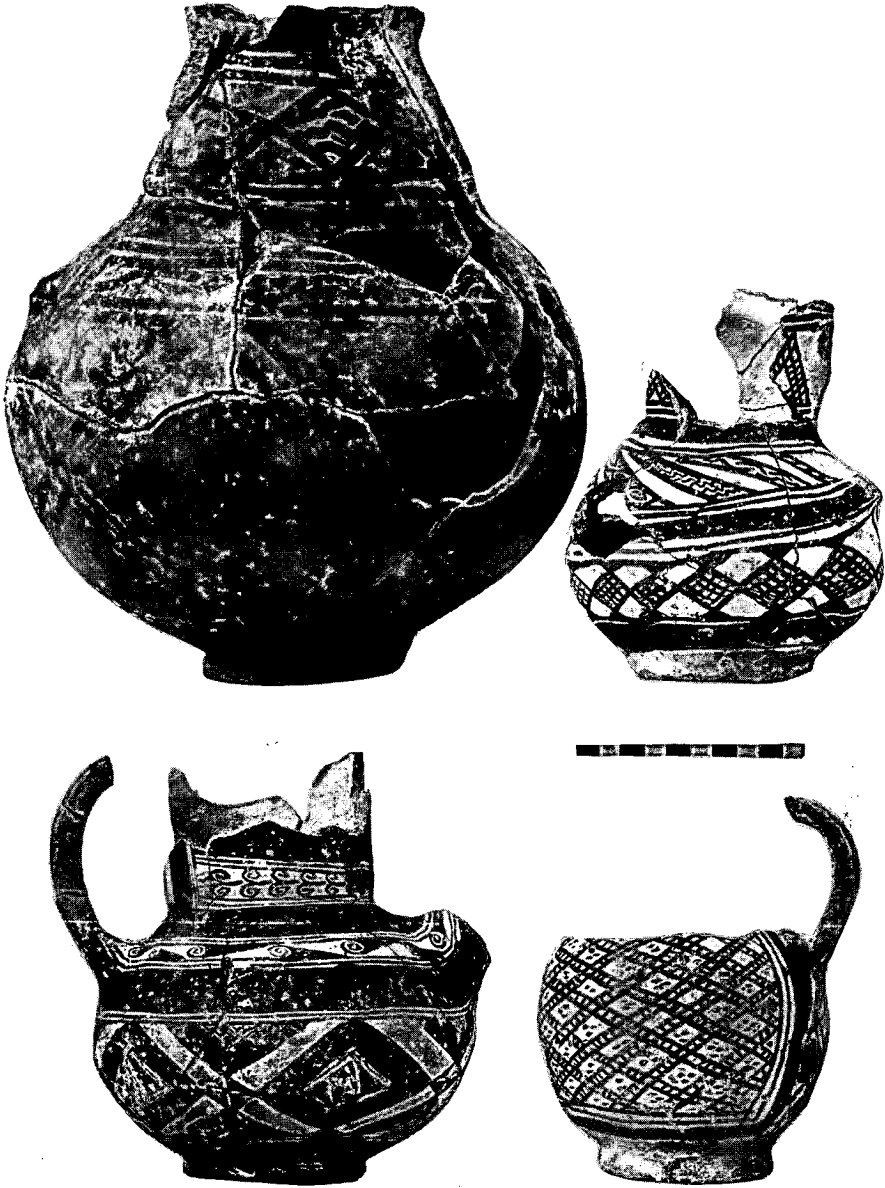


A. Headless skeleton of a large canine found under Locus 24 in Area B. 1



B. A variety of fragments from colored glass vessels and of glass bracelets





Painted Arab vessels from the cistern of Area C

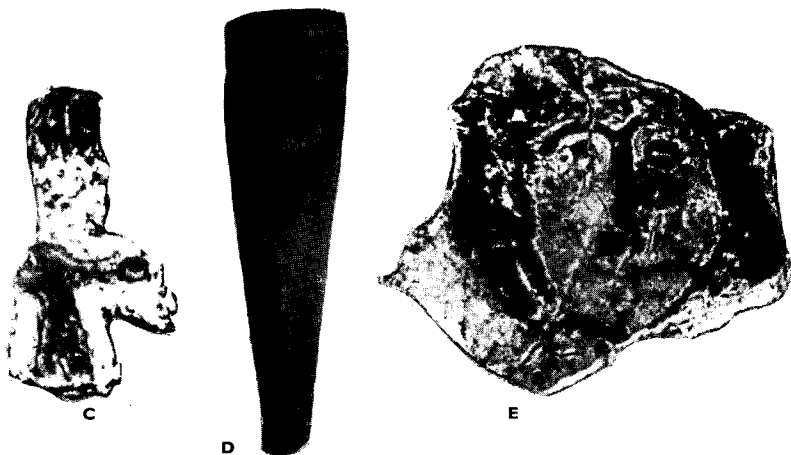
PLATE XXIII



A

B

A-B. A painted Arab jug and a lamp from the cistern of Area C



C

D

E

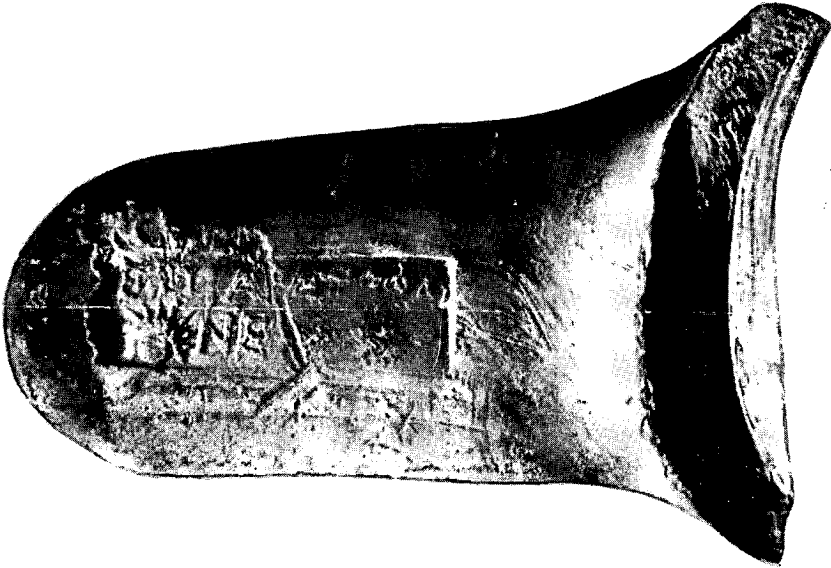
C. A lead pendant (white chalk is put on the background to let the design appear on the photograph; see Figure 5 for an artist's drawing of the design)

D. A bone doll

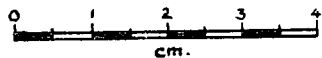
E. Painted head on plaster from the church (A = half size; B-E = actual size)



A. Fragment of plaster from the church with the word [Δ]ΑΝΙΗ[Δ] painted on it  
(Actual size)



B. Rhodian jar handle with the seal inscription ΕΠΙ ΑΡΑΤΟΦΑΝΕΥΣ and a  
helios head



A. A pottery handle with a Latin seal inscription (Actual size)



B. The Heshbon ostracon. (About  $1\frac{1}{2}$  times enlarged). Photo: John C. Trever

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## TRANSLITERATION OF HEBREW

### CONSONANTS

א	= k	ד	= d	י	= y	ס	= s	ך	= r
ב	= b	ה	= h	כ	= k	צ	= c	ש	= š
בּ	= b̄	ו	= w	כּ	= k̄	פ	= p	שׁ	= š̄
ג	= g	ז	= z	ל	= l	פּ	= p̄	זׁ	= z̄
גּ	= ḡ	ח	= h̄	מ	= m	ק	= q	זׁ	= z̄
דּ	= d̄	ט	= t	נ	= n				

### MASORETIC VOWEL POINTINGS

ַ = a	ׁ, ׀ (vocal shewa) = e	ֹ = o
ָ = ā	ֶ = ē	ׁ = o
ִ = a	ִ = i	ִ = o
ֵ = e	ֵ = î	ֶ = u
ֶ = ē	ֶ = o	ֶ = ū

## ABBREVIATIONS OF BOOKS AND PERIODICALS

<p><i>AAS</i> Annales archéol. de Syrie  <i>AASOR</i> Annual, Amer. Sch. of Or. Res.  <i>ADAJ</i> Annual, Dep. of Ant. of Jordan  <i>AER</i> American Ecclesiastical Review  <i>Afo</i> Archiv für Orientforschung  <i>Afp</i> Archiv für Papyrusforschung  <i>AJA</i> Amer. Journal of Archaeology  <i>AJSL</i> Amer. Journ. of Sem. Lang. and Literature  <i>ALBO</i> Analecta Lovan. Bibl. et Orient.  <i>ANET</i> Ancient Near Eastern Texts, J. B. Pritchard, ed., 2d ed., 1955  <i>ANF</i> The Ante-Nicene Fathers  <i>AO</i> Acta Orientalia  <i>ARG</i> Archiv für Reformationsgesch.  <i>ARW</i> Archiv für Religionswissenschaft  <i>ASAE</i> Annales, Serv. des Ant. de l'Ég.  <i>ASB</i> Acta Sanctorum (ed. Bolland)  <i>AThR</i> Anglican Theological Review  <i>AUSS</i> Andrews Univ. Sem. Studies  <i>BA</i> Biblical Archaeologist  <i>BASOR</i> Bulletin, Amer. Sch. of Or. Res.  <i>Bib</i> Biblica  <i>BIES</i> Bulletin, Israel Expl. Soc.  <i>BIFAO</i> Bulletin, Inst. Franç. d'Arch. Or.  <i>BiOr</i> Bibliotheca Orientalis</p>	<p><i>BJPES</i> Bulletin, Jewish Pal. Expl. Soc.  <i>BJRL</i> Bulletin, John Rylands Library  <i>BMB</i> Bulletin du Musée de Beyrouth  <i>BQR</i> Baptist Quarterly Review  <i>BR</i> Biblical Research (Chicago)  <i>BRG</i> Biblioth. Rerum Germanicarum  <i>BS</i> Bibliotheca Sacra  <i>BSHPF</i> Bulletin de la Société de l'histoire du protestantisme français  <i>BT</i> Bible Translator  <i>BZ</i> Biblische Zeitschrift  <i>CBQ</i> Catholic Biblical Quarterly  <i>CC</i> Christian Century  <i>CdE</i> Chronique d'Égypte  <i>CH</i> Church History  <i>CIL</i> Corpus Inscript. Latinarum  <i>CIS</i> Corpus Inscript. Semiticarum  <i>CJTh</i> Canadian Journal of Theology  <i>CSEL</i> Corpus Script. Eccl. Lat.  <i>CT</i> Christianity Today  <i>ER</i> Ecumenical Review  <i>EThL</i> Ephemer. Theol. Lovanienses  <i>ET</i> Expository Times  <i>HJ</i> Hibbert Journal  <i>HThR</i> Harvard Theological Review  <i>HUCA</i> Hebrew Union College Annual</p>
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<i>IEJ</i>	Israel Exploration Journal	<i>RB</i>	Revue Biblique
<i>IG</i>	Inscriptiones Graecae	<i>RE</i>	Review and Expositor
<i>Int</i>	Interpretation	<i>RdE</i>	Revue d'Égyptologie
<i>JAch</i>	Jahrb. für Ant. und Christentum	<i>RHE</i>	Revue d'Histoire Ecclésiastique
<i>JAOS</i>	Journ. of the Amer. Or. Soc.	<i>RHPR</i>	Revue d'Hist. et de Philos. Rel.
<i>JBL</i>	Journal of Biblical Literature	<i>RHR</i>	Revue de l'Histoire des Religions
<i>JBR</i>	Journal of Bible and Religion	<i>RL</i>	Religion in Life
<i>JCS</i>	Journal of Cuneiform Studies	<i>RLA</i>	Reallexikon der Assyriologie
<i>JEA</i>	Journal of Egyptian Arch.	<i>RQ</i>	Revue de Qumrân
<i>JJS</i>	Journal of Jewish Studies	<i>RSR</i>	Revue des Sciences Religieuses
<i>JNES</i>	Journal of Near Eastern Studies	<i>RSV</i>	Revised Standard Version
<i>JQR</i>	Jewish Quarterly Review	<i>SJTh</i>	Scottish Journal of Theology
<i>JR</i>	Journal of Religion	<i>STh</i>	Studia Theologica
<i>JSS</i>	Journal of Semitic Studies	<i>ThEH</i>	Theologische Existenz heute
<i>JThS</i>	Journal of Theol. Studies	<i>ThQ</i>	Theologische Quartalschrift
<i>KJV</i>	King James Version	<i>ThT</i>	Theology Today
<i>LQ</i>	Lutheran Quarterly	<i>ThLZ</i>	Theologische Literaturzeitung
<i>MGH</i>	Monumenta Germaniae Historica	<i>ThR</i>	Theologische Rundschau
<i>MPG</i>	Migne, Patrologia Graeca	<i>Trad</i>	Traditio
<i>MPL</i>	Migne, Patrologia Latina	<i>ThS</i>	Theological Studies
<i>MQR</i>	Mennonite Quarterly Review	<i>ThZ</i>	Theologische Zeitschrift
<i>NKZ</i>	Neue kirchliche Zeitschrift	<i>VC</i>	Verbum Caro
<i>NPNF</i>	Nicene and Post-Nic. Fathers	<i>VD</i>	Verbum Domini
<i>NRTh</i>	Nouvelle Revue Théologique	<i>VCh</i>	Vigiliae Christianae
<i>NT</i>	Novum Testamentum	<i>VT</i>	Vetus Testamentum
<i>NTA</i>	New Testament Abstracts	<i>WThJ</i>	Westminster Theol. Journal
<i>NTS</i>	New Testament Studies	<i>WZKM</i>	Wiener Zeitschr. f. d. Kunde d. Morgenlandes
<i>Num</i>	Numen	<i>ZA</i>	Zeitschrift für Assyriologie
<i>OCh</i>	Oriens Christianus	<i>ZAS</i>	Zeitsch. für ägyptische Sprache
<i>OLZ</i>	Orientalistische Literaturzeitung	<i>ZAW</i>	Zeitsch. für die alltt. Wiss.
<i>Or</i>	Orientalia	<i>ZDMG</i>	Zeitsch. der Deutsch. Morgenl. Gesellschaft
<i>OTS</i>	Oudtestamentische Studien	<i>ZDPV</i>	Zeitsch. des Deutsch. Pal. Ver.
<i>PEQ</i>	Palestine Exploration Quarterly	<i>ZKG</i>	Zeitschrift für Kirchengeschichte
<i>PJB</i>	Palästina-Jahrbuch	<i>ZHTh</i>	Zeitsch. für hist. Theologie
<i>PRE</i>	Realencyklopädie für protes- tantische Theologie und Kirche	<i>ZKTh</i>	Zeitsch. für kath. Theologie
<i>QDAP</i>	Quarterly, Dep. of Ant. in Pal.	<i>ZNW</i>	Zeitsch. für die neutest. Wiss.
<i>RA</i>	Revue d'Assyr. et d'Arch. Or.	<i>ZDTh</i>	Zeitschrift für syst. Theologie
<i>RAC</i>	Rivista di Archaeologia Cristiana	<i>ZThK</i>	Zeitsch. für Theol. und Kirche