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Hesban 10: The Necropolis of Hesban: A Typology of Tombs

S. Douglas Waterhouse

HESBAN

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THE NECROPOLIS OF HESBAN:

A TYPOLOGY OF TOMBS

by

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Foreword

This volume continues the Hesban expedition's tradition, started by Siegfried H. Horn, Roger S. Boraas, and Lawrence T. Geraty, of pursuing a broader perspective in archaeological research beyond the confines of the tell—in this case, the exploration of the Roman and Byzantine necropolis in the immediate vicinity of Hesban. The principle work on this volume was done by S. Douglas Waterhouse, professor emeritus at Andrews University, and part of the original Hesban Expedition team. His main contribution is a thorough description and classification of the half dozen tomb types that were found near Hesban (chapters one through seven). Waterhouse's work will make an important contribution for comparative studies of other tombs that date to this same time period. Howard P. Krug, a former student of Waterhouse, and member of the Hesban's expedition successor, the Madaba Plains Project, is the first to apply Waterhouse's contribution by comparing the tombs at Hesban with other contemporary tombs in the broader region of Transjordan (chapter nine). The other major contribution is a careful analysis and interesting bio-cultural interpretation of the skeletal remains found in the tombs by Anne L. Grauer and George J. Armelagos—a study that manages to inject some life back into bones long dead (chapter eight). We learn that the people of Hesban actually enjoyed a relatively "good life"; life spans seem normal for similar agricultural communities, nutrition was adequately provided for, folks got their vitamins, and while they worked hard, they did not experience undue stress. There are a number of studies that were not undertaken for this volume; for example, there is no detailed analysis of the material remains or attempt at using the remains to reconstruct the society of ancient Esbus. Hopefully, those studies will be conducted in the future. However, this volume should provide an excellent foundation and starting point for such future investigations.

As director of the Institute of Archaeology I would like to acknowledge not only the contributions of the authors, but also of the others at the Institute that "make the book happen." In this regard, special credit should be given to Øystein S. LaBianca for his continuing leadership in getting the Hesban series out; to our former publications director, Ralph E. Hendrix, who launched this volume as general managing editor; and to Philip R. Drey, who kept the volume going and brought it to conclusion after Ralph yielded to the call to "go west young man."

Randall W. Younker, Director
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October 29, 1998

Preface

With the publication of Hesban 10 we bring to conclusion work begun during the summer of 1971 in the Roman-Byzantine cemetery of Tell Hesban (Esbous) by the Heshbon Expedition. The work in this area, (Fields E and F), was begun as a salvage operation necessitated by escalated clandestine digging by local villagers during the three years which had intervened since the expedition's first season in 1968. These covert excavations had brought to light, for example, both the "rolling stone tomb" and the "swinging door tomb." To study these tombs, and to discover any others which had escaped the tomb robbers, was the original motive for launching the study of the necropolis of Hesban.

The necropolis investigations were carried out over a total of four field seasons. The field supervisors were Douglas Waterhouse of Andrews University (1971 season); Dewey N. Beegle of Wesley Theological seminary (1973); James H. Stirling of Loma Linda University (1974); and John Davis of Grace Theological Seminary (1976). Whereas Waterhouse, Beegle, and Davis were biblical scholars, Stirling's background was in cultural anthropology. The only physical anthropologist to work with the human bones in the field was Robert N. Little, then a graduate student in physical anthropology at the University of Indiana, Bloomington. Post-season analysis of certain of the human bone finds was kindly and expertly carried out by George Armelegos, then at the University of Massachussetts, Amherst, and a graduate student of his at the time, Ann Grauer.

No one was more thrilled with the prospect of excavating tombs than Siegfried H. Horn, founding director of the Heshbon Expedition. One reason for this was his expectation—which proved correct—that the tombs would produce whole pots, jewelry, and other objects which, because of their good preservation, would be exciting to behold and ponder by scholars and the public alike. To an extent that only persons who have to raise the money it takes to produce a dig can appreciate, the exciting finds produced season after season in the cemetery served to shore up the support of the financial sponsors of the expedition. When it became clear, by the end of the third field season, that the original goal of finding evidence of the destruction and resettlement of Hesban by Hebrews was not likely to be attained, the compensatory value of the discovery of a rolling stone tomb, along with numerous beautifully preserved objects, cannot be overestimated.

In this final report, the fifty or so tombs excavated by the Heshbon Expedition, most of which were found in the necropolis, have been organized by types according to a classificatory scheme developed by Howard Krug and Douglas Waterhouse. The basis for this typology is Krug's comparative study of Roman-Byzantine tombs in Transjordan (Chapter 9). It is hoped that the publication of this typology will both aid future field research on Roman-Byzantine tombs in Transjordan and serve to inspire further research to understand better rules and practices which governed how a person from a given social position normally was buried during these periods. The presentation of pottery readings, lists of objects and bones, photos, and drawings for each tomb studied should prove most useful in this regard.

A glaring omission, admittedly, is that there are no pottery plates included in this volume. For sure, they belong here! The reason they are not here is because the person who was responsible for publishing the pottery, James Sauer, legendary pottery expert on the Heshbon Expedition, developed a disabling physical condition which made it impossible for him to do the work. A further complicating factor as far as the tomb pottery is concerned is that since the majority of the finds were whole pieces, they have been sent out on a loan basis to various museums in Jordan and elsewhere by the Department of Antiquities. The reality therefore is that a proper study of the tomb pottery from the necropolis at Hesban still remains to be done.

Finally, most of the credit for bringing this work to completion must go to Douglas Waterhouse, who wrote most of the text and guided the work of several student workers who assisted with background research, photo archive searches, list-making, and typing. Those who helped include Sandra Penley, Paul Ray, and Zeljko Gregor. Special thanks to Rhonda Root for providing the drawings of tomb types, and to Philip Drey for all the work involved in producing the camera-ready copy.

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Chapter One

A PREVIEW OF TOMB TYPES IN THE ROMAN AND BYZANTINE CEMETERIES OF HESBAN

S. Douglas Waterhouse

Chapter One

A Preview of Tomb Types in the Roman and Byzantine Cemeteries of Hesban

The tombs of Roman-Byzantine Esbus are located, with one exception (Probe G.10), at three widely scattered areas designated as Cemeteries E, F, and K (see map of Tell Hesban and its cemeteries, fig. 1.1; and also the contour map of excavations, fig. 1.2). Cemetery E is located opposite Tell Hesban's acropolis across the deep Wadi el-Majar. The tombs are placed on the adjacent hill slopes facing east (and lying west) of the ancient Esbus acropolis. The majority of grave sites within Cemetery F are situated toward the end of an extended southwestern spur of the tell, some 660 m southwest of the acropolis. This major necropolis lies on a field of gradually descending slopes which also overlook the Wadi el-Majar. Cemetery K covers a low-lying hill east of the tell. It is on the other side of the shallow, but broad, Wadi el-Marbat. In addition to these cemeteries, one additional tomb was uncovered during a probe (G.10) on a hill called "Gourmeyet Hesban." This hill is 2 km northwest of Tell Hesban.

Four seasons of excavations and probes were conducted between 1971-1976. Table 1.1 references each tomb along with its tomb type and other pertinent characteristics. The tomb excavations were supervised in 1971 by D. Waterhouse (Tombs E.2, E.3, F.1, F.4, F.5, F.6, F.7, F.8, F.9, F.10); in 1973 by D. Beegle (Tombs F.11a-11b, F.12, F.14, F.15, F.16, F.17, F.18); in 1974 by J. Stirling (Tombs E.2, E.6, G.10); and in 1976 by J. Davis (Tombs F.27, F.28, F.30, F.31, F.37, F.38, F.40, K.1, K.2). Altogether, 29 tombs were archaeologically examined—Cemetery E: (3); Cemetery F: (23); Cemetery K: (2); and Probe G.10: (1). From these excavations, a typology of Roman and Byzantine tombs have been developed at Tell Hesban. This introductory chapter provides a summary/overview of the discoveries of the Tell Hesban tombs and the six primary types (Types I through VI) into which they have been divided. Prefixed before each of the numbered tombs (*e.g.* F.27) the letters E, F, G, or K represent the cemeteries or areas where the tomb or burial cave was located; the numbers were assigned sequentially within each cemetery or area. Since 20 apparent burial sites were found not to be tombs after examination, certain numbers which were assigned in the field are not included in this study (*e.g.* E.1, E.5, E.13, F.34, F.41).

In order to facilitate the discussion of tomb chronology, table 1.2 presents the archaeological time periods as used in this volume. Table 1.3 provides a list of abbreviations.

Tomb Type I

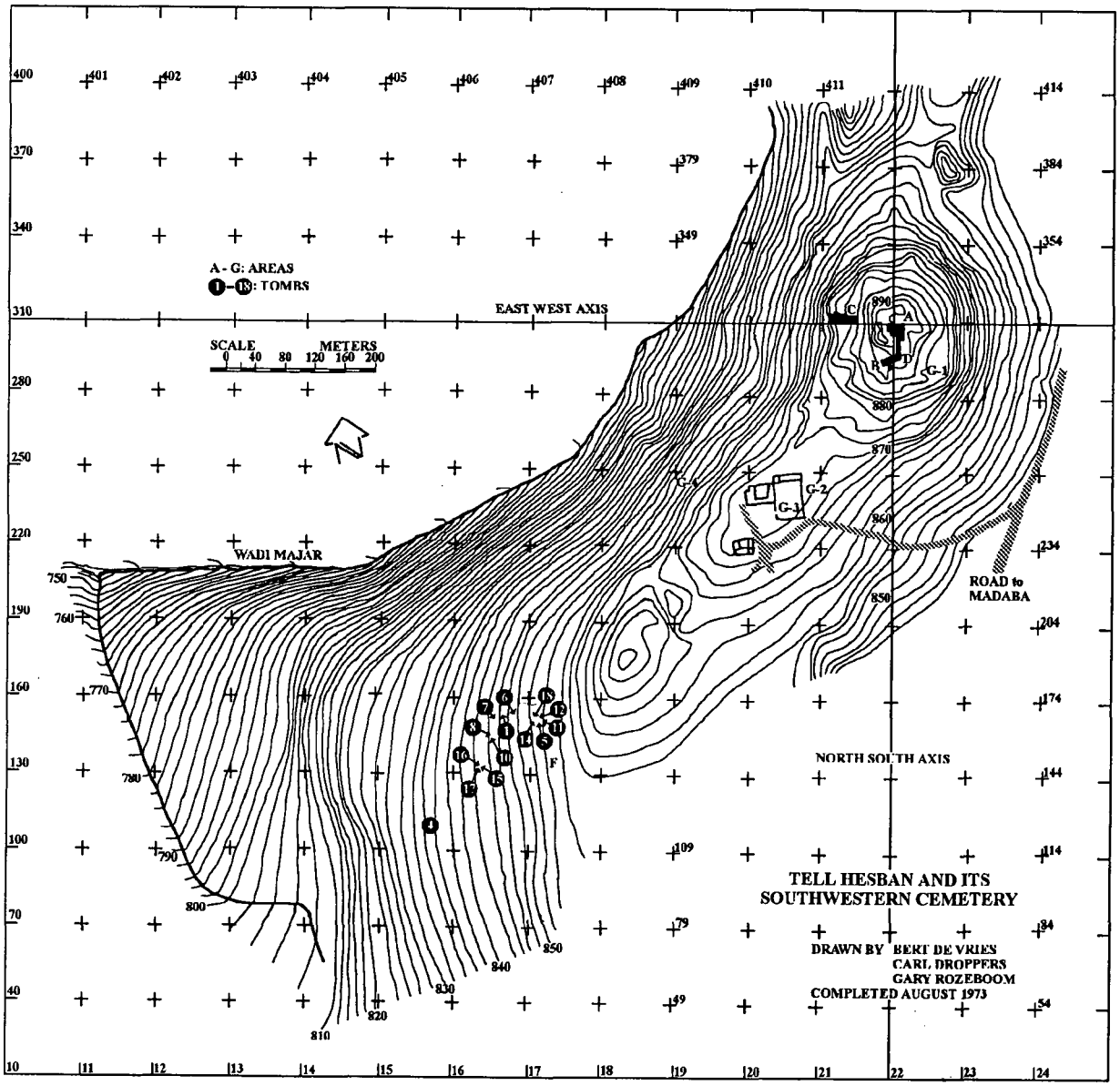
Summary description. Type I tombs (F.1, F.6, F.14, F.18, and F.31) are chamber tombs with loculi radiating from the chamber (figs. 1.3 and 1.4). The entrances of these tombs invariably had small (*ca.* 1 m high) rectangular doorways, from which one stepped down (usually by three descending steps) below the ground level into the interior. Ordinarily, these tomb doors were sealed shut by the use of a flat, stone slab which was wedged into place with small chinkstones. Occasionally, however, a disc-shaped stone, *ca.* 1 m in diameter, was placed in a wide slot ("runway track") so that it could be rolled across the doorway (*e.g.* Tombs F.1 and G.10). Once in place, "the rolling-stone door" was held fast by a smaller stone ("knocker") which was wedged against the larger stone.

The inner chamber of Type I tombs was roughly

square—averaging 2.5 m on each side. A bench/ledge ran along the sides of the interior, having been formed by the excavation of limestone from the center of the room, thus creating a square, hollow "standing pit," which served as a drainage area. The height of ceiling above the benches was a little more than 1 m, while the hollow "standing pit" in the center of the room increased the overall height to *ca.* 2 m, allowing an ancient mourner to stand upright within the rock cut cavern.

Typically, Type I tombs had recessed burial niches, or loculi (known also as *kokhim*; singular:

Figure 1.1 Tell Hesban and its southwestern cemetery.



kokh). The individual loculus was carved perpendicularly into the rock wall above the benches. Within some of the loculi there was evidence that wooden coffins had been used. This evidence consisted of metal nails (Tomb F.6 loculi 2, 5, 8; Tomb F.18 loculus 8; Tomb F.31 loculus 23), and the discovery of a wood fragment with two iron nails (Tomb F.1). The loculi of Tell Hesban's

Figure 1.2 Contour map of Tell Hesban.

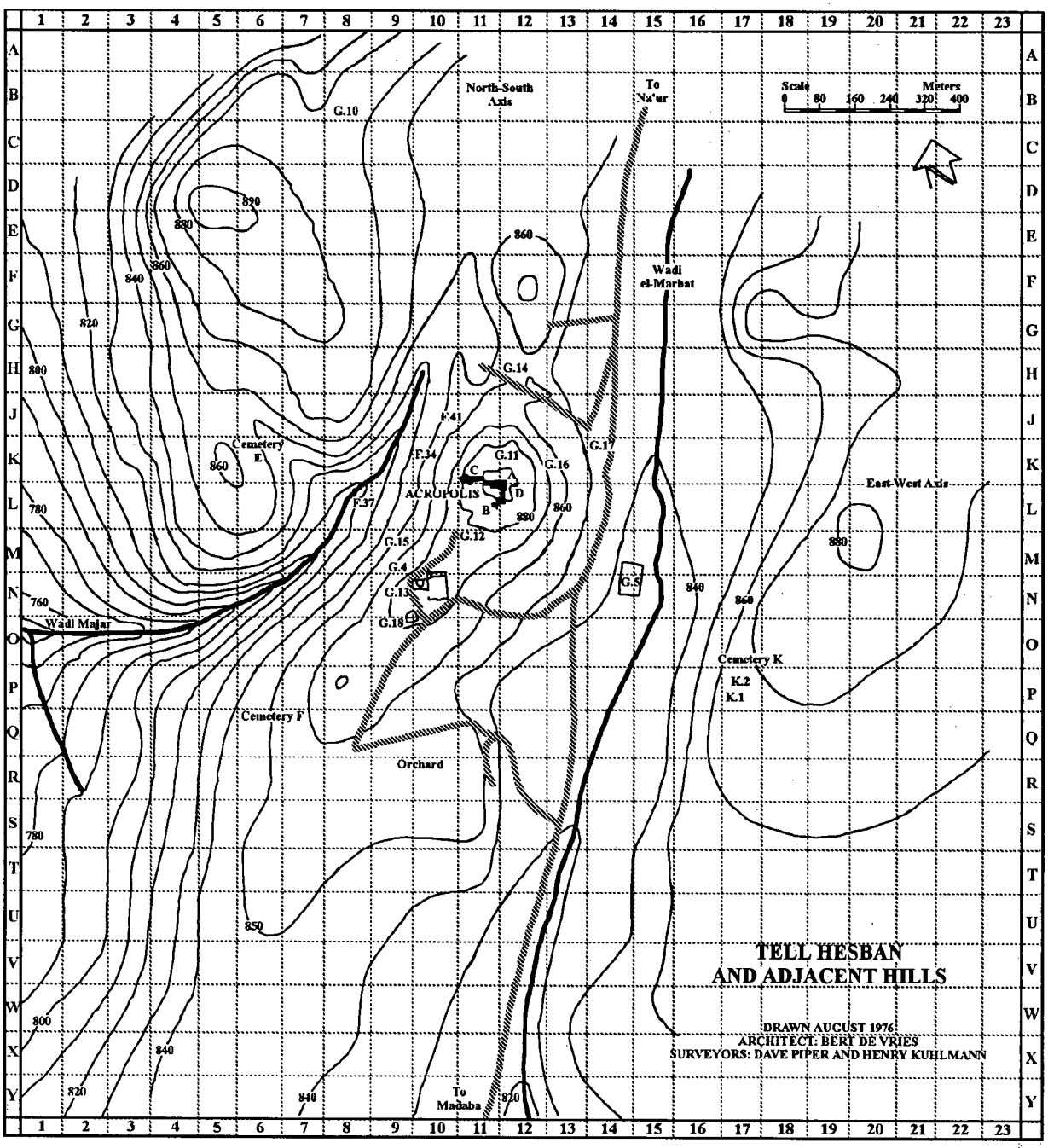


Table 1.1 Tomb features and architectural variables.

Tomb No.	(Graves)	Type I	II	III	IV	V	VI	Construction Date	Main Chamber	Standing Pit	Arcosolia	Number of Loculi	Niches
E.1	(-)			Robber Pit				-	-	-	-	-	-
E.2	(-)		II					ERom	-	-	-	1	-
E.3	(-)		II					ERom	-	-	-	1	-
E.4	(-)			No Data				-	-	-	-	-	-
E.5	(-)			Probe				-	-	-	-	-	-
E.6	(-)		II					ERom	-	-	-	1	-
F.1	(-)	I						ERom	yes	yes	-	12	-
F.2	(-)			No Data				-	-	-	-	-	-
F.3	(-)			Poss. Oil Vats				-	-	-	-	-	-
F.4	(3)					V		LRom	-	-	2	2	-
F.5	(6)			III				LRom	yes	yes	3	-	-
F.6	(-)	I						ERom	yes	yes	-	9	4
F.7	(-)					V		ERom	-	-	1	-	-
F.8	(6)				IV			LRom	-	-	3	12	-
F.9	(3)					V		LRom/EByz	-	-	2	1	-
F.10	(7)			III				LRom	yes	yes	3	1	-
F.11a	(-)					V		Byz	-	-	-	-	-
F.11b	(-)					V		Byz	-	-	-	-	-
F.12	(3)					V		LRom/Byz	-	-	2	-	-
F.13	(-)			Probe				-	-	-	-	-	-
F.14	(-)	I						LRom/Byz	yes	yes	-	9	-
F.15	(-)					V		Byz	-	-	1	-	-
F.16	(3)					V		LRom/EByz	-	-	2	-	-
F.17	(3)					V		Byz	-	-	2	-	-
F.18	(-)	I						LRom	yes	yes	-	12	-
F.19	(-)			Probe				-	-	-	-	-	-
F.20	(-)			Probe				-	-	-	-	-	-
F.21	(-)			Natural Depression				-	-	-	-	-	-
F.22	(-)			Animal Occupation				-	-	-	-	-	-
F.23	(-)			Domestic Cave				-	-	-	-	-	-
F.24	(-)			Probe				-	-	-	-	-	-
F.25	(-)			Probe				-	-	-	-	-	-
F.26	(-)			Probe				-	-	-	-	-	-
F.27	(3)				IV			ERom;EByz	yes	yes	1	8	4
F.28	(-)				IV			ERom;EByz	yes	yes	3	12	-
F.29	(-)			Probe				-	-	-	-	-	-
F.30	(-)					V		Poss. LRom	-	-	2	-	-
F.31	(-)	I						ERom	yes	yes	-	14	1
F.32	(-)			No Data				-	-	-	-	-	-
F.33	(-)			Probe				-	-	-	-	-	-
F.34	(-)			Domestic Cave				-	-	-	-	-	-
F.35	(-)			Probe				-	-	-	-	-	-
F.36	(-)			Probe				-	-	-	-	-	-
F.37	(5)						VI	LRom/EByz	-	-	-	-	-
F.38	(-)						VI	LRom/EByz	-	-	-	-	-
F.39	(-)			Probe				-	-	-	-	-	-
F.40	(-)		II					EByz	yes	-	-	-	-
F.41	(-)			Cave "Shelter"				-	-	-	-	-	-
G.10	(2)				IV			ERom	yes	yes	2	11	3
K.1	(3)					V		LRom/EByz	-	-	2	-	-
K.2	(-)					V		LRom/EByz	-	-	2	-	-

tombs averaged a width of 55 cm, a height of 65 cm, and a depth of 2 m. They had either a flat or an arched ceiling. Each loculus was constructed to hold one or two bodies. At times, however, as many as five burials were found in them (*e.g.* Tomb F.6, loculus 1). In such cases, individuals obviously were laid to rest without regard to space-limitations. Sometimes loculi were sealed with a tightly fitted, flat stone. Once again, as in the case of the entry way, the larger closure stone was held tightly in place by smaller chinkstones.

Sometimes a small, triangular-shaped lamp niche was cut above the loculus' entrance (Tomb F.6, where Herodian lamps were found *in situ*; also Tombs F.18, F.27, F.31, and G.10). Within these lamp niches, small, single wick lamps were placed by the burial party to illuminate the interior at the time of burial. Possibly the lamps also may have

been left burning for the deceased as an aid to light their way into the dark netherworld. The custom is somewhat reminiscent of the words of the Psalmist: "My lamp is Yahweh, my God illumines my darkness" (Ps 18:29, Anchor Bible).

Function or purpose. The benches were large enough for a body to be laid on during washing and anointing, although the actual places of eventual burial were the loculi. Larger tombs containing nine or more loculi were especially suitable for burials of several generations of a family. If more room was needed for additional burials, the older bones were pushed back into the rear of the loculus. Tombs in Roman Cisjordan sometimes made room for additional burials by putting the bones of older burials in a bone repository (a "communal charnel"). Such a repository was found at Esbus only in Tomb F.10 (a Type III tomb), and possibly in Tomb F.4 (Type V). Cremation was also practiced at Esbus. In Tomb F.31 (loculus 1), an Early Roman cooking pot contained the ashes of a human cremation resting on top of the bones. (In another instance, an Early Roman pot containing remains was observed—this time within loculus 5 of Tomb F.18. On examination, the remains were found not to be the ashes of a cremation, but rather the tiny bones of an infant.)

The body was so positioned within the tomb loculus that it would mimic the manner in which the body had been laid out within the deceased's home. Classical sources relate that among both the Greeks and the Romans, the feet of the deceased, when resting on a couch of state, would be directed toward the entrance door (Lattimore 1951). Hence, within a given loculus, the body was laid on its back. The head was placed opposite the entrance so that the feet were positioned toward the door. This may have been the general custom, but it was not scrupulously followed (*e.g.* Tomb 18 had four adjoining loculi, two skeletons were positioned with their feet toward the door and two were not).

While the standing pit seemed to be carved from the rock for the purpose of allowing ancient mourners to stand erect within the chamber and for creating a surrounding bench, the pit also served as a sump which drained water seepage (with its potentially damaging silt residue) from the burial loculi. In almost all cases the standing pit was found to be encrusted at the hallow's bottom with a

Table 1.2 Archaeological Time Periods.

Period	Historical Reference	Dates
Iron Age		**(1200-500 B.C.)**
Iron I		1200-1000 B.C.
Iron II		1000-550 B.C.
Late Iron II		7th-6th B.C.
Persian		**(529-332 B.C.)**
Persian	(Cyrus - Darius III)	539-332 B.C.
Early Hellenistic		**(332-198 B.C.)**
Pre-Ptolemaic	(Alexander - Ptolemy I)	332-301 B.C.
Ptolemaic	(Ptolemy I - Ptolemy V)	301-198 B.C.
Late Hellenistic		**(198-63 B.C.)**
Early Seleucid	(Antiochus III - VII)	198-129 B.C.
Late Seleucid	(Demetrius II - Philip II)	129- 64 B.C.
Hasmonean	(Judas Macc. - Arist.II/Hyr.II)	167- 63 B.C.
Early Roman		**(63 B.C.-A.D. 135)**
Early Roman I	(Pre-Herod)	63 - 37 B.C.
Early Roman II	(Herod)	37 - 4 B.C.
Early Roman III	(Post-Herod - First Revolt)	4 B.C.-A.D. 73
Early Roman IV	(Vespasian - Second Revolt)	73-135
Late Roman		**(A.D. 135-324)**
Late Roman I	(Hadrian - Commodus ff.)	A.D.135-193
Late Roman II	(Sept. Sev. - Sev. Alexander)	A.D. 193-235
Late Roman III	(Maximinus - Carin./Numer.)	A.D. 235-284
Late Roman IV	(Diocletian - Lic.I/Const.I)	A.D. 284-324
Early Byzantine		**(A.D. 324-491)**
Early Byzantine I	(Constantine I - Julian)	A.D. 324-363
Early Byzantine II	(Jov. - Valent.II/Theo. I)	A.D. 363-392
Early Byzantine III	(Theo.I - Theo.II/Valent.III)	A.D. 392-450
Early Byzantine IV	(Marcian - Zeno)	A.D. 450-491
Late Byzantine		**(A.D. 491-640)**
Late Byzantine I	(Anastasius I - Justin I)	A.D. 491-527
Late Byzantine II	(Justinian I)	A.D. 527-565
Late Byzantine III	(Justin II - Heraclius)	A.D. 565-614
Late Byzantine IV	(Chosroes II - Heraclius)	A.D. 614-640
Early Islamic		**(A.D. 630-1174)**
Pre-Umayyad	(Muhammad - `Ali)	A.D. 630-661
Umayyad	(Mu`awiya I - Marwan II)	A.D. 661-750
Early Abbasid	(al-Saffah - Al Mu`tamid)	A.D. 750-878
Late Abbasid	(Tulunid, Abbasid, Ikhshidid)	A.D. 878-969
Early Fatimid	(al-Mu`izz - al-Mustansir)	A.D. 969-1071
Late Fatimid	(al-Mustansir - al `Adid)	A.D. 1071-1171
Seljug - Zengid	(Atsiz - Isma`il)	A.D. 1071-1174
Early Crusader		**(A.D. 1099-1187)**
Early Crusader	(Pre-Hattin)	A.D. 1099-1187
Late Crusader		**(A.D. 1187-1291)**
Late Crusader	(Post-Hattin)	A.D. 1187-1291
Late Islamic		**(A.D. 1174-1918)**
Ayyubid	(Salah al-Din *ff.*)	A.D. 1174-1263
Early Mamluk	(Aybeg *ff.*)	A.D. 1250-1401
Late Mamluk	(Post-Hattin)	A.D. 1401-1516
Early Ottoman I	(Selim I *ff.*)	A.D. 1516-1595
Early Ottoman II	(Mehmed III *ff.*)	A.D. 1595-1703
Late Ottoman I	(Ahmed III *ff.*)	A.D. 1703-1808
Late Ottoman II	(Mahmud II *ff.*)	A.D. 1808-1918
Early Modern		**(A.D. 1918-1948)**
Early Modern	(British *ff.*)	A.D. 1918-1948
Late Modern		**(A.D. 1948-Present)**
Late Modern	(Post-British)	A.D. 1948-Present

Figure 1.3 Tomb Type I: chamber tomb with loculi—"rolling-stone tomb".

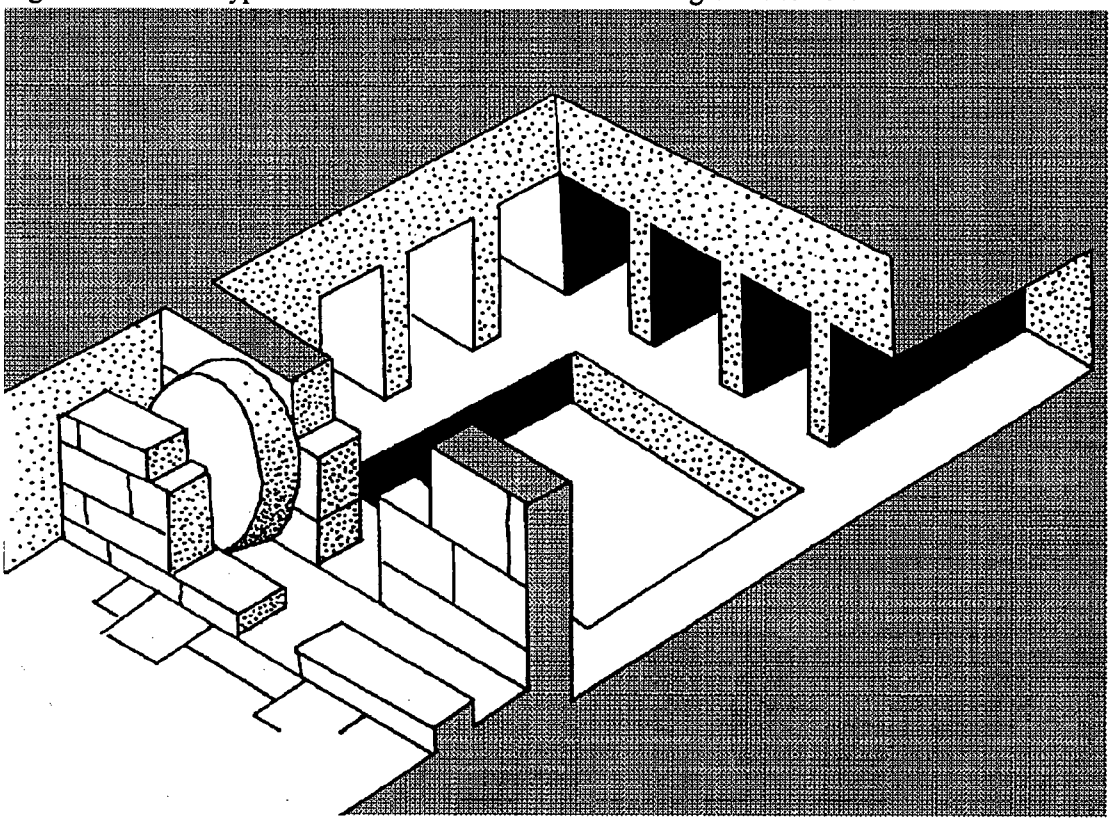


Figure 1.4 Tomb Type I: chamber tomb with loculi—"lamp niche tomb".

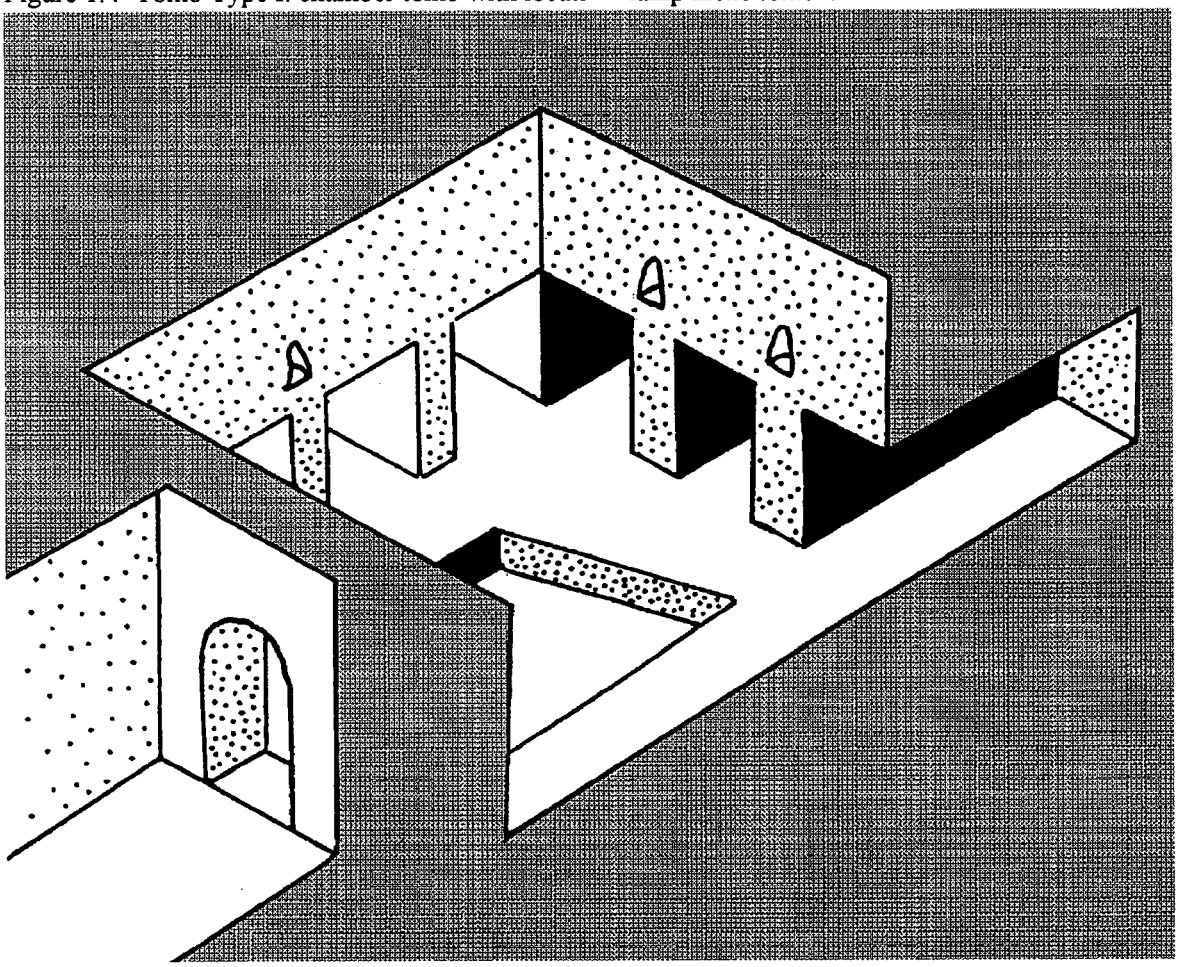


Table 1.3 Abbreviations and symbols.

Abbreviation	Description
Time Periods	
Mod	Modern (A.D. 1918-Present)
Otto	Ottoman (A.D. 1516-1918)
Ay/Mam	Ayyubid/Mamluk (A.D. 1174-1516)
Abb	Abbasid (A.D. 750-969)
Um	Umayyad (A.D. 661-750)
L Byz	Late Byzantine (A.D. 491-640)
E Byz	Early Byzantine (A.D. 324-491)
Byz	Byzantine (A.D. 324-640)
LR	Late Roman (A.D. 135-324)
ER	Early Roman (63 B.C.-A.D. 135)
Rom	Roman (63 B.C.-A.D. 324)
Hel	Hellenistic (332-63 B.C.)
Pers	Persian (529-332 B.C.)
I2/P	Iron II/Persian (1000-332 B.C.)
LI2	Late Iron II (7th-6th century B.C.)
I1	Iron I (1200-1000 B.C.)
IA	Iron Age (1 & 2) (1200-6th century B.C.)
LB	Late Bronze (1400-1200 B.C.)
Other Abbreviations and Symbols	
bods	Body Sherds
DAJ	Department of Antiquities of Jordan
dom	Dominant
E	East
frag(s)	Fragment(s)
H	Heshbon
lrg	Large
N	North
poss	Possible
prob	Probable
S	South
sm	Small
tess	Tessera(e)
UD	Undistinguished Sherds or objects
unreg	Unregistered
W	West
△1	Installation
⓪	Room
4	Floor
25	Surface
341	Wall

hardened layer of silt. In Tomb F.28, two canals were cut into the steps leading down to the standing pit—confirming that the hallow pit was utilized as a drainage sump. This architectural feature mimics the *impluvium*, a square-shaped (or rectangular) depression for drainage, located under the unroofed *atrium* in a traditional Roman home. Such an analogy suggests that a tomb's chamber, with its central sump, was envisioned by its builders as a model of an *atrium* and the surrounding loculi represented rooms centered about a home's *impluvium*.

Date of construction. Tombs sometimes continued in usage for several generations. Hence the material recovered from them often dated from a wide chronological spectrum. In this report, I am concerned not with how long a tomb was used, but when it was constructed. A major difficulty encountered at the necropolis of Tell Hesban was the fact that many of the tombs (*e.g.* F.40) had been opened in ancient times, and then resealed (thus introducing contamination and removing important artifacts which provide chronological data). Unfortunately, modern tomb robbers continue to plunder the tombs of valuable contents. Type I tombs are well known, appearing in Cisjordan from the Late Hellenistic through the Late Roman periods. In the environs of Jerusalem, loculus tombs were especially prevalent from 150 B.C. to A.D. 150. Among the characteristic contents of Tell Hesban's Type I tombs were wheelmade, undecorated Herodian lamps and Early Roman pottery forms. Especially helpful in the dating of Type I loculus tombs were coins and pottery—particularly those sherds found in the hardened silt at the bottom of each tomb's sump. Because the silt had solidified (preventing foreign matter from intruding) it was frequently a "pure" locus, and was, of course, a useful chronological indicator.

From such assessments, it was determined that the earliest artifacts placed in Tombs F.1, F.6, and F.31 were Early Roman. The construction of Tomb F.1, with its rolling-stone closure and Herodian lamps, was dated to the limited horizon of 37 B.C. to A.D. 73. While Tomb F.6 was hewn in the Early Roman I-II periods (*ca.* 63 B.C. to *ca.* 4 B.C.), it was still in use in the Late Roman II-IV periods (*ca.* A.D. 193-324). Although Tomb F.14 possessed the loculus-type architecture of the Early Roman period, the pottery evidence dated its latest use to the Byzantine period. The discovery of six Nabataean coins dating from the reign of Aretas IV (9 B.C.-A.D. 40) at the entrance to loculus 2 affirmed (along with a Herodian lamp and other evidence) that Tomb F.18 was constructed and first used in the Early Roman period. Three unbroken Herodian lamps found immediately below the lamp niche on the east side of the main chamber were especially important for determining the date of Tomb F.31.

The Movable Door of Tomb F.1. Although a rolling-stone tomb is mentioned in the gospels (Mark 16:3, Matt. 28:2, Luke 24:2, and John 20:1), such a tomb entrance is an unusual architectural feature in Transjordan. This phenomenon had not

been found east of the Jordan River until discovered at Tell Hesban (F.1 and G.10).

In a study of Tomb F.1, Kritzeck and Nitowski (1980) mention the existence of 59 rolling-stone tombs (17 of which were similarly constructed with interior loculi) located in Cisjordan. As that study points out, Tomb F.1 remains unique as exhibiting the most elaborate exterior architecture of all such tombs. All rolling-stone grave sites have been assigned to the Early Roman period up to *ca.* A.D. 70.

The most likely reason for constructing a rolling-stone entrance was for easy access over an extended period. The large (1.27 m in diameter and 0.36 m thick) disc-shaped stone of Tomb F.1 could be easily pushed along the runway track which ran to either side of the entrance.

Tomb Type II

Summary description. Type II tombs (E.2, E.3, E.6, and F.40) are horizontal shaft tombs cut into the hillside, ending in a loculus or chamber (fig 1.5). Type II tombs are thus characterized by an entrance shaft leading to a single loculus. Though the approaches contained no steps, their entranceways were sealed (as the Type I tombs) with large stone slabs wedged into the entrance by chinkstones.

Function or purpose. Although objects had been placed in the tombs, no intact burials were discovered. It seems likely that these single loculus tombs originally were constructed for a one-time, simple burial for one or two individuals, but were later disturbed.

Date of construction. An unusual Herodian-type double-nozzled lamp with a high central column was found next to the doorway in Tomb E.6. Nearby were two Early Roman cooking pots. Nothing from the other similar graves (E.2, E.3) contradicted an Early Roman date.

One unusual example of Type II tombs contained a chamber instead of a loculus (F.40). The chamber, however, was much smaller than the Type I chamber tombs with loculi. It measured 3.18 m at its widest point and was 3.82 m long. This was a small, single-chamber tomb, having no hallow sump, benches, or adjoining niches. Possibly it was a partially completed tomb. There was evidence of only one or two adult burials—with no funerary objects. Ceramic evidence found on the floor indicated that Tomb F.40 was constructed either at the end of the Late Roman or the beginning of the Early Byzantine period.

Figure 1.5 Tomb Type II: horizontal shaft tomb cut into the hillside, ending in a loculus/chamber.

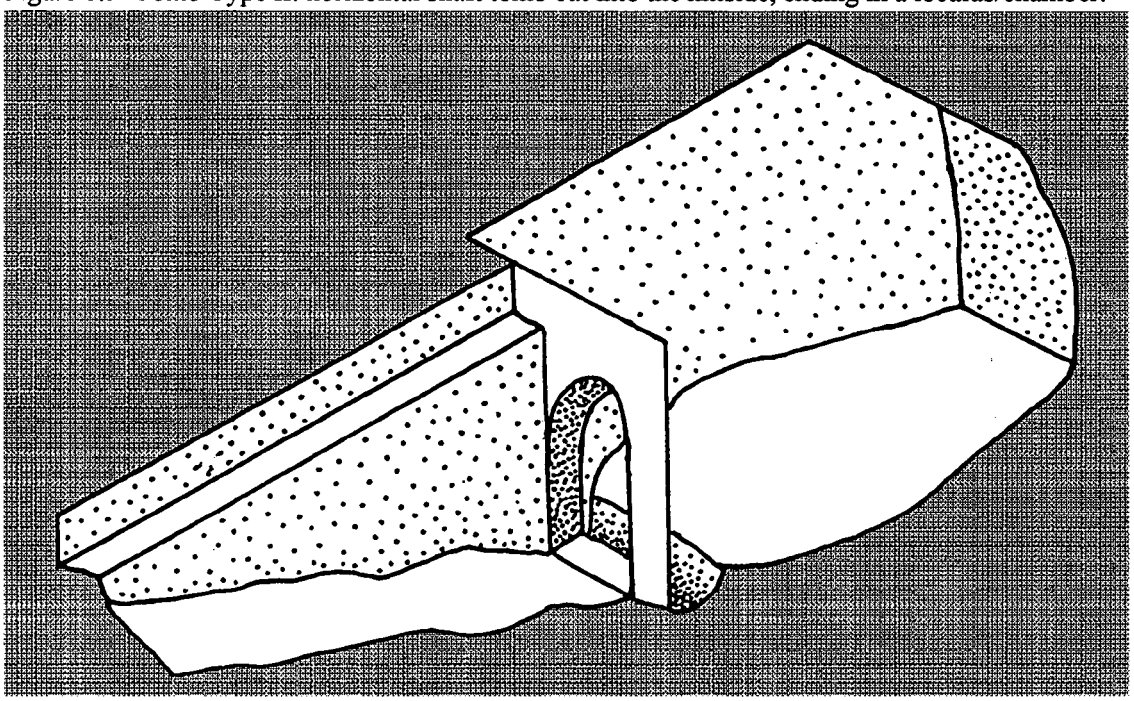
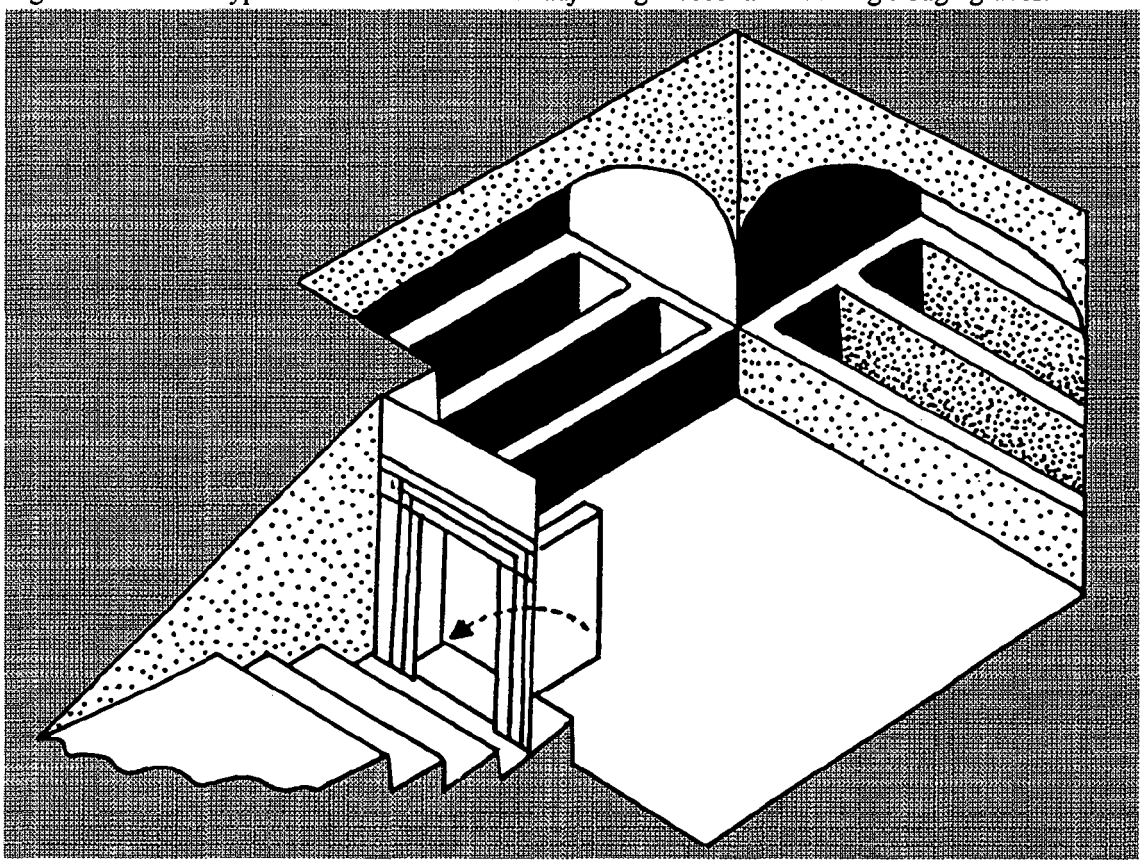


Figure 1.6 Tomb Type III: chamber tomb with adjoining arcosolia containing trough graves.



Tomb Type III

Summary description. Type III tombs (F.5 and F.10) are chamber tombs with adjoining arched-alcoves (Latin: *arcosolium*; plural: *arcosolia*) containing sunken or trough graves (fig. 1.6). The arcosolium-type tombs thus have arched ceilings which form a floor-to-ceiling alcove over either benches or trough graves which line three walls of a square chamber. In Tomb F.5, four broad steps led down below the ground level to the door. Two fluted bas-relief pillars and a heavily-dressed lintel form an impressive façade around the door. The stone door itself is unusual as it is still movable—easily swinging open to a gentle push. Within the chamber, three high arcosolia that flanked and faced the door were hewn into the length of the wall. Each arcosolium was found vaulted over two deep trough graves. The coffin-like graves had originally been covered by ceramic lids. The ceiling of the arcosolium displays a thick patch of plaster—apparently applied to repair damage from an ancient cave-in.

Tomb F.10 has a square-chambered plan with three, large arcosolia. The ceilings are arched over long ceramic lids which cover trough graves (the western arcosolium remains unfinished). Besides having a wide, shallow sump (8 m × 6 m), the tomb's interior has two peculiar recesses closed by stone slabs. The first recess, an oval pit next to the tomb entrance and off from the chamber, functioned as a communal charnel. The second, elongated, recess on the east side of the central-facing arcosolium, though looking very much like a loculus, possibly served as an additional bone repository for secondary reburial. Since both recesses share the anomaly of not fitting into the overall symmetrical plan of the tomb, it is assumed that they are later additions made to accommodate bones in a similar fashion as the ossuaries of Cisjordan.

Function or purpose. Burials in the trough graves of arcosolia tombs undoubtedly were similar to that of the loculi tombs. The trough graves, however, were designed to be a more permanent type of coffin—the heavy ceramic lids being more effective for sealing the buried remains.

In the Cisjordan Beth-shearim catacombs, arcosolia were reserved for more expensive burials. Possibly this also was the case in ancient Esbus. Such valued items as an alabaster vessel, a gold earring, bronze and iron bracelets, and other prized objects were recovered, giving support to this interpretation. Unfortunately, the data for a conclusive judgment remains incomplete due to both ancient and modern robberies. It is given, however, that both Greek and Roman societies devoted considerable resources to the dead, because it was believed that the living were obligated to assist the deceased in their transition into the realm of the next world.

Date of construction. Late Roman coins associated with Late Roman lamps and other ceramic evidence clearly dated the construction of both Tombs F.5 and F.10 to the Late Roman period. An interesting six-spouted, Late Roman lamp was discovered on the floor of F.10. The latest coin (found in Trough 6 of Tomb F.5) was minted under Constantine II (A.D. 337-340).

Comparative arcosolia-type tombs in Cisjordan are generally dated to the Byzantine period. The arcosolia tombs of Esbus are evidently early representations of this tomb type. The large, shallow sump within Tomb F.10 constitutes an apt illustration of an early architectural phase, since the arcosolia tomb, in its classic Byzantine form, is characterized by the absence of a Roman-type, hallow standing pit. On the other hand, it could be postulated that Transjordan remained provincially isolated from the more fast-paced architectural changes taking place elsewhere within the Roman-Byzantine world.

Tomb Type IV

Summary description. Type IV tombs (F.8, F.27, F.28, and G.10) are chamber tombs with both loculi and arcosolia (fig. 1.7). Three different architectural categories (Type IVa, IVb, IVc) are here placed under one unifying rubric: "loculi tombs possessing arcosolia."

The first category, Type IVa (Tombs F.27 and G.10), consists of chamber tombs in the tradition of Type I, that is, tombs with a standing pit in the floor, loculi cut into the sides, and lamp niches hewn in the upper walls. But there is also the addition of one or more arcosolia with their trough graves in the floor of the surrounding loculi.

Type IVb (Tomb F.28) has a unique style of arcosolium. On the three sides facing and flanking the entranceway, and above radiating loculi, are hewn alcoves which do not run the length of the wall. The arched ceilings of these alcoves form an indented aperture only large enough to hold a single body. The presence of these three unusually small arcosolia cut high above the loculi represents a previously unknown architectural tradition found only here in the necropolis at Tell Hesban. Although each of the arcosolia is furnished with a slightly raised lip with a small drainage canal through it, its floors otherwise formed flat shelves.

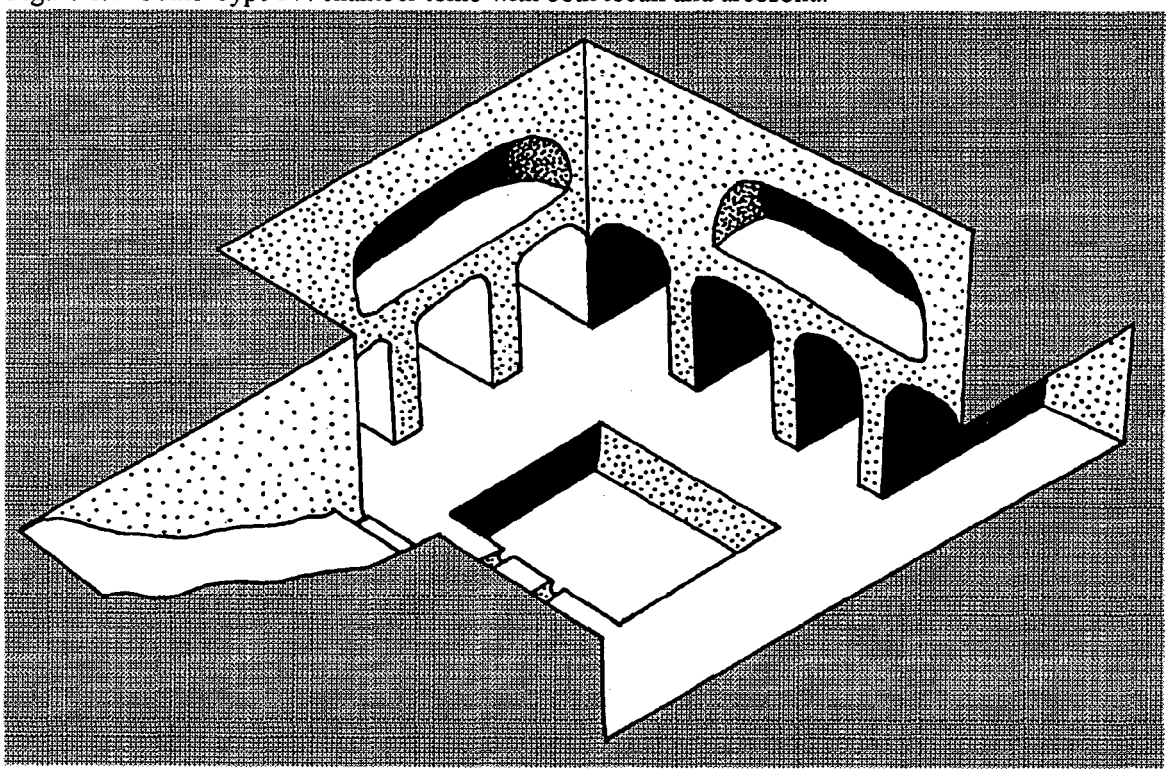
Type IVc is characterized by Tomb F.8. The portion facing the entrance opens up into a 21 m long hallway. On each side of this hallway are six loculi, but they are not the usual type of loculi. All twelve loculi contain shallow trough graves, each originally covered with capstones. The opening of each loculus had been sealed with single stone slabs. Unfortunately, in all cases ancient robbers had broken them open. The end of the hallway opens up into a Tomb Type III arrangement with the back and flanking sides furnished with arcosolia and each arcosolium containing two trough graves.

Function or purpose. The loculi tomb provided individual burials at the same time allowing a family to be buried together. When the tomb became full, the arcosolium burial was incorporated into the original family tomb rather than build a new tomb.

Date of construction. Tomb G.10 (Type IVa), spoken of as a rolling-stone tomb because its entrance door is shut by a stone disc, was initially dug in the Early Roman period as a chamber tomb with loculi. Because the grave-site had recently been plundered by tomb robbers, the Herodian lamps were no longer *in situ*. A Nabataean coin of Rabbel II (A.D. 71-106) was discovered in one of the two arcosolia that had been later added on to the tomb's back interior.

The ceramic evidence indicates that Tomb F.27 (Type IVa) was constructed during the Late Roman I-II era (A.D. 135-235). This tomb, the plan of

Figure 1.7 Tomb Type IV: chamber tomb with both loculi and arcosolia.



which is above, was used for several hundred year history. The arcosolia trough burials were hewn during a second phase of construction—during the Late Roman III-IV periods (A.D. 235-324). The tomb then continued in use throughout the Early Byzantine period (A.D. 324-491).

Tomb F.28 (Type IVb) was in use from the Early Roman into the Early Byzantine periods. It seems very probable that the arcosolia were hewn out during a secondary phase of construction, possibly as late as the Early Byzantine period.

Because Tomb F.8 (Type IVc) was already in existence when the Late Roman, arcosolia-type Tomb F.10 was cut into two of its easternmost trough graves, and because F.8 had so many loculi, it may have been initially constructed during an early phase of the Late Roman period. Tomb F.8, loculus 10, which possessed all capstones *in situ*, produced Late Roman as well as Early Roman sherds.

Tomb Type V

Summary description. Type V tombs (F.4, F.7, F.9, F.11a, F.11b, F.12, F.15, F.16, F.17, F.30, K.1, and K.2) were all vertical shaft tombs having a rectangular shape (fig. 1.8). The more fully-formed examples of this rectangular-shaft tomb-type had a bottom which widened along each side, forming arcosolia with either trough graves or flat floor. A fully-formed tomb of Type V (such as Tomb F.4) is composed of a rectangular-shaped vertical shaft (*ca.* 0.6 m × 2.0 m) which extends down into the limestone rock about 2.6 m deep. Such a tomb is sealed either by horizontally-laid blocking stones set near the ground surface or by stones set on a ledge deeper down within the shaft (*e.g.* F.4). The bottom of the shaft flares to form a square floor. This type of tomb frequently has three trough graves. The well-constructed tombs of this type have arched alcoves (arcosolia) on each side, parallel to the trough-graves. Three or more capstones are usually placed on each of the trough graves. When room for additional burials was needed, loculi for secondary bone reburials were cut at each of the narrow ends (Tomb F.4). There are, of course, many variations—some tombs being much more simply constructed than others. Trough graves are not

always present. In such instances the burial was merely laid out on the floor within the arcosolium.

Function or purpose. These tombs were subjected to enlargements. Like the other multiple burial tombs, they were undoubtedly family sepulchres which allowed several generations to be buried together. In Tomb F.4, there was evidence that additional burials were placed within a trough grave which already contained one or two individuals.

Date of construction. The rectangular shaft tomb came into use during the last part of the Late Roman period. Tomb F.12, for example, contained a crushed Late Roman lamp along with obliterated Late Roman coins. Tomb F.4 contained a Roman bronze incense shovel and two Late Roman bronze fibulae. The pottery in the fill of Tomb F.15 was Byzantine and earlier, apparently dating that tomb's construction in the Byzantine period. A number of these tombs, cut in the Late Roman period, continued in use into the beginning of the Byzantine period.

Tomb Type VI

Summary description. Type VI tombs (F.37 and F.38) are caves used as tombs (fig. 1.9). Caves were a final resting place for those low in social or economic standing who could not afford the more expensive cut tombs. Cave F.38 may have been

Figure 1.8 Tomb Type V: vertical shaft tomb having a rectangular shape until it widens at the base to accomodate arcosolia with trough graves and loculi.

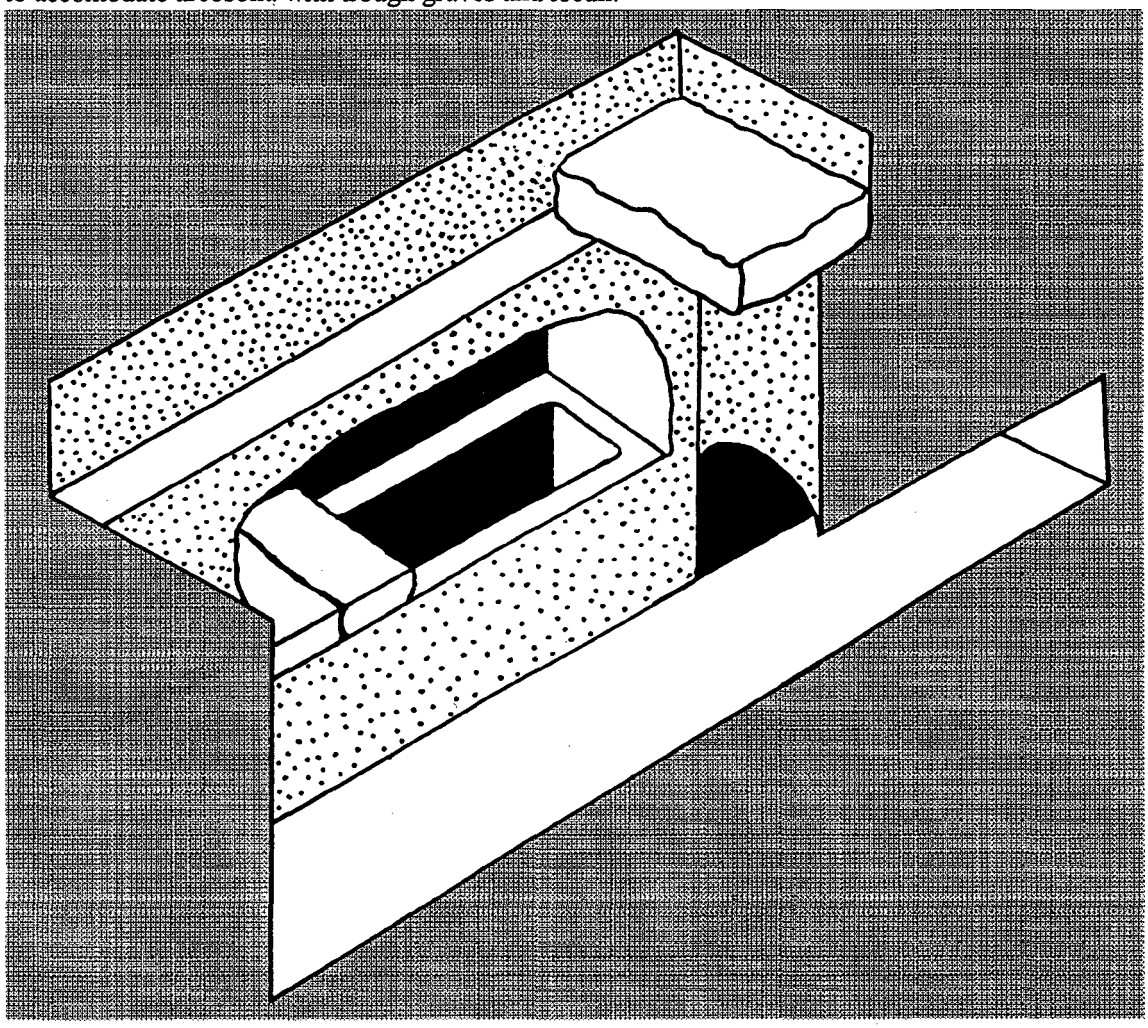
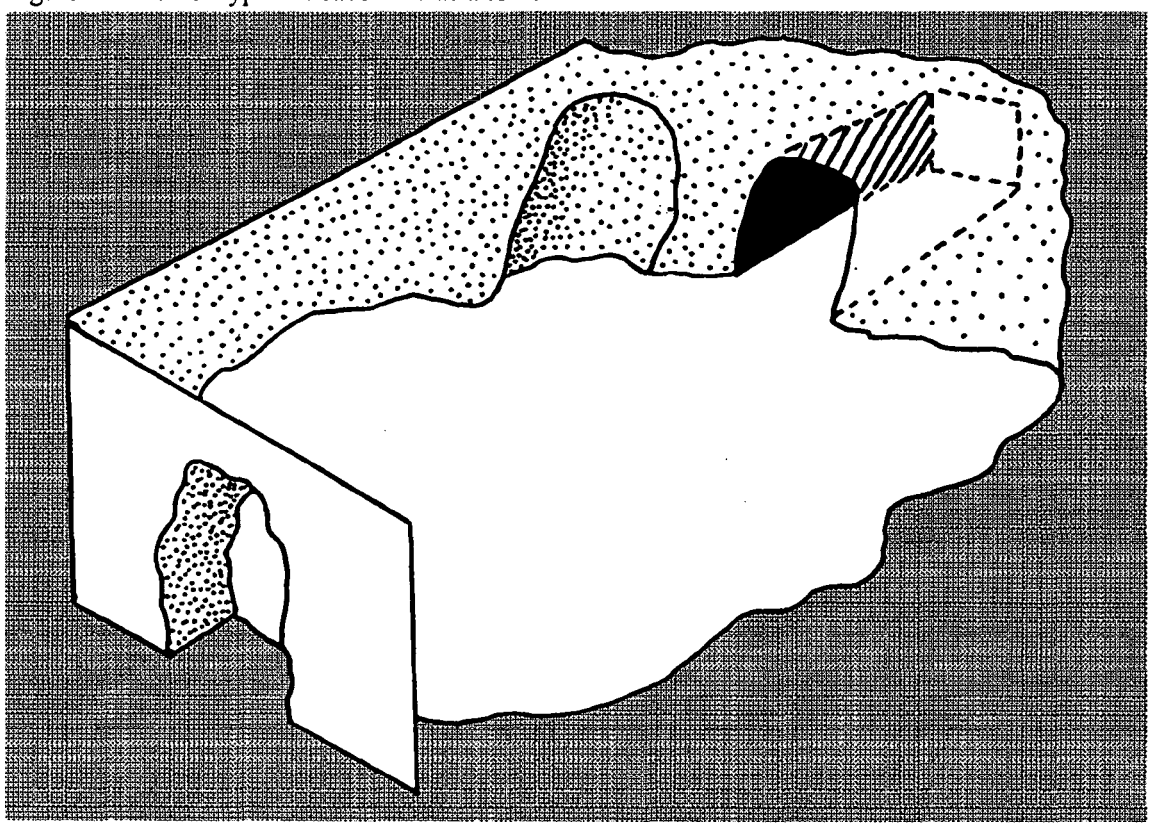


Figure 1.9 Tomb Type VI: cave used as a tomb.



such a place. Throughout the Late Roman period to the end of Early Byzantine II, it was used for burials. The positions of the skeletons give no indications that they had been oriented in any particular direction. As with many of the caves in the Tell Hesban region, Cave F.38 was reused for domestic purposes during the Ayyubid/Mamluk period (A.D. 1174-1516).

Cave F.37 is of special interest as its interior contained five stone-cut sarcophagi. None of them had lids and three of them had apparently been broken during times when the cave was used domestically. All five sarcophagi originally had been arranged in a rectangular pattern around a *balat* ("pavement") floor. The *balat* floor and burials had been constructed near the end of the Early Roman IV period. The use of the cave as a burial place continued through Late Roman III to Late Byzantine. Again, as in the case of Cave F.38, the Ayyubid/Mamluk period represents a time when F.38 was the scene of domestic activity.

Objects Placed with the Burial

Coins. Coins found associated with bodies undoubtedly indicate that their location was by design and not by accident. Such placements may have had special significance. According to Greco-Roman custom, a toll (passage money) was placed in the mouth of the deceased in order to pay the aged ferryman Charon. Charon, who was appointed by the gods, supposedly had the ability to safely convey the departed across the hazardous torrents of the river Styx into the non-physical world. Most coins, unfortunately, were recovered from a context which did not indicate where they had been placed. Within an alcove of Tomb F.16 (Type V), however, a finger bone was discolored green from holding a coin. The same alcove crypt (locus 6) also revealed another coin between the legs of a second individual. From this very limited evidence, it would seem that in ancient Esbus the custom was to place a coin in the hand or in the pocket of the deceased so

that the departed would be able to pay either tribute or a passage toll when entering the afterlife.

Personal items. In the Roman imperial period, the dead were either buried in their own clothes (hence the discovery of bronze fibulae in Tomb F.4), or in specially prepared shroud sheets (Matt 27:59, Mark 15:46, Luke 23:53, and John 19:40). Often found included with the deceased, when the corpse was laid to rest, were personal ornaments and jewelry (which may indicate where a person ranked in the social hierarchy). Personal "keepsakes," identified with the life of the buried loved one, and even food also could be included. To mention an example: a basalt tripod mortar which had been broken into two parts and then re-utilized as grinding stones was found near a burial in Tomb F.6 (locus 4). It was a belief of the Romans and other ancients that the dead dwelt in the tomb and they needed adequate facilities.

Agricultural or medical instruments were placed alongside men and household items such as spindle whorls and cosmetic boxes with their paraphernalia (such as cosmetic spatulas) were provided for the women. Included at times with the burial would be scent-bottles containing precious essences along with *unguentaria* (small glass or pottery vials) used to store costly and exotic oils. These unguents and perfumes were used prior to the burial, when the body had been washed and anointed. The so-called "tear drop" bottle in which mourners supposedly caught and kept tears turns out to be more legend than fact. The true purpose of these petite bottles was to allow the expensive perfume to be released in diminutive drops.

One of the most interesting discoveries in the necropolis of ancient Esbus was a bronze incense shovel from the Roman period (known also as a *mahta*) found in Tomb F.4 (locus 6) on top of the rib-cage of a 20-year-old female. It is a type of incense shovel frequently depicted in ancient synagogue mosaics, flanking the Torah ark, together with the *menorah* (the seven-branched sanctuary candelabrum). This type of incense shovel was used in the Temple in Jerusalem to remove ashes from the altar or for burning incense. Symbolically the incense shovel was an emblem of the incense itself, representing ascending prayers (Ps 141:2, Rev 8:3-4). Evidently this religious implement was used by Christians, pagans, and Jews. In James 2:2 the word employed for the place of Christian worship is not "ecclesia," but rather "synagogue." The use of this word suggests that the synagogue is the pattern (with its religious implements) that served as the first Christian meeting-house. Such incense shovels like that found in Tomb F.4 and in the caves of the Bar-Kochba rebels are listed in the Royal Ontario Museum as implements used by Christians, pagans, and Jews (see Nitowski 1979: 31, n. 6; Yadin 1971: 109). Significantly, this particular incense shovel had been deliberately placed over the deceased woman's heart, as a permanent emblem of her heartfelt petitions. Her prayers, even in death, were to remain ever ascending.

Chapter Two

TOMB TYPE I: CHAMBER TOMBS WITH LOCULI RADIATING FROM THE CHAMBER

S. Douglas Waterhouse

Chapter Two

Tomb Type I: Chamber Tombs with Loculi Radiating from the Chamber

Tomb F.1: A "Rolling Stone" (12 loculi)

Overview. This was an exceptionally fine tomb, called a "rolling stone tomb" because a disc-shaped stone, looking like a stone wheel (1.27 m in diameter and 0.36 m thick), closed its entrance (pl. 2.1). This stone could be rolled on a "runway" track to either side of the low, central entrance (0.90 m high by 0.60 m wide); an entrance led to three descending steps bringing one down to the central chamber (pl. 2.2). From this interior chamber radiated 12 loculi, four each on the north, east, and south sides. These horizontal burial niches, were given loculus numbers from one to 12; the first loculus at the right of the entrance being designated

Plate 2.1 Rolling stone closure, Tomb F.1.

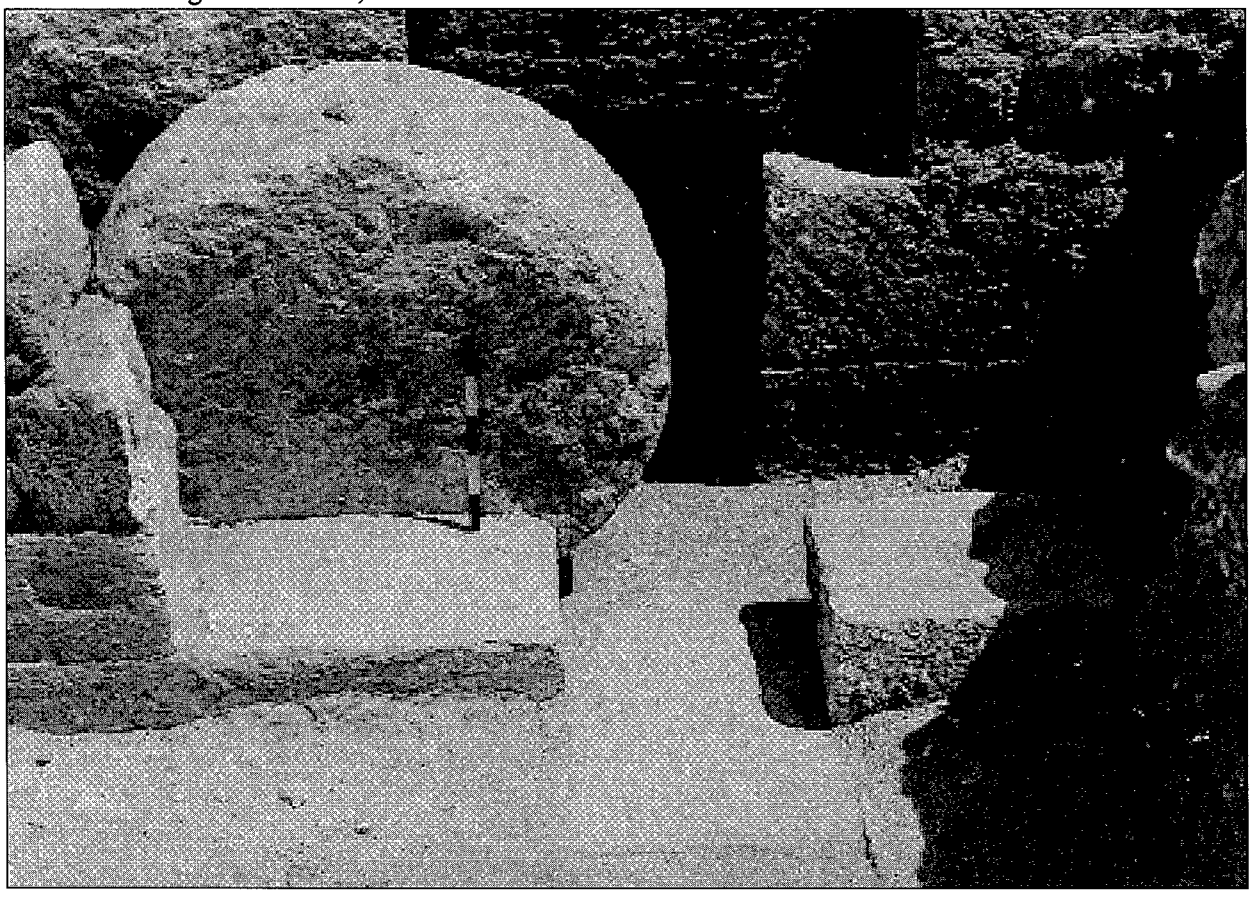
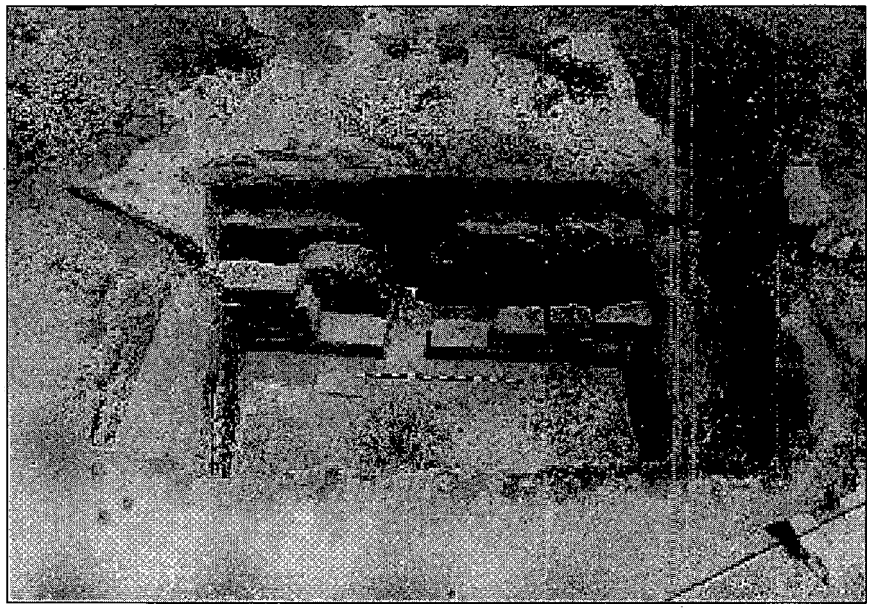


Plate 2.2 Exterior court and entrance, Tomb F.1.



one, the remaining numbers running around the chamber counterclockwise (see fig. 2.1). As is typical with chamber tombs of the Roman age, the center floor of the main chamber contained a hollow, central sump (measuring 1.84 m × 1.90 m square and 0.26 m deep) which formed a surrounding, elevated ledge or bench, level with the floor of each of the loculi (pl. 2.3).

The moveable door and parallels. The manner of tomb closure by a rolling stone is an unusual architectural feature (though famous in the gospels: Mark 16:3; Matt 28:2; Luke 24:2; John 20:1) and had not been found east of the Jordan river until the two tombs F.1 and G.10 were discovered at the necropolis of Tell Hesban during the 1971 and 1974 seasons. Though in the vicinity of Jerusalem, "rolling stone" grave sites have been assigned to the Early Roman period up to A.D. 70, this manner of tomb closure continued in use in Cisjordan until the end of the Byzantine period (Nitowski 1979; Kaplan 1972: 93). The most probable reason for this type of movable door was to allow for periodic burials; the tombs presumably were cut as family sepulchers to be used over the extended period of a given family's existence.

The exterior court. Unfortunately, Tomb F.1 had been robbed in the spring of 1970, a little more than a year prior to archaeological clearance. The 1970 looting had left much damage, including the exterior architecture. Not only had the lintel of the doorway been partially broken away, but only three of the four courses of stones of the runway wall remained partially intact. The remarkable stone disc that had sealed the entrance doorway had been pulled back and left in an almost flat position. Immediately in front of the tomb, a meter and a half below the ground surface, two partial skeletons were found located in the southern end of the rolling stone's track. The few Late Roman sherds associated with the remains may possibly provide a date for when these bones had been cast aside in such an unlikely spot. These disarticulated skeletal remains proved to be those of a male

Plate 2.3 Interior view, Tomb F.1.

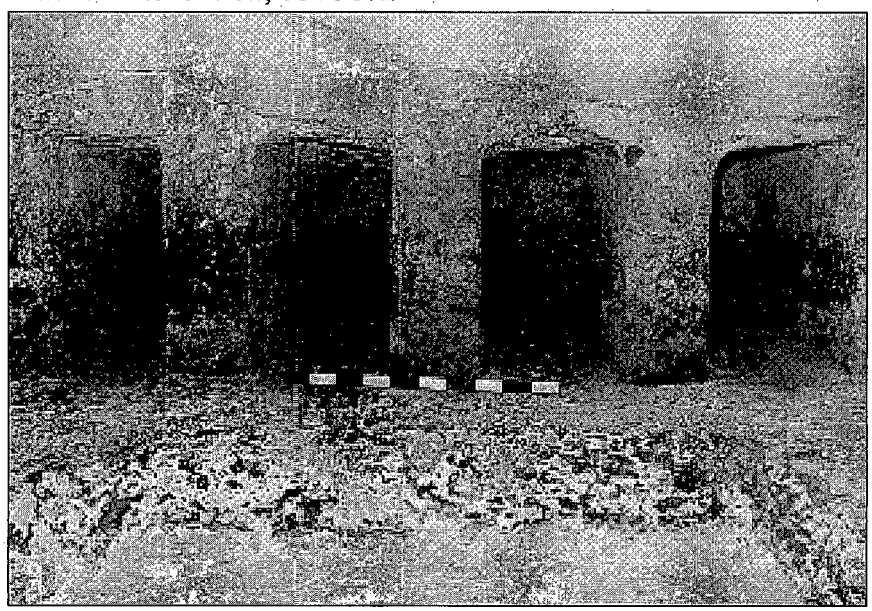


Figure 2.1 Exterior court and interior floorplan of the "Rolling Stone" Tomb F.1.

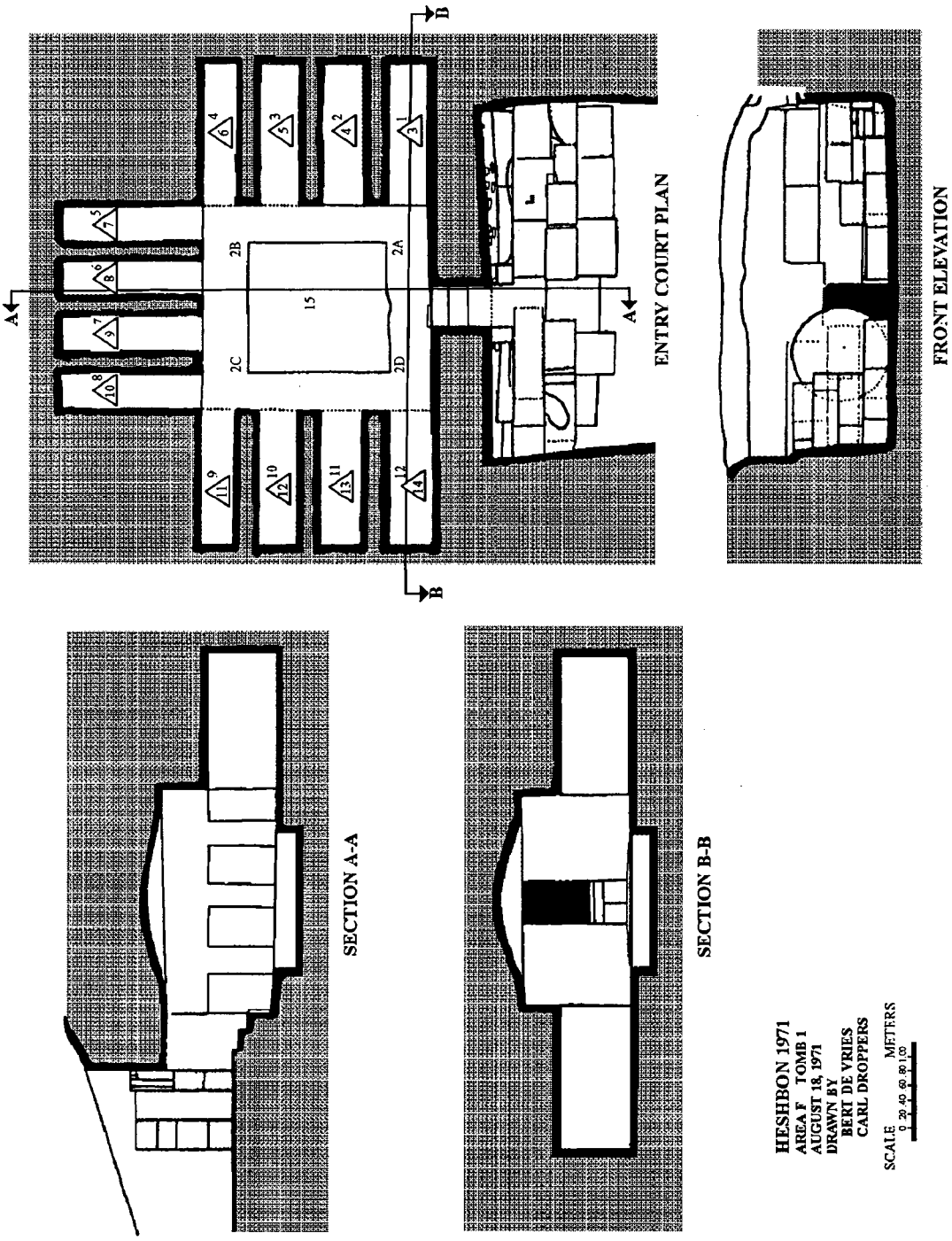


Table 2.1 Tomb F.1 (H71) Pottery Readings.

Locus	Pottery Reading
Exterior Court	
1 (surface soil)	LI2, ER dom, LR, Byz, 1 poss Ay/Mam, few UD
1a (N facade)	ER, LR, 1 poss Byz
1b (S facade)	No pottery
1c (the right runway)	ER, few LR, UD
1d (rockfall near tomb door)	LI2, ER, LR, few poss Byz
1e (top soil)	ER, LR
1f (subsoil)	Few LI2, ER, LR, UD
1g (forecourt rock tomb)	LI2, ER, LR, UD
1h (*huwwar* floor)	Few LI2, ER
Interior Chamber	
2 (soil fill)	LI2, ER dom, LR, few Byz, UD
3 (Loculus 1)	ER, 1 poss LR
4 (Loculus 2)	LI2, ER, LR, poss Byz
5 (Loculus 3)	ER, 1 UD
6 (Loculus 4)	ER
7 (Loculus 5)	ER
8 (Loculus 6)	1 LI2, ER, 1 poss LR
9 (Loculus 7)	ER dom, 2 prob LR
10 (Loculus 8)	LI2, ER, UD
11 (Loculus 9)	No pottery
12 (Loculus 10)	ER dom, few poss, LR, 1 prob Byz
13 (Loculus 11)	No pottery
14 (Loculus 12)	No pottery
15 ("sump")	ER

adult approximately twenty-five years old and a male child of about ten years. Possibly belonging to the child was an associated small bronze ring (H71. 958). Within the tomb's large forecourt lay an Herodian lamp (H71.1239) found fragmented as though it had been carelessly tossed out from the tomb's interior. Unquestionably this had happened because looters had pushed the two bodies out from their original resting place within the interior of the tomb. When the archaeological team removed the soil that had filled the forecourt, the circular stone disc was raised and restored within the paved runway track which ran the full north-south length of the forecourt in front of the tomb entrance.

The interior and contents. From the disturbed soil within the central interior of the tomb came fragmented pottery, predominantly Early Roman, although in the covering soil mix were smaller amounts of Late Roman, Byzantine, and even some late Iron II sherds (7th-6th centuries B.C.). The predominance of Early Roman ware became even more apparent when some of the pottery was reconstructed: seven turned out to be Early Roman, while only four dated to the Late Roman Period (table 2.1). Trenches dug in the interior revealed no visible stratigraphy, except for a thin water-laid clay layer at the very bottom, coating the floor of the large hollow sump in the center of the chamber (Locus 15), which contained only Early Roman sherds. This was an uncontaminated locus. When the wet clay of this locus solidified, foreign matter could not easily intrude. This "sump" locus provides strong evidence that construction of Tomb F.1 began during Early Roman times (63 B.C.- A.D. 135).

The modern robbers had totally disrupted the interior by moving the soil fill back and forth from south to north in their search for artifacts. Into this disturbed fill, which originally had been a blanket of loose earth covering, sheep and goats had recently entered. Their split hoof prints remained clearly visible within Loculi 11 and 12. In this soil, which was thoroughly mixed with fragmented pottery and smashed skeletal material, the looters fortunately did overlook a few small objects. These extant items included some beads, rings, bracelets, and bone hairpins (table 2.2).

Table 2.2 Tomb F.1 (H71) Objects.

Locus	Description	Object #	Accession #
1c	bronze ring	958	71.361
	Herodian lamp frag	1239	71.805
1g	LR jug (frags)	1242	71.808
2	2 iron bracelet frags	999, 1163	71.393, 71.477
	ER strainer juglet	1040	71.643
	3 ER bowls (frags)	1109, 1243, 1247	71.526, 71.809, 71.813
	2 LR bowls (frags)	1245, 1248	71.811, 71.814
	LR juglet (frags)	1241	71.807
	ceramic pottery	1057	71.418
	ivory hairpin frag	996	71.391
	silver ring	997	DAJ
	inlay wood frags	998	71.392
	2 glass bracelets	1000, 1157	DAJ, DAJ
	2 bronze bracelets	1159, 1164	71.474, 71.478
	3 ivory hair needle frags	1041, 1160, 1161	71.406, 71.428, 71.475
	2 glass buttons	1058, 1165	71.419, DAJ
	iron ring frag	1059	71.420
	ivory pinhead frag	1060	71.428
	bronze bracelet clasp	1061	71.429
	gold earring frag	1158	71.473
	5 glass beads, 1 UD	1162, 1167, 1198, 848	71.476, 71.480, 71.501, 71.791
	glass (?) button frag	1166	71.479
	tear bottle base	1237	71.722
	cooking pot frag	1249	71.815
4	wood object w/ 2 nails	1062	71.403
5	faience bead	1199	71.502
	bronze ring	1200	71.668
	ER storage jar frags	1250	71.816
	ER bowl	1246	71.812
6	ER bowl frags	1244	71.810
7	bronze ring	1220	71.519
8	bronze bracelet	1221	71.520
	bronze bell frag	1222	71.521
	Herodian lamp frag	1240	71.806
9	glass bead	1208	71.509

Table 2.3 Tomb F.1 (H71) Human Remains: Mandibles.

Age	Children*	Female	Male	Total
1½	M23	-	-	1
2	M30/31, M38, M39	-	-	3
2½	M24	-	-	1
4	M19	-	-	1
5	M48, M68	-	-	2
7	M61	-	-	1
8	M60	-	-	1
10	-	-	M2	1
13	-	-	M13	1
14	-	M63	-	1
17	-	-	M14	1
20	-	-	M5	1
25	-	M10, M62, M67	M1, M15, M58, M73	7
30	-	M18, M28, M46, M50, M52, M53, M76	M11, M25, M41, M57, M59, M65, M69, M74	15
35	-	M22, M37, M42, M71	M6, M43	6
40	-	M17, M27, M45, M70, M77, M40, M44, M49, M51, M72	M7, M9, M20, M29	14
40+	-	M33	M34	2
45	-	M8, M12, M75, M78	M4	5
45+	-	M3	M26, M64	3
50	-	-	M32	1
50+	-	M56	M16, M36	3
60	-	M55	-	1
60+	-	M21, M66	-	2
Adult	-	M35, M47, M54	-	3
Total				77

* Child too young to determine sex

The skeletons were scattered throughout the tomb, but a count of the recovered mandibles (table 2.3) showed that a least 77 individuals had been buried there (including the two from the runway, Locus 1c). Skulls, skull fragments, mandibles, and teeth were saved for analysis.

Tomb F.6 Slab Sealed Type

Although cut into the same rock outcropping, and directly to the north of Tomb F.1, this sizable tomb had escaped detection by the modern grave robbers. To the right of the tomb entryway, hewn into the dressed rock facade, was a deep, large, cup-like indentation. Possibly it was designed to hold water for ceremonial washing and possibly for libations for the dead. The approach to the tomb consisted of three steps cut into the limestone. The steps led into a low arched doorway which was sealed by a flat rectangular dressed stone. Small chink stones were used to wedge the door-slab tightly in place. Inside, the square chamber presented a typical architectural layout of a family sepulcher of the Early Roman period (pl. 2.4). Nine

Plate 2.4 Interior view, Tomb F.6.

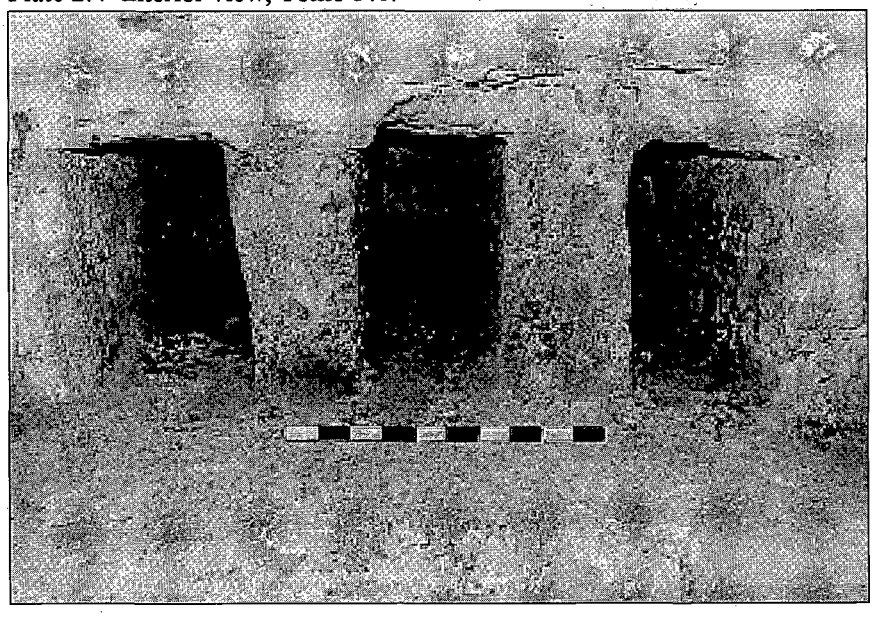
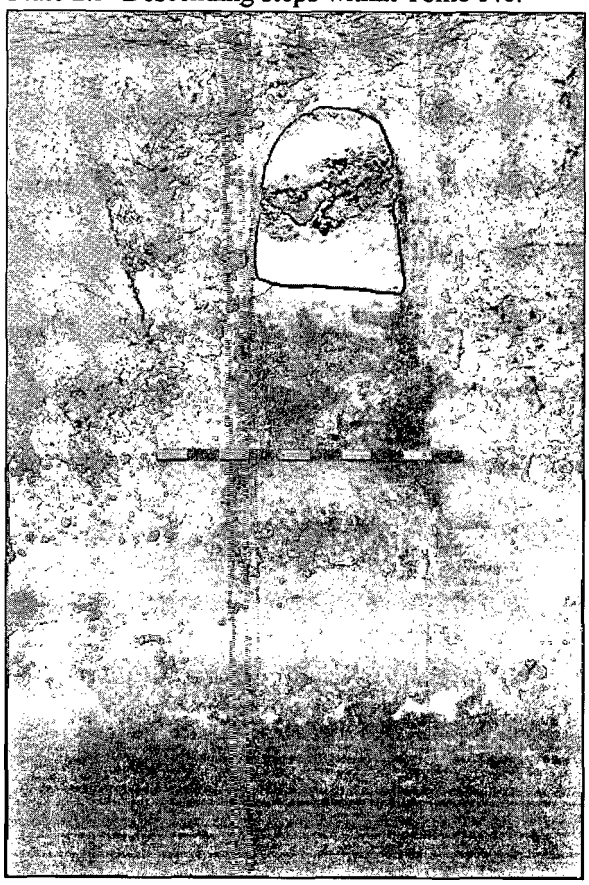


Plate 2.5 Descending steps within Tomb F.6.



loculi (which were numbered from right-to-left) radiated from the chamber, three on each side except the west, which contained the entrance (pl. 2.5). Spaced between and above some of the loculi were four lamp niches, within which, still *in situ*, were Herodian lamps. In the center of the chamber floor was a large square sump (fig. 2.2).

Most Roman tombs at Tell Hesban, including Tomb F.6, had been plundered long ago. What was left inside included disturbed skeletal remains, pottery, and a surprising amount (18 vessels) of partly intact glassware of various types. Some of the pottery had been broken by the ancient grave robbers. Since the ancients considered it their religious duty to throw earth upon an exposed corpse, it is not surprising that at some point after the robbery a great amount of loose soil had been thrown over the disarrayed contents of both chamber and loculi. In the main chamber, this dirt reached from the floor to the top of the front door, blocking ready access. While the artifacts in the tomb were

Table 2.4 Tomb F.6 (H71) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (entry court)	Byz, UD
Tomb Chamber	
2 (top layer of loose fill dirt)	LI2, ER I-II, ER, Byz
3 (compact dirt fill)	LI2, ER, few prob Rom, Byz
4 (gravelly bottom layer)	ER, LR, UD
14 ("sump")	ER
Interior Loculi and Lamp Niches	
5 (Loculus 1)	ER, UD
6 (Loculus 2)	ER, Byz
7 (Loculus 3)	No pottery
8 (Loculus 4)	No pottery
9 (Loculus 5)	ER
10 (Loculus 6)	ER
11 (Loculus 7)	ER, Byz, UD
12 (Loculus 8)	ER I-II, UD
13 (Loculus 9)	Poss Byz, UD
15 (lamp-nitch above and between loculi 2-3)	ER
16 (lamp-nitch above) and between loculi 5-6	ER

entirely Early Roman, clearance of the tomb revealed that both the inside dirt layer and the stone slab, which sealed the doorway, were put there in Byzantine times (table 2.4). In sum, this Early Roman tomb had been looted—in a time when pottery and glassware were not considered valuable—only to have been resealed sometime during the Byzantine period (either by pious individuals, or, perhaps, by government decree which had ordered the resealing of all exposed graves).

The first (and largest) loculus contained the skeletons of five adults. Each of the other loculi contained the remains of one or more bodies (table 2.5). Besides these human remains, the loculi contained a number of items (table 2.6), such as: bracelets (in one instance the bracelet was still on the humerus), finger rings, glass beads, garment

Table 2.5 Tomb F.6 (H71) Human Remains.

Locus	Identity of Remains
5 (loculus 1)	3 males, 2 females
6 (loculus 2)	1 male, 1 female, 1 infant
7 (loculus 3)	1 adult female
8 (loculus 4)	1 adult female, 1 infant (1 yr)
9 (loculus 5)	1 male
10 (loculus 6)	1 male, 1 female (40 yrs), 1 infant
11 (loculus 7)	1 male, 1 female, 1 child
12 (loculus 8)	1 young male, 1 older female
13 (loculus 9)	1 female (40+ yrs)

Figure 2.2 Entry court and interior of Tomb F.6.

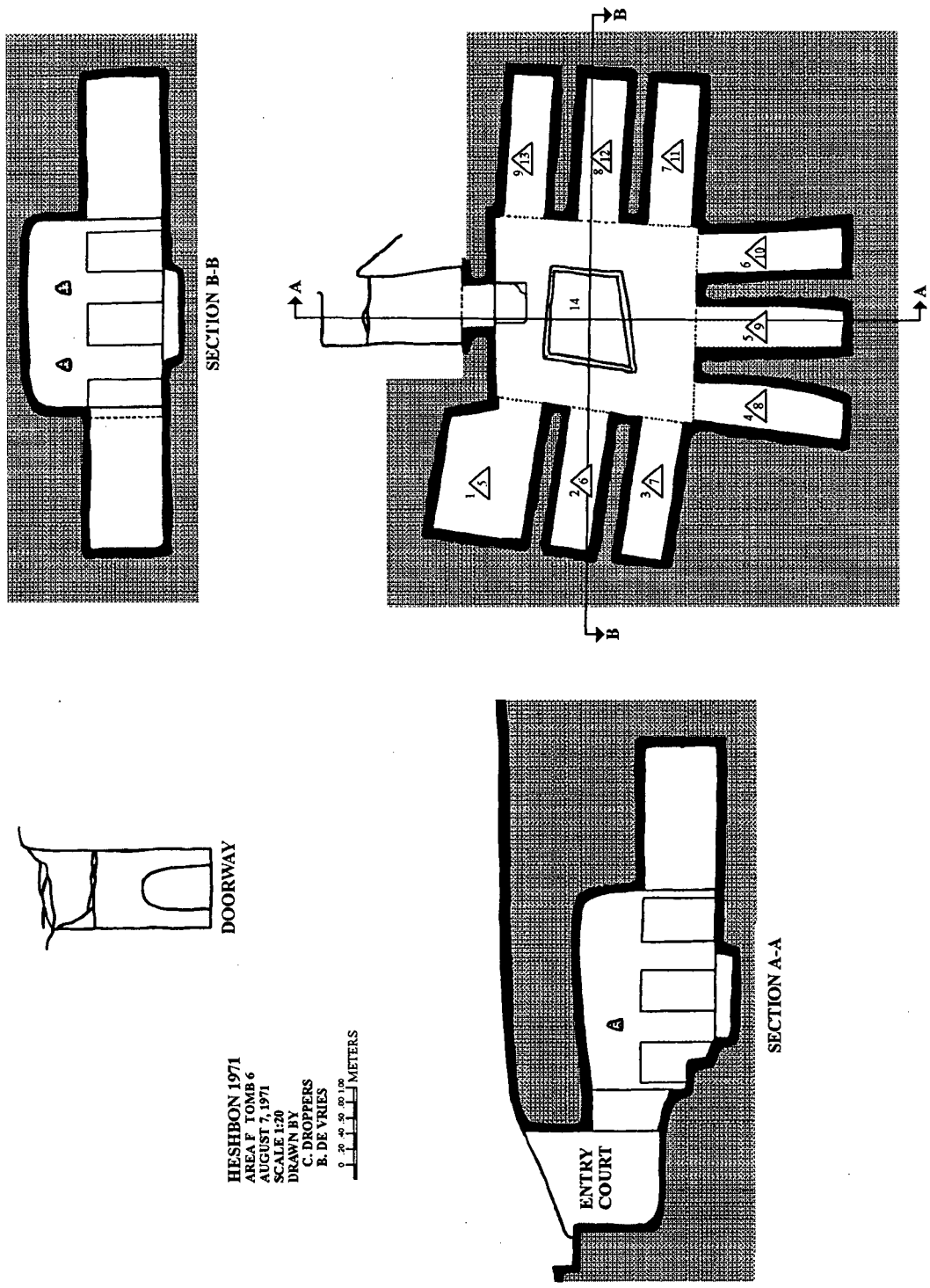


Table 2.6 Tomb F.6 (H71) Objects.

Locus	Description	Object #	Accession #
1	6 tesserae	-	unreg
2	cosmetic applicator	596	DAJ
	ER I-II cooking pot	598	71.634
	iron spoon (?)	607	71.156
	iron bracelet frags	608	71.157
	2 lead frags	609	71.158
	ER terra sigillata jug	610	71.796
	ER clay bowl frags	611	71.159
	baked clay bowl	612	71.635
	clay lamp frag	613	71.168
	Herodian lamp	614	71.636
	4 glass beads	614a, 617, 618, 619	71.750, 71.751, 71.752, 71.169
	stone button	615	DAJ
	bone button	620	71.170
	bronze coin (UD)	616	data lost
	bone hair needle frag	621	71.171
	bronze bracelet	641	71.185
	4 bone needle frags	642, 643, 644, 645	71.186, 71.187, 71.188, 71.189
	small iron nail	597	71.151
	ivory finger ring	682	71.206
	iron ring	683	71.207
	glass vase	729	DAJ
3	swan-shaped shell cosmetic box w/ ivory lid	675	DAJ
	ivory wing/wing frag of swan	676	DAJ
	ivory tail of swan	677	DAJ
	bronze spatula	685	71.209
	glass bead	686	lost
	glass button (?)	687	71.210
	ivory gaming piece	688	71.211
	3 glass vases	732, 734, 736	DAJ, DAJ, DAJ
	1 glass jar	733	71.793
	1 glass bottle	735	71.659
4	basalt tripod mortar	633, 634	71.182, DAJ
	shell	672	71.262
	glass bead	681	lost
5	2 bronze bracelets	635, 667	71.657, 71.658
	1 amber glass bracelet	748	DAJ
	carnelian cameo	649	71.832
	bead	680	71.754
	bronze ring	679	71.205
	2 iron rings	747	71.228
	bronze needle	668	71.523
	alabaster cosmetic palette w/ shell lid	669	DAJ
	2 ER gold earring frags	670	DAJ
	bronze earring frag	678	71.204
	glass tear bottle	726	DAJ
	ivory handle of swan-shaped cosmetic box	671	DAJ
	glass bowl	727	71.776
	8 glass vases	728, 737, 738, 739, 741, 742, 743, 744	DAJ, 71.223, 71.224, 71.660 DAJ, DAJ, DAJ, 71.794
	glass juglet neck	740	71.225
	2 bronze pieces	745	71.226
	iron nail	746	71.227
	bronze necklace	749	71.229
	2 tesserae	-	unreg
6	frit amulet pendant	622	71.172
	2 bronze hair needles	623, 624	DAJ, 71.173
	8 bone needle frags	625, 626, 627, 628, 629, 630, 631, 632	71.174, 71.175, 71.176, 71.177, 71.178, 71.179, 71.180, 71.181
	1 tessera	-	unreg
7	bronze coin (Roman: Aelia Capitolina; Marcus Aurelius and Lucius Verus, A.D. 161-169)	636	71.654
	bronze coin (2nd-3rd century Roman)	637	71.575
8	iron nail	638	71.183
	gold earring	639	DAJ
9	Herodian lamp frag	-	unreg
10	bronze bracelet frags	640	71.184
11	2 glass rods	673, 684	DAJ, 71.208
	bronze spatula	674	DAJ
	2 glass vases	730, 731	71.777, DAJ
12	2 bronze bracelets	690, 714	71.212, 71.217
	5 tiny glass beads	691	71.213
	iron/bronze needle (?)	692	71.525
	2 gold earrings	698, 699	DAJ, DAJ
	16 glass beads	693, 694, 695, 696, 697, 700, 701, 702, 703, 707, 708, 709, 710, 711, 712, 713	71.756, 71.757, 71.758, 71.759, 71.760, 71.761, 71.762, 71.214, 71.763, 71.765, 71.766, 71.767, 71.768, 71.769, 71.216, 71.770
	bronze mirror	705	71.215
	ER I-II cooking pot	706	71.637
	bronze finger ring	715	71.218
	glass juglet	736A	DAJ
13	6 glass beads	704, 716, 717, 722, 723, 724	71.764, 71.771, 71.772, 71.221, 71.774, 71.775
	iron nail	718	71.219
	2 scarab faience beads	719, 720	DAJ, 71.773
	glass vase frags (base)	721	74.220
	2 bone bracelet frags	725, 754	71.222, 71.231
14	glass bead	689	71.755
	iron ring frag	683	71.207
15	Herodian lamp	594	DAJ
16	Herodian lamp	595	DAJ

needles, buttons, a small scarab charm, a gaming piece, part of a wooden coffin, and nails. The most exciting finds were recovered from the loose soil at the opening to Loculus 1. Here, 11 glass vases of different shapes were closely grouped together (fortunately not broken). Also found were a bronze spatula and a glass cosmetic applicator. A most striking find was a cosmetic box whose container was a shell. Into its ivory lid fit a swan's ivory neck, wings, and tail.

Tomb F.14

Under the dump north of Tomb F.5 was found a north-south cut in the bedrock. A probe, labeled Quarry F.13, turned out to be a rock-and-earth-filled

Figure 2.3 Doorway and interior floorplan of Tomb F.14.

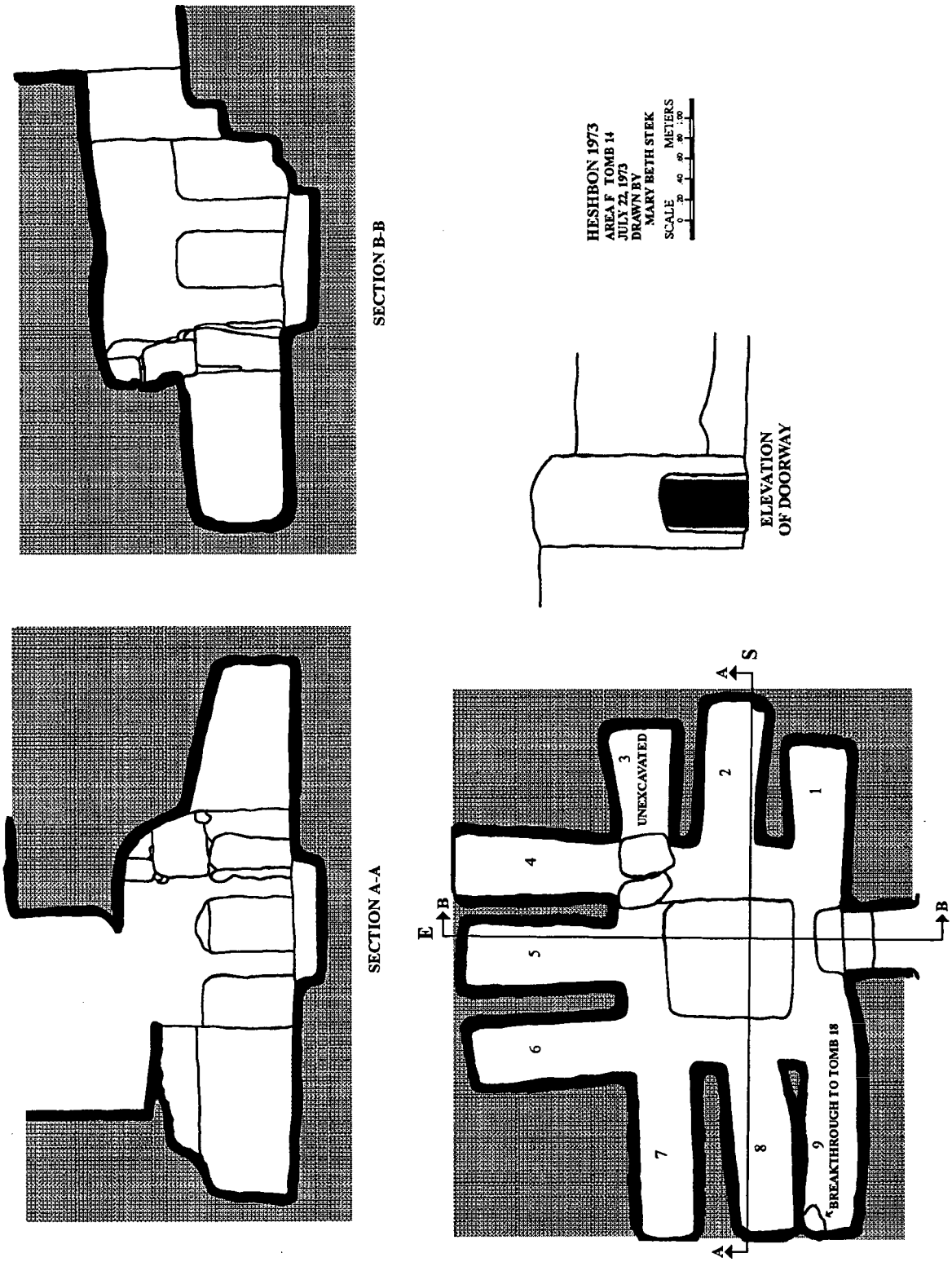
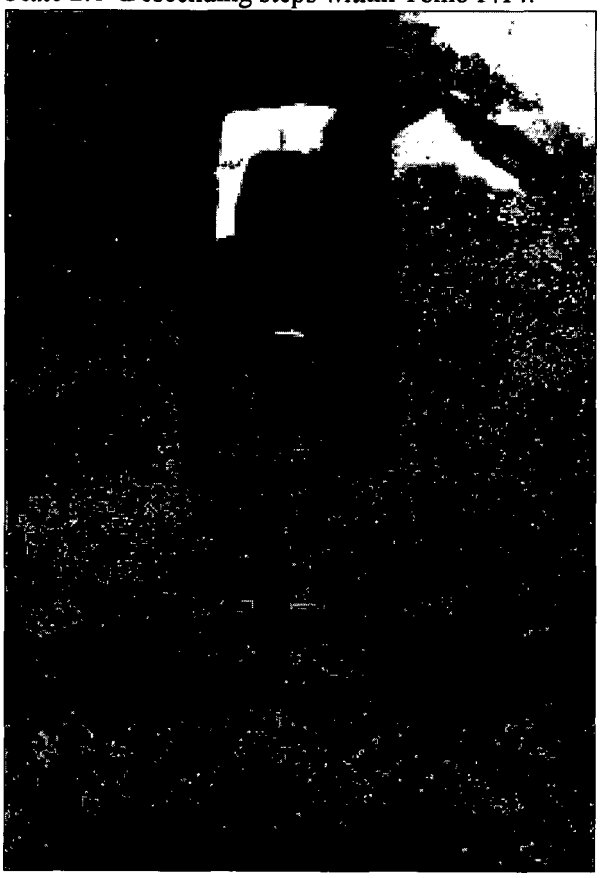


Table 2.7 Tomb F.14 (H73) Objects.

Locus	Description	Object #	Accession #
1	bronze earring	1378	73.0114
	bronze bracelet	1397	73.0131
3	bronze earring frag	1395	73.0129
4	3 tesserae	-	unreg
5	4 tesserae	-	unreg
6	7 tesserae	-	unreg
7	2 LR/Byz pots	1476, 1477	73.0199, 73.0200
	4 tesserae	-	unreg
8	bronze tool	1457	73.0184
	Byz bowl	1569	DAJ
	11 tesserae	-	unreg
9	Byz bowl	1570	73.0276

quarry. At its bottom was a breakthrough into a tomb chamber. This was not far from Tomb F.5, where in the process of excavation in 1971 the floor in the northwest corner of the main chamber gave way and revealed the loculus of Tomb F.14. (investigated in 1973). Its western end had been blocked by large stones. A trench west of F.5 was used to locate the entrance of this tomb (pl. 2.6).

Plate 2.6 Descending steps within Tomb F.14.



A stepped entranceway behind the large slab that sealed Tomb F.14 was filled solid. At the left (north) of the entrance in the main chamber was a mound of rocky fill. A thick layer of soil covered it and filled the rest of the chamber up to the ceiling. Rodent tunnels, interlacing the fill, had caused some bone disturbance and mixing of small sherds among the layers. The tomb had three loculi each on the south, east, and north sides (fig. 2.3). These were numbered counterclockwise from south-to-north. In the southeast corner, Loculi 3 and 4 were blocked off by the large stones discovered from the breakthrough from Tomb F.5. Other stones above them indicated that they functioned as shoring to prevent the collapse of the ceiling.

Underneath the fill on the north side of the chamber was a thick layer of limestone from a massive collapse of the ceiling. At the northeast corner of the chamber was the breakthrough from the bottom of the Quarry F.13. Because the rocky fill in the north half of the chamber continued up through the large hole where the ceiling had once collapsed, excavation of Quarry F.13 was continued to the west to remove the fill over the tomb, thereby lessening the danger of collapse while digging from inside the tomb.

Two crushed, but restorable, two-handled Byzantine pots were found under the fill in front of Loculus 2 and a whole carinated Byzantine bowl was discovered under the limestone roof fall in front of Loculus 7 (table 2.7). All the pottery of the central sump was Byzantine.

Loculi 1 and 2, filled with earth, contained no objects or bones; they were probably never used as graves. Fill from the main chamber spilled partly into Loculi 5-9, blocking the entrances.

Loculi 5-8 contained some bones, apparently one burial in each, but they were very friable (table 2.8). Further, they lay under slabs of limestone which had pulled loose from the ceiling of the loculi, apparently when the chamber ceiling collapsed. Loculus 9, which had no bones, had a small hole in the rear, opening into a loculus of another tomb.

Although constructed in the typical loculus style of the Early Roman period (exemplified by such Tombs as F.1, F.6, and F.8), the pottery evidence of Tomb F.14 demonstrates that burials date to the Byzantine period (table 2.9). Similar in size to F.6, F.1's nine loculi are similarly constructed having no stones sealing the loculi (pl. 2.7). One clear

Table 2.8 Tomb F.14:8 (H73) Human Remains.

Analysis
2 skull frags (small pieces)
1 phalange
2 humerus frags (right and left)
1 patella
numerous long bone splinters

Summary
These remains represent 1 individual—an adult whose sex cannot be determined. The fragments are in such poor condition that more specific information is impossible.

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difference is that while Tomb F.6 had four lamp niches cut above the loculi, two with Herodian lamps still *in situ*, Tomb F.14 had no lamp niches, lamps, or lamp fragments.

Assuming that Tomb F.14 was later than Tomb F.5, apparently one of the workmen cutting out Loculus 3 of Tomb F.14 cut through the rock of the ceiling and into the chink stones and fill under the north end of the threshold stone of Tomb F.5. To prevent ceiling collapse, Loculus 3 was filled with earth, and then stone shoring was installed, thereby blocking access to Loculi 3 and 4. The fact that the east edge of the central sump-pit was jogged slightly to the west, to clear the northernmost base-stone of the shoring, was taken as an indication that the shoring was constructed before the completion of the tomb.

Evidently only one burial had been deposited in each of Loculi 5-8 when portions of the ceiling collapsed. It was difficult to ascertain whether robbers had gained entry before the collapse. Though this cave-in could have resulted from the work in the quarry above, the thickness of the roof fall suggested a severe tremor as the cause (perhaps the great earthquake of A.D. 365).

Not long after, the rocky fill was dumped into the tomb and the quarry above. The fill spilled into the northern loculi and formed a mound up to the ceiling break. In addition, earth layers were spread to the east

Table 2.9 Tomb F.14 (H73) Pottery Readings.

Locus	Pottery readings
Tomb entrance	
1 (fill)	ER, Byz, 1 Um, Ay/Mam, UD
2 (entrance)	Poss ER, poss LR, E Byz, Ay/Mam
Tomb chamber and the 9 loculi	
3 (soil near entrance)	ER, Byz, Ay/Mam, 1 Um, UD
4 (loose soil, S end)	I2/P, ER, LR, Byz, 1 Ay/Mam, UD
5 (bottom soil)	LR, Byz, UD
6 (bottom soil)	ER, LR, Byz dom
7 (floor at entrance)	ER, poss LR, Byz, UD
8 (rock pile fill)	LR, Byz dom, UD
9 (S half of "sump")	Poss R, Byz, UD
10 (N half of "sump")	Byz, UD
11 ("sump" under 10)	Byz

and south of the rocky fill, some of them running into the loculi. Several centuries later, during the Ayyubid/Mamluk period, the tomb was discovered and filled to the ceiling. Then the entranceway was filled with earth, the stone slab sealed in place, and the antechamber filled in. Islamic concern to prevent desecration of the dead probably accounted for the care in filling and sealing the tomb.

Tomb F.18

From the photographs and inspections made through the enlarged breakthrough from Loculus 9 in Tomb F.14, it was possible to estimate the size of

Plate 2.7 Loculi within Tomb F.14.

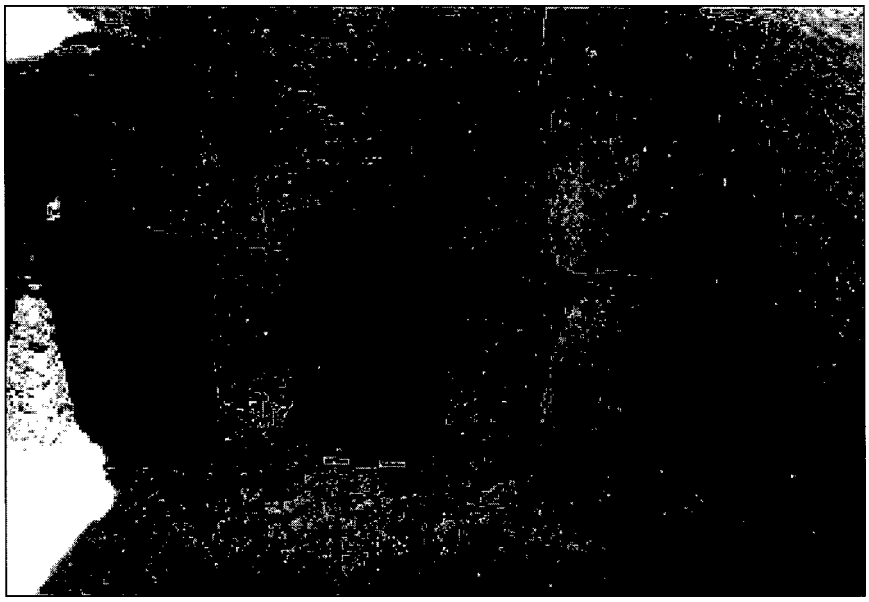


Plate 2.8 Interior sump and entrance to Tomb F.18.

Tomb F.18. Our north-south probe trench intersected the rectangular antechamber with its sealing stone still in place. The stepped entranceway into the central chamber (pl. 2.8) was packed with earth fill. Unlike Tomb F.14, the inside chamber fill sloped downward away from the entrance on all sides. Another mound of fill in the southeast corner had resulted from soil washed down through rodent tunnels in the ceiling. Twelve loculi radiated from this central chamber (fig. 2.4). The back of Loculus 5 had some earth fill from the breakthrough from Loculus 9 of Tomb F.14. Over the eastern two-thirds of the chamber, a thick layer of lime-stone roof fall separated the fill in the pit from the later layers.

Loculus 1 held the bones of one adult and one gold earring. The rest of the loculi (nos. 2-4) on the south side had no bones, but they may have been removed previously, because a number of bones were found scattered along the south side of the sump. Loculus 3 had the largest collection of artifacts in the whole tomb (jewelry together with a number of whole pottery and glass vessels). Loculi 5-8, on the east side, had at least one adult burial in each grave, but two of them were buried with the feet toward the opening and the other two with the head toward the opening. Loculi 9-12, on the north side, sloped down away from the tomb center, and Loculus 10 showed marks indicating that pools of water had formed at various times. Early burials in each loculus had been pushed to the rear in preparation for later burials, but such were not found in Loculi 9 and 12. The bone fragments in Loculus 9 did not comprise a complete skeleton. Either they were deposited in it from elsewhere in the tomb or the skull and long bones had been removed. The practice of preserving the bones after the decay of the flesh was widespread during the Early Roman period in Palestine, but there was no clear evidence of this custom at Tell Hesban in Roman times. The infant bones in the Early Roman pot of Loculus 5 indicated concern, though the practice, if such it was, differed from usual patterns (table 2.10).

Plate 2.9 Large loculi within Tomb F.18.

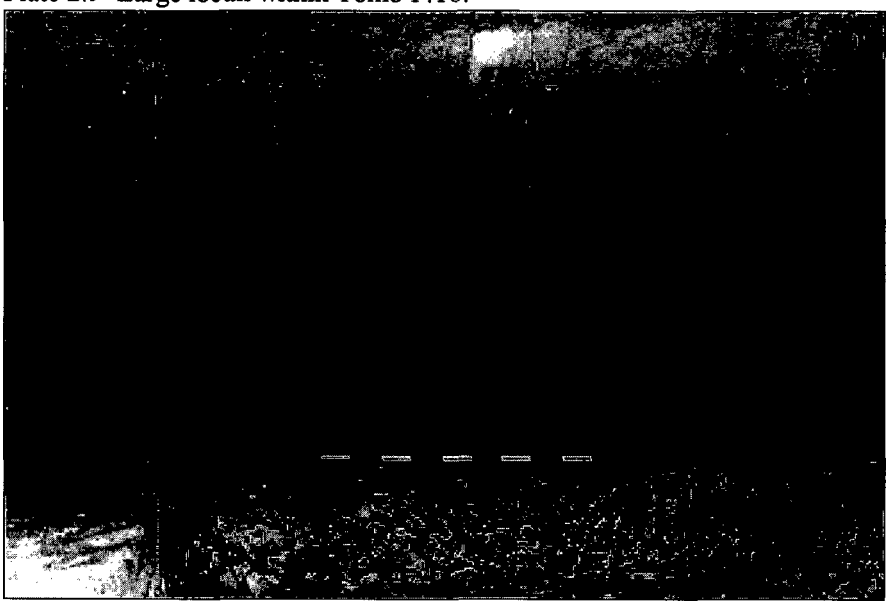


Figure 2.4 Doorway and interior floorplan of Tomb F.18.

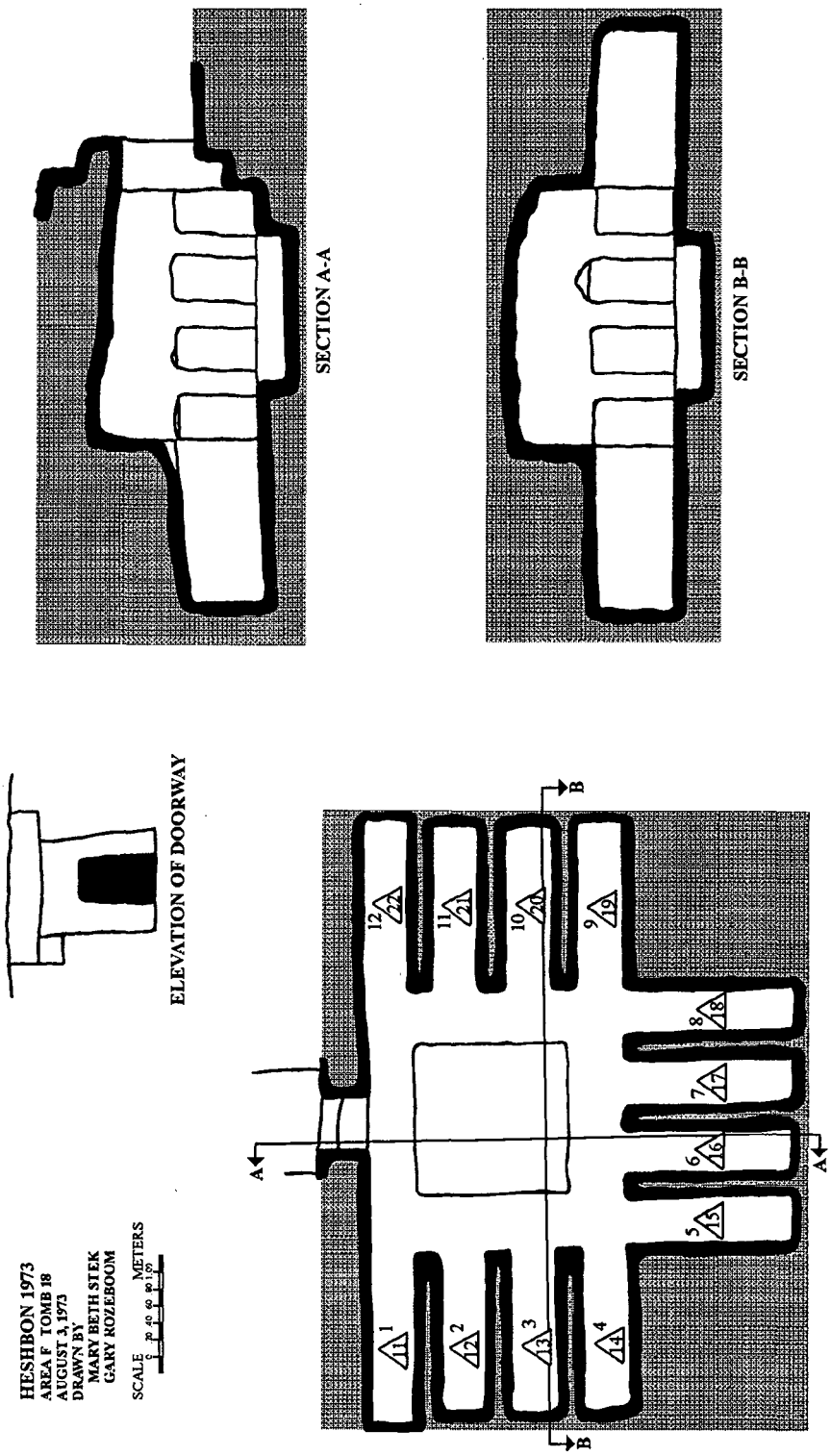


Table 2.10 Tomb F.18 (H.73) Human Remains.

Locus	Bone Analysis
Loculi	
11 (Loculus 1)	Skull frags, teeth, 1 adult—age and sex unknown mainly bone splinters.
15 (Loculus 5)	Teeth show considerable wear, 1 adult- 40+, sex unknown; 1 radius, 2 patellas, long bone frags and splinters.
16 (Loculus 6)	Frag of a chin, 11 adult- poss male, age unknown patella, heavy long bones-poss male, splinters.
17 (Loculus 7)	Right upper margin of orbit - female - 50+ smooth brow-ridge- female, right temporal bone- sm. mastoid- female, skull frags - suture c^2- completely closed- 50+, 2 patellas, 2 humeri (right and left), frags and splinters 18 (loculus 8); Right portion of mandible plus 1 adult male chin-ramus *ca.* 112°- male, 2 patellas, skull frags, splinters.
19 (Loculus 9)	Assorted frags and splinters. Not to be counted as 1 individual.
20 (Loculus 10)	Left temporal bone- mastoid, poss male *ca.* 50 broken away, maxilla- teeth missing on left side, bone grown over, teeth remaining in front, very worn- *ca.* 50 extremely heavy long bones-poss male, frags and splinters.
21 (Loculus 11)	Right temporal bone sm.,1 female, 16 years, also teeth of delicate and rounded- female, children and very old adults (teeth missing bone grown over-present, but not their bones-maxilla also in same condition), not to be counted many loose teeth- some rootless unerupted molars. (3rd molar erupts at the age of 17 or later)
	skull: c^1 c^2 s^1 s^2 s^3
	fragments: 40-50 50+ 40-50 30-40 only part left, 20-30
	sutures: open open open open open
22 (Loculus 12)	1 patella, 1 infant's radius, few long bone 1 infant, one adult—unknown frags, splinters of assorted bones, sm. age and sex frag of mandible with one very worn tooth.
Central Chamber	
9	Child's temporal bone, 1 adult tooth 1 child.
9	Contents of pot (pail): few skull frags, Not to be counted rib and few other splinters.
24	Ankle bone and sm. splinters. Not to be counted.
28, 29	2 radii, splintered frags 1 adult, unknown age and sex.

Summary

At least 11 individuals were buried in the tomb. The breakdown as to age and sex is as follows:

1 infant	
1 child	
1 female	16 years or less
1 female	50+ years
1 male	*ca.* 50 years
2 males	unknown ages
1 unknown sex	40+ years
3 unknown sex	adults
11 persons	

The determination of the number of individuals, their ages, and sex was very difficult due to the very poor condition of the remains. The number of burials counted here is a safe estimate- *the minimum*. It is highly probable that more burials had taken place, however, due to the state of deterioration, evidence of these has vanished.

Tomb F.18 was well-cut, with large loculi, most of which measured 0.50 × 1.00 × 2.00 m (pl. 2.9). The construction and first use of the tomb in the Early Roman period was quite evident from the three pots, two lamps, and six Nabataean coins, the latter from the reign of Aretas IV (9 B.C.-A.D. 40). Some of the glass vases found in the tomb may have come from this time. It was not possible to say how many of the loculi were used as graves in this period, since some of the pottery came from the main chamber. Moreover, some vessels may have been moved from one loculus to another. In general, however, it appeared that later users respected previous burials and artifacts (*e.g.* the infant bones in the Early Roman pot). Whether robbers entered the tomb in the Early Roman period was uncertain.

A cooking pot, a cup, an unguentarium, and several lamps indicated clearly that the tomb was used again in the Late Roman period. Pottery in the upper layers of the pit showed that the ceiling fell in near the end of the Late Roman or early in the Byzantine period (table 2.11). The amount of limestone roof fall (plus that in some of the loculi) indicated a rather severe disturbance, though with less destruction than in Tomb F.14. It is quite possible that the severe earthquake of A.D. 365 was responsible for the collapse of the ceilings in both Tomb F.14 and Tomb F.18.

Some whole Byzantine vessels (two-handled pot and trumpet-base lamp) and single gold earrings in four separated loculi indicated use also in the Byzantine period (table 2.12). When it was decided to abandon the tomb, earth fill in two layers, consistently Byzantine, was deposited, but whether at the same time is not certain. Locus F.18:6 contained some Umayyad and also Ayyubid/

Table 2.11 Tomb F.18 (H73) Pottery Readings.

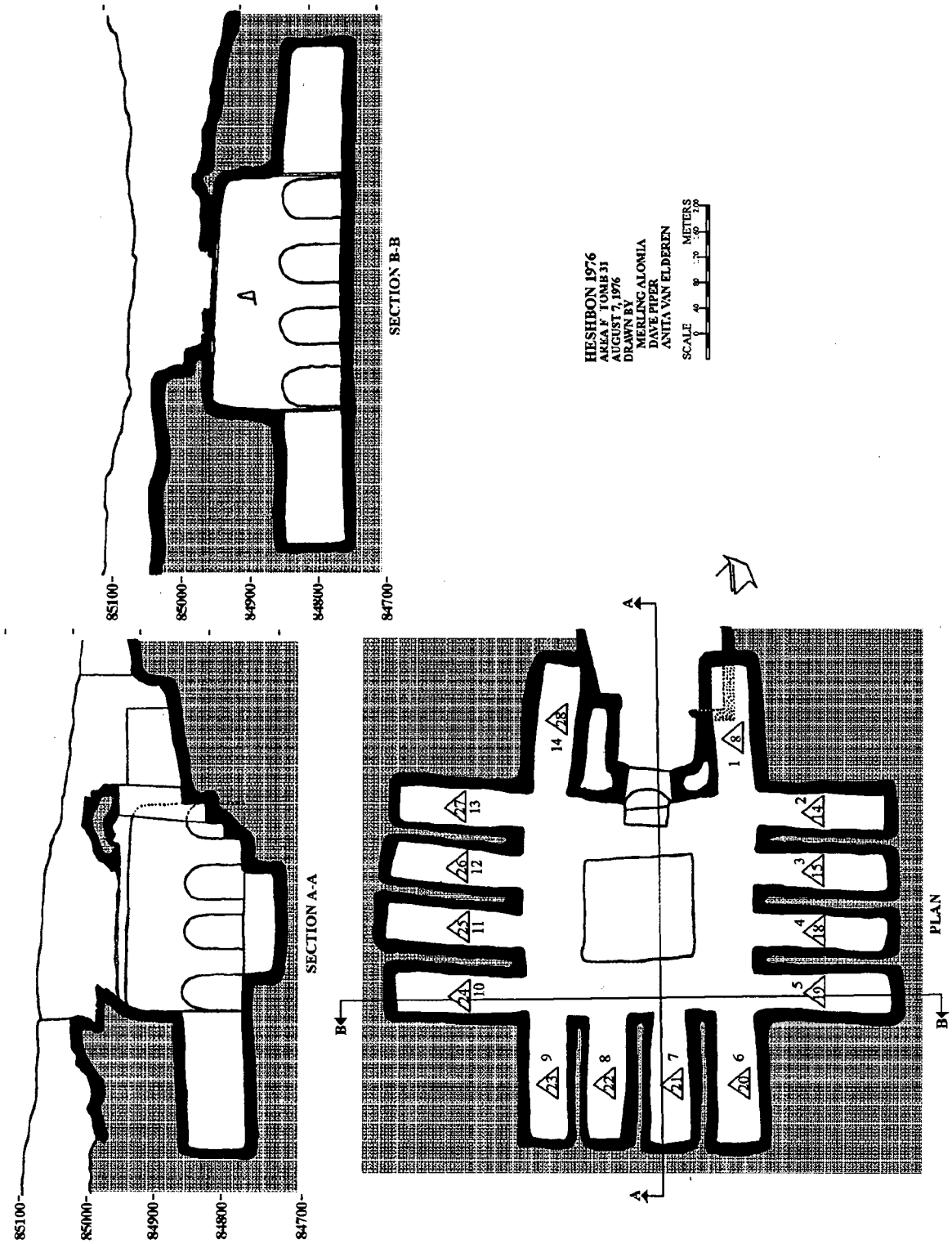
Locus	Pottery Readings
Tomb Entrance	
1 (top of entrance)	Poss IA, Byz, UD
2 (bottom of entrance)	Byz, UD
3 (outside the door)	Ay/Mam, UD
Tomb Chamber	
4 (inside the door)	ER, Byz, few Ay/Mam, UD
5 (roof fall)	Poss ER, poss LR, Byz, UD
6 (roof fall on western half of chamber)	Poss ER, LR, Byz, Um, 1 Ay/Mam
7 (below roof fall on western half of the square)	ER, LR, Byz, UD
8 (W half to the floor)	Poss ER, LR, Byz, UD
9 (central portion under roof fall)	ER, LR, Byz, UD
10 (roof fall in front of Loculi 4, 5, 6)	ER, LR, few poss Byz, UD
23 (SE corner under roof fall)	LR, Byz, UD
24 (SE corner in front of Loculus 3)	1 poss IA, ER, LR, Byz, UD
28 ("sump")	LR, UD
29 ("sump" under roof fall)	ER, LR, UD
30 ("sump")	UD
31 (NW corner of "sump" floor)	No pottery
32 (NW corner of "sump" floor)	No pottery
33 (NW corner of "sump" floor)	No pottery
Interior Loculi (topped with tomb chamber soil)	
11 (Loculus 1)	No pottery
12 (Loculus 2)	No pottery
13 (Loculus 3)	ER, LR, Byz
14 (Loculus 4)	Byz
15 (Loculus 5)	LR, Byz
25 (top E half of Loculus 5)	1 poss IA, LR, Byz
26 (bottom E half of Loculus 5)	Byz
27 (bedrock of Loculus 5)	Byz, UD
16 (Loculus 6)	LR, UD
17 (Loculus 7)	LR
18 (Loculus 8)	No pottery
19 (Loculus 9)	No pottery
20 (Loculus 10)	2 Byz/LR bods
21 (Loculus 11)	LR
22 (Loculus 12)	Poss Byz

Mamluk sherds. These, if not intrusive, would indicate that the upper two layers were deposited between A.D. 1187 and 1441. There was no evidence that the tomb was reused during this period, though apparently someone discovered the tomb and made an inspection. Since the Byzantine fill did not cover the entrance completely, more was added. Unlike Tomb F.14, however, F.18 was not filled to the ceiling, but to the top of the inside entrance; the entranceway was packed solidly, the seal slab chinked into place, and the antechamber was filled in. The tomb escaped subsequent disturbance until the official tomb excavators of 1973 came on the scene.

Table 2.12 Tomb F.18 (H73) Objects.

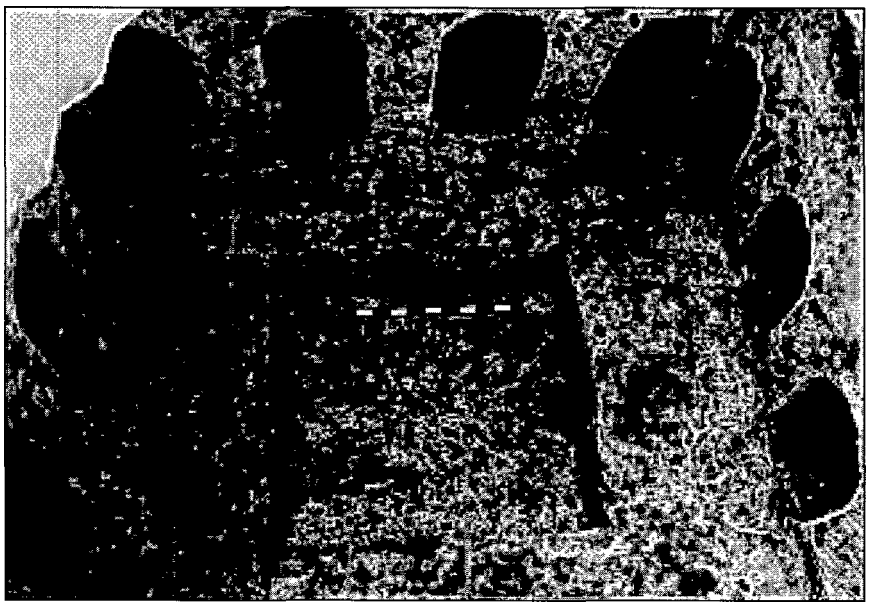
Locus	Description	Object #	Accession #
1	20 tesserae	-	unreg
4	shell pendant	1499	73.0218
	bronze tag	1500	73.0219
	1 tessera	-	unreg
5	2 bone needles	1512	73.0227
6	stone necklace parts	1507	73.0223
	6 tesserae	-	unreg
7	stone necklace parts	1507	73.0223
	7 tesserae	-	unreg
8	bronze ring	1597	73.0292
	bronze jar lid	1619	73.0310
	6 bronze coins (Nabataean: Aretas IV, 9 B.C.-A.D. 40)	1650, 1651, 1652, 1653, 1654, 1655	73.0332, 73.0333, 73.0334, DAJ, DAJ, 73.0335
	Herodian lamp	1578	73.0281
	glass vase	1580	73.0283
	ER pot	1586	DAJ
	LR bowl	1587	73.0286
	tear vial	1567	73.0275
	LR painted cup	1588	DAJ
	bronze pendant	1606	73.0301
	1 tessera	-	unreg
9	mended ER cooking	-	-
11	pot containing human bones	-	unreg
	gold earring	1534	73.0247
	2 bone needles	1512	73.0227
13	bronze ring	1554	73.0265
	bronze bell	1555	73.0266
	3 glass beads	1558, 1559	73.0268, 73.0269
	4 faience beads	1556, 1557, 1560	DAJ, 73.0267, 73.0270
	glass vial	1566	DAJ
	ER cooking pot	1573	DAJ
	LR pottery vial	1583	73.0285
	Byz ceramic pot	1571	73.0277
14	gold earring	1562	73.0272
15	ER pot (containing infant bones)	1574	73.0278
	LR cup	1575	73.0279
16	LR lamp	1577	73.0280
	glass vase	1568	DAJ
17	gold earring	1585	DAJ
18	1 bone needle and 2 bone toothpicks	1615	73.0306
19	bone needles and hairpins	1617	73.0308
	metal objects	-	unreg
20	LR cooking pot	1572	DAJ
	small metal object	-	unreg
21	glass vase	1537	DAJ
	ER lamp	1590	73.0287
	gold moon earring	1592	DAJ
	3 stone spindle whorls	1596	73.0291
	bronze surgical tools	1604	73.0299
	bronze bell	1605	73.0300
	2 bone hairpins	1608	73.0302
	2 bone needles	1607	DAJ
22	2 glass vase frags	1612, 1613	73.0304, 73.0305
	1 bone needle	1616	73.0307
	2 ornamental hairpins	1616	73.0307
	bronze surgical tools	1621	73.0312
23	metal clumps	-	unreg
	metal nail	-	unreg
	6 tesserae	-	unreg
24	gold earring	1562	73.0272
	glass vase	1565	73.0274
	Byz pedestal lamp	1581	73.0284
25	1 tessera	-	unreg
27	1 tessera	-	unreg
29	2 LR lamps	1609, 1610	DAJ, 73.0303

Figure 2.5 Entryway and interior floorplan of Tomb F.31.



Tomb F.31

Plate 2.10 Interior overview of Tomb F.31.



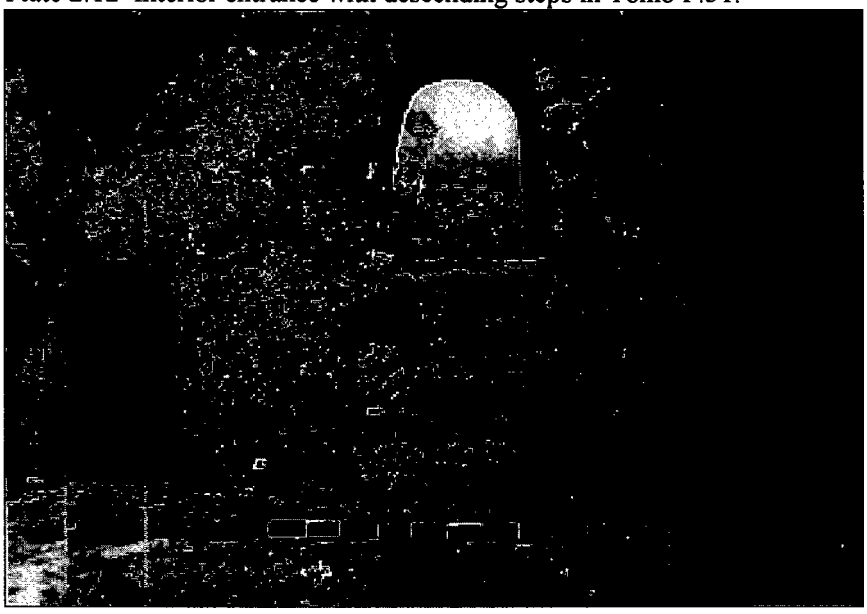
This chamber tomb, adjacent to and immediately south of F.28, had fourteen loculi—one on either side of the entrance and four on each of the remaining chamber walls (fig. 2.5). It was characterized by outstanding craftsmanship and design (pl. 2.10). On the floor of the main chamber was the characteristic square depression, which was not as large as in other tombs of this type. The loculi are well-cut and very symmetrical, extending at true right angles from each of the chamber walls (pl. 2.11). Unlike the other chamber tombs in the necropolis at Hesban, the loculi of F.31 possessed neatly arched ceilings at the top and all were approximately the same in dimensions. Only one lamp niche appeared in Tomb F.31, situated in the chamber wall above Loculi 7 and 8. It was triangular, comparable to the one in Tomb G. 10.

The exterior of the entrance to the tomb also was arched and cut in the same manner as the loculi. Two steps led down to the main chamber (pl. 2.12). Immediately above the top step was a concave cut that further exemplified the special craftsmanship employed in this tomb.

The entrance was sealed by a large cut stone slab still *in situ*. Three distinct loci could be identified immediately in front of the sealing stone. The topmost layer, 0.24 m deep, consisted of loosely packed dark reddish brown soil with some lime chips. Locus 5, immediately below, consisted mainly of rock fill with light reddish brown soil loosely packed with some lime chips. The rocks varied in size from 0.08 m to 0.35 m in diameter. Locus 6, immediately below Locus 5, consisted of reddish brown soil packed rather hard, with some evidence of lime flakes. This layer was 0.38 m in depth. Pottery from these three loci indicated that the tomb was in use over a considerable period of time, concluding with the earthquake of A.D. 365. An Ayyubid/Mamluk sherd in Locus 5 was regarded as probably intrusional. The stratigraphy of the section against the exterior of the sealing stone

Plate 2.11 Sump, bench, and arched ceilings of the loculi of Tomb F.31.

Plate 2.12 Interior entrance with descending steps in Tomb F.31.



agrees completely with stratigraphic analysis within the tomb itself (table 2.13). Eight distinct layers of deposit were distinguished in the floor of the main chamber, including the square depression.

The tomb was discovered entirely filled with soil and rubble from a complete ceiling collapse, probably attributable to the earthquake of A.D. 365. The topmost layer in the tomb consisted of a loosely packed reddish brown soil with a considerable number of lime chips. This locus covered the entire interior of the tomb's main chamber and rested immediately above Locus 13, which consisted largely of fractured limestone and rubble from the ceiling collapse. Limestone fragments in Locus 13 varied in size from small chips to larger pieces measuring 0.60 m long, 0.40 m wide, and 0.30 m thick. The average depth of this locus was 2.50 m and it covered the entire chamber with some intrusions into the loculi.

Table 2.13 Tomb F.31 (H76) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (surface soil)	ER, E Byz
9 (surface soil below root level)	Poss E Byz, Byz, UD
2 (subsoil under 1)	Byz, UD
10 (subsoil under 9)	1 I2/P, E Byz, Byz dom, UD
3 (subsoil under 2)	E Byz, Byz, Ay/Mam, UD
11 (subsoil under 10)	ER, LR, E Byz, Byz dom, Ay/Mam
4 (subsoil under 3)	ER, R, poss E Byz, Byz
12 (subsoil under 11)	ER, LR, E Byz, UD
5 (fill against sealing stone)	ER I, LR, E Byz, Byz, Ay/Mam
6 (at the sealing stone's base)	ER, LR, Byz
Tomb Chamber	
7 (the fill at the entrance)	I2/P, ER, R, E Byz, Ay/Mam, UD
13 (ceiling collapse)	I2/P, ER, LR I-III, E Byz II-IV, poss L Byz
16 (compact layer)	ER III-IV, LR I-III, UD
30 (packed layer under 16)	ER, LR
31 (under 30)	ER II-III, LR dom
17 (silt layer covering the floor)	ER, UD
29 (packed silt below 17)	LR I-II
32 (over bedrock)	No pottery
Interior Loculi	
8 (Loculus 1)	ER, LR, E Byz, UD
14 (Loculus 2)	LR, E Byz
15 (Loculus 3)	E Byz, L Byz, UD
18 (Loculus 4)	LR, E Byz
19 (Loculus 5)	LR, Byz dom, UD
20 (Loculus 6)	LR/Byz
21 (Loculus 7)	ER III-IV, LR II-IV, E Byz
22 (Loculus 8)	Prob E Byz, UD
23 (Loculus 9)	Prob E Byz
24 (Loculus 10)	E Byz III-IV
25 (Loculus 11)	E Byz
26 (Loculus 12)	Prob E Byz, UD
27 (Loculus 13)	LR, E Byz I-II
28 (Loculus 14)	ER, LR

Ceramic materials from these loci and others on the floor of the tomb, as well as in the loculi, gave a clear picture of five distinct phases of history. The initial phase was its construction and first use in the Early Roman II-III periods (37 B.C. - A.D. 73), as determined from its architectural features and from sherds found in silt layers on the floor and in the square depression. Ceramic evidence for this period was also found in Loculi 1, 7, 13, and 14.

Loculus 1 turned out to be the most significant of the fourteen in the tomb. Like most of the loculi in the tomb, it was partially filled at the entrance with fractured ceiling material. This material sloped down to about midway back into the loculus. Mixed with fractured ceiling material was a loosely packed reddish brown soil with some lime chips.

The loculus contained the burials of at least ten individuals, based on a count of left patellas: one infant of about one year or less, one youth about ten, another under 15, one adult about 30 or 40 with moderate lipping of vertebrae (indicating the early stages of an arthritic condition), one adult over 65

Table 2.14 Tomb F.31 (H76) Human Remains.

Locus 8 (Loculus 11)

General: Large number of bones (12 bags), mostly fragmented and lacking a skull. Two individuals with septal apertures in the distal end of the humerus. This may indicate female sex or may represent a family characteristic. Number of individuals: Minimum of 10 (left patellas). Sex: Clear indications of male and female in different portions. No intimation of relative numbers of each.

Distribution (Age): 1 infant (1 or less); 1 youth (10); 1 youth (15); 1 adult (30-40, moderate vertebra lipping); 1 adult (65+, severe lipping); several adults (age indeterminable).

Pathology: Arthritis noticed in several joints. Some dental caries.

Stature: 1 individual about 5 ft. (based on length of tibia), 1 individual about 5 ft., 6 in. (based on length of tibia)

Locus 15 (Loculus 3)

General: Apparently undisturbed by robbers, but much disturbed by falling rocks. These had entered the loculus and crushed some of the bones, including the skull and some of the long bones. Number of individuals: 2 (based on talus count). Sex: Prob males.

Distribution (Age): 1 male (35-40, slightly built); 1 male (age indeterminable, more robust).

Pathology: Slight lipping of lumbar vertebrae.

Stature: 5 ft., 4 in.

Special note: Apparently only the lower portions of the older skeleton were preserved in the tomb when the second skeleton was inserted. Only the heel and ankle bones were preserved. These were more robust than those of the second occupant.

with severe vertebral lipping, and several adults of indeterminable age. Adult height ranged from five feet to five feet six inches. Also of special note were two individuals with septal apertures in the distal end of the humerus, perhaps merely a female—or possibly a family—characteristic. With this feature present in only two humeri, it would be somewhat risky to reach a conclusion (table 2.14).

Loculus 1 enjoyed a very long use. Pottery from the Early Roman, Late Roman and Early Byzantine periods was present. Since no nails were found, presumably wooden coffins were not used. The large pile of bones pushed to the back would indicate that the latest burial was placed in the front and middle of the loculus. Resting on top of the bone material midway back in the loculus (= Locus 8) was a large cooking pot, clearly of the Early Roman type, such as have been found recently in the Jerusalem excavations, but with the distinction of having four handles instead of the usual two. Inside the pot were the ashes of a human cremation.

Cremation was common during most of the Republican period in Rome, but in the second century inhumation began to gain in popularity. The cause of the change has been debated. Some attribute it to rising Christian influence, others to the influences of the mystery religions. In the Roman Near East burial and cremation existed side-by-side as can be observed by the evidence of Loculus 1. Assuming that this cooking pot was the original container for the ashes, it would be possible to date the cremation approximately. Presumably some of the other disarticulated bone materials would also be datable to the Early Roman period.

According to Roman custom the corpse, and sometimes the couch on which it lay, would be burned either at the burial place or at a place especially reserved for cremations. The various types of urns for the ashes were made according to the wealth and prestige of the individual involved. Urns were made of marble, alabaster, gold, silver, lead, and glass, and sometimes were earthenware pots. Cremation was often practiced during the Republic in order to prevent mutilation of the corpses during the civil wars. At the necropolis at Tell Hesban it may have been merely the perpetuation of a funerary rite or a matter of practical necessity.

In addition to the cooking pot, Loculus 1 contained glass vases, a fragmented alabaster bowl, several ivory pieces (including an applicator), a ring fragment, pins, and buttons. Just inside the entrance and to the right of the loculus, was a small Early Roman juglet with a strainer and spout, unique because of the Nabataean-type painting on the outside. It might be related to similarly painted pottery. Rings were also located among the disarticulated bone materials. Perhaps the most interesting was an Egyptian scarab, which apparently was a family heirloom (table 2.15).

Burials were found in all the other loculi, the

number in each varying from one to three, generally with as many as seven in Loculus 8. Evidence of cremation was also found in Loculi 2 and 8, but no urns or pots. It is possible, of course, that pots like the one found in Loculus 1 had been present but were removed later and the contents dumped.

Bone analysis indicated that no fewer than 35 individuals had been buried in the tomb. If there had been other burials outside the loculi, the bones were too scattered and fragmented to present a clear picture.

Pathological features of the bone materials included arthritic conditions (frequent) and abscesses in several of the teeth. Evidence also of considerable surface wear, on a number of the adult teeth, was probably attributable to grit material in the flour they had used.

Especially important for dating the time in which F.31 originally was constructed were three unbroken Herodian lamps immediately below the lamp niche on the east side of the main chamber. Probably all three lamps were jarred from the niche during the A.D. 365 earthquake and remained embedded in the Locus 13 ceiling debris until the excavation of the tomb.

Also significant was the absence of animal bones and, in particular, the bones of pigs. Traditional Roman funerary practices required that "only when a pig had been sacrificed was a grave legally a grave," and sometimes even pet animals were killed to accompany the soul into the after life. The lack of animal bones and *triclinai*, the continual use of the tomb, and the absence of painting and carved sealing stones for the loculi all indicated that there was not a particularly active tomb cult at Tell Hesban in the Roman period. Burial practices, especially those related to inhumation, were influenced by their Semitic surroundings as they were by the well defined traditions at Rome.

An analysis of tooling techniques in F.31 indicated that all the work was done by one mason utilizing only two basic wedge-shaped tools. The standard 9 mm chisel was in evidence throughout as well as a flat-edged chisel that measured 10 mm at its most narrow point. The width and angle of the cutting strokes using these instruments in all the loculi were consistent. All loculi were rounded at the tip in the front with cutting strikes angled down and inward. Halfway back through the loculi the corners were squared and the ceiling was flattened out.

Table 2.15 Tomb F.31 (H76) Objects.

Locus	Description	Object #	Accession #
3	glass frag	-	unreg
5	glass frag	-	unreg
7	glass and metal frags	-	unreg
8	Herodian lamp	-	unreg
	alabaster bowl frag	2411	DAJ
	glass vase	2409	76.208
	ER 4-handle cook. pot	2555	DAJ
	Nabataean strainer juglet	2540	DAJ
	2 bone spindle whorls	2537, 2740	76.321, 76.321
	2 stone spindle whorls	2536, 2515	76.320, 76.300
	Hematite spindle whorl	2505	76.293
	3 Ivory pin frags	2716	76.477
	ivory ring frag	2494	76.282
	ivory applicator	2495	76.283
	ER silver bracelet	2539	76.323
	6 iron bracelet frags	2549	76.331
	bronze ring	2516	76.301
	bronze ring with incised inset amethyst	2535	76.319
	bronze rod	2546	76.328
	Egyptian scarab (19th or 20th dynasty: 1320-1085 B.C.)	2525	DAJ
	metal frags	-	unreg
9	glass teardrop pendant	2490	76.279
	glass bead	2455	76.247
	coin	-	unreg
10	1 tessera	-	unreg
	iron needle	2638	76.410
	glass frag	-	unreg
11	bronze coin (Um: A.D. 661-750)	2592	76.366
	quartz amulet	2489	DAJ
	glass frags	-	unreg
	2 coins	-	unreg
12	glass frag	-	unreg
13	bronze coin (LR: Constantius II A.D. 354-361)	2665	76.431
	3 Herodian lamps	2763, 2764, 2765	76.518, 76.519, 76.520
	worked flint	2775	76.528
	glass and metal frags	-	unreg
	1 tessera	-	unreg
14	bronze buckle	2552	76.333
16	R glass vessel neck	2799	76.549
20	metal tacks	-	unreg
	glass frag	-	unreg
21	bronze coin (LR: Constans I, A.D. 337-346)	2874	76.614
	2 bronze bracelets	2751, 2773	76.507, 76.527
	2 tesserae	-	unreg
22	bronze ring	-	unreg
23	bronze brooch	2794	76.544
	metal tacks	-	unreg
24	bronze buckle	-	unreg
	worked flint blade	-	unreg
27	bronze ring brooch	-	unreg
	1 tessera	-	unreg
29	LR I-II bowl	-	unreg
31	flint	2856	76.599

Architectural and ceramic evidence indicated that F.31 had a history that can be related to six distinct periods of time.

1. Its construction and first phase was attributed to the Early Roman II-III sherds, though a few Late Roman pieces were found also in Locus 31. This locus, a light gray-brown, tightly packed silt deposit with small lime chips covered the entire bottom of the square depression in the floor. It was directly above Locus 32, of the same extent, a very fine, tightly packed, light tan silt layer averaging 0.02 m deep and containing no sherds or bones. The evidence pointed to the construction of the tomb about A.D. 70.

2. Tomb 31 also saw some use in the early Roman IV period (A.D. 73-135). Ceramic materials from this period were also located in Locus 31 as well as Loculi 1 and 7.

3. Use continued throughout the Late Roman I-III periods (A.D. 135-284), abundant evidence for this phase existing immediately adjacent to the sealing stone outside the tomb (Loci 4, 5, 6), as well as inside (Loci 30 and 31).

4 and 5. The tomb's heaviest use was in these phases. Evidence for the Late Roman III-IV (A.D. 235-324) usage was found in Loculi 1-7, 13 and 14, as well as in layers on the floor of the tomb and outside the entrance; and for the Early Byzantine I and II periods (A.D. 324-392) in every loculus with the exception of 14. Period 5 ended with the tomb's destruction, along with Tomb F.28, in the earthquake of A.D. 365. With only one exception, no pottery appeared inside Tomb F.31 which was later than this date. A single piece of Early Byzantine III-IV pottery, apparently intrusive, was found in Locus 13, an upper section of rubble fill that came down with the ceiling.

6. The final phase was the filling operation, probably in the Early Byzantine III-IV periods (A.D. 392-491). Presumably, as in the case of F.28, a sizable depression was left in the ground that was unsuitable for agriculture. The great abundance of rock-carved vats and presses in the surrounding region with deposits attributable to this period seemed to indicate considerable agricultural activity. Such activity probably continued with considerable intensity throughout the Ayyubid/Mamluk and modern periods, judging from the ceramic materials near the ground surface.

Chapter Three

TOMB TYPE II: HORIZONTAL SHAFT TOMBS ENDING IN A SINGLE LOCULUS OR CHAMBER

S. Douglas Waterhouse

Chapter Three

Tomb Type II: Horizontal Shaft Tombs Ending in a Single Loculus or Chamber

Tomb E.2 (With Side Chamber) and Tomb E.3

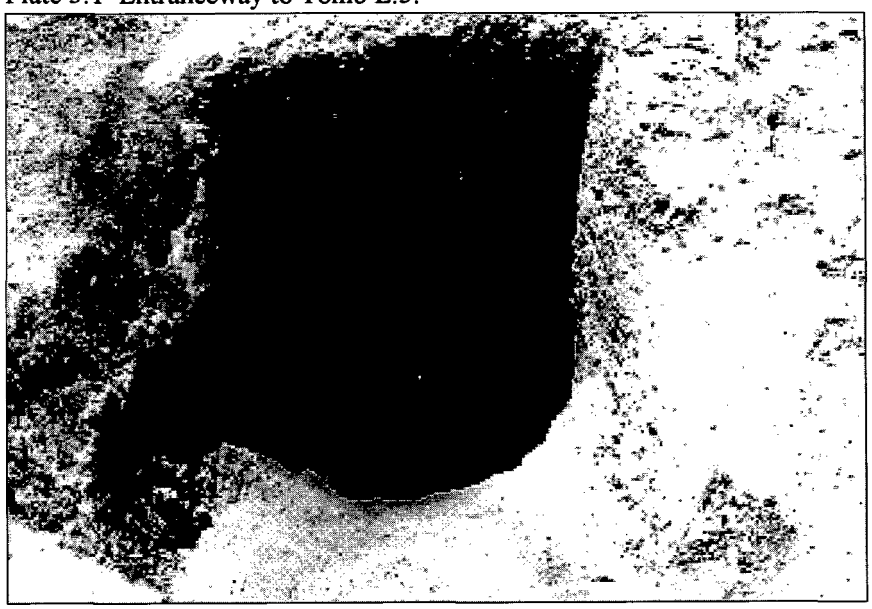
An investigation of a recently exposed tomb, E.3 (pl. 3.1), led to the discovery of a hidden, nearby tomb which was subsequently designated Tomb E.2. Architecturally, both were of the same type. Each possessed a nearly horizontal shaft which sloped down to a single loculus. The approach shafts contained no steps, but the loculus of Tomb E.2 was sealed by a stone slab wedged tight by chink stones (pl. 3.2). The interiors of both tombs were found filled to the ceiling with a light tan soil of sandy texture. Neither tomb contained an intact burial. All that remained were small fragments of human bones mixed in soil containing both Early Roman and Byzantine sherds. The tombs, probably of Early Roman date, had been looted of their contents and, as the sherds indicated, were resealed during the Byzantine period (table 3.1).

An unusual feature of Tomb E.2 was the fact that its single loculus had cut accidentally into a natural cave, which consequently formed a side chamber (pl. 3.3). This chamber also was filled to the ceiling with sandy fill, which, due to the very unstable condition of the rock ceiling, could not be completely cleared.

Table 3.1 Tomb E.2 (H71/H74) Pottery Readings.

Locus	Pottery Readings
Tomb Loculus	
1 (top and subsoil)	1 poss Byz, pre-Ay/Mam, UD
2 (light tan soil behind sealing stone slab)	ER, Byz
3 (burial site)	ER, Byz dom, pre-Ay/Mam, UD
Side Chamber	
1 (rubbly soil)	ER, Rom, Byz, UD
2 (damp dirt)	Poss I, ER, LR, prob E Byz, poss Byz, Ay/Mam, UD
3 (hard packed soil)	ER, Byz, UD
4 (layer with pebbles)	Poss R, poss LR, E Byz, Byz, UD
5 (dark soil layer)	E Byz
6 (clay-like soil)	No pottery
7 (bedrock)	No pottery
8 (clay-like layer)	E Byz, Byz
9 (fine soil)	E Byz, UD

Plate 3.1 Entranceway to Tomb E.3.



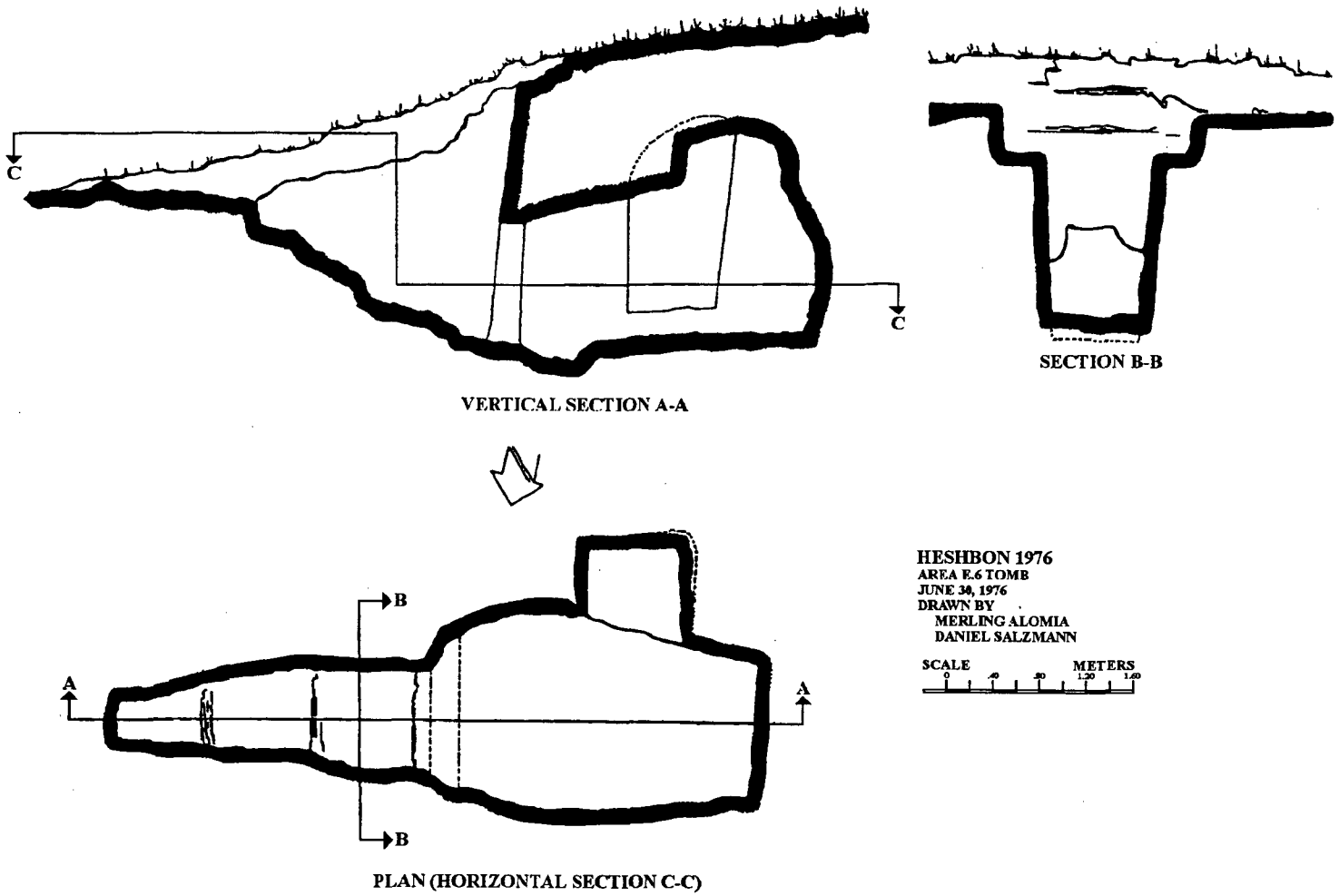


Figure 3.1 Interior floorplan of Tomb E.6.

Tomb E.6

Tomb E.6 had not been disturbed by modern tomb robbers. Its presence was detected when a cave-in of the roof occurred during the previous winter's rains. A probe on the hillside exposed an entrance that had been carved westward into the rocky substratum (pl. 3.4). A rectangular stone slab had been placed in the entryway to block it shut. Sitting to the left of the doorway was a Early Roman lamp with two nozzles and a high central column (pl. 3.5). Past the entryway the excavators found a Roman-type single-loculus tomb (fig. 3.1). While no human bones were found in this tomb, the single grave yielded a few Byzantine sherds and two Early Roman cooking pots. The pots contained soil like that of the rest of the tomb (pl. 3.6).

The association of these three slightly broken Roman ceramic objects—the double nozzle lamp and the two cooking pots—posed some interesting problems (table 3.2). According to excavator John Reeves who searched the literature for references to other double-nozzle lamps, no other lamp of this type with a secure provenance has been reported. Though there are some uncertainties as to the place of its manufacture, its date may be regarded as Early Roman. The style and manufacture of the two bowls place them also in the Early Roman period. That they should be resting on a surface surrounded by a fill containing Byzantine sherds seemed to indicate that the Roman tomb was disturbed in Byzantine times and then re-sealed (table 3.3).

Table 3.2 Tomb E.6 (H74) Objects.

Locus	Description	Object #	Accession #
4	Herodian type double nozzle lamp	1880	DAJ
9	2 ER bowls	1937, 1997	74.263, 74.315
10	1 tessera	-	unreg

Plate 3.2 Tomb E.2 sealed shut by large stone.

Plate 3.3 Interior of loculus, side chamber to the right.

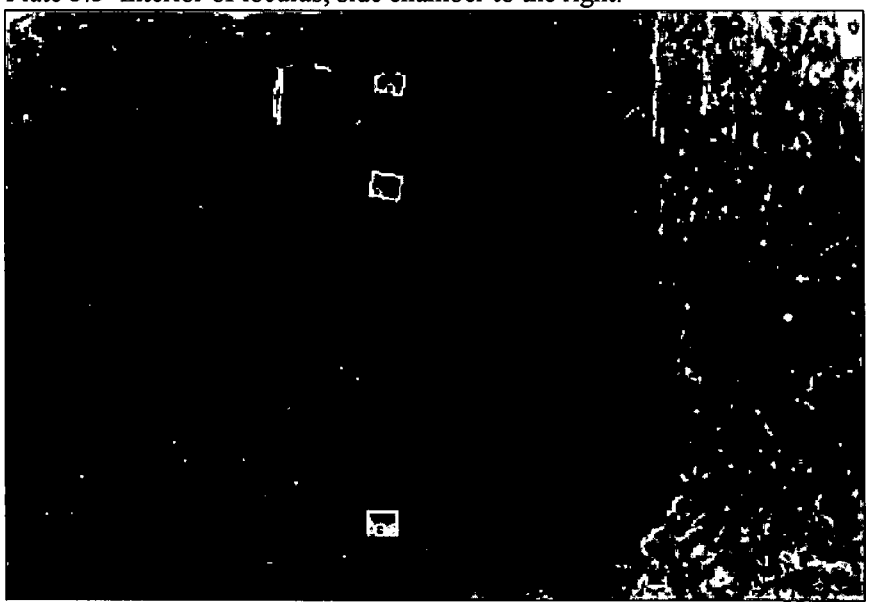


Plate 3.4 Entrance to the sealed door of Tomb E.6.

Table 3.3 Tomb E.6 (H74) Pottery Readings.

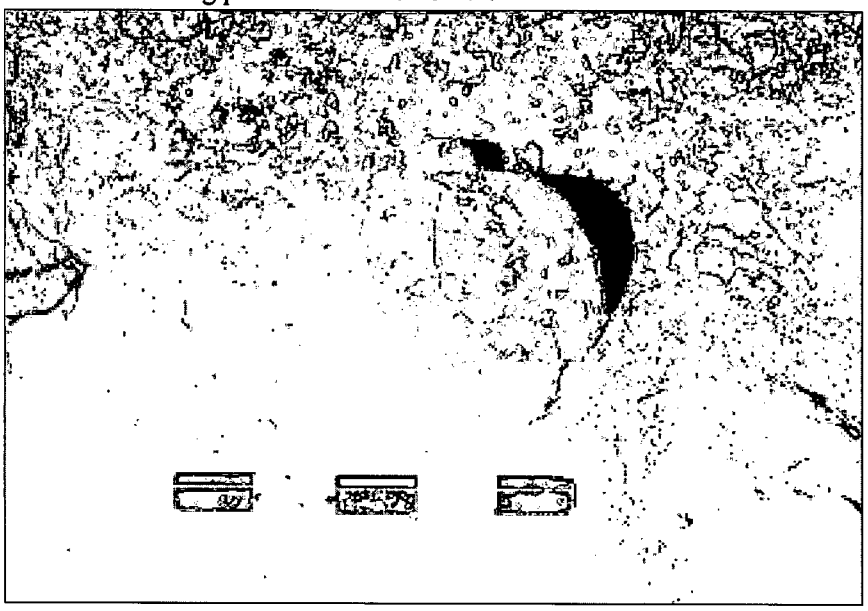
Locus	Pottery Readings
Horizontal Shaft Loculus	
1 (probe south of a cave-in cavity)	Poss ER, Byz, poss Ay/Mam
2 (interior probe toward tomb entrance)	Byz, poss Ay/Mam, UD
3 (interior tomb probe at door)	Byz, UD
4 (interior tomb entrance)	ER, UD
5 (bedrock)	No pottery
6 (exterior tomb blocking stone and chink stones)	No pottery
7 (loose fill from cave-in)	Poss Rom, Byz dom, UD
8 (original tomb fill, below cave-in)	ER, poss Byz, UD
9 (W side of tomb entrance)	ER, Byz, UD
10 (W side of tomb)	Byz, UD
11 (bedrock on W side)	No pottery

Another interesting aspect of the tomb and its contents was the question of their function. Why would a tomb have these three objects and yet no skeletal remains? Possibly the pots held ashes when they were put into the chamber, but were filled with dirt later from water seepage which had resulted in the filling in of the entire tomb. If so, the presence of the ashes with the dirt went unnoticed when the bowls were emptied. If the bowls held ashes from the cremation of a human being there is abundant precedent for the practice in Early Roman culture. In Roman times, cremation was almost universally practiced in the Empire; but around the turn of the era a change of attitude favoring burial came about. Nock (1932:358) examined a number of possible explanations for the change, and finally concluded:

> it was a change of fashion.... We mean the habits of the rich, which gradually permeated the classes below them. Burial seems to have made its appeal to them because of itself in the form of the use of the sarcophagus. This was expensive and gratified the instinct for ostentation. The richest could build mausoleum. Many whose resources would not suffice for that could afford sarcophagi, which might well appear a more solid and adequate way of paying the last honors to the dead.... The sarcophagus reestablished the popularity of burial, and burial then came into its own right to be the dominant custom of the poor.

Plate 3.5 Early Roman lamp near the doorway of Tomb E.6.

Plate 3.6 Cooking pot *in situ* in Tomb E.6.



Nock also noted an instance in which a cinerary urn had been found with a lamp and without ashes in it, at a cemetery in Harit, or Theadelphia (Nock 1932: 328).

Tomb F.40 (Single Chamber)

The single-chamber Tomb F.40 was discovered to the west of Cave F.38 with a square-cut entrance comparable to other Roman tomb entrances in Area F (pl. 3.7). Access to the main chamber was gained by two small steps in the entrance and one large step inside the chamber itself (pl. 3.8). The

Plate 3.7 Entranceway to Tomb F.40.

Plate 3.8 Steps within the interior of Tomb F.40.

Table 3.4 Tomb F.40 (H76) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (top soil)	No pottery
2 (two steps in front of blocking stone)	No pottery
Tomb Chamber With Interior Step	
3 (under tomb ceiling)	I2, LR, Byz, Um, 1 Ay/Mam, UD
4 (fill under Locus 3)	LR, Byz, Ay/Mam
5 (fill layer under Locus 4)	Poss ER, LR, Byz
6 (layer under 4 and 5)	I2, LR, Byz
7 (E end of chamber)	I2, 1 Byz
8 (layer under 6 and 7)	I2/P, ER, Rom, Byz
9 (chamber floor of hard packed *huwwar*)	No pottery

Table 3.5 Tomb F.40 (H76) Objects.

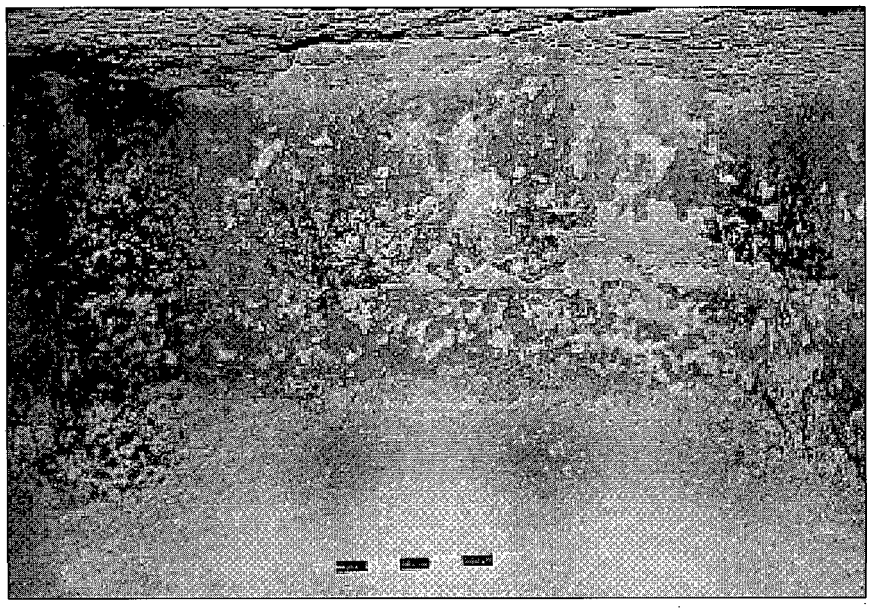
Locus	Description	Object #	Accession #
1	1 tess	-	unreg
3	bead	-	unreg
	glass frags	-	unreg
4	bones	-	unreg
	glass and metal frags	-	unreg
5	metal frag	-	unreg
6	glass frag	-	unreg
7	glass frag	-	unreg
8	bones	-	unreg
	glass frags	-	unreg
9	bones	-	unreg
	seed	-	unreg

entrance was found filled with soil and blocked by one large uncut rock on the outside, in front of which were larger field stones, perhaps part of the original deposit. Ceramic evidence immediately outside and inside the entrance indicated that the tomb had been opened in the Ayyubid/Mamluk period and probably emptied of all funerary objects. The general lack of ceramic materials both inside and outside the tomb indicated that it had very limited burial use.

The single chamber beyond the entrance did not have the customary loculi or the hollow sump depression in the floor (pl. 3.9). There was evidence for only one or two adult burials, with no funerary objects. Ceramic evidence on the floor indicated that the tomb was prepared at the end of the Late Roman or the beginning of the Early Byzantine period and then the burials were made. The tomb was not reopened again until the Ayyubid/Mamluk period (table 3.4).

If the tomb was completed, it represented a rather unusual architectural type for this period. It is possible, however that it was never completed. Unlike other tombs in the region it did not suffer from earthquake activity. There were several small cracks and fault lines inside the tomb as a result of earthquake activity, but no ceiling collapse as was noted in F.28 or F.31. The chamber itself was considerable smaller than those of the Early Roman tombs discussed above. It measured 3.18 m at its widest point, and was 3.82 m long. A few metal, glass, and bone fragments were recovered, but not registered (table 3.5).

Plate 3.9 Interior chamber of Tomb F.40.



Chapter Four

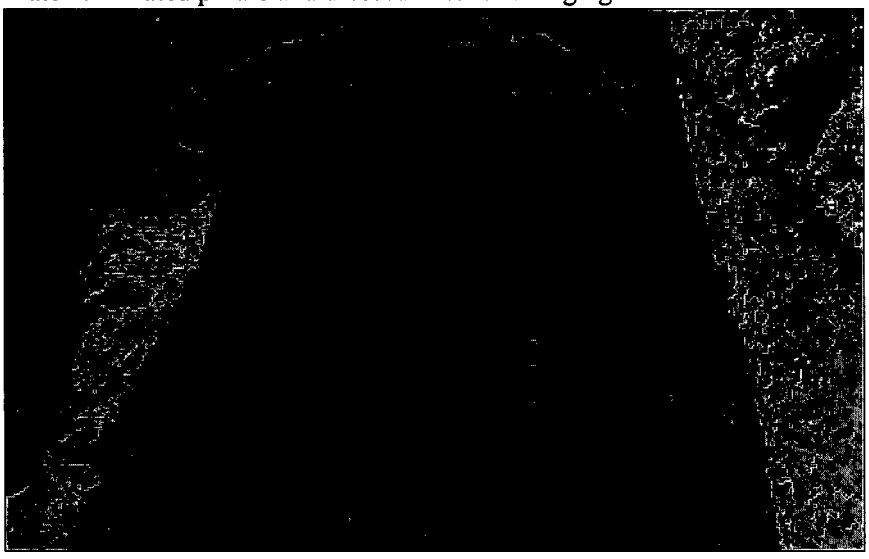
TOMB TYPE III: CHAMBER TOMBS WITH ADJOINING ARCHING ALCOVES (ARCOSOLIA) CONTAINING SUNKEN OR TROUGH GRAVES

S. Douglas Waterhouse

Chapter Four

Tomb Type III: Chamber Tombs with Adjoining Arching Alcoves (Arcosolia) Containing Sunken or Trough Graves

Plate 4.1 Fluted pillars and dressed lintel of swinging-door Tomb F.5.

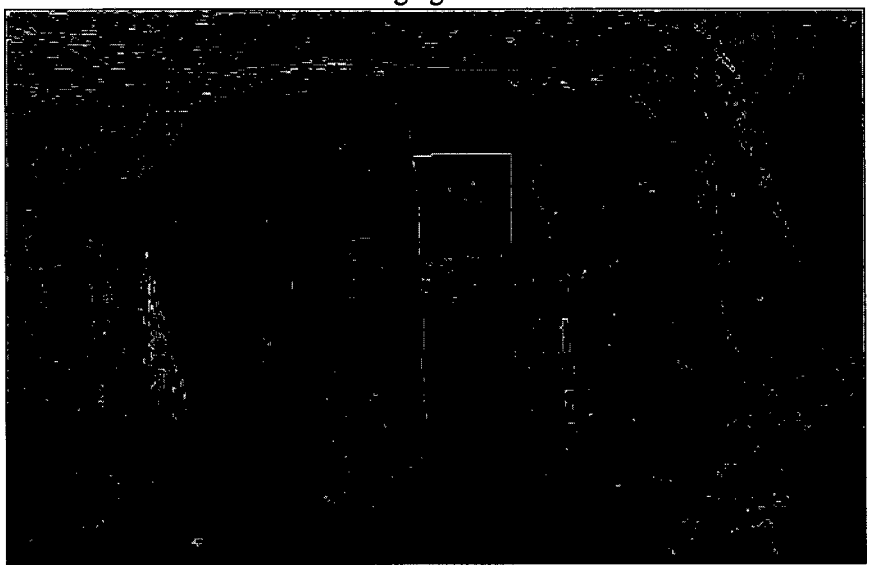


Tomb F.5

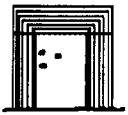
Noting a depression in the soil, clearance began quickly and uncovered four broad steps cut into the limestone. The descent led to a low, vertically-cut, rectangular tomb entrance (pl. 4.1). Unfortunately the entrance revealed a tomb which had apparently been opened recently, robbed of most of its contents, and then covered again with dirt. The tomb's façade surrounding the door comprised two fluted bas-relief pillars and a dressed lintel. A swinging (still movable) stone door was attached (pl. 4.2). Within the tomb chamber were found three arcosolia, each containing two deep trough graves (fig. 4.1). The graves originally had been covered by square, ceramic, tile-like lids. The arcosolium ceiling faced the entrance and displayed a thick patch of plaster, apparently applied to repair damage from an ancient cave-in.

Within the tomb interior was a thick soil fill that had been disturbed by modern robbers. All six of the grave troughs (pl. 4.3) showed signs of having been

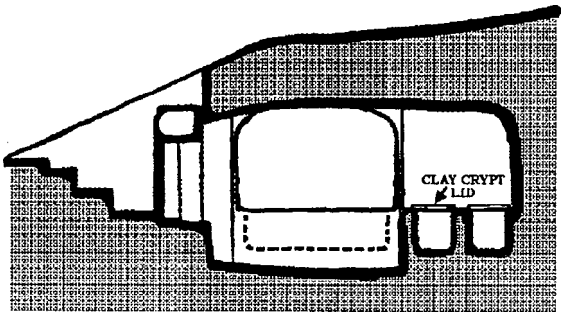
Plate 4.2 Interior view of the swinging stone door of Tomb F.5.



EDGE VIEW
OF DOOR



ELEVATION OF
DOORWAY



SECTION A-A

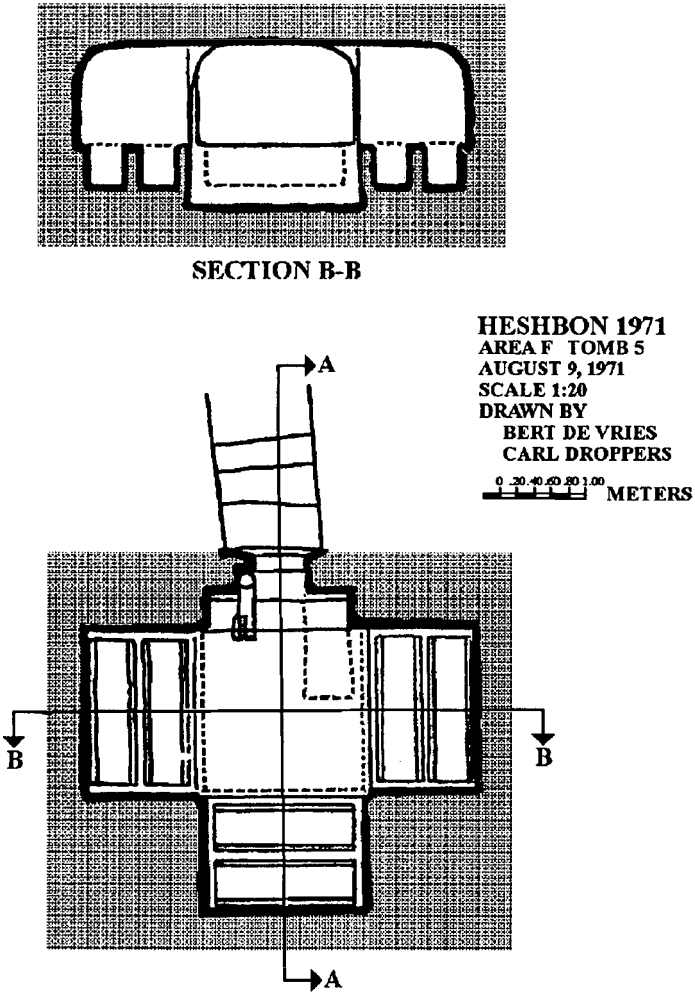
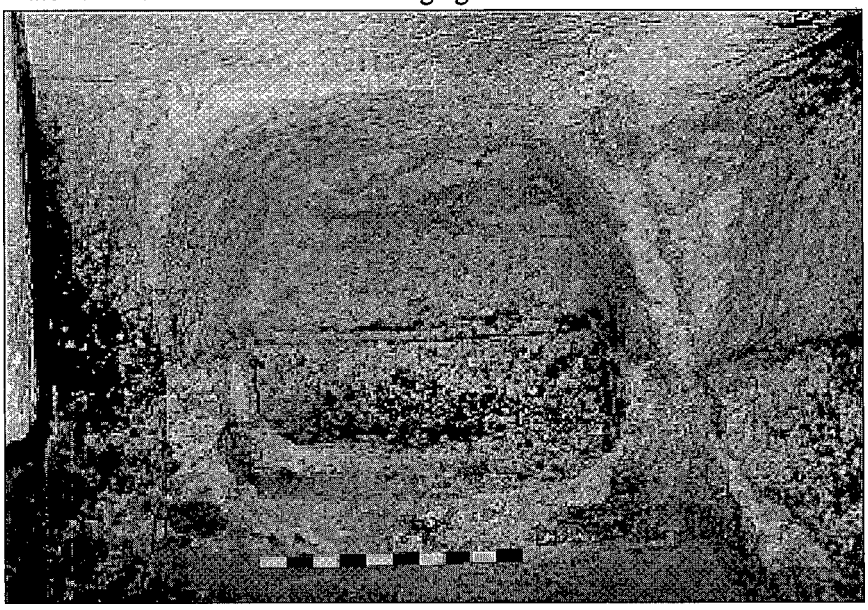


Figure 4.1 Plan and sections of Tomb F.5.

Plate 4.3 Interior arcosolia with trough graves in Tomb F.5.



thoroughly plundered. Fortunately, part of the soil in the central tomb chamber had remained undisturbed. Underneath this soil cover, on the floor, hard against those chamber sides which faced the three arcosolia, were unearthed seven unbroken pottery vessels, including four lamps, two large two-handled jars, and a bowl. All pottery vessels were typical of the Late Roman period. In sifting the soil in the trough graves, a few small objects were recovered, such as bird-shaped glass beads, rings, bracelets, and in Trough 6, two bronze coins. The coins, one of which may have been a medallion, were of Philip I (A.D. 243-249) and of Constantine II (A.D. 337-340). Broken pieces of glassware mixed with splintered pieces of human bones were reminders of the damage done by the looters. Both the sherds (table 4.1) and artifacts (table 4.2) recovered suggest that the tomb was used at the end of the Late Roman and the beginning of the Early Byzantine periods (*ca.* A.D. 250-350).

Table 4.1 Tomb F.5 (H71) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (steps to door)	No pottery
Tomb Chamber	
2 (dirt fill)	ER, LR dom
Trough graves	
3 (6 trough graves)	No pottery
4 (NW corner grave under the floor)	LI2, ER, LR

Tomb F.10

A large chamber cut into bedrock at the eastern end of Tomb F.8 was not recognized as a separate tomb until the soil from the interior of F.8 had been cleared. Three arcosolia (north, west, and east), and an entrance passage surrounded F.10's central chamber. Although it was an arcosolia tomb, the central chamber possessed a hollow sump, typical of Type 1-loculi tombs. The original large stone slab was still *in situ* sealing the door shut (fig. 4.2).

A study of the tomb showed that the western arcosolium remained unfinished. Only one trough grave out of the three had been completed. The initial cutting for the other two troughs had led to the accidental breakthrough into the lower earlier Tomb F.8. Since the other two arcosolia contained three trough graves each (pl. 4.4), the symmetrical arrangement of the tomb was marred by this defect.

In addition to the arcosolia graves, the tomb also had two recesses, one horizontal and the other vertical. Since these burial recesses did not fit into the symmetrical plan of the tomb, they may have been additions to accommodate later burials. The

Table 4.2 Tomb F.5 (H71) Objects.

Locus	Description	Object #	Accession #
1	bronze coin	545	71.803
2	4 LR lamps	954, 957, -,-	71.639, DAJ unreg, unreg
	2 LR 2-handled jars	955, 956	DAJ, 71.640
	LR bowl	-	unreg
3	bronze coin/medal (LR: Philip I, A.D. 243-249)	1224	DAJ
	bronze coin (LR: Constantine II, A.D. 337-340).	1225	71.633
	many small beads	-	unreg

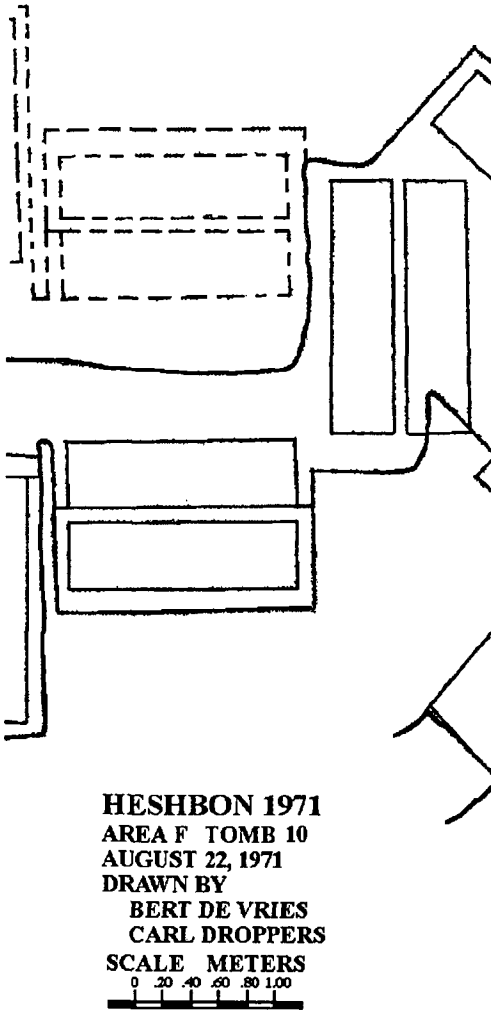
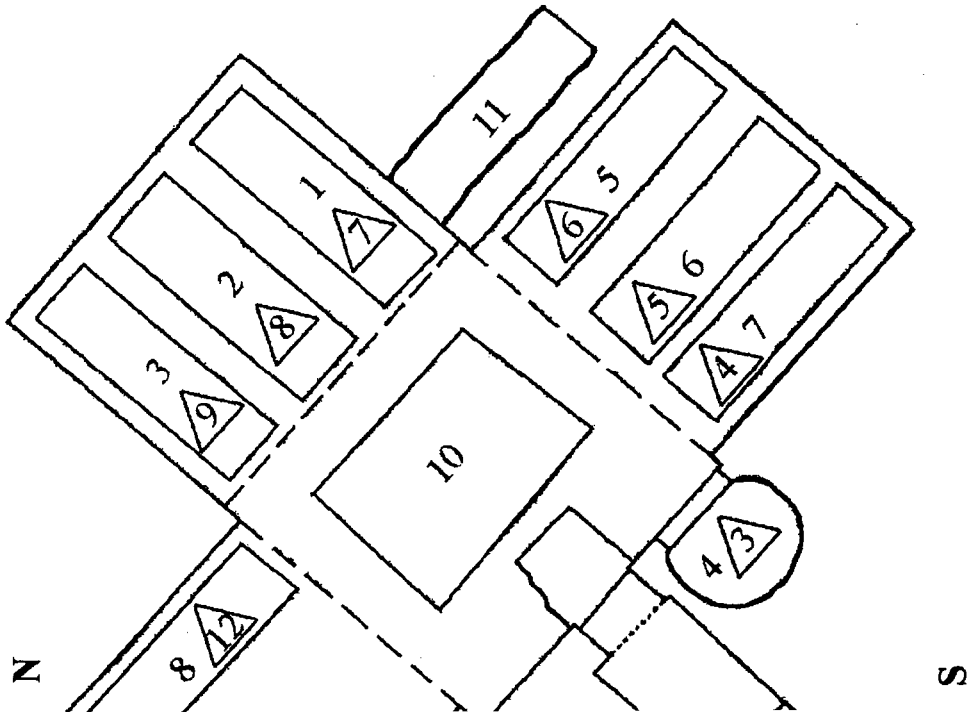

HESHBON 1971
AREA F TOMB 10
AUGUST 22, 1971
DRAWN BY
BERT DE VRIES
CARL DROPPERS
SCALE METERS
0 .20 .40 .60 .80 1.00

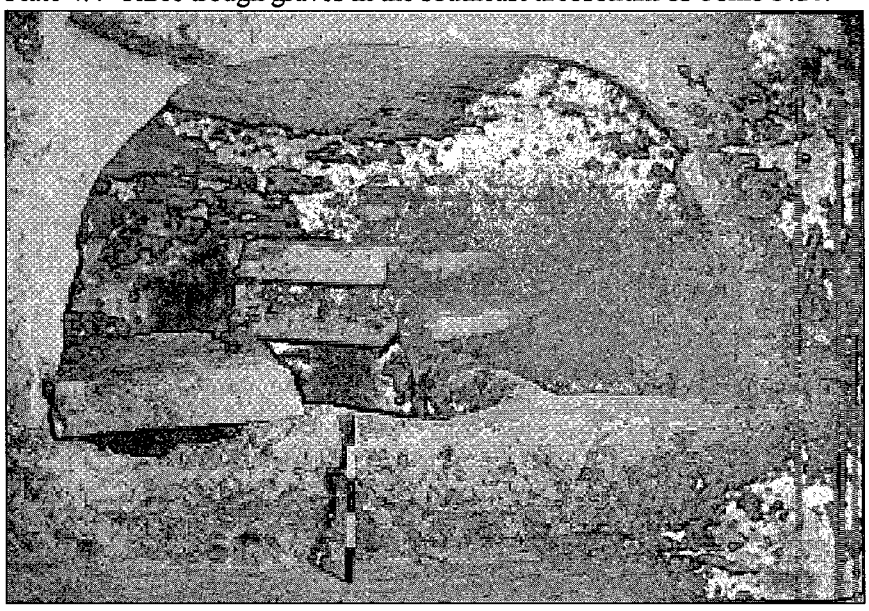
Figure 4.2 Plan of Tomb F.10.



openings of both recesses had been closed by stone slabs, although nothing of consequence was found within except some loose dirt in the vertical recess.

Sizeable capstones covered all but one of the trough graves. Robbers had been there in antiquity and all but three of the trough graves had been seriously violated. The heavy stone covers and the stone slabs represent reburial work which took place sometime after the looting. The tomb itself dates to the very end of the Late Roman period, based on the pottery recovered (table 4.3).

Plate 4.4 Three trough graves in the southeast arcosolium of Tomb F.10.



The dirt fill over the center of the chamber yielded an unexpected quantity of desiccated dates, obviously the remains of a food offering. At the eastern edge of the chamber's sump, several broken pieces of an unusual, Late Roman, six-spouted lamp were recovered. The thick soil fill at the tomb entrance also produced the cracked remains of two large, Late Roman jars. They were found on the chamber floor, to the right and left of the door-entrance. At the back of the arcosolium opposite the entrance a small Late Roman juglet rested above and behind the center trough grave. These artifacts, along with the recovered pottery fragments, clearly dated the tomb to Late Roman times. Within the four trough graves in the northern and western arcosolia, the robbers had left only fragmented bones and two belt buckles, a ring, an iron bracelet, a gold earring, a broken alabaster vase, and a few beads. Two of the trough graves of the eastern arcosolium, however, were intact, while the third grave of that same group

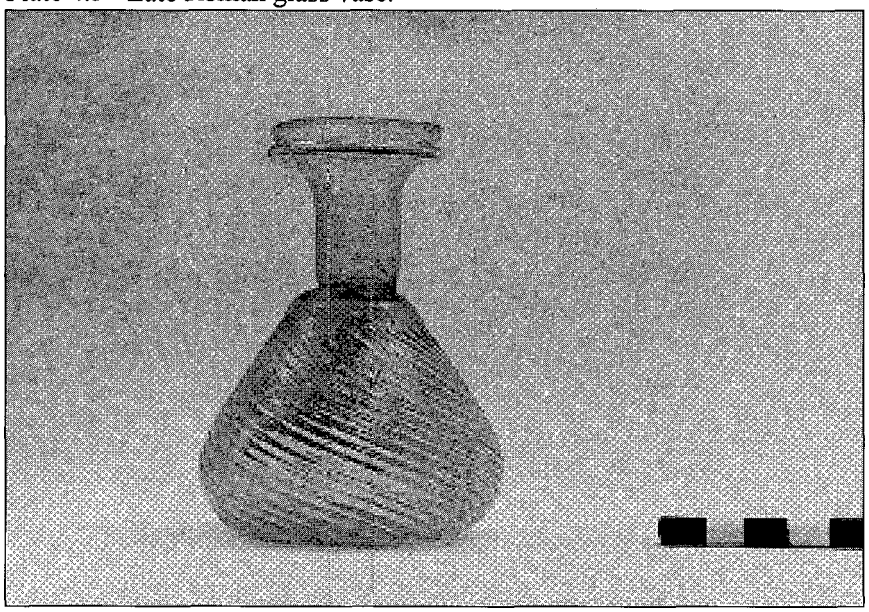
Table 4.3 Tomb F.10 (H71) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (entry-court)	ER, Byz, Ay/Mam
Tomb Chamber	
2 (loose soil fill)	LI2, ER, LR, poss Byz
3 (Grave 4: burial pit by entrance)	LI2, ER, LR dom, poss Byz
10 ("sump")	LR
11 (loculus)	No pottery
Interior Sarcophagi	
7 (NE Sarcophagus 1)	No pottery
8 (NE Sarcophagus 2)	ER
9 (NE Sarcophagus 3)	LI2 dom, LR
6 (SE Sarcophagus 5)	LI2
5 (SE Sarcophagus 6)	No pottery
4 (SE Sarcophagus 7)	Poss LR
12 (NW Sarcophagus 8)	No pottery

Table 4.4 Tomb F.10 (H71) Objects.

Locus	Description	Object #	Accession #
2	2 LR vases	1063, 1064	71.795, DAJ
	LR jug	1075	71.645
	bronze bracelet	1065	71.431
	LR 6-spout lamp	1066	71.432
4	bronze LR bangle	1074	71.438
6	LR juglet	-	unreg
	ivory pin head	1067	71.822
	bronze bellw/iron clapper	1068	71.664
	bronze LI2 bracelet	1069	71.433
	3 bronze necklace frags	1070	71.434
	bronze buckle	1071	71.435
	bronze and iron LR bracelet frags	1072	71.436
	stone spindle whorl	1073	71.437
	2 glass vases	-	unreg
7	iron ring	871	71.309
	bronze buckle	872	71.663
	iron bracelet frags	873	71.310
8	LR juglet	1007	71.642
	alabaster vessel frag	870	71.842
	bronze spatula	1001	DAJ
	gold earring	1002	DAJ
	glass beads	1003	71.394
	iron belt buckle	1004	71.395
	2 iron bracelets	1005, 1006	71.396, 71.397

Plate 4.5 Late Roman glass vase.



had been violated. From these graves a few distinctive objects (table 4.4) came to light: two glass vases (pl. 4.5), a small bell with its clapper, a juglet, and various small beads.

Chapter Five

TOMB TYPE IV: CHAMBER TOMBS WITH BOTH LOCULI AND ARCOSOLIA

S. Douglas Waterhouse

Chapter Five

Tomb Type IV: Chamber Tombs with Both Loculi and Arcosolia

Tomb F.8

Among the largest and most unusual of the loculi tombs discovered, Tomb F.8 comprised a long central chamber and 18 burial graves. Twelve of the latter were loculi containing trough graves, radiating from the southern and the northern sides of the west end of the chamber (pl. 5.1). Six additional burial troughs were at the eastern side (fig. 5.1). At the time of discovery, the tomb had been found "sealed" with a slab stone (pl. 5.2), and the chamber was discovered filled with loose soil. Due to the dangerous condition of the chamber roof, a sector of the northern side was left uncleared. The details of the tomb's original appearance, however, can be reconstructed. Apparently, the opening of each loculus originally had been closed with a single stone slab. All the burial trough graves had also

Plate 5.1 View of trough graves in Tomb F.8.

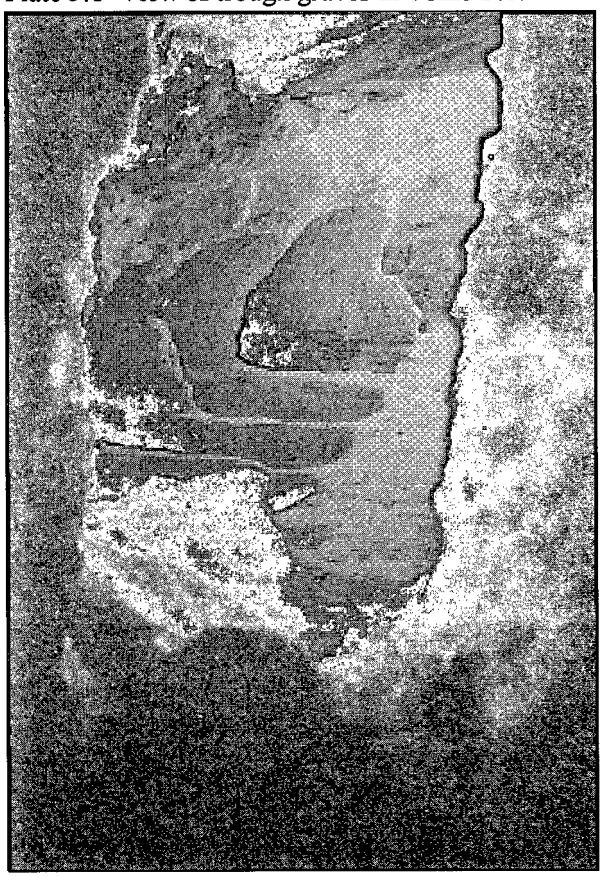
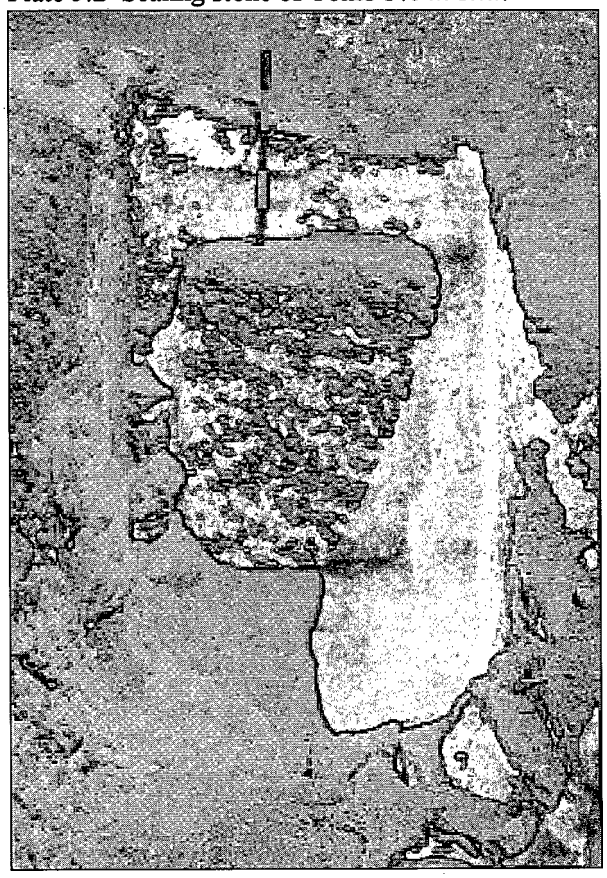


Plate 5.2 Sealing stone of Tomb F.8 *in situ*.



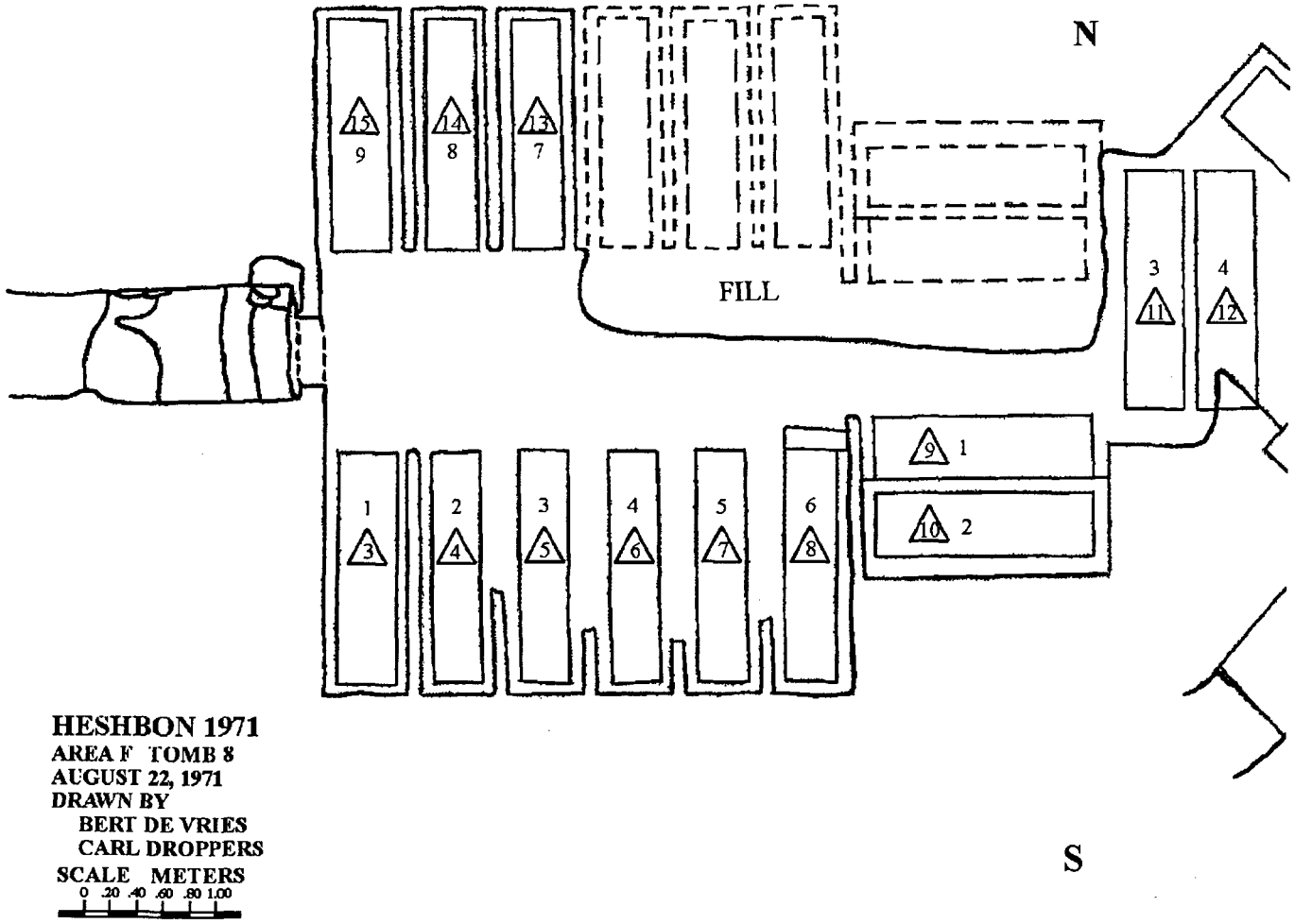
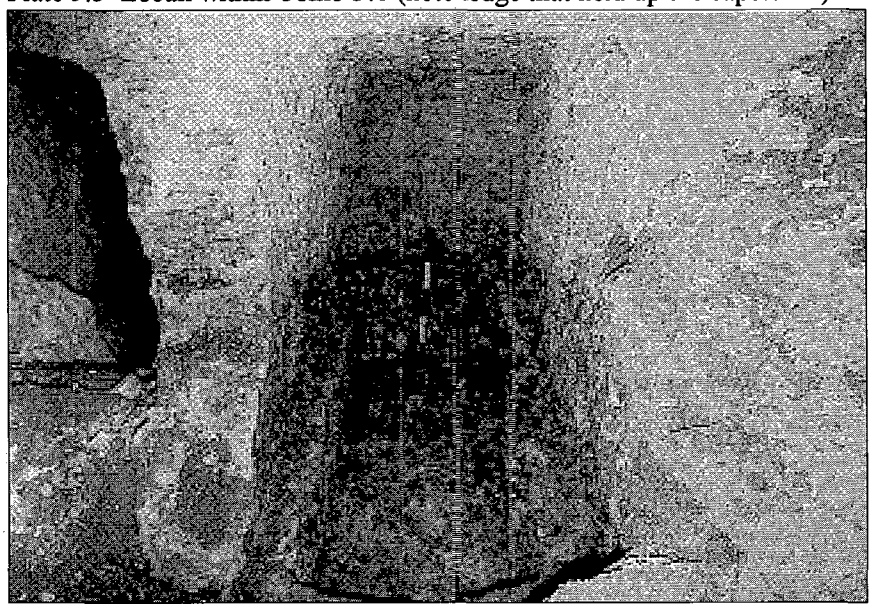


Figure 5.1 Plan of Tomb F.8.

been covered with capstones. Unfortunately, massive cave-ins had obliterated the architectural features of the main chamber walls and ceiling. A series of ancient tomb robberies stripped bare all grave sites, including many of their capstones and much of their contents (pl. 5.3).

When the tomb was first entered, heaps of rubble, roof fall, soil seepage, and dirt piles blocked easy passage (pl. 5.4). Furthermore, what was first seen as an extremely long (12.30 m) tomb turned out to be two tombs. It was found that a chamber tomb of arcosolia type (Type III), Tomb F.10, had accidentally been cut into the east end of Tomb F.8.

Plate 5.3 Loculi within Tomb F.8 (note ledge that held up the capstones).



Since the architectural features examined were characteristically Early Roman, coupled with the observation that the tomb already was in existence when the Late Roman chamber tomb was cut into two of its easternmost graves, seemingly Tomb F.8 had been constructed at some point during the Early Roman period. Loculus 6, which was found with all capstones intact, was of paramount interest in this connection. Directly under the tightly fitted capstones lay the remains of a food offering, consisting of a thin layer of possible melon seeds. The broken sherds within the grave gave evidence of an Early Roman burial (table 5.1). The only objects recovered were two beads (one glass and one faience) and a bronze ring (table 5.2).

There is little doubt, however, that the tomb had been later reused for burial purposes during Late Roman times. The easternmost grave, trough 4, also possessed all capstones *in situ*. But this time the meager contents of the grave produced Late Roman as well as Early Roman sherds. The fact that Trough 4 lay directly under a Late Roman tomb chamber (Tomb F.10) helps explain the possible source of such secondary burials.

Plate 5.4 Interior of Tomb F.8 looking east toward the entrance.

Disturbances of the tomb were not limited to Late Roman times. Byzantine and Ayyubid/Mamluk sherds provided evidence that vandals had entered the cavernous chamber sometime during the 4th-6th centuries and 13th-14th centuries, respectively. Outside of a very few small objects (mostly

Table 5.1 Tomb F.8 (H71) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (sealed capstone entrance)	1 prob Byz, UD
Tomb Chamber	
2 (roof fall and seepage)	LI2, ER, LR, Byz bods, 1 Ay/Mam, UD
Interior Loculi	
3 (Loculus 1)	ER, LR, UD
4 (Loculus 2)	LR, UD
5 (Loculus 3)	Poss LR, Ay/Mam
6 (Loculus 4)	LR, UD
7 (Loculus 5)	No pottery
8 (Loculus 6 sealed with capstones *in situ*)	1 LI2, ER, 1 Ay/Mam, UD
13 (Loculus 7)	No pottery
14 (Loculus 8)	No pottery
15 (Loculus 9)	Few LI2, Few ER, UD
Interior Arcosolia	
9 (Trough 1)	No pottery
10 (Trough 2)	No pottery
11 (Trough 3)	No pottery
12 (Trough 4)	LI2, poss ER, LR, UD

Plate 5.5 Lower portion of the sealing stone of Tomb F.27 *in situ*.

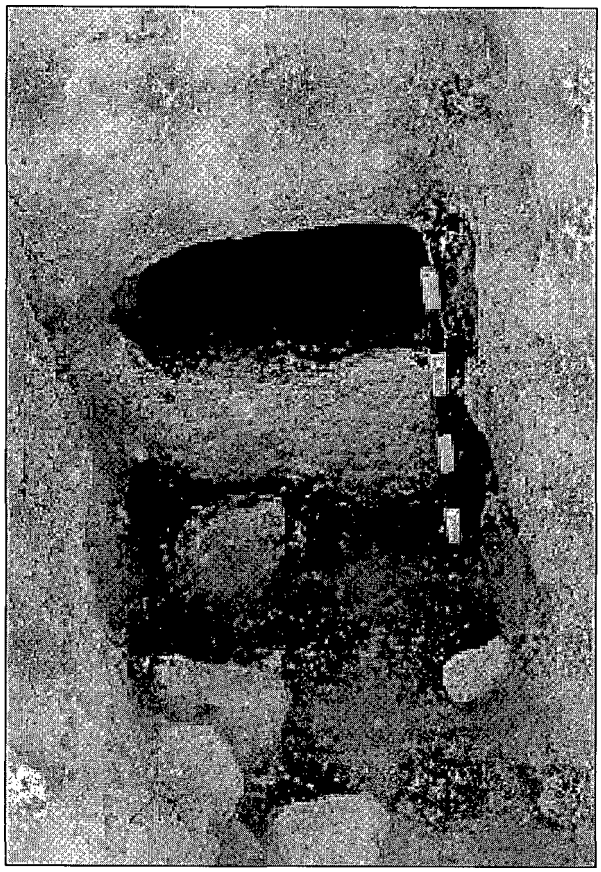


Table 5.2 Tomb F.8 (H71) Objects.

Locus	Description	Object #	Accession #
6	stone button	959	71.362
	bronze ring	960	71.363
8	glass bead	961	71.364
	1 faience bead	962	71.365
	bronze ring	963	71.366
	seeds	-	unreg

beads), no artifacts of significance were uncovered. Loculi 4 and 12 contained sheep bones, possibly remains of a food offering.

Tomb F.27

A series of probes utilizing a long steel rod indicated the presence of two vertical faces, the eastern one giving evidence of some type of protrusion, possibly the stone blocking an entrance of a tomb. Excavation proved this suspicion to be correct. Unfortunately, the entrance had been broken open by modern tomb robbers. The original sealing stone was still *in situ*, but the top third of it had been removed and the entrance was then sealed with six large field stones, apparently hastily dumped over this opening so it could be backfilled (pl. 5.5). It was clear from this characteristic that the tomb had been robbed in recent times. That suspicion was confirmed by initial examination of the interior which was badly disturbed through clandestine activity—evidenced further by an empty cigarette package resting in the lamp niche between two loculi.

In spite of the fact that the tomb had been badly disturbed, a stratigraphic sequence for its use was determined. Its architectural uniqueness made further study worthwhile. The tomb was of a square chamber type with eight loculi cut into the sides at irregular angles (pl. 5.6). One loculus was situated on each side of the entrance (pl. 5.7) and the remaining six were on the south and east chamber walls. An unusual feature was the presence of a subchamber cut from the west chamber wall on the same level as the loculi with three troughs in its base that were originally covered with gable-shaped lids, one of which was still in place (pl. 5.8). The lids averaged 1.00 m in length, 0.62 m wide, and 0.22 m thick at the highest point of the triangle.

Like the other earlier Roman tombs discovered, this had a hollow, square-cut depression in the floor

Figure 5.2 Plan and sections of Tomb F.27.

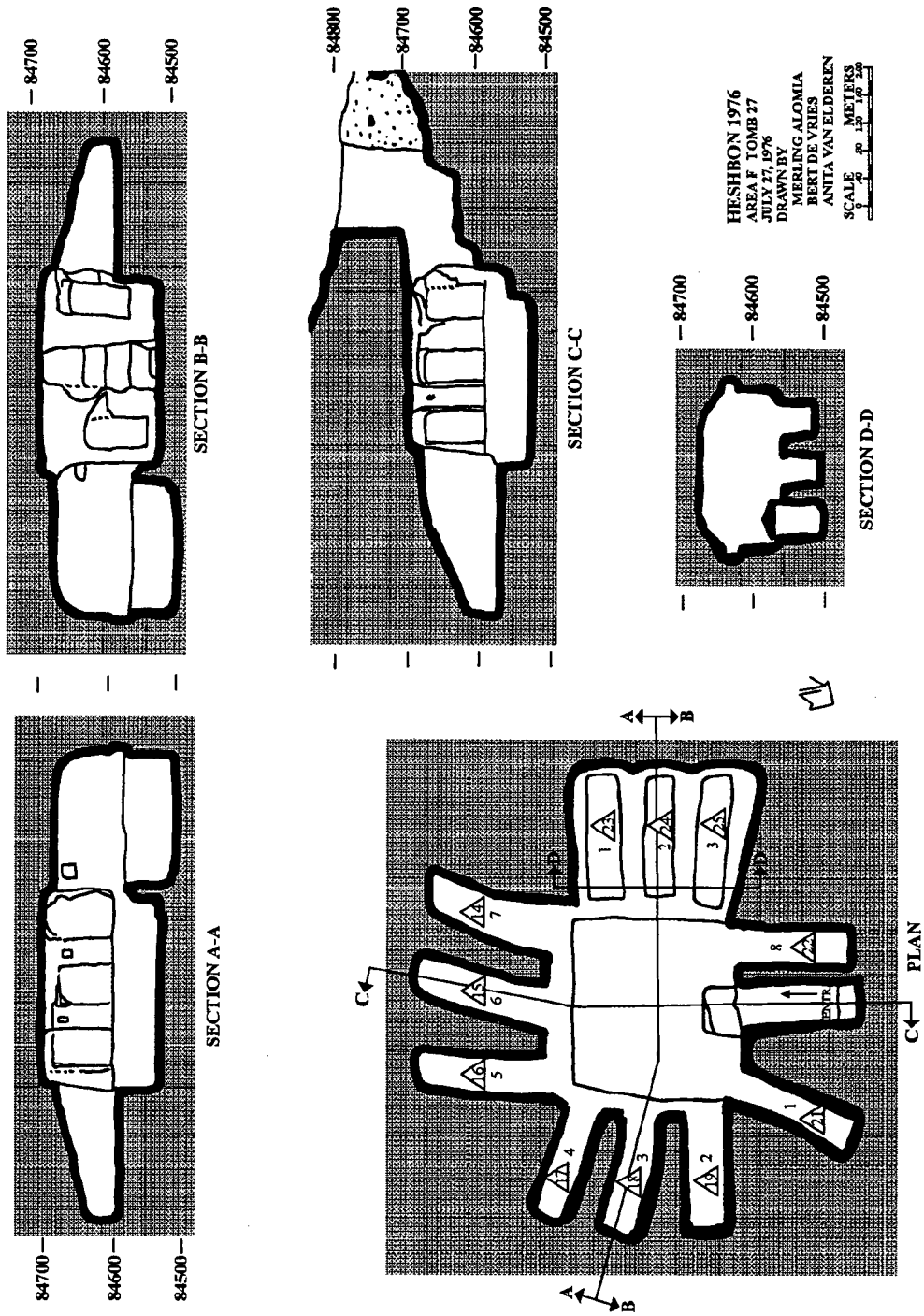
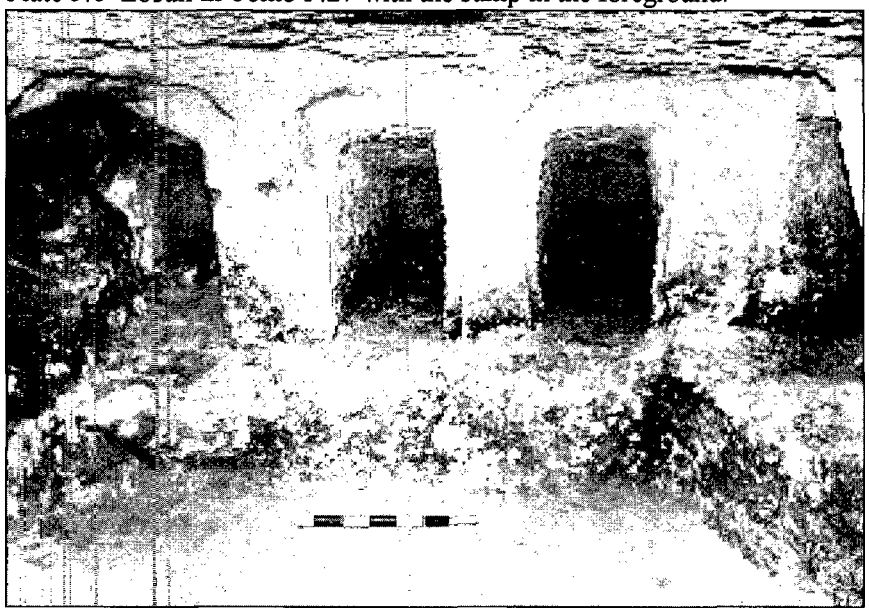


Plate 5.6 Loculi in Tomb F.27 with the sump in the foreground.

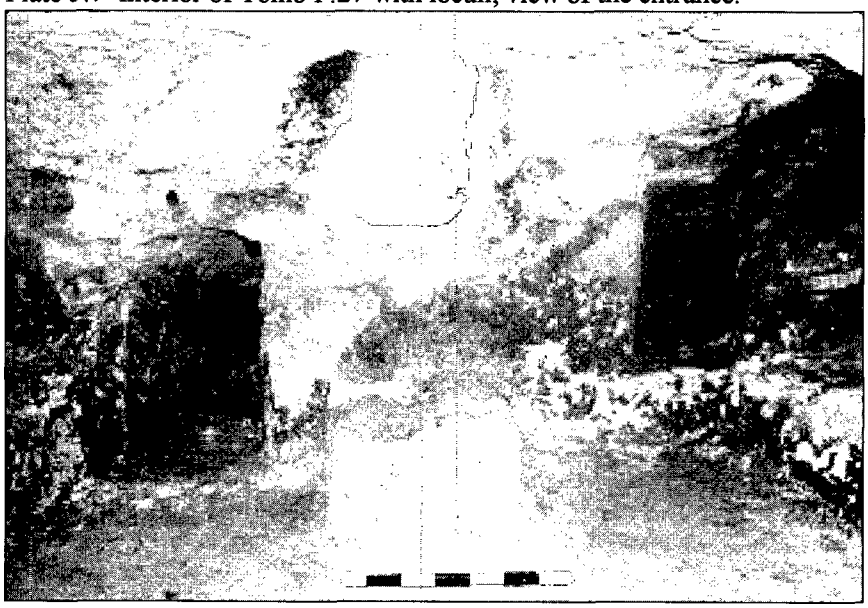


of the tomb. But unlike those in earlier Roman tombs, this hollow square was quite large, leaving very little ledge immediately in front of the loculi and no ledge on the north side where the entrance to the tomb was located (fig. 5.2).

The square pit, which was common in the tombs of both the Early and Late Roman periods, has been variously interpreted. E. L. Sukenik (1947: 351) suggested that their purpose was "... to allow head room within the chamber, without the labor which would have been in-volved in cutting the whole floor area to the required depth." The benches which surrounded the pit area could accommodate the deceased before being placed inside a loculus (Sukenik 1947: 351). Robert Smith (1967: 87, 88) maintained that the benches which surrounded the depression were used as a shelf for funerary objects. Some have argued that the depression served as "a place for the collection of skeletal remains" (Finegan 1969: 185) and this suggestion seems to have some validity in the light of the discoveries at Ramat Rahel (Meyers 1970: 20).

George E. Mendenhall suggested that this square depression served as a sump and constituted an architectural parallel to tombs in the middle Euphrates region (Waterhouse 1973: 115, n. 1). Sediment deposits in several of the hollow pits appeared to support this conclusion. However, Dewey Beegle (1975: 207, n. 1) observed (of F.18 and other tombs) that loculi sloped away from the center and gave evidence that pools formed over the years in the center and back of these loculi. This same phenomenon was noted also in Tombs F.27 and F.31. For example, in F.27 the floor of Loculus 5 (loculi numbered left to right) at its entrance was 3 cm lower than the edge of the central pit; Loculus 6 had a similar 5 cm difference, and Loculus 7, an 8 mm difference. All of these produced a silting effect of considerable proportion within the loculi. This was true in F.31, with heavy silting in the entire front of the tomb and in most of the loculi. If the hollow square depression in these

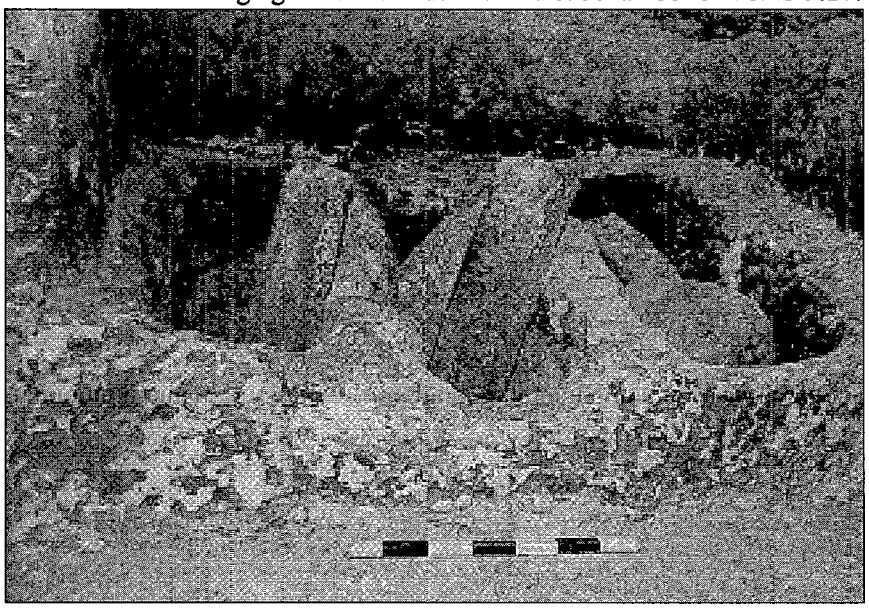
Plate 5.7 Interior of Tomb F.27 with loculi, view of the entrance.



Roman tombs was designed solely as a sump, then some of the tomb diggers had failed at their task.

The origin of this hollow depression can be attributed to two possible typological histories. One is that it was a vestige of the earlier Iron II and Hellenistic tomb designs which included benches around a central depression. But this would not account for the common occurrence of such depressions in Roman tombs outside Palestine. Furthermore, the hollow squares are often rather small and would require considerable grading for drainage from loculi to the pit.

Plate 5.8 Three trough graves with lids within a subchamber of Tomb F.27.



It is possible that the square depression is merely one of many architectural features which mirror Roman house design. The *atrium*, the central front room of the traditional Roman house, had an *impluvium* (a square or rectangular basin for rainwater) under a roof opening in the center of the room, as is well illustrated in the excavations at Herculaneum. Thus the square hollow in the center of these tomb chambers may have been designed as a drainage area much like the *impluvium* in the Roman *atrium*, with the loculi serving as the adjacent "rooms" for its occupants. The fact that silting occurred outside the sump area may be due to ground shifting as a result of earthquake activity or to the tomb masons' merely following an old but ill understood architectural tradition.

At least one mason recognized the function of the depression. Tomb F.28, which had two canals cut in the steps leading to the square depression. It is possible, therefore, that this Early Roman tomb architecture stemmed from domestic architecture. It is likely possible that the hollow depression created benches as a work place for final preparations of a body before burial. Such a bench is hinted at in Mark 16:5 (*cf.* John 20:12).

Unlike most of the chamber-with-loculi tombs of the Early Roman period, Tomb F.27 displayed considerable architectural irregularity in the façades of the various loculi. Loculi 1-5 were fairly uniform with a recessed margin around the vertical face of the entrance. However, Loculus 6 had a façade which was flush with the piers and overhead, while Loculus 7 was cut flush with the ceiling and gave no evidence of a recessed margin around the vertical face of the entrance. It appeared that the various loculi were not cut by one man, nor all at the time of the original construction.

A study of the tool marks in the various loculi also pointed to workmanship of different masons, who used no less than four different tools and digging techniques. Loculi 5 and 6, for example, were cut with the common wedged-shaped chisel which had a cutting edge measuring 9 cm wide. A blade with a serrated edge measuring 5 cm wide was employed in Loculi 5 and 1, but not apparently on the façades or the inside of other loculi. Loculus 7, however, saw the use of a tool with a larger blade, measuring 5 cm.

The variation in tools and techniques and the differences in the façades of the loculi pointed to sequential construction of the tomb. That factor, combined with the unique appearance of trough burials in the southwest sector of the tomb, seemed to indicate that portions of the tomb were prepared upon demand.

In spite of both ancient and modern robbing, numerous funerary objects were found in the loculi, and burial troughs, and on the floor. On top of

Table 5.3 Tomb F.27 (H76) Objects.

Locus	Description	Object #	Accession #
1	Mod bullet	2224	76.048
5	Mod button	2243	76.066
6	glass bracelet frag	2255	76.077
	coin	-	unreg
7	bronzeware button	2346	76.153
	bone pin frags	2352	76.157
	2 bone needles	2344, 2345	76.151, 76.152
	ivory mirror handle	2343	DAJ
	Byz lamp frag	2412	76.210
	iron frag	-	unreg
	glass frag	-	unreg
8B	glass vessel parts	2390	76.190
	2 bronze bracelets	2396, 2461	76.196, 76.253
	bronze wire	2395	76.195
	frag of basalt bowl	2745	76.503
	pottery plate	2734	76.493
	coin	-	unreg
	bronze earring frag	2457	76.249
9A	copper bracelet	2496	76.284
	spindle whorl	2492	76.280
	bronze spatula	2491	DAJ
13	gold earring	2554	DAJ
	iron bracelet frag	2562	76.340
	2 bone needles	2560, 2557	76.338, 76.335
	iron nail	2605	76.379
22	flint scraper	2635	76.407
23	bead	2684	76.446
	2 glass beads	2685	76.447
	point of a bone pin	2683	76.445
	4 bone hairpin frags	2788	76.538
	2 bone hairpins	2779, 2787	DAJ, DAJ
	2 bone hairpin rings	2785, 2786	76.536, 76.537
	iron bracelet frag	2680	76.442
24	bone pin frag	2690	76.452
	iron frags	-	unreg
25	lock hook of box	2692	76.454
	bronze wire bracelet	2693	76.455

Table 5.4 Tomb F.27 (H76) Pottery Readings.

Locus	Pottery Readings
Tomb Entrance	
1 (surface soil)	E Byz, UD
Tomb Chamber	
2 (loose soil)	Rom, E Byz IV, Byz
3 (rockfill)	E Byz IV
4 (loose fill under 3)	E Byz
5 (packed soil SW corner)	E Byz, Ay/Mam
6 (rubble fill SW corner)	LR, E Byz, UD
7 (fill over the floor at tomb entrance next to loculus 2)	LR dom, E Byz, UD
8a (packed soil under 7 which extended into the chamber)	ER I-II, LR, E Byz, L Byz
8b (wet, chalky soil under 8a)	ER, LR, E Byz, L Byz, UD
9a (floor under 8b)	Rom, LR III, Byz, UD
9b (a bedrock portion under 9a)	LR II
10 (fill and ceiling collapse in NE corner under a portion of 8b)	ER I-II, LR
11 (packed soil under 10)	ER, LR, Ay/Mam
12 (ceiling collapse at NE corner)	ER, LR, E Byz, Byz, Ay/Mam, Mod
14 (under 12, extending into Loculus 3)	No pottery
20 (NW corner, extending into Loculus 2)	No pottery
Interior Loculi	
21 (Loculus 1)	Poss LR, E Byz
19 (Loculus 2: ceiling collapse from an ancient break-in)	No pottery
18 (Loculus 3)	LR, E Byz
17 (Loculus 4)	LR
16 (Loculus 5)	LR III-IV
15 (Loculus 6)	LR
13 (Loculus 7)	LR III-IV
22 (Loculus 8: ceiling collapse)	LR, E Byz, UD
Interior Sarcophagi	
23 (sarcophagus-Trough 1)	LR, E Byz, UD
24 (sarcophagus-Trough 2)	LR, UD
25 (sarcophagus-Trough 3)	LR, UD

Locus 7, just inside the tomb entrance, was found a small dish containing a button, bone pin fragments, bone needles, and an ivory mirror handle. A candle placed in the center of the objects indicated that modern tomb robbers had collected these in the dish but for some reason had left them behind. The tomb produced the usual range of funerary materials including bronze and copper bracelets, spindle whorls, cosmetic spatulas, iron nails, and bone hairpins. A very attractive solid gold earring, found in Loculus 7, was one of the finest objects found at Tell Hesban (table 5.3).

Bone analysis indicated approximately 17 burials, including at least four children. Among the adults the most common pathological condition was arthritis. Ceramic evidence indicated a Late Roman I-II origin for the tomb and stratigraphic analysis pointed to five phases of tomb history (table 5.4).

The first phase included the original construction and initial use of the tomb in the Late Roman I-II periods. Presumably the north and east loculi were cut at that time, although not simultaneously. Since Loculus 7 and the subchamber containing the trough burials were without lintels, it may be assumed that these were prepared at the same time (or at least by the same mason); perhaps in the second phase of use in the Late Roman III-IV periods. Locus 6, located immediately outside the original sealing stone, and Locus 9 on the floor of the tomb in the northeast corner, confirmed this early sequence. Most of the tomb interior was disturbed to the point that stratigraphic analysis was impossible, but there was a considerable portion of the northeast corner undisturbed and it was here that the various phases of the tomb use were evident. Only Loculi 1 and 8 were originally sealed by stone slabs, as was

Figure 5.3 Plan and sections of Tomb F.28.

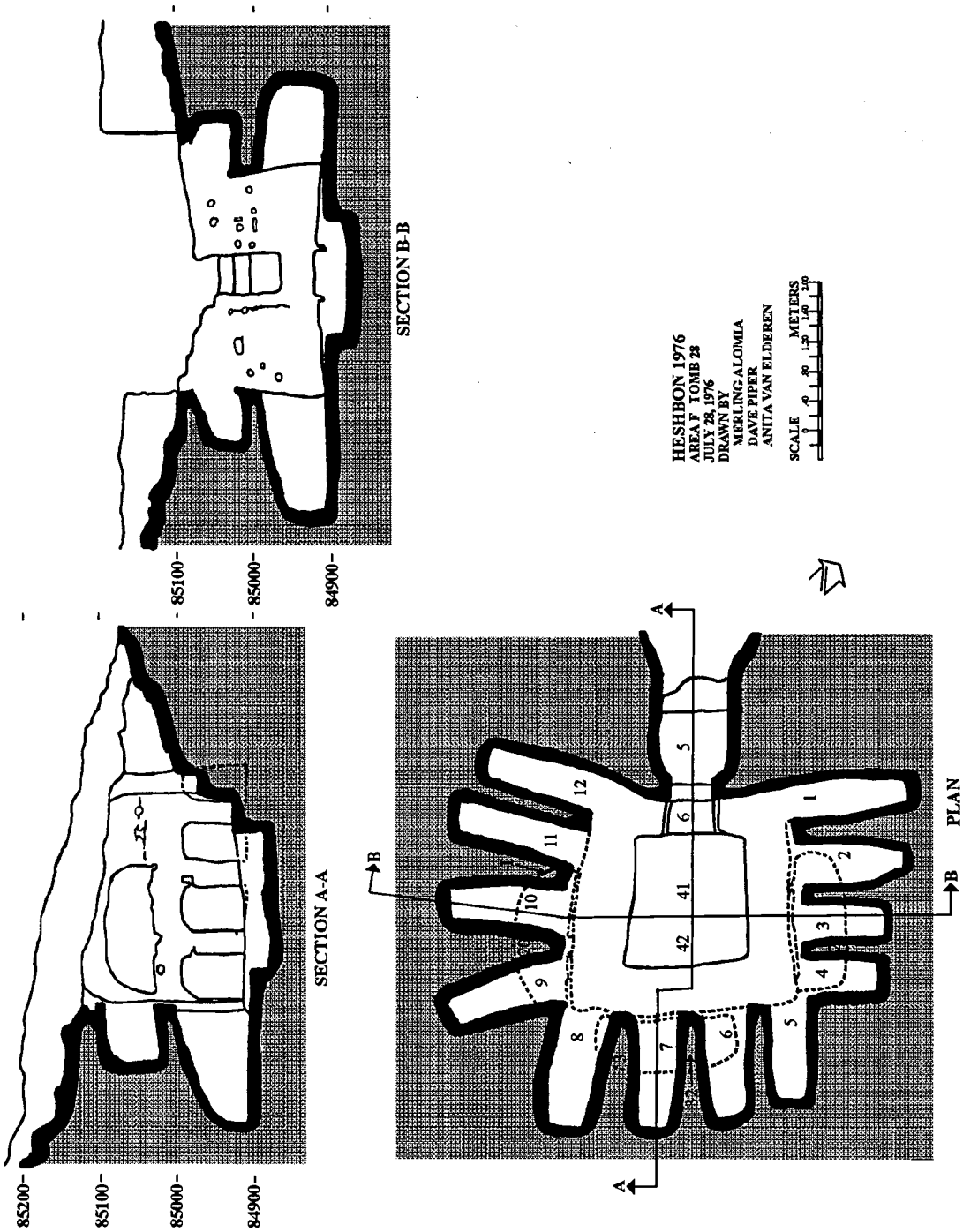


Table 5.5 Tomb F.28 (H76) Pottery Readings.

Locus	Pottery Readings
Above the Tomb	
1 (surface top soil)	Byz, Ay/Mam
2 (subsoil)	E Byz IV
3 (subsoil under 2)	E Byz, UD
4 (subsoil under 3)	E Byz, ER, LR
29 (surface top soil)	I2/P, L Byz, Ay/Mam
30 (subsoil under 29)	Rom, E Byz, L Byz, UD
31 (subsoil under 30)	Prob E Byz, UD
Tomb Entrance	
5 (soil fill in front of sealing stone)	ER, LR, E Byz
Tomb Chamber	
6 (soil fill behind sealing stone)	E Byz, poss LR
7 (loose soil fill SW corner)	E Byz, 1 Ay/Mam, UD
8 (subsoil under 7)	Prob E Byz, poss LR
9 (subsoil under 8)	E Byz
10 (subsoil under 9)	Poss Rom, E Byz
11 (subsoil under 10)	Lost
12 (subsoil under 11)	Byz, UD
13 (surface of SW corner)	ER, LR, E Byz, UD
16 (loose soil fill SW corner)	E Byz, 1 Ay/Mam
17 (subsoil under 16)	ER, Rom, Byz, 2 Ay/Mam
18 (subsoil under 17)	E Byz, UD
19 (subsoil under 18)	ER, LR, poss E Byz, UD
21 (outside loculus 3)	Poss ER, LR III, IV, E Byz, UD
23 (SW corner, under 19, in front of Loculi 5 and 6)	1 I2/P, ER, LR, E Byz, prob L Byz, UD
33 (in front of 32)	Poss ER, LR, E Byz, L Byz I, II
41 (subsoil under 33 in "sump")	ER, ER III-IV, LR I-II
42 (wash layer in "sump")	LR, UD
43 (bottom silt layer of "sump")	Poss ER, UD
Interior Loculi	
14 (Loculus 1)	ER, poss LR, E Byz, UD
15 (Loculus 2)	ER, LR/E Byz
22 (Loculus 3)	ER, LR, Byz
24 (Loculus 4)	LR, E Byz
25 (Loculus 5)	LR, poss E Byz
28 (Loculus 5)	ER, LR, E Byz, Byz
26 (Loculus 6)	LR, prob E Byz
27 (Loculus 6)	Byz, UD
34 (Loculus 7)	Byz
35 (Loculus 8)	1 I, 1 Rom, 1 Byz
36 (Loculus 9)	ER, poss LR
37 (Loculus 10)	LR, prob E Byz
38 (Loculus 11)	ER IV, LR I, II-IV
39 (Loculus 11)	LR, Byz
40 (Loculus 12)	ER, LR I-II, E Byz, prob L Byz I-II
Interior Arcosolia	
20 (Arcosolium 1)	I2, ER, LR I, E Byz
32 (Arcosolium 2)	ER IV/LR I, prob Byz, UD
32 (Arcosolium 3)	ER IV/LR I, prob Byz, UD

common in many Roman tombs, especially where a cult of the dead was practiced. The slab of Loculus 1 was found sealed between Loci 8a and 9a in the northeast sector, indicating that the original disturbance or robbery of the tomb had occurred at the end of the Late Roman period or in the initial stages of the Early Byzantine period.

The tomb was in use throughout the Early Byzantine period, as established not only by ceramic evidence inside the tomb, but also by a section against the entrance (Locus 6). This accorded well with other burial patterns found throughout Area F and pointed to considerable population density at Tell Hesban for that period. The Late Byzantine period saw the fourth phase of the tomb's use. It appeared from the lack of significant quantities of ceramic materials to have been a much less important phase. The final aspect of the tomb's history was its violation in Ayyubid/Mamluk and Modern times. The loci adjacent to the entrance, contained Ayyubid/Mamluk and modern materials but the remainder of the entrance and lower portion of the sealing stone had not been disturbed since the Late Byzantine period. Since the tomb was rather thoroughly robbed, it was difficult to determine whether or not its distinctive architectural features represented ownership by a wealthy family at Hesban, or were merely the work of creative masons.

Tomb F.28

In connection with the tomb exploration of the 1971 season, Philip Hammond and his University of Utah team conducted a magnetometer and resistivity test just to the west of Tomb F.5 in a 10 m × 30 m sector running northeast to southwest. While the magnetometer survey results were not especially useful, the resistivity chart did indicate several likely tomb locations. One of these proved fruitful with the discovery of Tomb F.28.

This tomb of the square-chamber type had 12 loculi and also three arcosolia cut immediately above the loculi in the north, east and south walls (fig. 5.3). The tomb was found sealed with original blocking stone *in situ* and a considerable amount of heavy rubble immediately in front of the stone—a sign that the tomb had not been entered in modern

Table 5.6 Tomb F.28 (H76) Objects.

Locus	Description	Object #	Accession #
11	gaming piece	Lost	unreg
15	bronze brooch	2424	76.220
	glass vase	2408	76.207
	olive pit	-	unreg
	metal frag	-	unreg
19	glass frag	-	unreg
	undefinable coin	-	unreg
20	glass piece	-	unreg
23	glass piece	-	unreg
	bead	-	unreg

Plate 5.9 Interior entrance of Tomb F.28 showing drain channels located on either side of the lower step.

times. A section cut against the blocking stone indicated that the tomb was in use from the Early Roman period into the Early Byzantine period, burial activity ending no later than the middle of the fourth century A.D. This range of use was confirmed by stratigraphic and ceramic indicators inside the tomb as well (table 5.5).

This tomb had two unique features. One was the presence of very small loculi on the north side. Loculi 3 and 4 were approximately one half the length of the other loculi. The very rough tooling in the back ends of these indicated that they were never completed. The tomb had the usual square hollow sump in the floor, into which led two drainage channels cut on either side of the main step (pl. 5.9). This is one of the clearest indicators that the hollow depression was designed for drainage purposes. However, engineering skill in this area was something less than precise in that the floor on either side of the channels sloped away from them. The loculi surrounding the central chamber were generally square cut and at right angles to the chamber walls.

The interior of the tomb had been completely filled as a result of the collapse of nearly all the ceiling—an indication of earthquake activity of some proportion. The tomb, even though not robbed in modern times, appeared to have been disturbed during the Byzantine period. Very few significant objects were found either in the loculi or on the floor. A pin and glass vase were recovered from Loculus 2 and a few small metal fragments were found elsewhere (table 5.6). None of the loculi contained more than one burial. It appeared that the tomb had only sporadic use into the Early Byzantine period when it was destroyed. The presence of three arcosolia cut above the loculi (pl. 5.10) is unknown except at Tell Hesban. Each of the arcosolia was furnished with a slightly raised lip at the front edge with a small drainage canal through it.

Plate 5.10 Loculi 9-12 of Tomb F.28 with an arcosolium alcove above. Notice the drain holes.

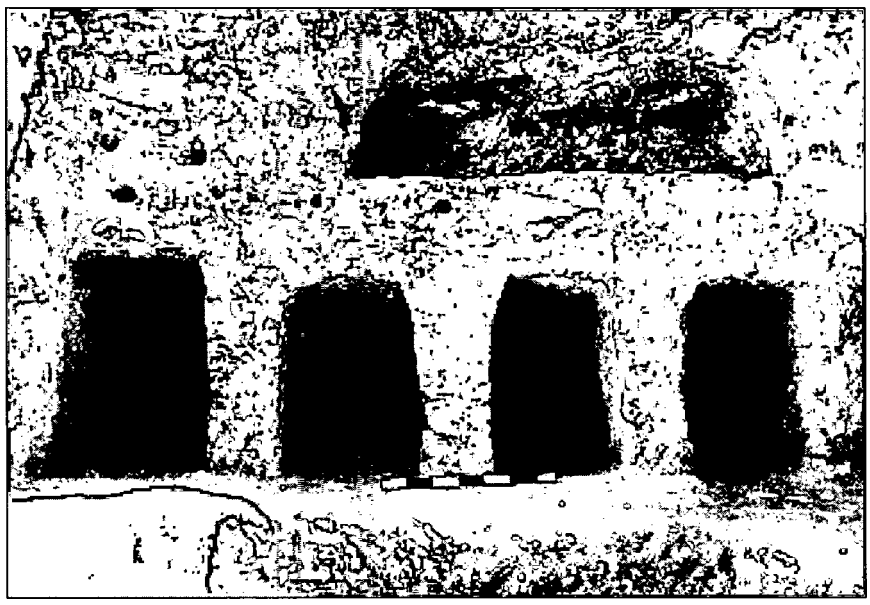


Plate 5.11 South view of the interior chamber of Tomb G.10 showing four loculi with arched ceilings.

The tomb exhibited five phases of history. The construction of the tomb and its initial use can be clearly dated to the Early Roman IV period (A.D. 70-135). The tomb continued in rather limited use into the Late Roman I-II periods (A.D. 135-195) with a final phase in the Early Byzantine I-II periods (A.D. 324-365). The fourth phase of the tomb's history would be its destruction, probably in the great earthquake of A.D. 365. Ceramic materials in the entrance as well as the loci which constituted the original deposits within the tomb included nothing later than the Early Byzantine period. This appeared to confirm the end of the tomb's use.

The final phase of the tomb's history would be dated to the Early Byzantine III-IV and the Late Byzantine periods (A.D. 365-661). The destruction of the tomb by the earthquake left a considerable depression in the ground and this was probably backfilled for agricultural use shortly after the earthquake, as evidenced by loosely packed yellowish red soil mixed with quantities of field stones and pieces of limestone in Loci 18 and 20.

At least two tools were used in the preparation of the tomb. The standard 9 cm wedge blade was the most common for finishing work inside the loculi. Loculus 3 gave evidence of a different tool— a wedge-shaped, flat-bladed chisel measuring 3.51 cm at its tip. This was apparently employed for the work in Loculus 3 alone, for no other evidence of it appeared elsewhere in the tomb unless it was the ceiling, which could not be examined.

The loculi and other architectural features of the tomb represented average workmanship. There was no painting or decoration, nor were there any sealing slabs for the loculi.

Tomb G.10

About two kilometers northwest of Tell Hesban is a limestone outcropping which was recommended to us as a possible tomb site by Helmi Musa, a Bedouin working with the expedition. He pointed out a half-exposed disc of stone which closely resembled the slab that closed the opening to "Rolling Stone" Tomb F.1 which had been excavated in 1971. Tomb G.10 turned out to be another of this type and only the second example to be found in Jordan.

Tomb G.10 had an access hole in the roof *ca.* 1.0 m wide × 3.5 m long, apparently produced by recent tomb robbers. It was used as access for our excavation work, leaving the door *in situ* for its value as an exhibit of tomb door construction and placement. The tomb was composed of a central chamber and four loculi with arched ceilings radiating out from the north and south walls (pl. 5.11), and three more from the east wall. One of those in the east wall had two arcosolia flanking it and an additional loculus attached to its east end. A square sump occupied the center of the chamber floor as in Tomb F.1 (fig. 5.4).

It was unfortunate that the tomb had been visited by grave robbers. Bodies and grave foods had originally been placed in all the loculi in Early Roman times and dirt had apparently been brought in from the surrounding land to cover the bodies. While robbers had not entered through the rolling stone doorway—for the sherds in its track were all from Roman times (table 5.7)—they had taken advantage of the break in the roof to rifle the contents and rake the soil from the end of each

Figure 5.4 Plan and sections of Tomb G.10.

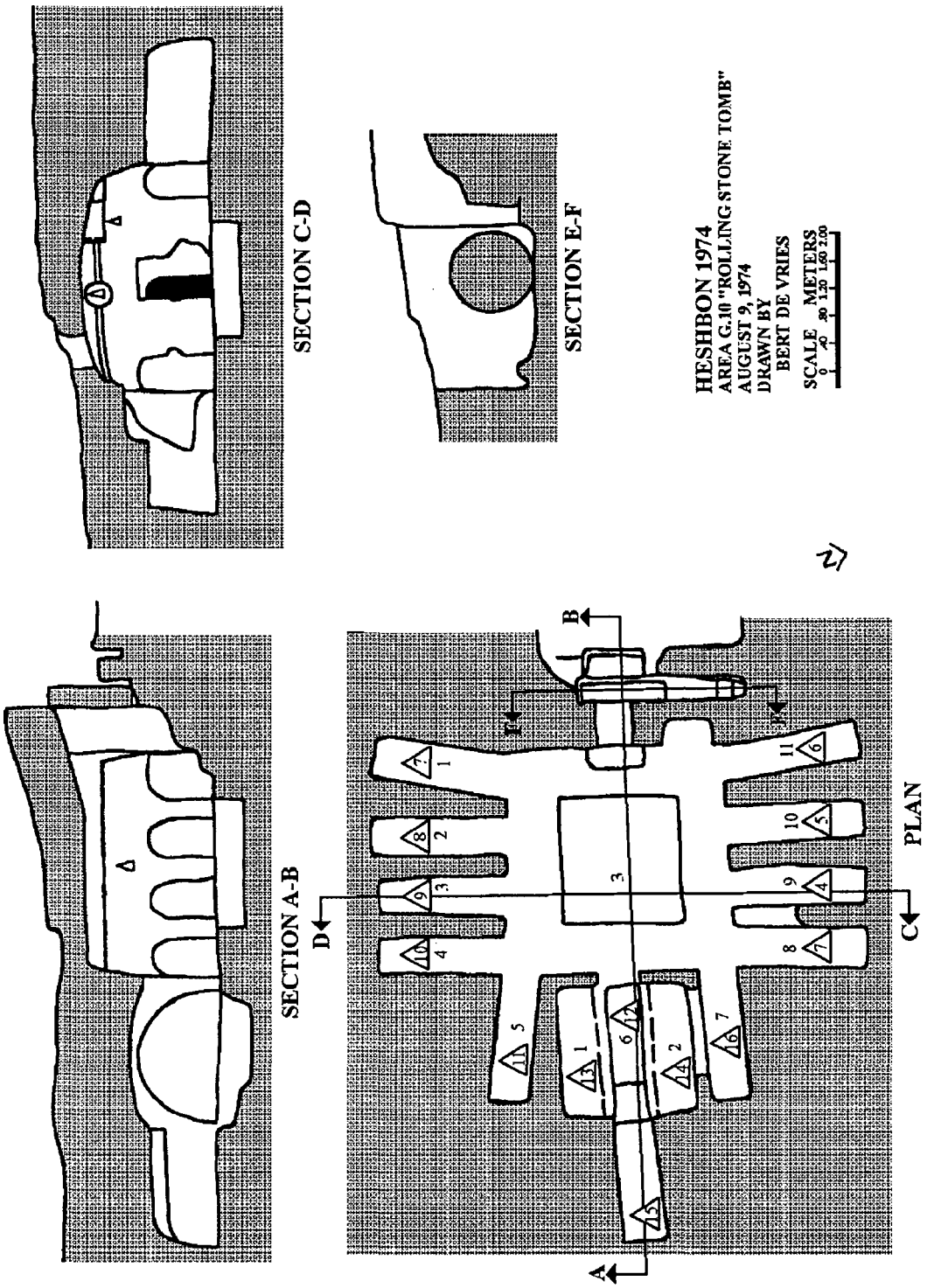


Table 5.7 Tomb G.10 (H74) Pottery Readings.

Locus	Pottery Readings
Exterior Entrance	
17 (outside rolling stone)	ER, LR, Byz, UD
18 (in front of door)	ER, LR, Byz
19 (below 18)	ER dom, LR, prob Byz, UD
20 (at base of blocking stone)	ER
22 (slat for stone to roll in)	No pottery
23 (rectangular blocking stone)	No pottery
Interior Chamber	
1 (ceiling collapse)	I, ER dom, LR, prob E Byz, UD
3 (central "sump")	ER, LR, poss Byz
21 (packed dirt around undisturbed stone door)	Poss Hel, ER, UD
24 (bedrock under all loculi)	No pottery
Interior Loculi	
2 (Loculus 8)	ER, LR, poss E Byz, Byz, UD
4 (Loculus 9)	ER, UD
5 (Loculus 10)	Poss Rom, Byz dom
6 (Loculus 11)	ER
7 (Loculus 1)	ER, E Byz, UD
8 (Loculus 2)	Poss ER, prob Byz, UD
9 (Loculus 3)	Prob I bods, ER dom
10 (Loculus 4)	ER dom, poss LR I, UD
11 (Loculus 5)	ER, UD
12 (Loculus 6)	ER dom, poss LR I, UD
15 (Loculus 6a)	ER dom, LR
16 (Loculus 7)	ER
Interior Arcosolia	
13 (Arcosolium 1)	ER dom, poss LR I
14 (Arcosolium 2)	ER dom, poss LR I

loculus to the central chamber. No bones were articulated and no grave foods were found associated *in situ* with them. In the process of excavating the mound of soil in the central chamber, however, a fragment of a Herodian lamp, a faience bead, and bones from several persons (including 9 left radii) were recovered (table 5.8). These individuals had ranged from infants to arthritic-aged persons and included both males and females.

As the loculi were excavated, additional scattered grave foods came to light: a gold earring, a bronze fibula, a Nabataean (Rabbel II, A.D. 71-106) coin, a fragment of a pin, an iron nail, and many fragments of glass. An unexploded hand grenade was possible evidence for the way in which modern tomb robbers do

Table 5.8 Tomb G.10 (H74) Objects.

Locus	Description	Object #	Accession #
1	faience bead	2037	74.352
	Herodian lamp	-	unreg
2	gold earring	1970	DAJ
3	metal and glass frags	-	unreg
8	Roman bronze fibula	2040	DAJ
10	metal and glass frags	-	unreg
13	iron nail	-	unreg
14	bronze coin (Nabataean: Rabbel I, A.D. 71-106)	2101	74.408
16	ivory pin frag	2082	74.392
17	Herodian lamp	2098	74.405
	stone spindle whorl	2076	74.388
19	5 beads	2069	74.381
	glass bottle	2080	74.391
	iron nail	2088	74.396
	2 Herodian lamps	2097, 2099	74.404, 74.406

their work. Scattered bones from more individuals were found.

As the tomb was cleared of its contents the architectural style of the interior became more visible, and evidence of considerable care in its workmanship was indicated by the presence of three wall niches for lamps (pls. 5.12 and 5.13) and a decorative band of carving on the walls near the ceiling.

In the process of excavating outside in front of the doorway more objects were found, including three Herodian lamps and a spindle whorl (pl. 5.14). The door was provided with a rock base slot in

Plate 5.12 Interior of Tomb G.10 showing a triangular-shaped lamp niche.

which to roll. A slot had been cut into the rock left of the doorway to accommodate the stone when it was rolled away from the opening (pls. 5.15, 5.16).

Plate 5.13 Close-up of a lamp niche in the east wall of Tomb G.10.

Plate 5.15 Slot runway for the rolling stone in Tomb G.10.

Plate 5.14 A group of objects found in Tomb G.10.

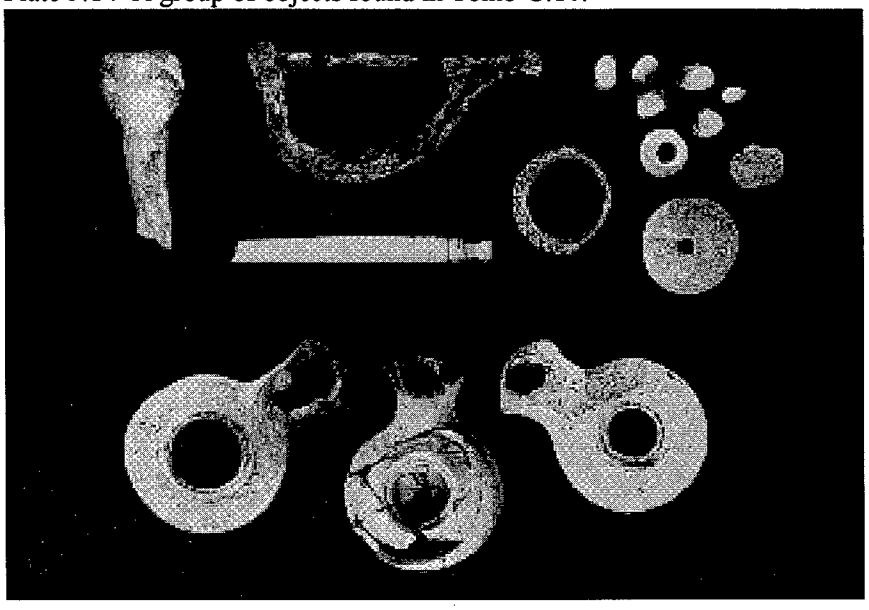


Plate 5.16 Exterior view of the rolling stone closure of Tomb G.10 *in situ*.

Chapter Six

TOMB TYPE V: VERTICAL SHAFT TOMBS HAVING A RECTANGULAR SHAPE

S. Douglas Waterhouse

Chapter Six

Tomb Type V: Vertical Shaft Tombs Having a Rectangular Shape

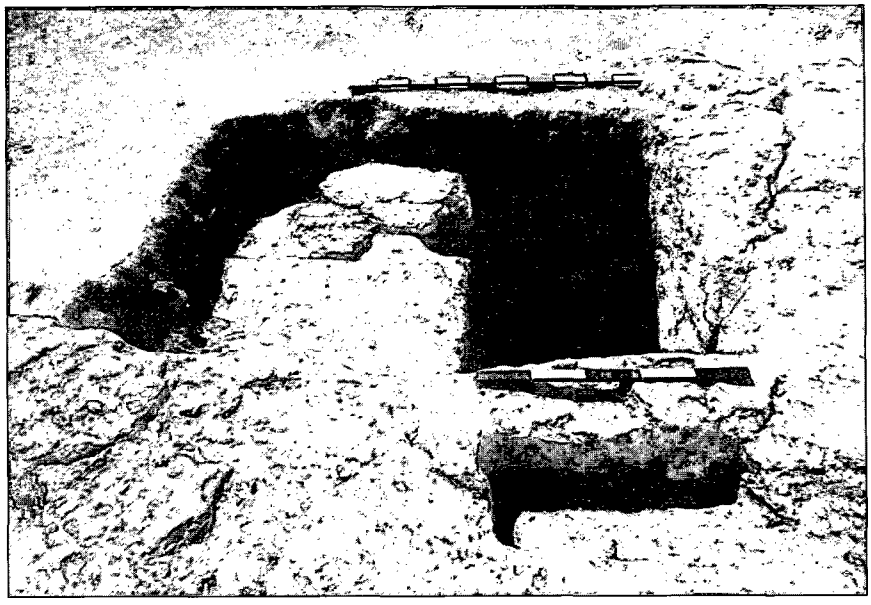
Tomb F.4

A bedouin by the name of Helmi Musa showed us a rectangular depression cut into the stone outcropping, which he said indicated a tomb directly below (pl. 6.1). It was he who brought to our attention the fact that these depressions, possibly "stela marks," (cut into the stone in order to hold up a memorial stone slab) were closely associated with tombs. His observation proved rewarding. Digging through the ground surface soil soon revealed a rectangular-shaped vertical shaft dug down through the limestone rock (pl. 6.2). Clearing the shaft to a depth of 1.12 m, the tops of five large capstones which rested on narrow ledges running the length of both sides of the shaft were uncovered (pls. 6.3 and 6.4). At 1.50 m below the capstones the shaft floor led to recessed alcoves on each side (north and south) and loculi at each end (east and west) (fig. 6.1).

Each of the two side alcoves contained a trough grave found covered by both dirt and large capstones. Clearance of the south grave (pls. 6.5 and 6.6) revealed that nine bodies had been placed in it, each burial having pushed back previous burials. The burials had taken place over an extended period of time. Two pairs of gold earrings, bracelets, and two Late Roman bronze fibulae were among the objects associated with the burials. In clearing the north alcove (pls. 6.7 and 6.8), the remains of four bodies, a bronze bracelet, and glass fragments were uncovered.

The east end loculus contained the remains of three skeletons, a Roman incense shovel, two gold earrings, a large bronze ring, and part of an iron key. In the west end loculus (pl. 6.9), which lay below the "stela mark," the entire burial evidence had been smashed by ceiling fall. The bones within were all fragmented, nevertheless, it could be determined that remains of an earlier burial had been shoved toward the rear of the loculus in order to make room

Plate 6.1 "Stela" mark (bottom right corner of photo) at the east end of the entrance of Tomb F.4.



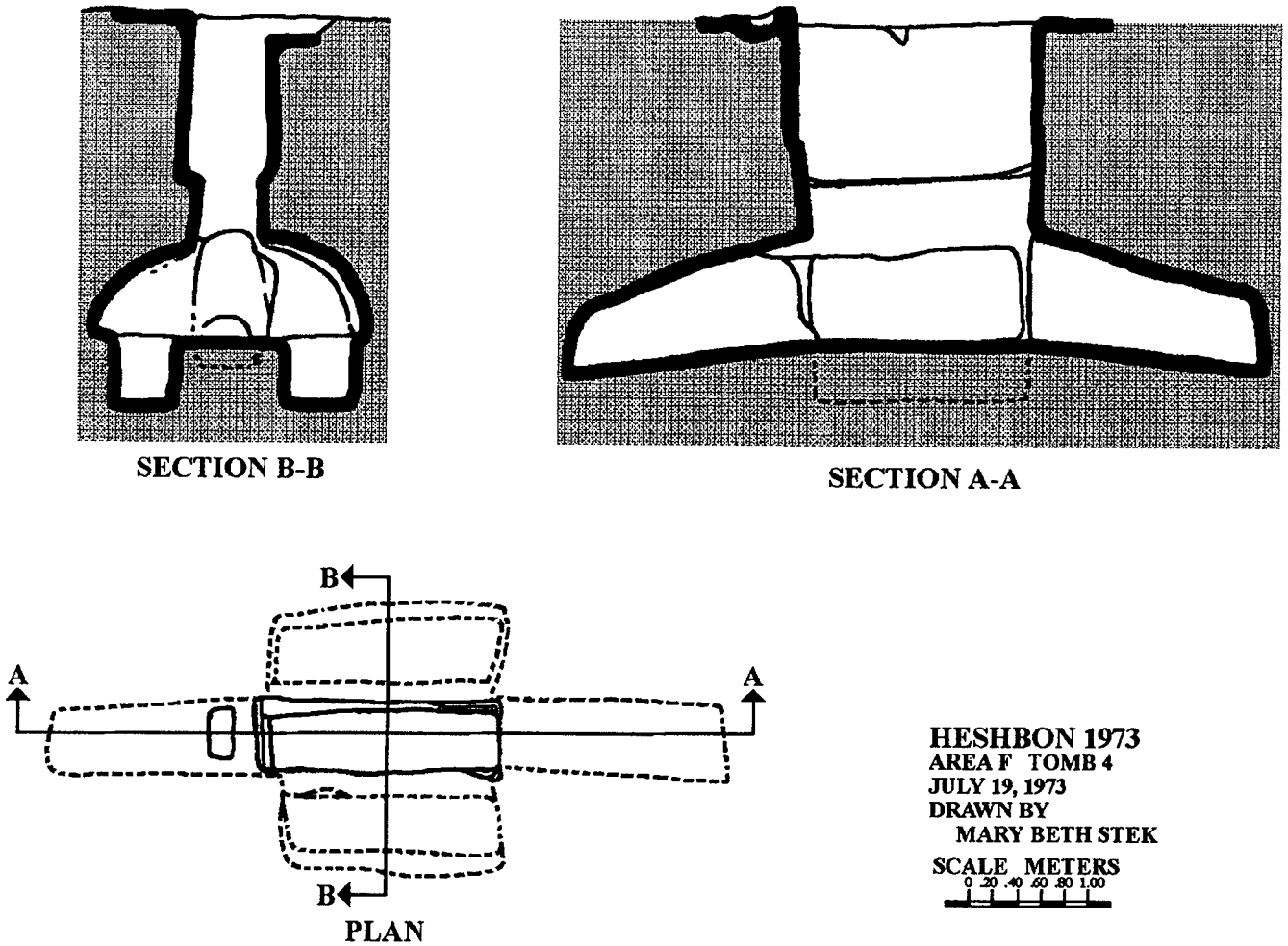


Figure 6.1 Plan and sections of Tomb F.4.

Plate 6.2 East view of opened Tomb F.4. Ledges that held the capstones that sealed this tomb are visible within the shaft entrance.

Plate 6.3 Entrance of Tomb F.4 during excavation with a capstone still in place.

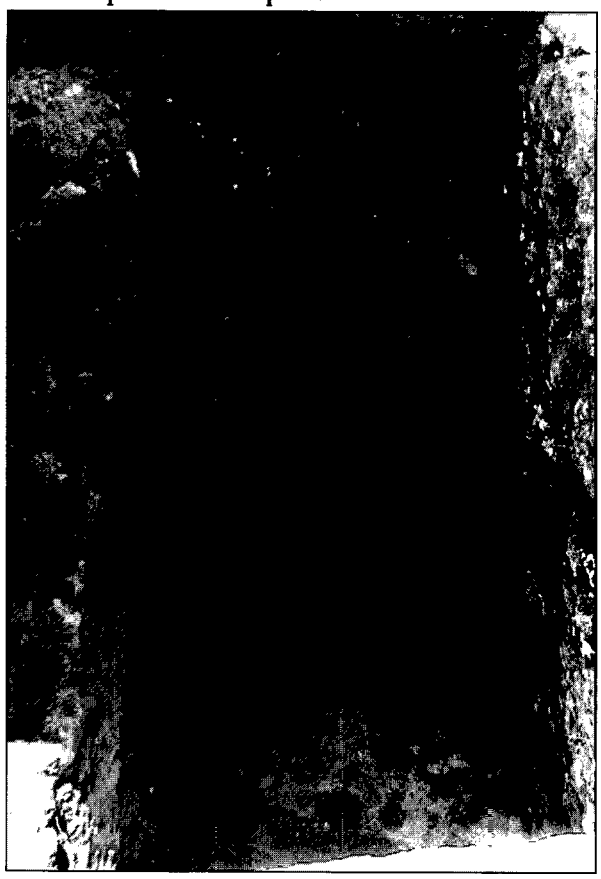


Plate 6.4 Tops of capstones sealing shut Tomb F.4, viewed north.

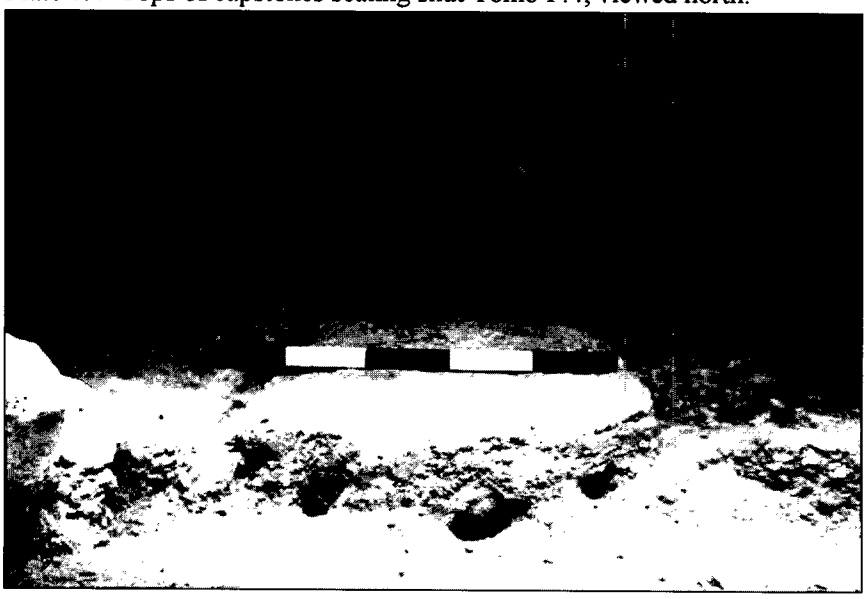
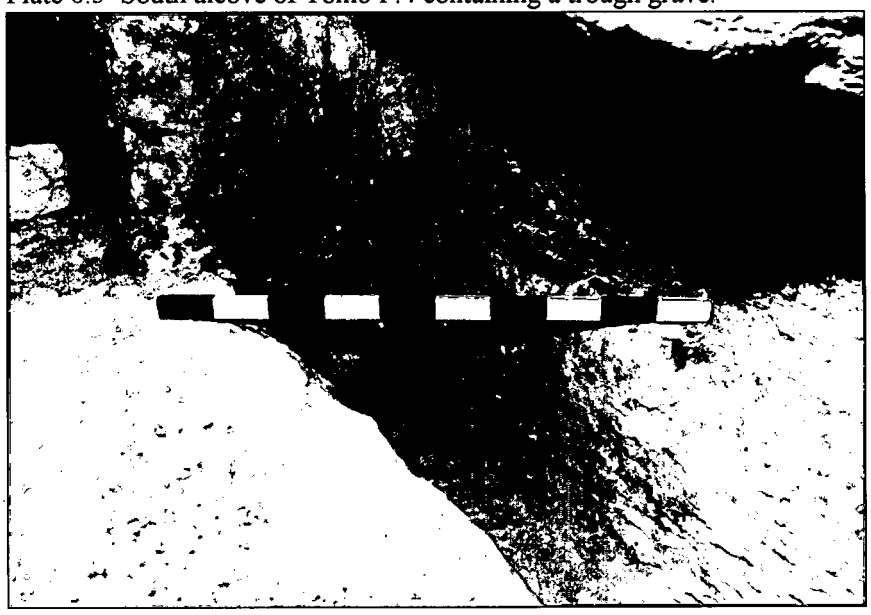


Plate 6.5 South alcove of Tomb F.4 containing a trough grave.



for a second burial. Small skull fragments of a very young child were found (table 6.1). Four glass bracelets were found intact despite heavy ceiling fall.

Among the indicators which point to a Late Roman date for the tomb, the two Late Roman fibulae and the Roman incense shovel are worthy of mention (table 6.2). No whole pieces of pottery were found. The small fragmented sherds recovered from the soil and the graves were all Early Byzantine (table 6.3). The tomb had most likely been cut sometime during the Late Roman period and had remained in use as a family tomb during the beginning of the Byzantine period.

Plate 6.6 Disarticulated bones and skull *in situ* in Tomb F.4.

Table 6.1 Tomb F.4 (H71) Human Remains.

Locus	Bone Analysis
4 (S alcove)	9 individuals (1 infant, 1 seven year old female, 5 adult females, 1 elderly female, 1 adult male) had been crowded into a grave ½ meter wide and about 1.72 cm. long. Skulls were broken and skeletal parts were separated, evidence that one or more later burials had disturbed the primary entombment.
5 (N alcove)	2 individuals (1 adult male, 1 adult). There were long bones from two additional individuals which seem to have been taken from locus 4 and placed in locus 5.
6 (E loculus)	3 individual skeletal remains (1 adult male, 1 female of about 50 years, one 20 year old female with an incense shovel, *mahta*, over her heart) with evidence of disturbance for a secondary burial.
7 (W loculus)	Disarrayed skeletal material of 3 individuals (2 adults, 1 child with three glass ankle bracelets).

Table 6.2 Tomb F.4 (H71) Objects.

Locus	Description	Object #	Accession #
4	2 pr. gold earrings	588	DAJ
	hair ornament	-	unreg
	bronze clip	431	71.095
	2 LR bronze fibulae	543, 593	DAJ, 71.656
	ivory needle frag	544	71.122
	iron bracelet frags	587	71.149
	bronze earring frag	559	71.130
	bronze earring	589	71.150
	glass frags	-	unreg
	2 faience beads	590, 591	71.748, 71.749
	iron tacks	586	Lost
5	bronze bracelet	592	71.164
	glass frags	-	unreg
6	bronze incense shovel	752	DAJ
	2 gold earrings	750, 753	DAJ, DAJ
	bronze tube	755	71.232
	bronze ring	751	71.230
	2 glass beads	757, 758	71.778, 71.234
	part on an iron key	756	71.233
	2 iron hunks	-	unreg
7	3 glass bracelets	759, 760, 761	71.661, 71.787, DAJ
	bronze tube	762	71.235

Plate 6.7 North alcove with trough grave in Tomb F.4.

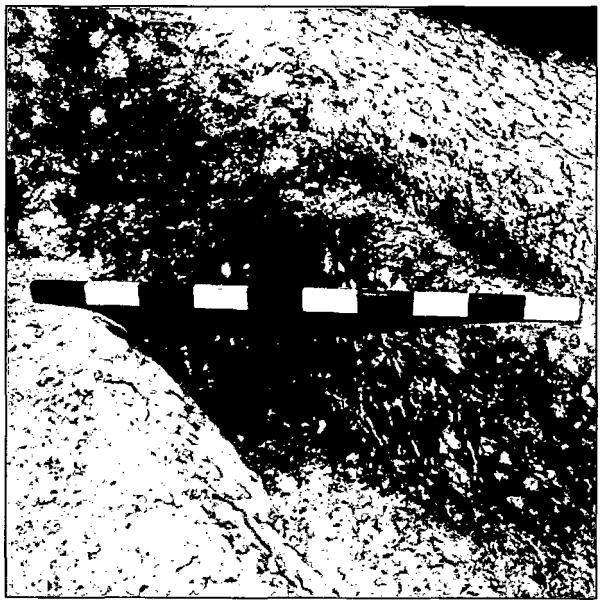


Plate 6.8 Three skeletons *in situ* within the north alcove of Tomb F.4.

Plate 6.9 West loculus off of the two alcoves of Tomb F.4.

Table 6.3 Tomb F.4 (H71) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (top soil)	Byz
2 (subsurface)	Byz
3 (soil fill beneath large capstones)	Byz, pre-Ay/Mam
Grave Arcosolia and Loculi	
4 (S alcove, beneath 5 capstones)	Byz, Ay/Mam
5 (N alcove, beneath 3 capstones)	LI2, Byz
6 (E loculus)	Byz, pre-Ay/Mam
7 (W loculus, underneath the "stela mark")	Poss ER, Byz, pre-Ay/Mam

Tomb F.7

A rectangular vertical shaft (2.50 m long, 0.60 m wide, and 2.20 m deep) was cleared and numbered as tomb F.7 (pl. 6.10). On the southeast end of the floor of the shaft was cut a small alcove.

Plate 6.10 Exterior of Tomb F.7.

Table 6.4 Tomb F.7 (H71/ H76) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (top soil)	LI2, poss Byz, UD
3 (tomb entrance)	Byz, Ay/Mam
4 (tomb shaft)	1 Rom/Byz bod
5 (tomb shaft)	No pottery
6 (E wall)	No pottery
7-8 (dirt on the floor)	Rom, Byz
9 (bedrock)	No pottery
Grave Chamber	
2 (SE alcove, sealed by stone-slabs)	ER, UD

Two upright stone slabs sealed the opening. Within the alcove was a single burial consisting of a few bones of a small child. Except for very tiny sherds, nothing else could be recovered. The five readable sherds were all Early Roman (table 6.4).

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

Tomb F.9

Tomb F.9 measured 0.71m × 1.77 m and was robbed in antiquity. The bottom of the rectangular shaft floor contained a full quota of four alcove

Table 6.5 Tomb F.9 (H71) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (soil fill)	LR, Byz, UD
2 (S alcove; partially covered by two remaining capstones). The grave chamber contained two human long bone frags	Poss ER, prob LR
3 (N alcove; of the four original capstones, three remained in place)	No pottery
4 (below the shaft floor; trough beneath a layer of *huwwar*, and four capstones)	UD bods
5 (W loculus, no capstones)	UD bods

Table 6.6 Tomb F.9 (H71) Objects.

Locus	Description	Object #	Accession #
2	iron ring	874	71.311
	iron tacks	-	unreg
4	glass bracelet frag	-	unreg
	iron ring	-	unreg

graves on the four sides of the shaft and a grave trough in the floor of the shaft. Multiple burials within the rectangular shaft tombs necessitated periodic enlargements. Evidently in the type of tomb under discussion, the recessed grave chambers were the first to be cut, the loculi being cut later. Finally, when all space had been used, a grave trough was cut into the shaft floor.

The pottery fragments of this alcove seemed to be Early Roman (table 6.5). The trough grave of the south alcove yielded a Late Roman iron ring (table 6.6) and two human long bone fragments.

Table 6.7 Tombs F.11a/b (H73) Pottery Readings.

Locus	Pottery Readings
1 (Tomb 11a)	Poss I2, poss Rom, Byz dom, UD
2 (Tomb 11b)	I2, LR, Byz

Tombs F.11a and 11b

One of the best prospects for finding other tombs was a sector northwest of Tomb F.5. Moving the 1971 dump north of this tomb revealed two vertical shafts in bedrock (pl. 6.11). Tomb F.11a had an E-W orientation and measured 1.84 m × 0.53 m with a depth which varied from 0.60 m (E) to 0.56 m (W). Tomb F.11b had a N-S orientation with a slanted "pillow" on the north end which was 0.12 m high and 0.25 m long. The dominant and latest pottery in each was Byzantine (table 6.7). The absence of bones indicated that the shafts were never used as graves or they were thoroughly cleared.

Table 6.8 Tomb F.12 (H73) Human Remains.

Locus	Bone Analysis
2	Many bone fragments. Contained at least 1 adult based on the mandible, the size of the phalange and the femur and scapula.
3	Large amount of bone fragments, including chips of long bones, ribs, skull fragments and vertebrae. Individuals included 1 newborn baby, 1 child between 6-10, 1 elderly adult.
4	Bone fragments including 1 skull, a partial mandible, fragments of long bones, and a few teeth. It contained at least 1 female (?) about 20 years old.

Tomb F.12

During excavation near the bottom of Tomb F.11a, hollow sounds indicated a chamber of some sort underneath. When a probe was made from the ground surface north of F.11a, vertical shaft Tomb F.12 was uncovered (pls. 6.12 and 6.13). The rectangular shaft opening was filled with two separate Byzantine layers of soil mixed with bone fragments. It is possible that during the Byzantine period the bones from Tombs F.11a and F.11b were deposited in F.12 to prevent further desecration and then covered with a sealing layer of earth (fig. 6.2). Analysis of the thoroughly disarticulated bones in the shaft and the alcove trough graves indicated at least thirteen burials (nine adults and four children) (table 6.8). One child's skull had the unusual feature

Plate 6.11 Tomb F.11 complex with the opening of Tomb F.11b at right.

Figure 6.2 Plan and sections of Tomb F.12.

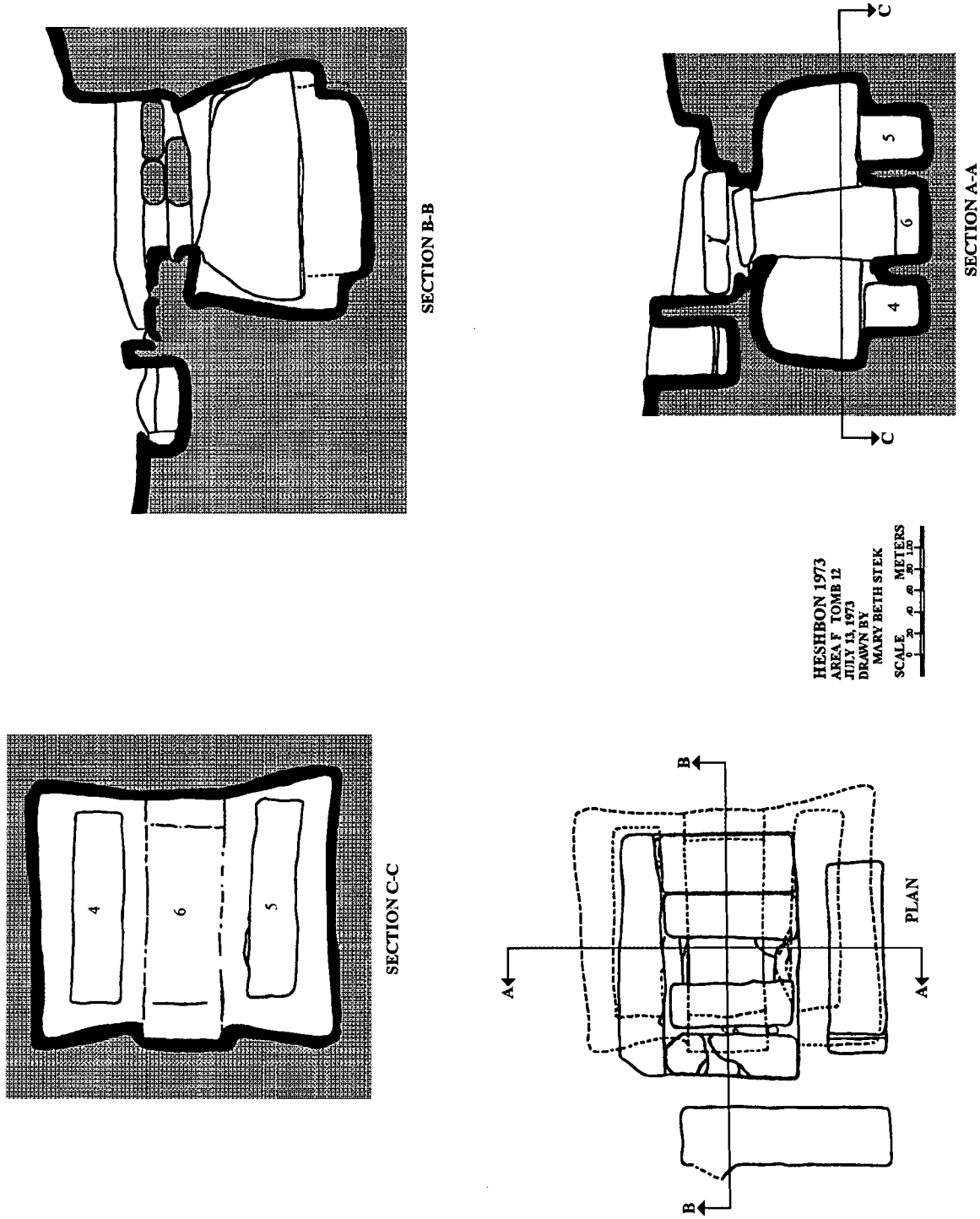


Table 6.9 Tomb F.12 (H73) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (loose soil)	I2, 1 LR, poss R, Byz dom
Grave Chamber	
2 (loose soil)	I2/P, few LR, Byz dom, UD
3 (packed soil)	I2/P, ER, LR, Byz dom, 1 Ay/Mam
4 (N alcove)	LR, Byz, UD
5 (S alcove)	Byz, UD
6 (central bottom trough)	no data

Table 6.10 Tomb F.12 (H73) Objects.

Locus	Description	Object #	Accession #
2	frit mold face	1344	DAJ
3	5 metal objects	-	unreg
4	wood bead	1349	73.0093
	iron bracelet frag	1360	73.0101
	4 iron nail heads	1376	73.0112
	small bronze link	1377	73.0113
	1 *lepton*-type LR coin	-	unreg
	a few tesserae	-	unreg
5	bronze oval brooch with a black stone	1361	DAJ
	glass bead	1362	73.0102
	2 iron and bronze bracelet frags	1363	73.0103
	bronze bracelet	1380	73.0116
	3 *lepton*-type LR coins	-	unreg
6	iron bracelet	1379	73.0115
	LR lamp (restored)	1346	DAJ
	a few tesserae	-	unreg

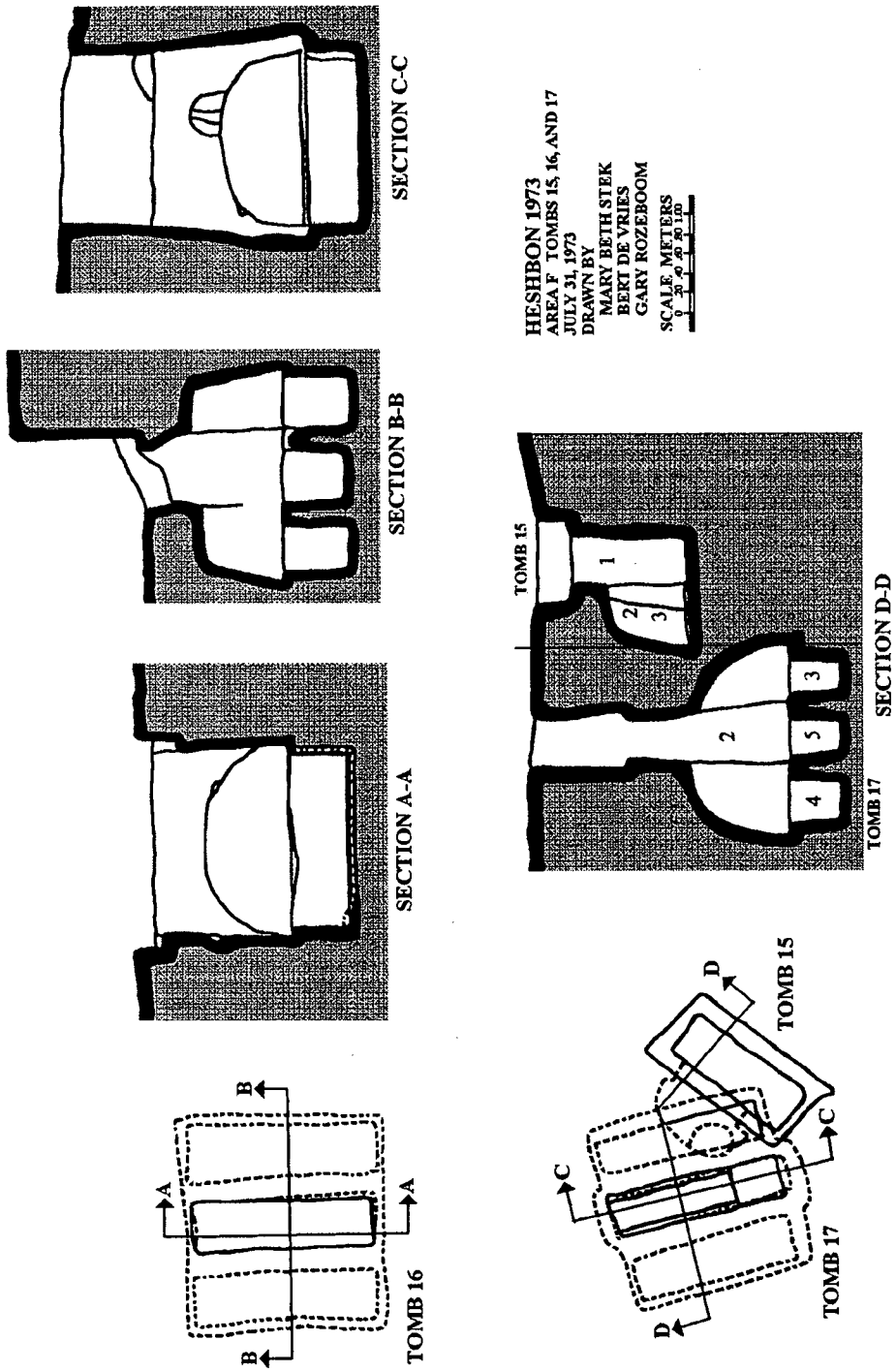
Plate 6.12 Trough grave within the interior of Tomb F.12.

of a vertical frontal suture. This could indicate a relationship to the family group buried in rolling-stone Tomb F.1, where six of the individuals (children and adults) had this rare cranial feature.

The pottery of both graves in Tomb F.12 was Byzantine or earlier (table 6.9). Four unreadable, *lepton* type Roman coins were found (table 6.10). Their presence may reflect the Graeco-Roman custom of putting a coin in the mouth to pay Charon for ferrying the deceased across the Styx. The bottom of the shaft, not used as a grave, yielded a crushed Late Roman lamp.

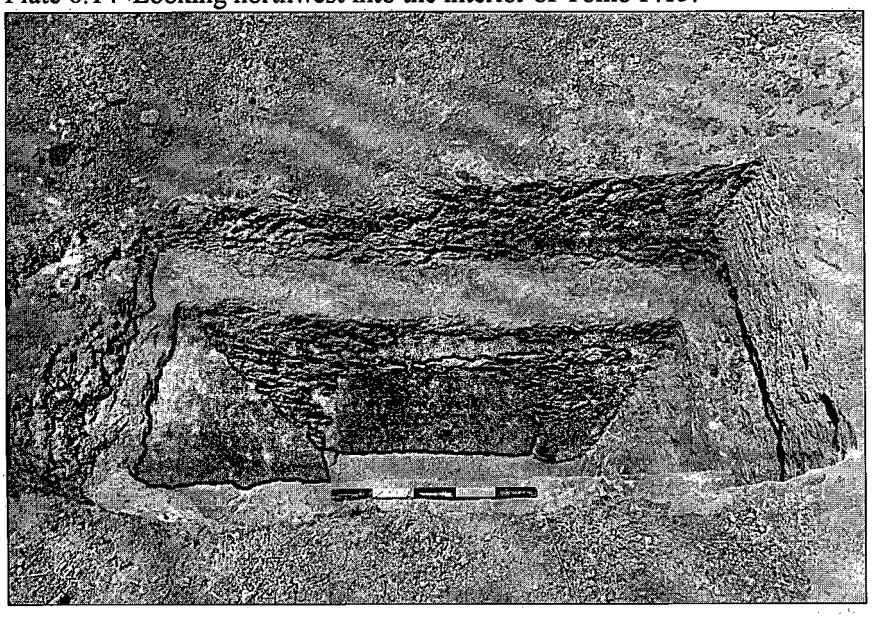
Plate 6.13 Interior of Tomb F.12 showing a trough grave and parts of a center grave.

Figure 6.3 Plans and sections of Tombs F.15, F.16, and F.17.



The coins and lamp date the construction and first use of the tomb in the Late Roman period. After some reuse, the tomb was robbed in either the very late Roman or the early Byzantine period. Later the two graves and the bottom of the shaft were filled; still later in the Byzantine period, the tomb was filled completely. There was no indication of reopening.

Plate 6.14 Looking northwest into the interior of Tomb F.15.



Tomb F.15 and Tomb F.17

While the main crew was searching for the entrance to Tomb F.14, Helmi Musa was assigned to probe for other tombs. About 105 m southwest of Tomb F.14, he uncovered vertical shaft Tomb F.15 (fig. 6.3). Probably because the north alcove had broken into the chamber of another tomb, no alcove was cut into the south face (pls. 6.14 and 6.15). The absence of bones or objects may indicate that the tomb was never used. The pottery in the fill, Byzantine and earlier, apparently dates the tomb in the Byzantine period (table 6.11).

Table 6.11 Tomb F.15 (H73) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (soil fill)	12/P, Byz
Grave Chamber	
2 (N alcove, upper)	Byz, UD
3 (N alcove, lower)	Byz, UD

A probe to the north of Tomb F.15 uncovered Tomb F.17, another vertical shaft tomb (pls. 6.15 and 6.16). The two alcoves of F.17, although thoroughly disturbed, did yield some bone fragments but no objects (table 6.12). The lack of bones or objects in the bottom of the shaft indicated no burial. The pottery, none later than Byzantine in either the shaft or side alcoves, indicated Byzantine construction and use—earlier, however, than Tomb F.15 (table 6.13). At least one individual was buried in each grave, but the thorough disturbance of the interior made it uncertain whether there was more than one. Tomb F.17, although designed like Late

Plate 6.15 Tomb F.15 (right) and Tomb F.17 (left) in close proximity.

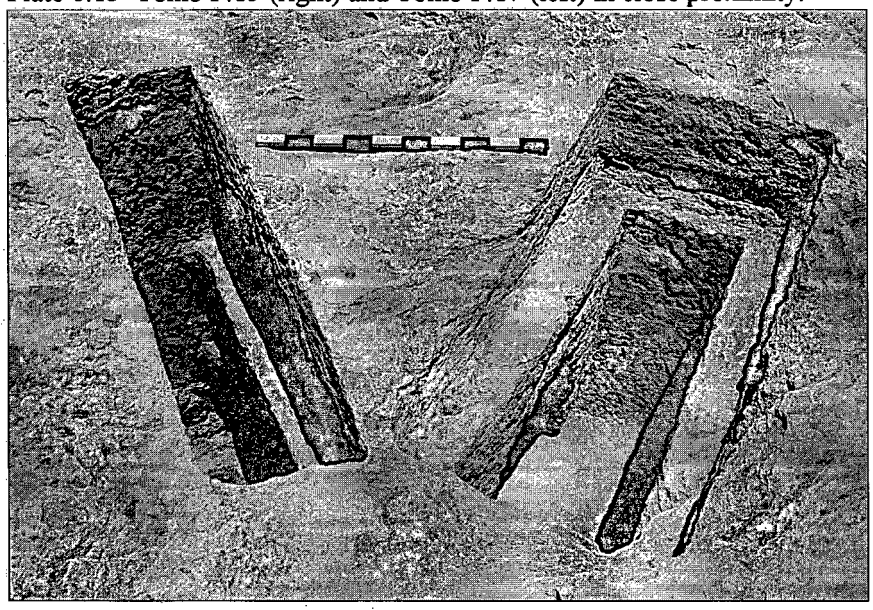
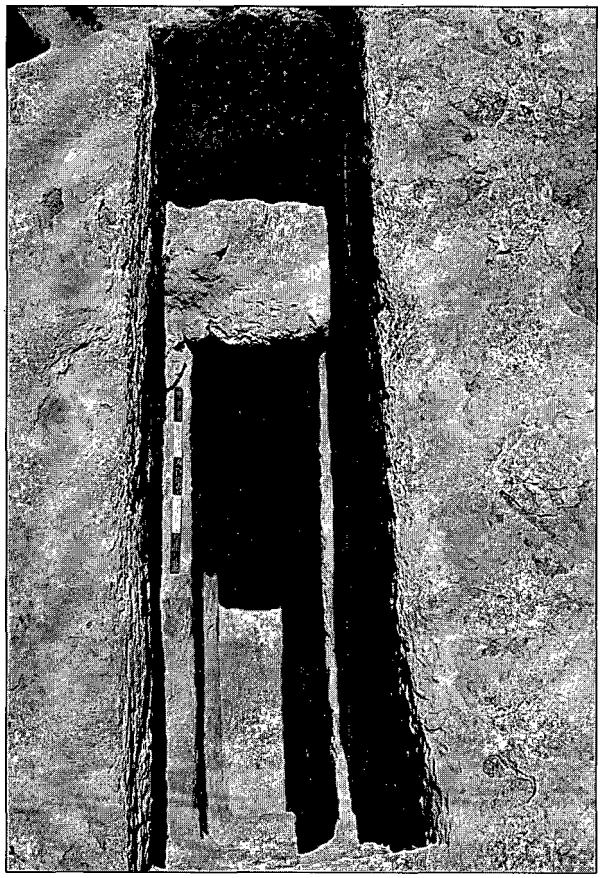


Plate 6.16 Exterior view looking into the vertical shaft of Tomb F.17.



Roman Tomb F.12, contained no lamps or lamp fragments.

Table 6.12 Tomb F.17 (H73) Human Remains.

Locus	Bone Analysis
3	Fragments only of long bones of legs and arms, three fragments of the skull, one fragment of a phalange, many unidentifiable fragments.
4	Four fragments of the skull, one phalange, three very worn teeth.

Tomb F.16

A few meters west of Tombs F.15 and F.17, at the base of the limestone terrace into which they were cut, Helmi Musa found vertical shaft Tomb F.16 (pl. 6.17; see also fig. 6.3, above). It contained a partly-articulated child's skeleton in the east alcove grave (pl. 6.18). Beneath this burial were four other skeletons, badly decomposed (table 6.14). Four unreadable coins were found. One bone was next to the finger of a skeleton, another was found between the legs of a second individual. Bone analysis indicated five individuals in the east grave: the uppermost was a male (aged about 18 or 19 months) and beneath him two adult males and two infants. The adults lay one on top of the other, separated by thin layers of earth.

Table 6.13 Tomb F.17 (H73) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (surface material dumped from Tomb F.15)	No pottery
Grave Chamber	
2 (loose soil)	Poss Rom, LR, Byz, UD
3 (E alcove)	Poss Byz, 1 UD
4 (W alcove)	Poss ER, Byz, UD
5 (floor crypt)	Byz bods

Plate 6.17 Entrance of Tomb F.16.

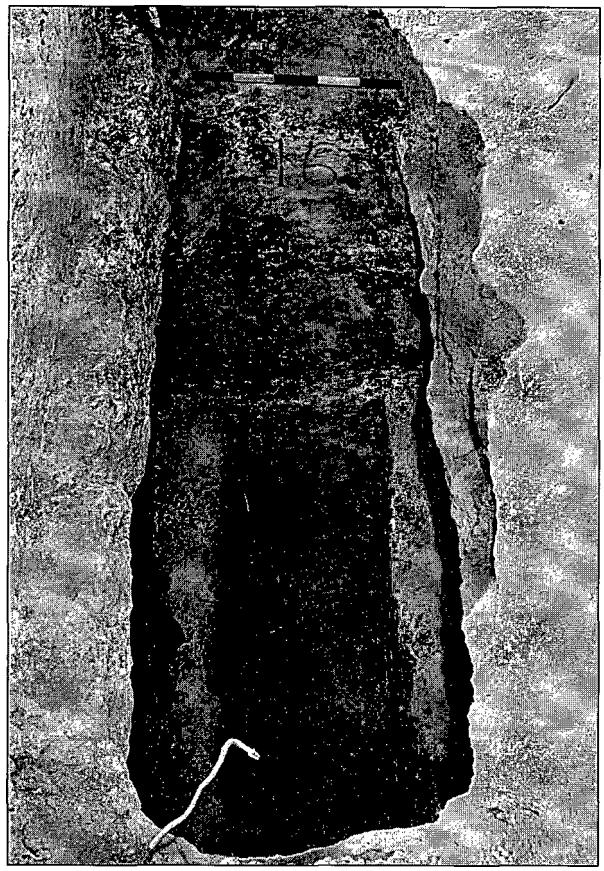


Table 6.14 Tomb F.16 (H73) Human Remains.

Locus	Bone Analysis
3 (E crypt)	1 individual: 1 male, 18-19 yrs. old
6 (E crypt)	4 individuals: 1 male ca. 20 yrs. old, 1 male 40-50 yrs. old, 2 infants
5 (W crypt)	6 individuals: 1 male 45-50 yrs. old, 1 male mid-50's, 1 child 6-10 yrs. old, 1 infant below 1 yr., 2 unknown age and sex

The west alcove grave (pl. 6.19) contained the thoroughly disturbed bones of four adults, a child, and an infant. One of the skulls had a vertical frontal suture like the child in Tomb F.12. Objects found included some jewelry, two whole glass vases, a Late Roman string-base juglet, one Late Roman coin, and one Early Byzantine bronze coin of Honorius, A.D. 395-423. This legible coin and all the pottery indicated that the tomb was used in the Early Byzantine period and reused over a number of years (tables 6.15 and 6.16). The bottom of the shaft, without bones or objects, was probably never a grave.

Table 6.15 Tomb F.16 (H73) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (soil & gravel fill)	I2/P, poss ER, poss LR, Byz dom, UD painted
Grave Chamber	
2 (E alcove fill above the crypt)	LR/Byz, UD
3 (E alcove crypt)	I2/P, poss ER, LR, Byz, UD
4 (W alcove)	Poss LR, Byz, UD
5 (W alcove crypt)	LR, LR/Byz, E Byz, Byz, UD
6 (bottom of E alcove crypt)	LR/Byz, UD
7 (center floor crypt)	Byz, UD

Plate 6.18 Partially-articulated child's skeleton within the east alcove in Tomb F.16.

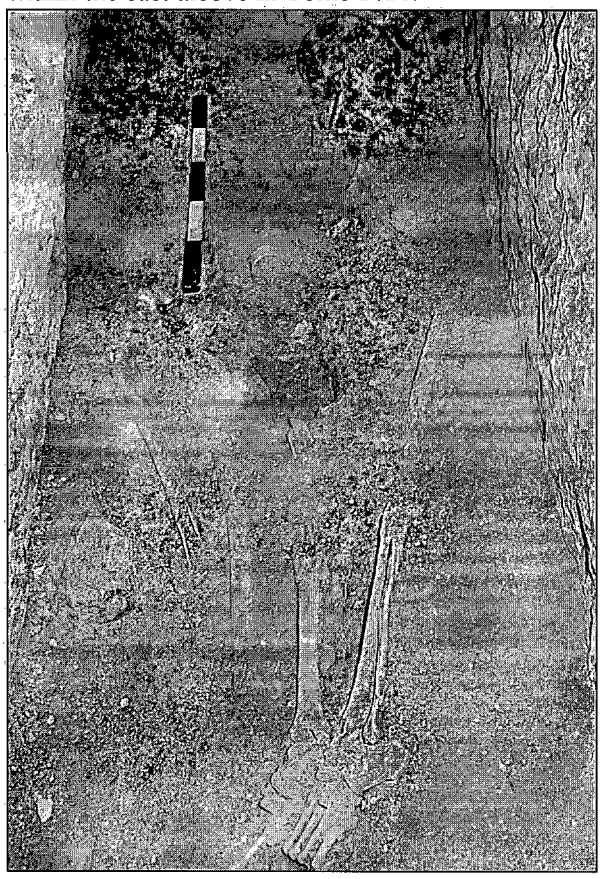
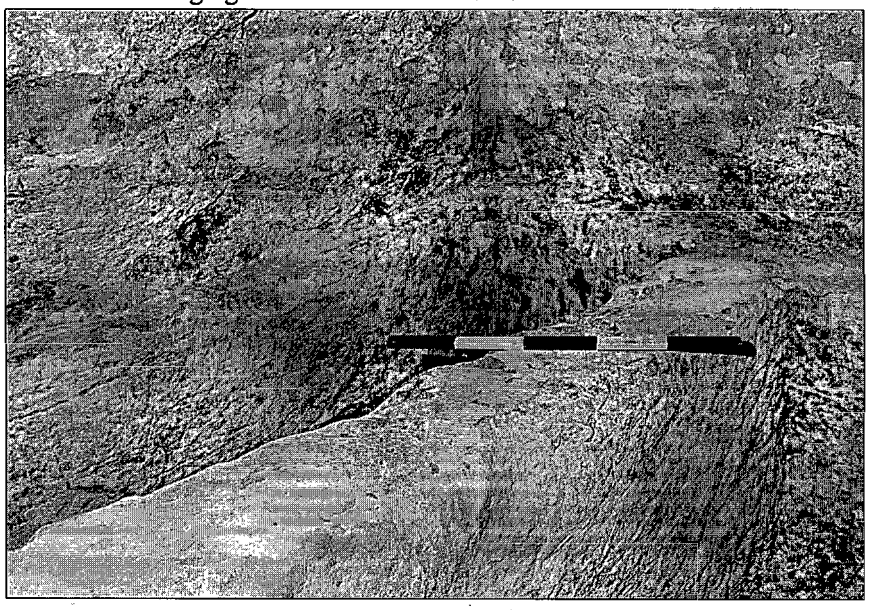


Plate 6.19 Trough graves within Tomb F.16.



Tomb F.30

This vertical shaft tomb was discovered a short distance northeast of Tomb F.30 and adjacent to a freestanding stone fence (pl. 6.20). The tomb must

Plate 6.20 Entrance to Tomb F.30.

Table 6.16 Tomb F.16 (H73) Objects.

Locus	Description	Object #	Accession #
3	bronze coin	-	unreg
4	bronze coin (E Byz: Honorius A.D. 395-423)	1529	73.0243
5	5 bronze bracelets	1552, 1553, 1493, 1513, 1514	73.0263, 73.0264, 73.0212, 73.0228, 73.0229
	1 iron bracelet	1551	73.0262
	2 glass vessels	1535, 1536	73.0248, DAJ
	LR string-base juglet	1582	DAJ
	bronze coin (LR: *ca.* A.D. 375-392)	1541	73.0252
	3 bone pins	1504, 1505, 1508	DAJ, 73.0224, 73.0224
	bronze ring	-	unreg
6	3 coins	-	unreg
	glass bead	1484	73.0205
	bronze pin	1492	73.0211
	4 Rom glass pendant	1480, 1481, 1482, 1483	DAJ, DAJ, 73.0203, 73.0204
	child's bronze bracelet	1495	73.0214
	bronze ring	1496	73.0215

have been sealed by horizontally-laid blocking stones which were set on the ground surface, for there was no evidence of a ledge inside the shaft, as was common to tombs of this type found elsewhere in Area F. The alcove arcosolia on either side of the shaft were typical of those common to the Byzantine period at Tell Hesban. Each of the arcosolia, however, had been expanded into square chambers with the ceiling sloping down at the back of each (pl. 6.21). The abundant quantities of Early Byzantine sherds in both arcosolia were clear evidence of their original use. Locus 3, which included the interior deposits of both arcosolia, contained not only Byzantine sherds, but Ayyubid/Mamluk as well (table 6.17). The northern arcosolium contained significant quantities of human and animal bone along with numerous objects.

The southern arcosolium had been entered in modern times from an adjacent cave. No objects of modern date were found in the northern arcosolium or the shaft itself. This indicated that the tomb was in use in the Byzantine period and may have been expanded in the Ayyubid/Mamluk phase and

Plate 6.21 Interior view of arcosolium within Tomb F.30.

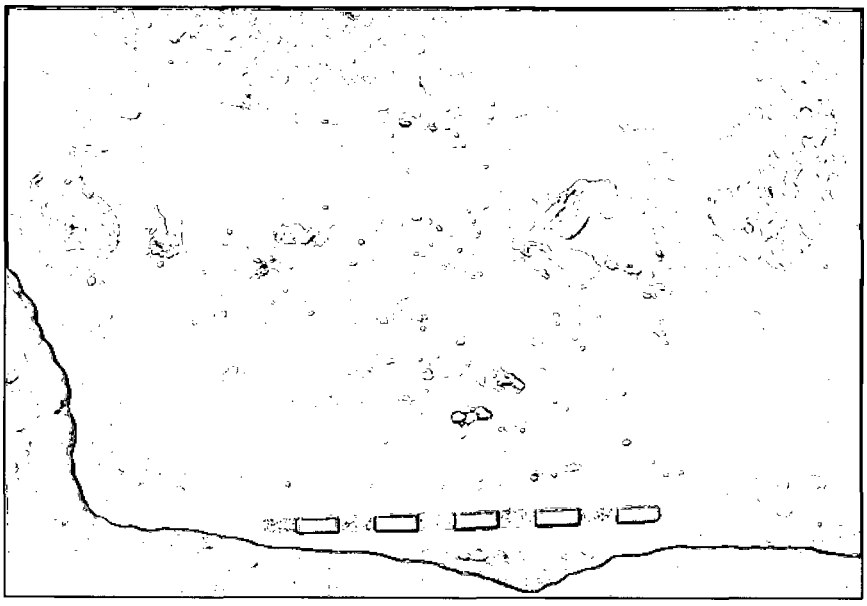


Table 6.17 Tomb F.30 (H76) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (probe in opening)	Ay/Mam, UD
2 (fill soil)	Poss ER, 1 prob LR, Byz bods, 1 Mam, UD
Grave Chamber Including Arcosolia	
3 (packed interior fill)	Few IA, I2/P, ER, LR, E Byz I, Byz, Ay/Mam, UD2

even used for burials at that time. The tomb was filled in the Ayyubid/Mamluk period and not reentered from the shaft. The only portion of the tomb disturbed in modern times was the southern arcosolium, which had been entered from the cave. Several objects of recent times were found in that arcosolium (table 6.18).

Bone analysis (based on the patellas) indicated that a minimum of 18 individuals had been buried in the tomb (table 6.19). Two of the skeletons were infants and one possibly prenatal while four children ranged from five to ten years in age. Among the objects found in the southern arcosolium were bracelets, earrings, a shell pendant, glass beads, iron rings, and a bronze fishhook. There were non-human bones—17 sheep, 3 chicken, and 1 dog.

Three phases of the tomb's history can therefore be distinguished: 1) the construction in the Early Byzantine periods (4th-5th centuries A.D.); 2) reuse and possibly expansion in the Ayyubid/Mamluk period, during which some robbery may have taken place; and, 3) the modern break-in from the cave to the southwest.

Table 6.18 Tomb F.30 (H76) Objects.

Locus	Description	Object #	Accession #
3	2 coins	-	unreg
	glass frags	-	unreg
	iron tag	2438	76.234
	iron bracelet frags	2425, 2426, 2427	76.221, 76.222, 76.223
	partial bronze earring	2450	76.244
	shell pendant	2451	76.245
	iron ring	2538	76.322
	5 parts of iron bracelet and rings	- 2550	- 76.332
	bronze fishhook	2556	76.334
	3 glass beads	2448, 2645	76. 242, 76.417
	bronze earring	2449	76.243
	bronze bracelet	2447	76.241

Table 6.19 Tomb F.30 (H76) Bone Analysis.

Human

A large quantity of human bones was excavated and about eight bags were brought into the lab. Most of the longer or larger bones were fragmented. No skulls or mandibles recovered.

Sex was difficult to determine because of the poor selection of bones; no skulls or complete pelvises were found. Occasional bones would give an indication of one sex or the other, and we concluded that the ratio was probably about 1:1.

Pathologies were not closely studied. In the few teeth recovered, there was no evidence of caries.

About 35 patellas were recovered, an unusually large proportion of this small bone. Three of these belonged infants' and the collection is an interesting portrayal of the individuals represented in the tomb. Tiny ribs and long bones were also recovered.

Number of Individuals	Age
2	Infant (1 poss prenatal)
4	5-10
12	Adolescents or adults (most 25-40, few 50)
18-20 total	(minimum)

Animal

Number of Bones	Type
3	Chicken
1	Dog
1	Large mammal
17	Sheep
6	UD
28 total	

Tomb K.1

In previous seasons, tomb exploration was concentrated largely to the west and southwest of Tell Hesban. A rather large cemetery was located on a ridge directly east of Tell Hesban, containing evidence of many shaft-type tombs first noted in 1968. After several small probes, Tomb K.1 was located (pl. 6.22). It was a Late Roman or Early Byzantine vertical shaft tomb with the usual interior horizontal ledge (pl. 6.23) on which square-cut stones were placed in order to seal the shaft (fig. 6.4). Four of the square-cut sealing slabs were found *in situ*. The east end of the shaft had been filled with large rocks, however, indicating that the tomb had been violated.

The shaft was widened at the bottom, forming an arcosolium on either side. It had three parallel troughs, oriented east-west, cut into the floor (pl. 6.24). Each of the arcosolia had a horizontal trough and a smaller central one was cut between the two. The contents of the tomb had been disturbed, probably in the Ayyubid/Mamluk period (A.D. 1174-1516), as indicated by a Mamluk bronze coin (table 6.20). Bone fragments indicated the burial of

Figure 6.4 Plan and section of Tomb K.1.

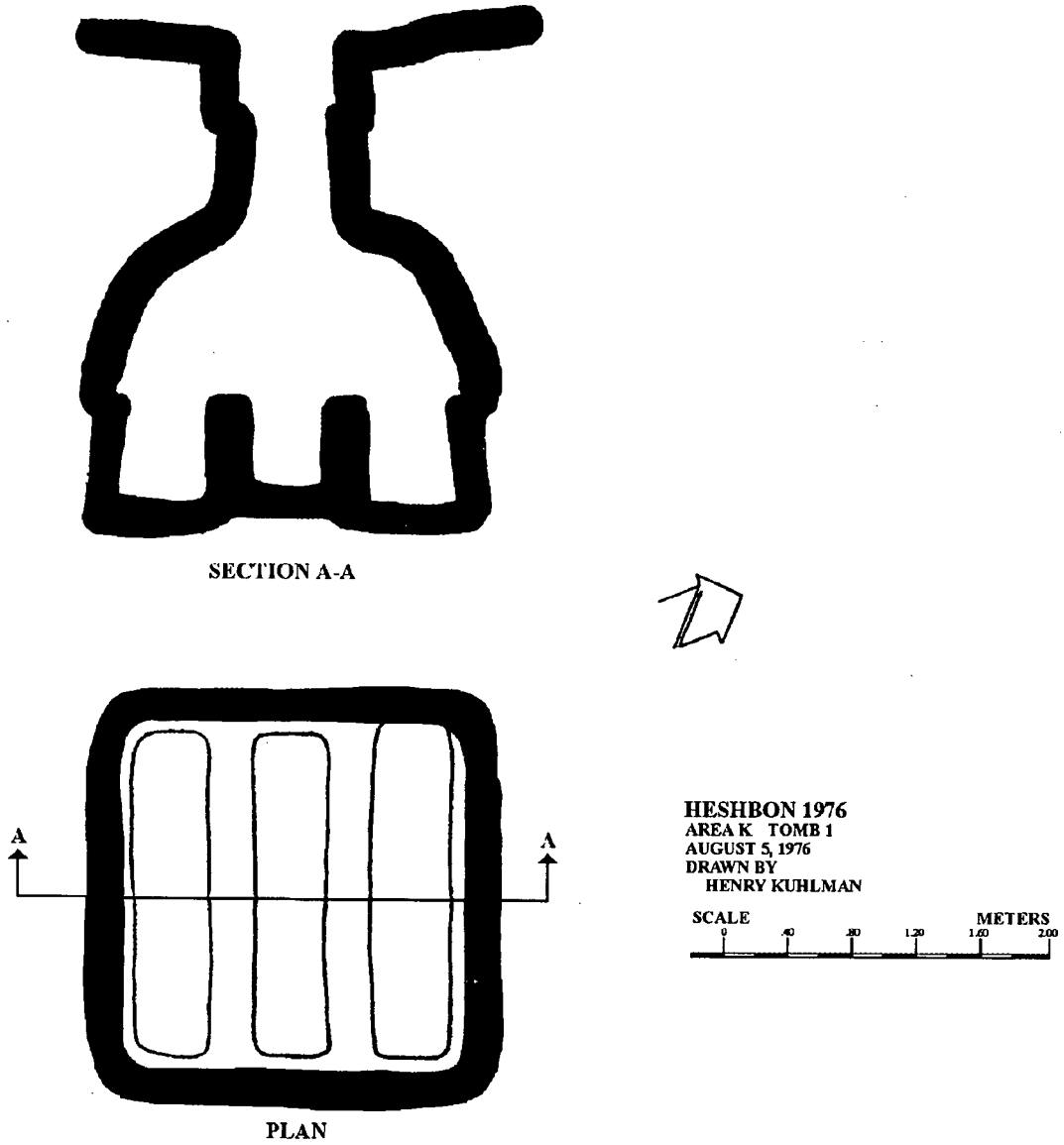
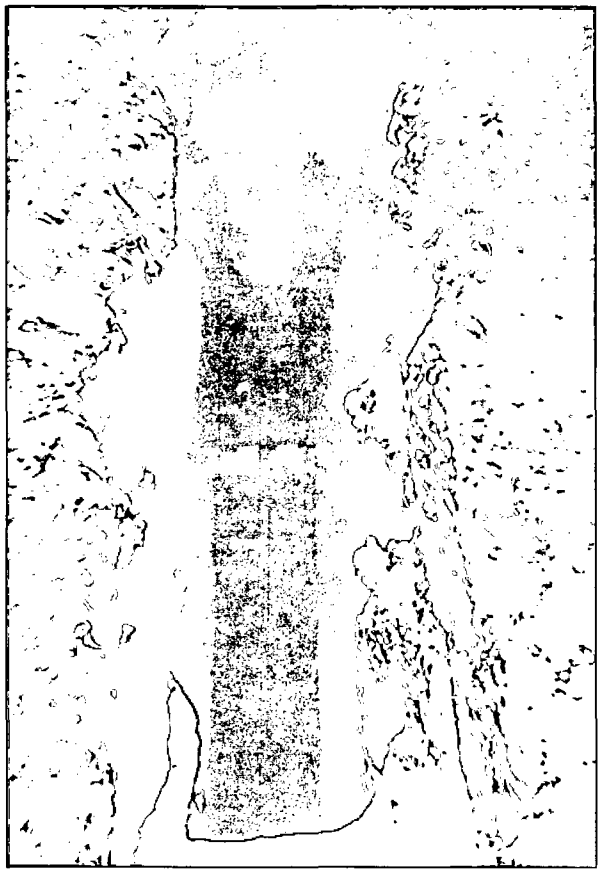


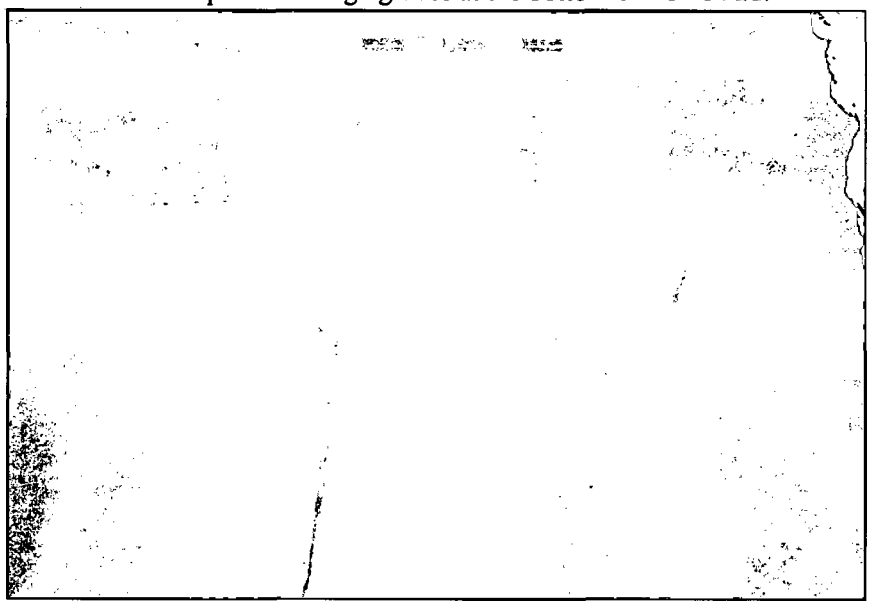
Plate 6.22 Square-cut stones sealing the shaft entrance of Tomb K.1 after initial excavation.

Plate 6.23 Cleared entrance of Tomb K.1, looking down the shaft.



only one adult. Either other bone materials had decayed or they were removed during the robbery of the tomb. It was sealed and not reopened until Heshbon Expedition activity in 1976. The only objects from the tomb, in addition to the coin, were two parts of a glass bracelet. The pottery sherds ranged from the Late Roman to the Early Byzantine period (table 6.21).

Plate 6.24 Three parallel trough graves at the bottom of Tomb K.1.



Tomb K.2

Another similar shaft-type tomb, located just north of Tomb K.1, was opened for

Table 6.20 Tomb K.1 (H76) Objects.

Locus	Description	Object #	Accession #
4	bronze coin (Mamluk, A.D. 1250-1516)	2879	76.618
	2 parts of a glass bracelet	2852	76.595

Table 6.21 Tomb K.1 (H76) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (probe to clear opening)	LR, E Byz
2 (soil fill beneath Locus 4 sealing limestone slabs)	No pottery
Grave Chamber	
3 (packed interior soil)	LR, E Byz
4 (grave troughs)	ER, LR, LR III-IV, E Byz, UD

Plate 6.25 Excavation in-progress at the entrance of Tomb K.2.

Table 6.22 Tomb K.2 (H76) Objects.

Locus	Description	Object #	Accession #
3	female figurine, Byz	-	-
	bronze bottle	2800	DAJ

preliminary study and evaluation, but time did not permit complete excavation (pl. 6.25). The shaft entrance was similar to that of K.1. Three of the square-cut limestone sealing stones were intact but all were in badly-deteriorated condition. The shaft above the ledge was filled with heavy rubble.

Brief exploration inside brought to light a very well-preserved bronze anthropomorphic bottle (in a stylized female form) probably used for cosmetic purposes (table 6.22). It had two rings, which represented ears, that were originally attached to a chain to be worn around the neck. This stylized female form was characteristic of types from the Byzantine period. No pottery sherds were recovered (table 6.23).

A brief survey of Cemetery K indicated that this sector was extensively used in the Byzantine period and to a lesser extent during Roman times. The southwest slope of this hill contained an abundance of robbed-out shaft tombs. Several chamber-with-loculi tombs were located on the western slopes.

Table 6.23 Tomb K.2 (H76) Pottery Readings.

Locus	Pottery Readings
Rectangular Shaft Opening	
1 (probe to clear opening)	No pottery
2 (rock rubble under 3 limestone slabs)	No pottery
Grave Chamber	
3 (loose interior soil)	No pottery

Chapter Seven

TOMB TYPE VI: NATURAL CAVES USED AS BURIAL SITES

S. Douglas Waterhouse

Chapter Seven

Tomb Type VI: Natural Caves Used as Burial Sites

Plate 7.1 East view of the entrance to Cave F.37.

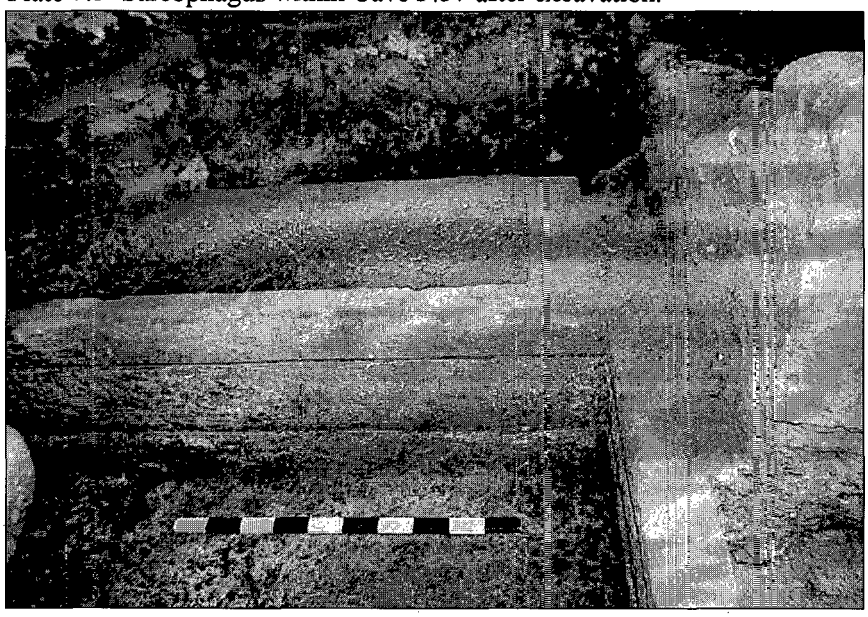
Cave Tomb F.37

This large cave (pl. 7.1), located west of Tell Hesban on the floor of Wadi el-Majar, attracted attention because of noticeable plaster work on several portions of the ceiling and several curves cut in the outer edges of the ceiling (pl. 7.2). In order to get a stratigraphic profile of the cave's interior, a 1.00 m wide probe trench was laid at right angles to the entrance face and was continued 6.00 m to the back of the cave.

Plate 7.2 Interior view of Cave F.37 before excavation.

Suspicions about the use of the cave for burials were confirmed when two intact sarcophagi were uncovered. They were lidless and filled with soil. The first sarcophagus encountered was oriented north and south and ran directly across what had been assumed to be the cave entrance. Apparently the more ancient entrance was farther north. The two sarcophagi, which were butted against each other at right angles, were both very finely cut with a rounded outer contour between lip and base but no inscription or bas-relief

Plate 7.3 Sarcophagus within Cave F.37 after excavation.



decoration (pl. 7.3). A total of 34 bone fragments were removed from the sarcophagi and from immediately outside the corner at which the two met. In addition to a few cremated fragments, there was evidence of two human fetuses, one six month old infant and one child about a year old.

Table 7.1 Cave F.37 (H76) Pottery Readings.

Locus	Pottery Readings
Cave Interior	
1 (probe of E side of floor)	ER, Byz I, II, Ay/Mam mod
2 (E side: light-grey clay)	LR, Ay/Mam
3 (SW corner of probe)	Byz, Ay/Mam
6 (pit cut into Locus 2)	ER, Byz, Ay/Mam
7 (S side of Locus 4)	LR, Byz
8 (floor layer)	ER I, LR, LR III, IV, E Byz, L Byz, Ay/Mam
9 (*balat* floor of cave)	No pottery
10 (probe trench toward the E)	L Byz, Ay/Mam
12 (under a displaced flagstone)	No pottery
13 (probe of Locus 10)	Ay/Mam
14 (under Locus 12)	Byz, Ay/Mam, UD
15a,b,c (surface layer)	Rom, Byz, Ay/Mam
16 (limestone shelf at rear)	No pottery
17 (under Locus 14)	LR
18a,b (NE corner)	ER I, II, LR, E Byz, Byz, Um, Ay/Mam
19 (bedrock, E side)	LR, UD
20 (limestone flooring stones)	No pottery
22 (pit cut into floor)	LR II-III
Sarcophagi	
4 (Sarcophagus 1)	LR, Byz, Ay/Mam
5 (Sarcophagus 2)	ER, ER IV, LR, LR I
11 (Sarcophagus 3)	ER I
21 (Sarcophagus 4)	No pottery
23 (Sarcophagus 5)	No pottery

This cave was especially interesting because further excavation revealed three more stone-cut sarcophagi—all five of them arranged in a rectangular pattern around a *balat* floor (of limestone flooring block) that was very well cut. Its blocks fitted with amazing precision (pl. 7.4). The three other sarcophagi had been robbed and broken, apparently during times when the cave was used for domestic purposes. Sarcophagus 3 (counting from right-to-left) had a *tabun* in its northeast corner. The use of this cave for burial purposes was interesting since it was far removed from the tell and not easily accessible.

The earliest use of the cave was traced to the Early Roman IV period, but evidence for construction is later (table 7.1). It was during its

Table 7.2 Cave F.37 (H76) Objects.

Locus	Description	Object #	Accession #
1	basalt lower millstone	2628	HMS
	iron lock frag	2623	76.396
	iron tool	-	unreg
	1 tessera	-	unreg
2	glass frags	-	unreg
	iron tool	-	unreg
5	half of glass vase frag	-	unreg
	iron frags	-	unreg
6	Byz lamp	2923	76.659
	3 glass beads	2908	76.646
	5 tesserae	-	unreg
8	glass frags	-	unreg
	bead	-	unreg
	2 Ay/Mam beads	2805	76.552
	poss button	-	unreg
	bronze bullet (mod)	2897	76.636
	Byz lamp frag	2924	76.660
15	glass frags	-	unreg
	shell	-	unreg
	black button	-	unreg
	iron hook	-	unreg
	iron nail	-	unreg
18	coin	-	unreg
	flint blade frag	2914	76.651
	iron bracelet frags	2915	76.652
	2 bone button frags	2916	76.653
	bronze earring frag	2918	76.655
	2 glass beads	2917	76.654
	bronze ring (square)	2919	76.656
	5 tesserae	-	unreg
22	broken glass ring	2907	76.645

Table 7.3 Cave F.37 (H76) Bone Analysis.

Locus	Bone Analysis
Human	
4	1
5	2 fetuses, 1 newborn (4 mo.), 1 (6 mo.), 1 (1 yr.), 1 adult (40-45 yrs.), few cremated frags
6	1 adult, 1 child (5 yrs.)
8	5 fetuses, 2 adults (females: 40-45 and 25-30 yrs.)
15b	3 fetuses, 1 newborn, 1 (1-3 yrs.), 1 adult
18b	15 fetuses approaching birth, 1 female (25-30 yrs.), 1 male (40-45 yrs.)
22	1 fetuses, 2 adults (one 45+ yrs.; one of slighter build—poss female)
Animal	
1	2 sheep/goat, 3 turtle, 3 UD, 1 scrap
4	3 large mammal, 11 turtle, 2 UD
5	12 UD, 22 scrap
6	2 sheep/goat, 4 turtle, 6 UD
8	3 cattle, 1 turtle, 3 UD
14	2 sheep/goat, 1 cattle, 1 UD, 2 scrap
15c	1 sheep/goat, 1 dog, 2 scrap

second phase of use that the *balat* floor was laid and the sarcophagi were put in place (pl. 7.5). The construction of this burial site appeared to have been completed near the end of the Early Roman IV period (A.D. 73-135). The stratigraphic profile against the two sarcophagi in the southwest corner (Locus 7) indicated that the burials were first disturbed in the Early Byzantine period; the sarcophagi were probably robbed then and the bones scattered on the floor, yet the use of the cave as a burial ground continued. In the west side of the cave (Locus 6), a disarticulated Late Byzantine burial with a lamp (pls. 7.6 and 7.7) was discovered (table 7.2).

Bone analysis indicated that no fewer than 49 individuals were buried in the cave: 33 of them were fetuses, 3 newborn to six months old, and 4 approximately one year old (table 7.3). Nine of them were adults. Fetus materials were found in abundance in the second through fourth phases of use (Late Roman III to Late Byzantine). Clearly the cave had a unique burial tradition which accounted for the large, well cut sarcophagi and a *balat* floor in such a remote setting.

Plate 7.4 A view of the *balat* floor and sarcophagus joint in Cave F.37.

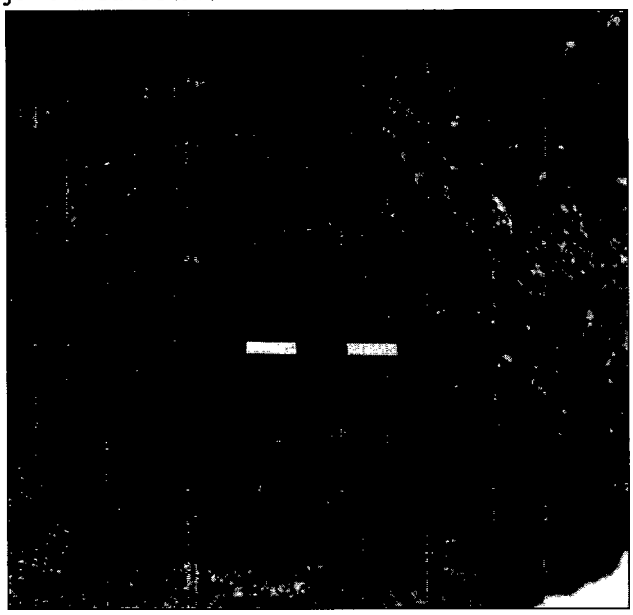


Plate 7.5 Large flagstones that made a *balat* floor in Cave F.37.

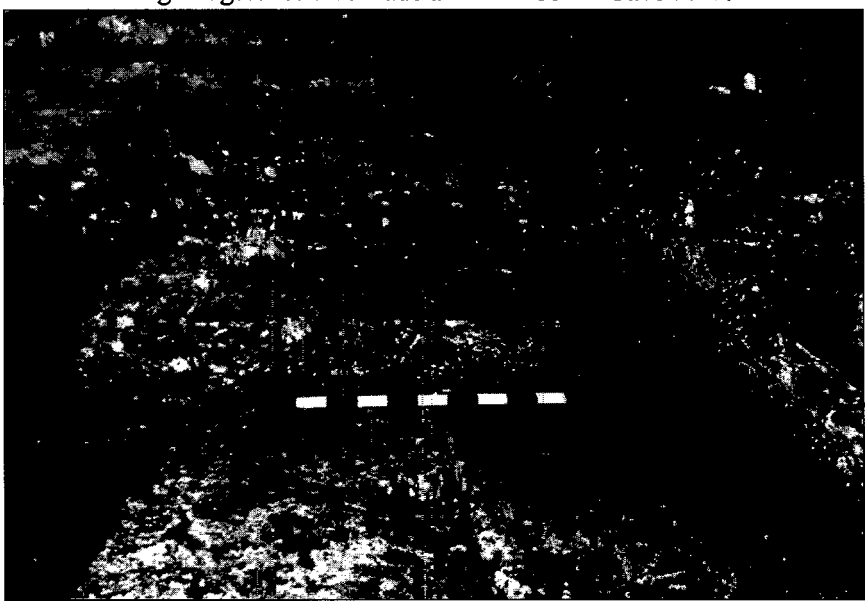


Plate 7.6 Lamp and bones *in situ* within Cave F.37.

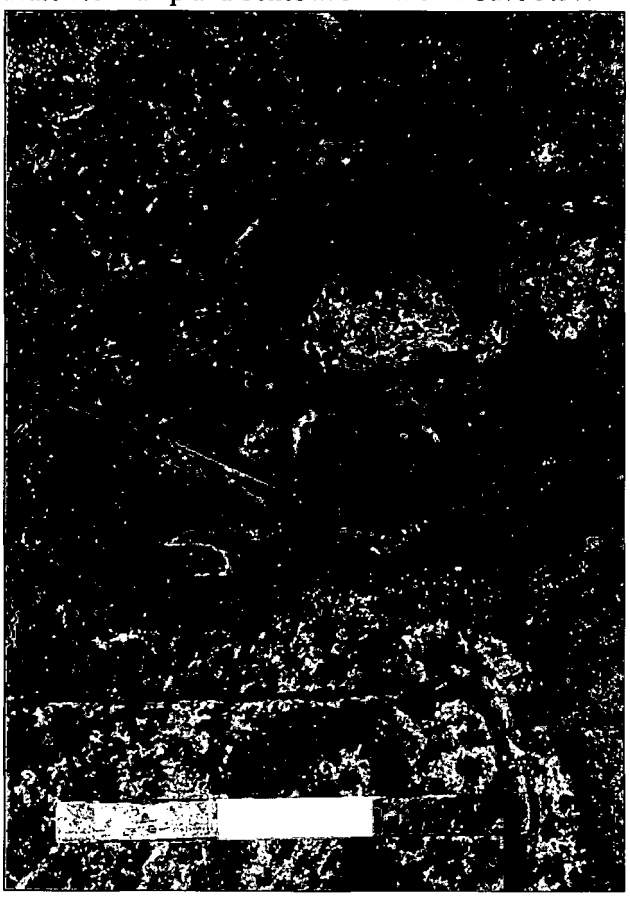
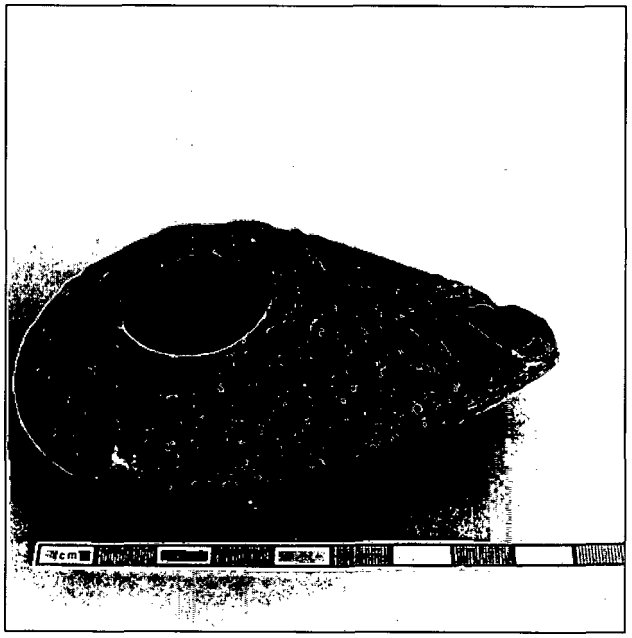


Plate 7.7 A Byzantine lamp found in Locus 6 of Cave F.37.



The cave ceased to be used for burial purposes during the Umayyad period (the fifth phase), and domestic use was rather limited. In the final phase, the Ayyubid/Mamluk period, the cave was the scene of maximum domestic activity. To this phase belongs the small *tabun* constructed at the north end of Sarcophagus 3. In modern times the cave was used as a temporary shelter or an animal pen.

Cave Tomb F.38

Smaller than Tomb F.37, but equally important, was Cave F.38, located a short distance north of Tomb F.28. It was selected for a probe because it had features on the walls and ceiling that were like those noted in F.37. At its widest points, the cave measured 7.50 × 5.25 m. Two probe trenches were dug inside the cave. The first probe measuring 1.50 × 2.00 m, was dug at right angles to the entrance; the second was dug from the east end of the main trench south to the wall (fig. 7.1).

The earliest attested use of the cave, attributable to the Early Roman III-IV period, appears to have been largely for domestic purposes and used for burials only to a limited extent. In its succeeding three phases, Late Roman I through Early Byzantine II (A.D. 135-392), the cave was used frequently for burials (pl. 7.8). In the two probes undertaken, portions of 40 individuals were recovered, ranging from a fetus to an adult 70-80 years old (table 7.4). The bones of common domestic animals (sheep, goats, and donkeys) were very much in evidence.

Late Roman ceramic materials (table 7.5) indicated the heaviest use of the cave for burials in that period (A.D. 135-324). Objects from this period included bone hairpins, bone needles, bronze rings, beads, and bracelets (table 7.6), and a Late Roman I-II lamp (pl. 7.9). It was clear that although most of the bones were disarticulated because of grave digging for subsequent burials, there was no robbery of the cave. Furthermore, the presence of at least two articulated burials was evidence that this was not a repository for secondary interment.

Bone analysis indicated pathological problems similar to those encountered in other tombs of the period. Arthritis, tooth wear, and dental decay were quite common. One skull, that of a twelve year old, had a hole in the top, indicating either a tumor which ate out the bone or a hole drilled for the purpose of alleviating pressure.

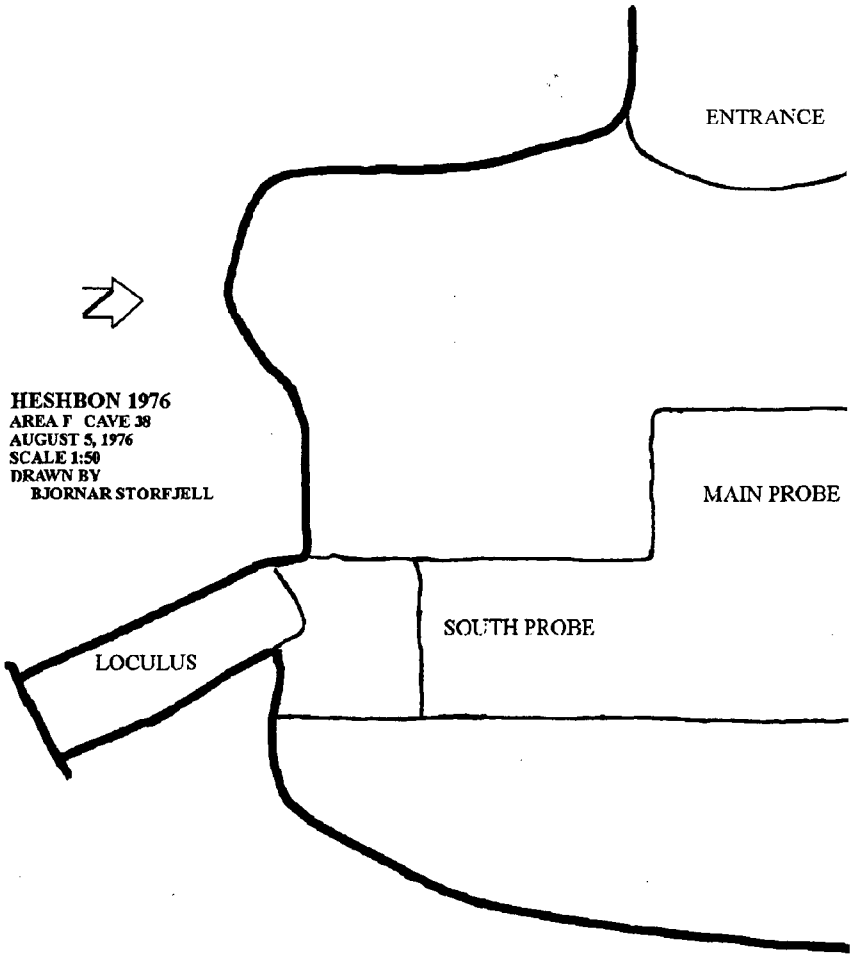

ENTRANCE
HESHBON 1976
AREA F CAVE 38
AUGUST 5, 1976
SCALE 1:50
DRAWN BY
BJORNAR STORFJELL
MAIN PROBE
SOUTH PROBE
LOCULUS

Figure 7.1 Plan of Cave F.38.

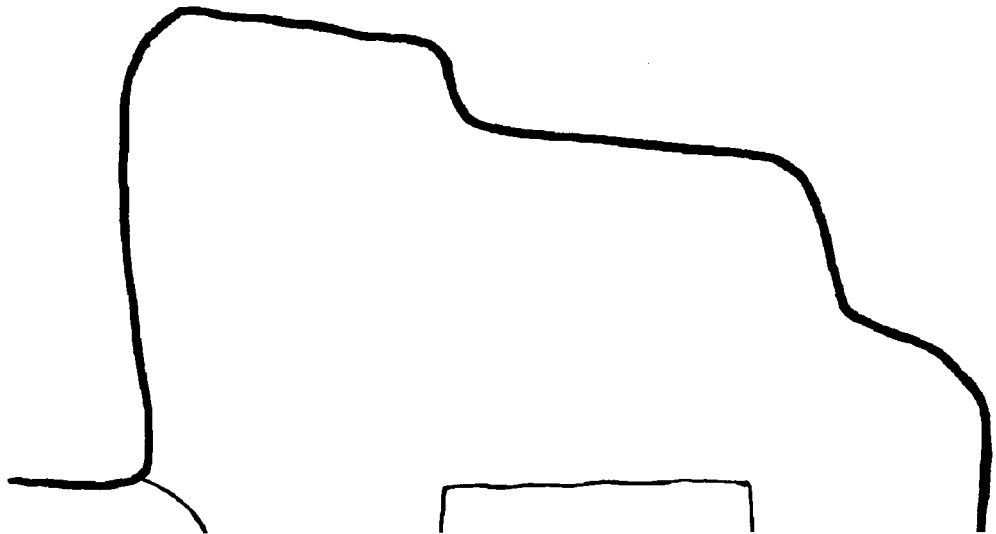


Plate 7.8 View south in Cave F.38 with an inverted LR I-II bowl and human bones (including a skull, at right) *in situ*.

In spite of continuous burial activity over a long period of time, relatively few of the Late Roman bowls, dishes, and lamps were broken. There was no evidence that the bodies had been oriented in any particular direction, although the two articulated skeletons were oriented east-west.

The cave continued to be used for burials during the Early Byzantine I-II periods (A.D. 324-392). A well-preserved ring with a small cross probably belonged to this phase.

It was clear, therefore, that two distinct types of burial patterns were practiced at Tell Hesban throughout the Late Roman and Early Byzantine

Plate 7.9 Inverted LR I-II lamp among human remains *in situ*, Locus 3 within Cave F.38.

Table 7.4 Cave F.38 (H76) Bone Analysis.

Locus	Bone Analysis
Human	
1	Few bones, adult (30-35)
2	35 total bones. 2 adults (female- 20-25, male- 35-40 with 35 arthritis in vertebrae and talus), child (5), infant.
3	Minimum 22 persons. More female than male. Youngest: fetus. Oldest: 70-80 yrs. Average age: 33.5 yrs. Pathology: Greenstick fracture in humerus. Considerable tooth decay. Some arthritic lipping. 1 skull with hole in it—either tumor or surgery. Person, *ca.* 12 yrs old, died from complications related to hole because edges are still sharp. 1 humerus with groove on distal end, 2 with septal apertures on distal end.
9	Few frags including rib, humerus, hand, fibula, 4 skull frags
10	1 adult (male-25+).
38	Minimum 15 persons. 4 females, 3 males, 1 child, 1 poss fetus, 6 UD. Ages: 1 fetus, 1 *ca.* 5 yrs., 4 under 18, remainder adults 25-45 yrs. Pathology: Teeth missing *ante mortem*. Moderately heavy tooth wear. Stature: 1 person 5'6"-5'7".
Animal	
2	4 sheep/goat, 1 lrg mammal, 1 donkey, 12 rodent, 6 UD, 11 scrap
3	3 sheep/goat, 2 cattle, 1 sm mammal skeleton, 6 UD
9	3 sheep/goat, 1 bird

Table 7.5 Cave F.38 (H76) Pottery Readings.

Locus	Pottery Readings
Cave Interior	
1 (probe at the entrance)	Byz, Ay/Mam
2 (under Locus 1)	LR, Byz, Ay/Mam, UD
3 (under Locus 2)	I, ER, LR I-III, LR, E Byz, L Byz, Ay/Mam, UD
4 (S end under Locus 2)	Prob Rom bod
5 (bedrock ledge at S end)	No pottery
6 (under Locus 3)	LR/E Byz
11 (center of original probe)	LR II-III
12 (under Locus 11)	LR II-III
Within the Loculus	
7 (top of loculus)	No pottery
8 (near bottom of loculus)	Poss ER/LR, E Byz
9 (loculus fill)	LR, Ay/Mam
10 (burial phase of loculus)	LR/E Byz

periods. The more wealthy or perhaps politically important people of Esbus were buried in rock-cut tombs. For those of low social or economic standing, however, the caves seemed to have served as a final resting place. Possibly caves such as this were used to bury persons who died under special circumstances or who had no local relatives. There was no evidence that coffins were used in the cave burials. Presumably the bodies were wrapped in linen shrouds and buried in a fully extended position. The funerary objects were comparable to those placed in the tombs.

The final phases of Cave F.38's occupation were traced to the Ayyubid/Mamluk period, when it was utilized solely for domestic purposes. During this time, while the south end of the cave was altered or expanded, the occupants of the cave apparently attempted to cut a large bench and in the process cut into the back end of a loculus which extended from a standard Early Roman tomb located to the south. It was probably then that the tomb was plundered. A small brooch, beads, and a well-cut crystal piece were discovered from this period. The crystal may have been used as part of an earring or bracelet or worn on a necklace.

The cave was used also in the Modern period exclusively as a temporary shelter. The cave's burial history, therefore, was parallel to that of the cemetery history in Area F.

Table 7.6 Cave F.38 (H76) Objects.

Locus	Description	Object #	Accession #
1	glass frag	-	unreg
2	iron ring	2639	76.411
	2 beads	2631, 2689	76.403, 76.451
	bone button inlay	2632	76.404
	crystal (poss ring)	2630	76.402
3	3 bone hairpins	2752, 2802, 2888	76.508, DAJ, 76.627
	bone needle	2748	76.504
	4 bronze rings	2790, 2810, 2903	76.540, 76.556, 76.641
	iron frags of 4 rings	2904	76.642
	bronze ring with cross	2801	76.550
	6 glass beads	2817, 2869, 2870, 2895	76.563, 76.610, 76.611, 76.634
	poss bone bracelet	2749, 2818, 2858, 2861	76.505, 76.564, 76.601, 76.604
	iron chain link	2809	76.555
	iron ring	2854	76.597
	bronze bell	2857	76.600
	glass bracelet	2860	76.603
	bronze brooch frag	2902	DAJ
	LR I-II lamp	2922	76.658
	LR I-II bowl	2925	76.661
	LR I-II pot	-	unreg
10	bronze wire bracelet	2853	76.596
	coin	-	unreg
	metal piece	-	unreg
11	iron ring frag	2906	76.644
	bone needle frag	2887	76.626
	glass bead	2909	76.647
	glass bottle neck	-	unreg
	glass frags	-	unreg
12	silver jewelry hook	2900	76.639
	bronze necklace	2901	76.640
	iron ring frag	2905	76.643

Chapter Eight

SKELETAL BIOLOGY OF HESBAN: A BIOCULTURAL INTERPRETATION

Anne L. Grauer
George J. Armelagos

Chapter Eight

Skeletal Biology of Hesban: A Biocultural Interpretation

Introduction

The human skeleton has played an important role in understanding the evolution of humankind. Anthropologists in the late eighteen hundreds used archaeological skeletal material to enhance their understanding of the fossil record. Human skeletal material was also used to interpret the fossil record and to reconstruct the racial history of archaeological populations. The reconstruction of racial history led to speculations regarding the origin and diffusion of human populations (Armelagos, Carlson, and Van Gerven 1982). Racial history was the basis for constructing their cultural history.

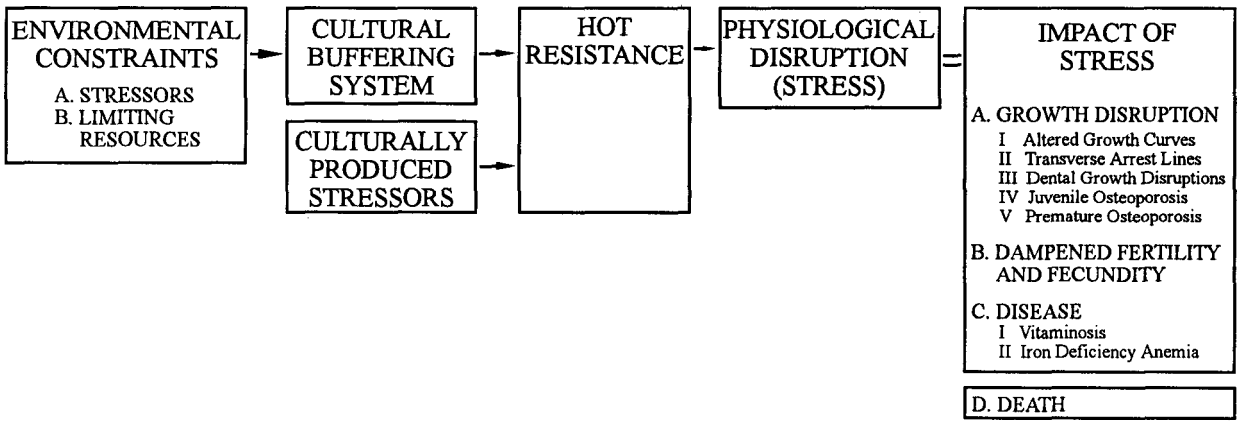
The traditional approach towards racial history involved the selection of certain morphological features of the body, which were thought to "belong" to a specific race (Goodman and Armelagos 1996). For example, a prognathic face was assumed to be a Negroid trait. When this feature was found in an archaeological population it served as indisputable evidence for the presence of Negroid genes. The frequency of racial features found in a population would indicate the extent of racial admixture within that group. Populations found sharing similar racial traits were also assumed to share cultural features. This typological approach was widely accepted by archaeologists as an essential tool for interpreting prehistoric and ancient remains. Since typology was entrenched in the archaeologists' interpretation of material culture, acceptance of typology within biological fields was not unexpected (Armelagos, Carlson, and Van Gerven 1982).

The typological approach provided a limited perspective of biology and archaeology. Based on two false assumptions (that morphological features are linked to race and that race and culture are linked), it sought to establish historical relationships between populations. This emphasis on racial identification and the reconstruction of cultural history caused researchers to neglect other information that was available from skeletal populations. The typological approach in skeletal biology has been criticized for assuming race to be the primary explanation for variation in a population and for concentrating on questions of historical relationships (Van Gerven, Carlson, and Armelagos 1974). The obsession with race and history resulted in a failure to consider many important aspects of a population's biology. The skeleton was neglected as a source data for understanding the biocultural adaptation of ancient populations. We argue that bones of those long dead can be "read" for clues that will reveal how the people lived, adapted, and died.

Adaptation is defined as the ability of an individual or a population to adjust to its surroundings and to meet the challenges of an ever-changing environment. Human populations are similar to other organisms in their reliance on biology as a mechanism of change. However, humans are unique in their ability to use extrasomatic (cultural) means to adjust to the environment. Technology, social organization, and ideology are cultural features that aid in adaptation of the group.

Goodman and Armelagos (1980) and Huss-Ashmore, Goodman, and Armelagos (1982) have developed a model that systematically considers the interaction between environmental and cultural variables and the disease processes (fig. 1). In their model, the environment is the source of resources necessary for survival. However, environments may also constrain a population's ability to make adjustments that insure survival. If critical resources are limited, pathogens and parasites are present, and natural disasters occur, they may affect a group's adaptation.

Figure 8.1 Generalized model showing pathways of stress within an ecological context.



Culture buffers a group from environmental stressors and constraints. Technological features such as shelter, mode of subsistence, the social support engendered by the social structure, and ideology, can deflect the full impact of environmental insults. Consequently, the individual or group's biology is protected from the full brunt of the environmental stressors or constraints.

While the culture can act as a buffer, it can also be a source of stressors that adversely affect survival. The shift to an agricultural subsistence base, for example, can often increase nutritional stress for the population (Goodman and Armelagos 1985b; Cohen and Armelagos 1984). The reliance on a single crop such as maize that is deficient in an essential nutrient such as lysine can result in nutritional stress (Armelagos, Jacobs, and Martin 1981). Social conflicts leading to strife between groups and social inequalities (Goodman, Martin, and Armelagos 1995) serve as other examples of culturally produced stressors.

Stressors that are not buffered by the cultural system but are culturally produced will ultimately have an impact on the human host. The degree of impact depends upon a number of factors. The strength and duration of the stressor, as well as an individual's ability to resist, must be considered. An extremely severe stressor that acts over an extended period of time is more likely to have an adverse impact on biology than a milder insult that affects an individual for a shorter period of time. The relationship between the physiological condition of a host and its stressors is critical. Individuals in good health will have the internal resources enabling them to meet the challenge of environmental change. Conversely, an individual in poor health may have difficulty in combating even the mildest insult.

The inability to resist insults (stressors) may lead to physiological disruption (stress). Evidence of this disruption is reflected in alterations of long bone development, arrested growth in bones and teeth (enamel hypoplasia), decline in fertility, the presence of disease, and by the ultimate measure of stress—death. The patterns of morbidity and mortality are the keys to interpreting the success or failures in adaptation.

The objective of our analysis is to employ evidence of physiological disruption in order to infer biocultural adaptation. The medical anthropologist, E. H. Ackerknecht (1953) writes, "The pathology of a society reflects its general condition and growth and offers therefore, valuable clues to an understanding of the total society." In this chapter, we will show how the skeletal material from Hesban can be used to gain insights into the population's biocultural adaptation. From the patterns of disease and patterns of death, we may begin to understand aspects of life at Hesban.

The Hesban Sample

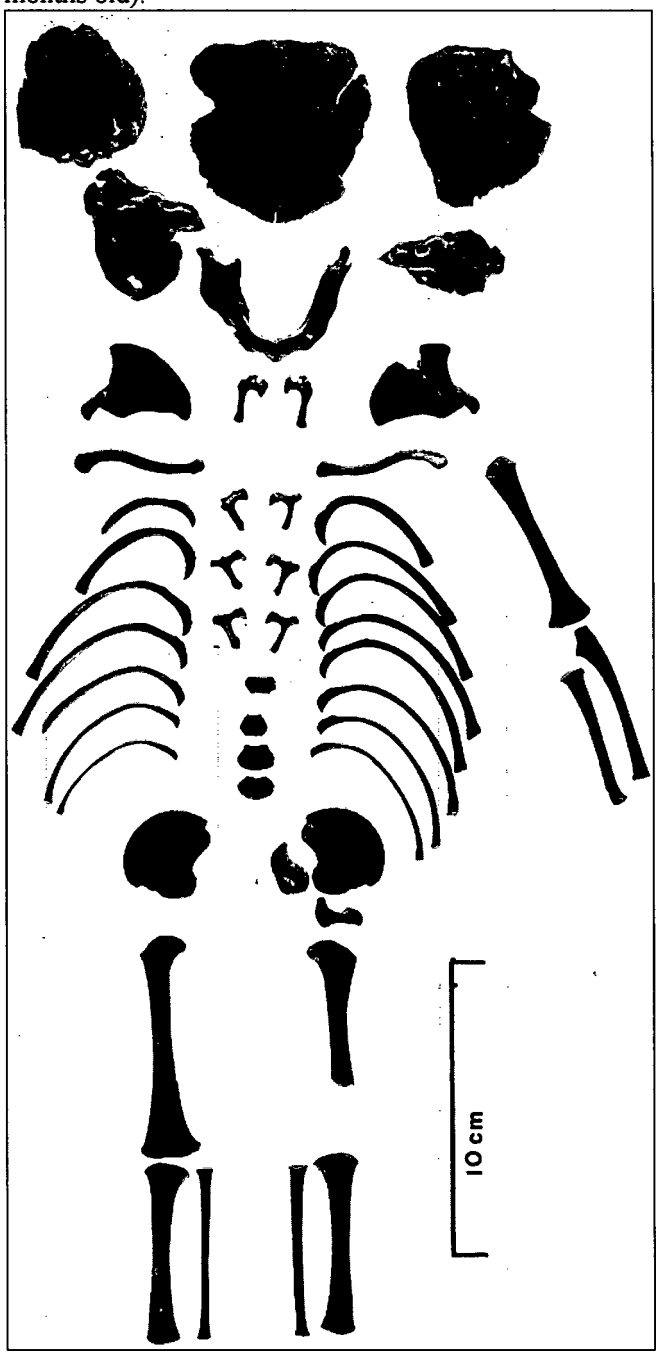
Although the goal of a skeletal biologist is to thoroughly analyze a population, it is often preempted by the poor condition of the material. Unfortunately, the Hesban material presented precisely this problem. The frequent disturbances of the Hesban tombs by grave robbers and destruction by natural disasters left the skeletal remains greatly

disturbed (Stirling 1978: 255). The skeletons that comprise this study date from the Early Roman (198-63 B.C.) to the Early Byzantine (365-400 A.D.) period. Skeletons were identified by tombs or burials designation within the Early Roman to Early Byzantine time period.

The physical condition of the skeletal material was problematic. Complete individuals were seldom found and those received for analysis displayed signs of diagenesis from exposure to moisture and burial in an alkaline soil (Iserson 1994; Garland 1989; Micozzi 1991). A preponderance of severely fragmented crania without associated postcranial remains is an additional problem for interpreting the material. The recovery of Hesban burials reveals an unusually high number of postcranial remains of juveniles compared to the adult cranial remains.

Accounting for the biased skeletal sample is critical if we wish to draw conclusions from the demographic and paleopathological analyses of the skeletal remains. Evidence of archaeological bias may be found in the reinterment of what were assumed to be non-diagnostic fragmentary bones (Stirling 1978: 253). A potential bias toward the collection of cranial remains and the failure to curate postcranial bones and infant remains must also be considered. While there appears to be some indication of fewer than expected adult long bones, an almost complete infant skeleton that died within the first two months of birth was recovered (pl. 8.1). It also appears that not all the material entered in the field records was sent to us for analysis. These issues directly affect demographic and paleopathological analysis.

Plate 8.1 Relatively complete infant skeleton (aged 0-2 months old).



Minimum Body Number

The initial step in our analysis was the calculation of a conservative estimate of sample size. The minimum number of individuals would allow us to interpret the prevalence of pathology and to understand the demographic structure of the population. Each tomb was treated as a discrete unit, with burials from each loculus and sarcophagus added to the tomb total. This procedure allows for the potential analysis of inter-tomb differences.

For each unit, the most common anatomical feature was isolated and placed into general age categories of infant, child, juvenile, sub adult and adult. If the skeletal remains were not represented in the age category from the sample, then it was considered as representing a distinct individual and was added to that age group and to the unit total.

The minimum number of individuals for each tomb or provenience appears in table 8.1. The sum of this list was added to the number of complete or nearly complete individuals. The sample represents minimally 191 individuals but the number buried may be potentially larger.

The sample appears to be adequate for further study but a caveat about potential limitations must still be made. Comparison of pathology between individuals is difficult because different bones were used to determine minimum individual count and this precludes the comparison of one burial from one tomb with another. The commingling of the bones from different burials precluded the possibility of correlating various pathological conditions within and between individuals. Some individuals are represented by a single anatomical unit.

For example, it was not possible to determine if a pathological condition such as infectious lesion found on one part of the skeleton was associated with its occurrence in another part of the skeleton.

Aging

Once again, the lack of discrete individuals posed a problem in determining the ages of individuals in this population. Aging techniques use diagnostic features found on various parts of the skeleton. The long bones, dentition, cranial sutures (Meindl and Lovejoy 1985), and pelvis of the adult provide (Lovejoy, Meindl, Pryzbeck, and Mensforth 1985) information on the aging process. Similarly, the dental eruption sequence (Moorrees, Fanning, and Hunt 1963a, 1963b), dental enamel formation sequence, the rate of dental attrition (Brothwell 1965), changes in the pubic symphysis, the fusion of epiphyseal plates, and long bone lengths are used to estimate the age of younger individuals. The combination of several techniques increases accuracy (Lovejoy, Meindl, Mensforth, and Barton 1985; Meindl *et al.* 1995). Again, since we are not able to evaluate these various indicators on a single individual, our assessment of age becomes more problematic.

Aging the infants, children, juvenile, and other subadults required combining a number of diagnostic techniques from all bones found in tombs. This procedure increased the number of techniques available and insured a greater degree of consistency. The juvenile mandibles from each tomb

Table 8.1 Minimum Number of Individuals by Provenience Units.

Provenience Unit	Individuals
H71 F1 Tomb 1	63
H71 F1 Tomb 4	11
H71 F1 Tomb 5	3
H71 F1 Tomb 6	5
H71 F1 Tomb 7	2
H71 F1 Tomb 8	28
H71 F1 Tomb 9	2
H71 F1 Tomb 10	10
H74 F37	33
H76 F38	14
H76 G10	12
Complete individuals	8
Total	191

were separated and placed in age categories according to the Anderson, Thompson, and Popovitch (1976) dental eruption sequences. Age estimates were also made using the Moorrees, Fanning, and Hunt (1963a, 1963b) enamel formation sequences. An average age was calculated and served as the basis for visually seriating the mandibles. In this way, comparison of features used was "fine tuned" in applying the aging criteria to the individual.

Next, the juvenile long bones were analyzed and measured. D. H. Ubelaker (1989: 48, 49) correlated developmental age and the maximum diaphysial length of each long bone. He also used maximum width of the ilium as another aging technique. Long bone lengths of individuals of known age served as standards for aging infant and children's long bones from Hesban. Although Ubelaker's data are derived from Arikara and related Plains Indian populations, the range of variation for each age category was substantially broad enough to allow for use in aging the Hesban material. In all, 55 juveniles were measured and seriated.

The aging of adult specimens relied on the assessment of dental attrition rates. Brothwell (1965) applied the technique to Romano-British mandibles which we used to age adults in the Hesban population. All mandibles were placed in one of the general age categories of 17-24.9 years old, 25-34.9 years old, 35-44.9 years old, and over 45 (table 8.2). Further age distinctions were made by visually comparing minor differences in attrition within each age category. The first, second, and

Table 8.2 Age of Adults Estimated from Dental Attrition.

Ages	# Individuals
17-24.9 years	10
25-34.9 years	14
35-44.9 years	10
Over 45 years	10

third molars were initially examined. Individuals displaying severe attrition or missing dentition were examined for incisor wear. Mandibles with resorption or tooth loss, or those that were too fragmented, were not used. While mandible fragments displaying complete resorption may have been from edentulous individuals, representing the oldest segment of the population, we were reluctant to draw this conclusion because of the fragmentary nature of the material.

The result of the examination of adult mandibles found 41 of a possible 85 mandibles too fragmented or resorbed to be analyzed. The remaining 44 adult mandibles were aged (table 8.2). The 55 juveniles were also aged using multiple criteria (table 8.3). The data is combined in table 8.4.

The pattern of mortality appears to have a normal age distribution. The age distribution suggests that selective burial practices related to age were not being practiced. Despite the potential problems and the fact that our 45-plus age category "lumps" a segment of the population, Hesban burials reflect the mortality pattern of the population.

Sexing

Attempts to sex the adult specimens provided the most challenging task in our analysis. Since the expression of sexually dimorphic traits is known to vary from one population to another, it is usually necessary to examine complete individuals in order to calculate the range of variation or patterns within the population (Van Gerven and Armelagos 1980).

There are a number of features of the human skeleton that can be used to determine the sex of an individual (Rogers and Saunders 1994; Wienker 1984; Iscan and Loth 1989). The pelvis affords the most accurate number of diagnostic features because of its adaptation for reproduction. The shape of the pelvic outlets, angle of the sciatic notch, the subpubic angle, the presence of a preauricular

Table 8.3 Age Distribution and Minimum Number of Juveniles.

	Prenatal	0-.99 yrs.	1-4.9	5-9.9	10-14.9
Mandible	0	9	10*	8*	2*
Maxilla	0	3	5	3	0
Humeri, rt.	17*	18*	1	0	0
Humeri, lt.	12	16	1	0	0
Radii, rt.	6	10	0	0	0
Radii, lt.	5	11	0	0	0
Femora, rt.	2	12	0	0	0
Femora, lt.	2	14	2	0	0
Tibiae, rt.	6	11	0	0	0
Tibiae, lt.	4	13	1	0	0

* Represents number used for minimum individual count

sulcus, and the shape of the auricular area all serve as sex indicators. Unfortunately, the lack of os coxae (bones of the pelvis) in the Hesban sample precluded the use of these traits. Long bones such as the femur (Van Gerven 1972) and tibia (Iscan and Miller-Shaivitz 1984) have size and shape features that can be used to determine sex.

Many features of the cranium can also be used as indicators of sex. The size of the mastoid process, the prominence of the brow ridges, the rugosity of the nuchal crest, and various features of the mandible are a few examples of features that can be used to determine sex. The strength of a qualitative examination lies in the ability to compare a substantial number of individuals. In the analysis of a smaller population, or a population that is fragmentary, a quantitative method may prove more successful. Because the Hesban material presented an absence of discrete individuals, a large number of fragmentary bone, and a lack of anatomical features considered to be the most suited for sex determination, three methods of analysis were initially applied. Two methods relied on quantitative techniques while the third required a qualitative

Table 8.4 Mortality by Age.

Age	#	% Dying	% Surviving
0	17	17.2	82.8
0-.9	18	18.2	64.6
1-4.9	10	10.1	56.5
5-9.9	8	8.1	54.5
10-14.9	2	2.0	44.4
15-24.9	10	10.1	30.3
25-34.9	14	14.1	20.2
35-44.9	10	10.1	10.1
Over 45	10	10.1	0
Total	99	100	

approach. For each technique the mandible was chosen as the most common and most dimorphic element of the adult material.

The first technique, devised by Eugene Giles (1964), required mandibular measurements and a discriminate function analysis. The number of mandibles fitting the criterion for measurement was greatly limited due to the fragmentary condition of the specimens. The second technique, based on dental measurement (Ditch and Rose 1972), could prove useful given the limited number of mandibles capable of being sexed.

The third technique employed was a visual criterion for sexing the mandibles. Six criteria were established:

1) Amount of gonial angle eversion (males more everted)
2) Relative body thickness (males thicker)
3) Symphyseal height (males higher)
4) Ascending ramus width (males wider)
5) Placement of mental protuberances (more pronounced triangle)
6) General rugosity (males more robust).

Among these features, the degree of gonial angle eversion and symphyseal height were the most dimorphic traits.

The final determination of sex required the comparison of all techniques and results. Various problems and inconsistencies became obvious. Specimens, for instance, adequate for one technique were often inadequate for the next. In some instances, actual classification of a mandible differed according to the technique employed. For example, visual sexing refuted five out of seventeen specimens categorized by the Giles' method. This approach also refuted four out of twelve specimens categorized by the Ditch and Rose method, agreed with the categorization of three specimens, and left five undeterminable. These inconsistencies are not too surprising since many of these sexing techniques are population specific and could not be modified for the Hesban population because of an inadequate sample.

Similar results were obtained through comparisons of Ditch and Rose and the Giles' techniques. Six specimens capable of dental measurement were ill suited for mandibular measurement. Of those specimens measured by both techniques, two were categorized identically and one wa not.

Table 8.5 Age and Sex of Hesban Adults.

Age	#Male	%Male	Survivorship	#Female	%Female	Survivorship
15-24.9	4	14.8	85.2	6	26.1	73.9
25-34.9	5	18.5	66.7	6	26.1	57.8
35-44.9	7	25.9	40.8	2	8.7	49.7
45+	4	14.8		3	13	
Not ageable	7	25.9		6	26.1	
Total	27	99.9		23	100	

The visual sexing technique incorporated the greatest number of mandibles and thus became the key determination of sex. From a total of 85 specimens, 35 were too fragmentary to assess. The remaining 50 specimens, examined according to the criteria stated above, resulted in categories consisting of 27 males and 23 females (table 8.5).

Demographic Patterns and Stress

The presence of stress in a population can be detected through patterns of skeletal pathology analyzed by demographic methods. These methods are especially effective when cultural evidence of difficulties in adaptation are present. Even if the cultural evidence is not available, indications of social disruptions that may affect bone physiology can provide insights into problems of adaptation. Stress indicators encompass not only obvious catastrophic occurrences or trauma, but also the presence of disease, infection, and poor nutrition. These can be viewed as the effects of environmental constraints on a population (Armelagos, Jacobs, and Martin 1981; Larsen 1987).

The model discussed in the introduction simplifies the relationship between environmental constraints and stressors and the subsequent skeletal indicators of stress. A single stressor may affect all ages or both sexes in a population but will affect the skeleton in different ways. It is possible too, that certain segments of the population will be more vulnerable to one type of insult but highly resistant to another. It is obviously a difficult task for the skeletal biologist to unquestionably link a specific stressor with a specific skeletal lesion. Locating and determining patterns of stress is a useful and realistic approach to extracting information on a population's ability to meet environmental challenges. This is not to say that the source of the

insult is not of interest, but that if it is unknown, information can still be derived from the pattern of physiological disruption.

The mortality rates of a population are capable of mirroring signs of change in the structure or environment of the population. A change in subsistence pattern, for instance, can cause an alteration in the mortality rate as calculated for the Dickson Mound Site (Moore, Swedlund, and Armelagos 1975). Similarly, changes in settlement patterns, such as the growth or decline of villages, will often be reflected in the mortality rates. The excavation of the Christian sites on the island of Meinarti in Sudanese Nubia is one such example (Green, Green, and Armelagos 1974). At Meinarti, several stratigraphic levels of excavation of the single village indicated that it experienced a period of stability and cultural growth, followed by a period of decline. Life tables were constructed which showed lower life expectancy rates for population living during the decline of the village. At Meinarti, higher status, as reflected by the presence of mud-brick superstructures has also been linked with higher life expectancy rates (Green, Green, and Armelagos 1974).

Demographic data are derived from aging and sexing of the Hesban individuals. The mortality data for Hesban is presented in Tables 8.4 and 8.5. While only 51.8% of the population were aged, there does not seem to be any apparent bias in the data (except for the "lumping" of the over-45 age group). The data are similar to other agricultural populations with an initially high rate of infant and child mortality, a decline during the adolescent years, and moderate mortality in the adult years. For example, in the Hesban sample, those under 10 years of age comprise 55% of the sample. While the high infant mortality and child mortality may reflect an increase in stress during this age period, other indicators may have to be used to confirm this observation. The pattern of adult mortality appears to be similar to other skeletal and historic populations.

Comparing the mortality of adult males and females allowed for the examination of sex differences (table 8.5). The rate of mortality for females between the ages of 15-34.9 is higher, which may reflect an increase in stress during childbearing years. This phenomenon is frequently found in many other archaeological and contemporary populations. The decrease in female mortality following reproduction may reflect the survival of more fit females. Males, not experiencing increased stress at the same age, show higher mortality in later periods of their lives.

Pathology

While the analysis of the demographic data provides insights into mortality risk by age and sex, an analysis of the pathological condition can often lead to the recognition of the morbidity risks by age and sex. Disease, trauma, poor nutrition, poor hygiene, congenital disorders, degenerative processes, and infection are only a few stressors that may potentially affect an individual or an entire population (Larsen 1987). In these instances, bone tissue may be altered, leaving a clue for the skeletal biologist to interpret.

It is often difficult to determine precise causes of bone lesions. This is due, in part, to the fact that different pathological conditions potentially affect bone in a similar way (Ubelaker 1989: 77). The goal therefore is not to restrict the focus of study only to linking a precise stress with the precise skeletal pathology, but rather to recognize that any physiological disruption of bone can be an indication of the presence of a stressor.

Four methods of analysis were used in a pathological examination. A gross examination was used to detect easily visible bone changes (Steinbock 1976; Ubelaker 1989). The effects of trauma, various types of arthritis, congenital disorders, tumors, infection, and the effects of some diseases are often detectable without visual aids (Ortner and Putschar 1981). Subtle changes from infectious pathogen or slight skeletal changes brought about by nutritional stress can be detected macroscopically. For more minute bone changes a macroscopic examination is used. Microscopic analysis provides yet another means for detecting pathology (Stout and Teitelbaum 1976). The rate of bone resorption (bone loss) and bone formation can be observed at the cellular level to allow for the inspection of calcification processes, remodeling processes (Martin and Armelagos 1979), and histological age determinations (Stout and Teitelbaum 1976; Armelagos, Jacobs, and Martin 1981; Ubelaker 1989). Finally, a chemical analysis (Ortner, Tuross, and Stix 1992) may be undertaken in order to detect the major, minor, and trace elements in the bone, stable isotopes, infectious agents, and genetic

material. Microscopic and chemical analysis allows the skeletal biologist to examine underlying processes that are reflected in the gross, macroscopic, and radiographic analyses.

Most of the pathological data concerning the Hesban population were collected through the use of gross, macroscopic, radiographic and microscopic analyses. The observation of the condition of each bone was recorded by individual tomb provenience and then included in the total population numbers. Tomb differences were detected in this manner.

Arthritis

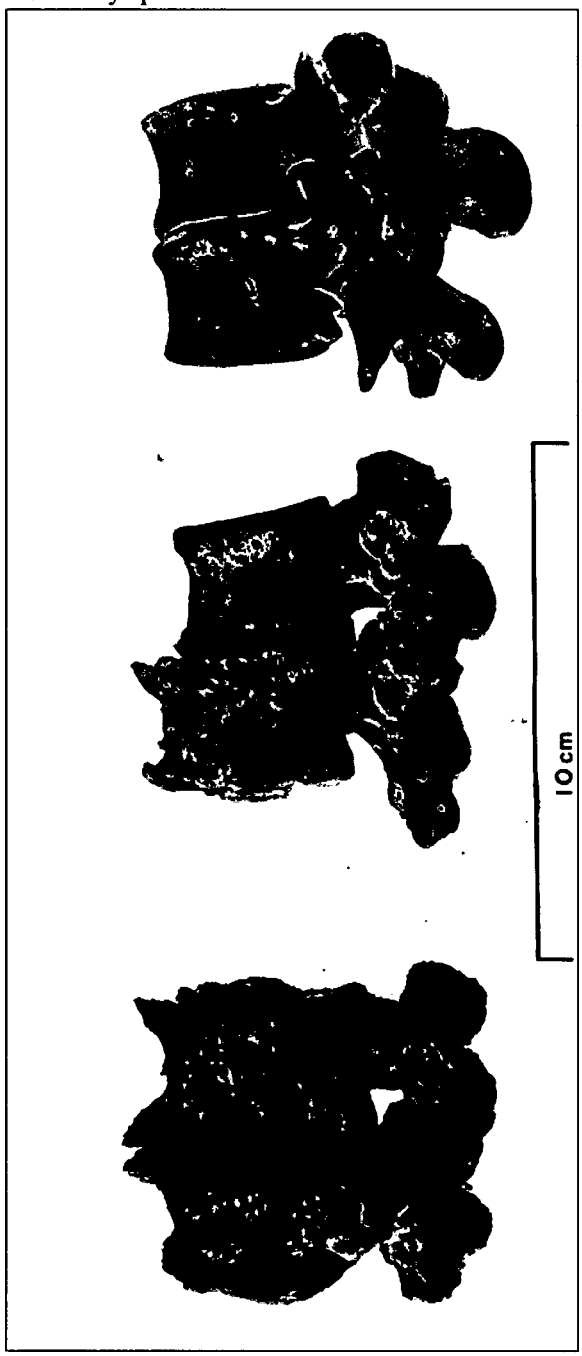
The presence of arthritis (or osteoarthrosis, see Rothschild and Martin 1993) is common in prehistoric, historic, and modern populations.[1] Although today we tend to equate the arthritic symptoms with the aging process, the term itself includes a number of conditions of different etiology not solely limited to degeneration of the joints. In skeletal pathology, arthritis may be classified as osteoarthritis, osteophytosis, traumatic arthritis, rheumatoid arthritis, ankylosing spondylitis, infectious arthritis, or gout (Steinbock 1976: 277). Osteoarthritis is the most prevalent pathology found in prehistoric and ancient populations.

When we think of a joint, we usually picture a synovial joint that has a fibrous capsule with a bursa containing synovial fluid and ligaments connecting the two bones. The articular surfaces of the connecting bones are lined with cartilage that is bathed in synovial fluid, providing protection to cartilage. Synovial joints include the hip, knee, elbow, and finger, etc., and allow a great degree of movement. The other joint type is a connection of two bones joined by connective tissue with no synovial capsule (Schwartz 1995). The vertebral body and the pubic symphyses are fibrous joints lacking a synovial capsule. These types of joint restrict bone movement.

A distinction between pathology affecting synovial joints and the fibrous ligament joints is made in this study Paleopathologists usually reserve the term "osteoarthritis" for changes in the synovial joints or the articular facets of the vertebrae. Osteophytosis is used to describe the bony response at fibrous joints, such as the body of the vertebra.

Osteoarthritis in its earliest stage usually results in a thin lipping of bone surrounding the articular surface caused by the gradual degeneration of the protective cartilage. In severe cases, the articular surface becomes polished from the friction between the bones. The joints affected by this process are

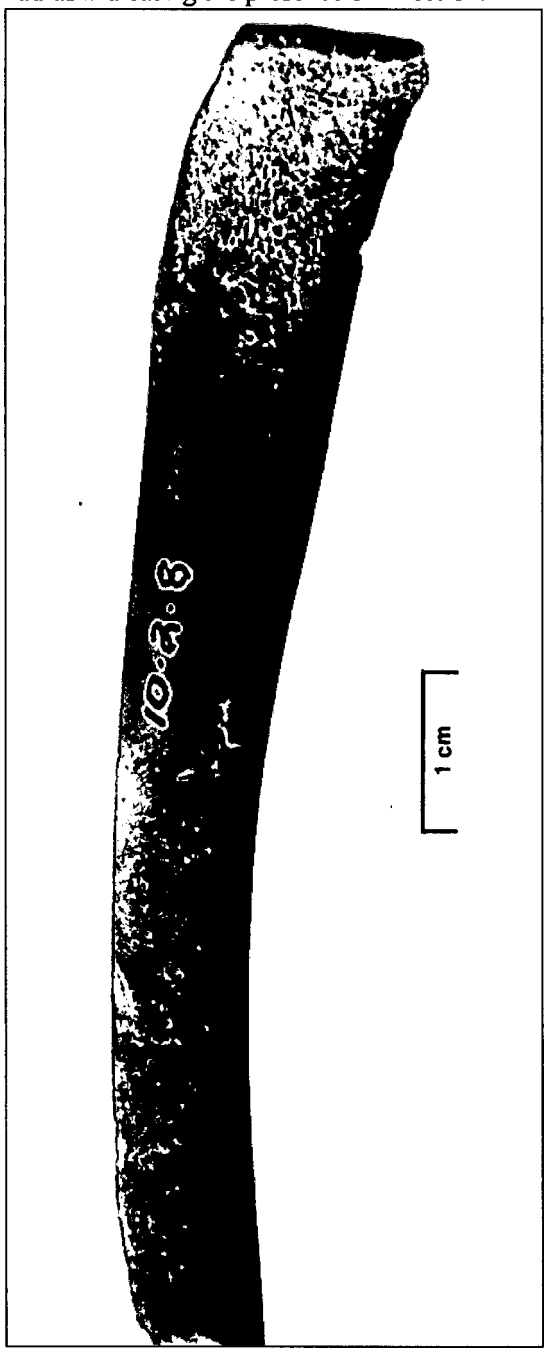
Plate 8.2 Lumbar vertebrae from an individual in Tomb 3.1, Locus 8 displaying severe arthritic lipping. The vertebra on the top is from a healthy laboratory specimen.



usually the weight-bearing joints, but finger joints are also noticeably vulnerable.

Calculating the frequency of arthritis in the Hesban population was impossible due to the paucity of postcranial material. Rather, we can gain some insights with an analysis of the three discrete individuals and bones from other adults. The pattern of joint change suggests that the condition occurred in the adults from Hesban and was age related. The severity of the joint changes increased with age.

Plate 8.3 Slight periosteal reaction on the radius indicating the presence of infection.



Examples of osteoarthritis were found on bones from tombs containing reasonable amounts of postcranial remains (Tombs 6, 8, and 9). Bones from these tombs display articular surface lipping. Most of the examples were found on the articular surface of phalanges (bones of the fingers), which were the most frequent postcranial remains. The three most complete individuals displayed vertebral lipping. One individual from Tomb 31, locus 8 displayed severe degeneration of the lumbar vertebrae possibly due to infection (pl. 8.2). Two of the individuals displayed changes at the ulnar joint of the elbow and one displayed lipping of the occipital condyle. Other pathological changes in joints were not evident in the sample. The prevalence of osteoarthritis in the Hesban population did not indicate to us that the individuals were under abnormal stress.

Multiple Stress Indicators

The analysis of single stress indicators often gives ambiguous results. The determination of adaptation requires multiple indicators of stress. For example, we can consider any number of pathological conditions such as periosteal lesions (indicator of infection), porotic hyperostosis (an indicator of iron- deficiency anemia), developmental enamel defects, and disruption of long bone growth (Harris lines) as a suite of conditions that can be systematically analyzed together. In a sense, any one of these physiological disruptions may not clearly demonstrate difficulties in adaptation; however, a combination of stress indicators often reveals a pattern of pathology that clearly indicates difficulties in adaptation for the population.

Periosteal reaction is a bony response to an infectious agent resulting in changes that appear to be somewhat scab-like (pl. 8.3). The lesion may be due to localized acute infection or general systemic chronic infection. In either case, the periosteal reaction becomes more involved as the infection increases and begins to remodel bone when the infection subsides. Analysis of periosteal reaction thus requires the recording of lesion location, the extent of involvement, and degree of remodeling.

The presence of porotic hyperostosis is another measure of population stress. Although first recognized as an indicator of thalassemia and sickle cell anemia (both hereditary anemias), it became evident that iron-deficiency anemia could produce similar lesions. The pathology has been described primarily as porous bone development often located on the superior portion of the orbits and on the frontal and parietal bones above the temporal line (Huss-Ashmore, Goodman, and Armelagos 1982). Iron-deficiency anemia can be caused by inadequate iron supplies in the diet, parasitic involvement, and infection. It can be etiologically linked to the occurrence of periosteal reactions. The analysis of porotic hyperostosis and periosteal reactions in the same population for establishes the relationship between anemia and infection with respect to age of onset, duration, and decline of the conditions (Huss-Ashmore, Goodman, and Armelagos 1982).

Porotic hyperostosis is a well-established indicator of nutritional stress. Since porotic hyperostosis can be linked to iron-deficiency anemia, it has been studied extensively in prehistoric populations. There are different degrees of involvement including slight pitting, moderate and severe hyperostotic development (pl. 8.4). In the Hesban sample there was no indication of moderate or severe bony changes, but over fifty percent of the orbits showed indications of slight pinpoint porosity and remodeling. This pattern would suggest very slight anemia with evidence of healing. Cases of porotic hyperostosis were not found on frontal and parietal bones. This, in part, may be due to the mild manifestation of the pathology on all specimens.

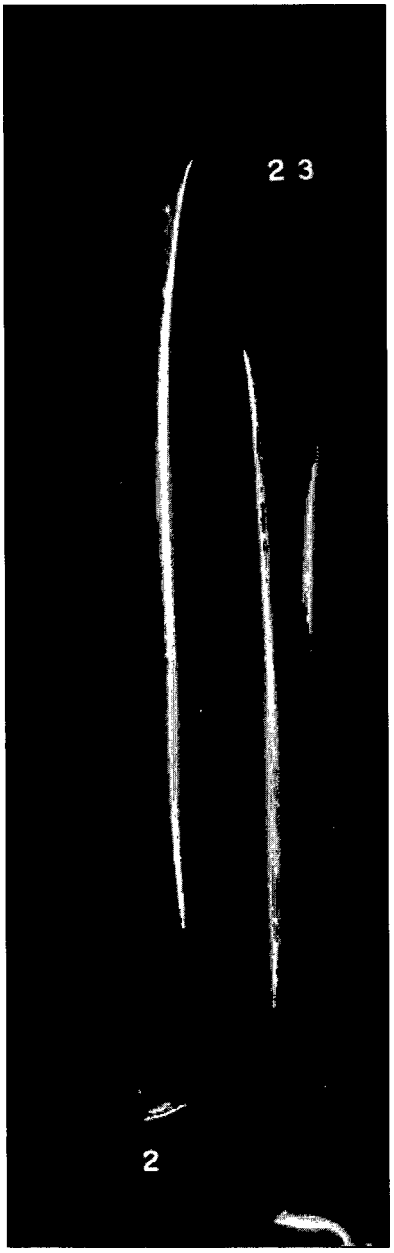
Porotic hyperostosis has been studied extensively (Carlson, Armelagos, and Van Gerven 1974; Holland and O'Brien 1997; Lallo, Mensforth, and Armelagos 1977; Mensforth *et al.* 1978; Stuart-Macadam 1991, 1992a, 1992b, 1992c; Stuart-Macadam and Kent 1992). Many of these studies show a synergistic relationship between porotic hyperostosis and periosteal reactions. Skeletal analyses show that infections, witnessed by periosteal lesions, often occur at an earlier age in the population than lesions of porotic hyperostosis. An early onset of infection may perhaps be a critical factor in creating low iron levels in a population. The iron used by pathogens, the decrease in the ability of the intestines to absorb iron during infection, and the increased need for iron during intensive growth of the first two years are the most critical elements in the development of anemia (Huss-Ashmore 1980: 34).

Stuart-Macadam (1991, 1992a, 1992b, 1992c; Stuart-Macadam and Kent 1992) has argued that the

Plate 8.4 Slight orbital pitting (porotic hyperostosis) of an adult individual from Hesban caused by an iron-deficiency in the diet of the individual.

anemia represented by the porotic hyperostosis is a positive adaptation to infectious disease. Following Weinberg (1974, 1992), she claims that the anemia restricts available iron and thus reduces the pathogens' ability to reproduce. This assertion, however, needs paleopathological support. On the contrary, Mensforth and colleagues (1978) have shown that there is a link between anemia and infection. Huss-Ashmore, Groodman, and Armelagos (1982) demonstrated that during the first ten years of life anemia is associated with an increase in mortality. Recently, Holland and O'Brien (1997) and Goodman (1994) have effectively shown the inconsistencies in Stuart-Macadam's position.

Plate 8.5 Radiograph showing the presence of Harris lines in two adults from Hesban. Individual Two shows 10 lines which transverse the tibia. Two of these developed at age 5 while 8 occurred during the adolescence (age 12-15). Number 23 shows 4 oblique lines transversing 50% of the bone. Two of the lines developed at age 5 and two at adolescence (age 10-12).



The presence of periosteal reaction in the juvenile skeletal material was high. The right tibia displays the most periosteal involvement (table 8.6). Nearly 10% of the bones show evidence of infection. In the adult material, periosteal reaction was found in only two radii: one right side and one left side. As the postcranial remains of adult individuals are severely limited, this cannot be considered an adequate sample size for further analysis.

A similar indication of general stress is the presence of Harris lines in long bones. For the examination of this pathology, radiographs must be taken of the postcranial material of both juveniles and adults. When bone growth is disturbed by severe stress an excess of calcium may be deposited at the ends of the long bones, forming a band of increased density (pl. 8.5; Marshall 1968). When growth resumes, Harris lines, or growth arrest lines, become visible. These transverse lines remain with the individual throughout life and thus serve as a stress indicator. However, during the normal process of bone modeling and remodeling, the lines may be resorbed. Harris lines are not produced by every disease, nor by every period of nutritional stress (Steinbock 1976). Both minor and severe stress may produce the pathology.

Table 8.6 Frequency of Periosteal Reaction in Juvenile Skeletal Remains.

	Num.	Num. with Lesions	Percent with Lesion
Femur, rt.	14	0	0
Femur, lt.	18	1	5.6
Tibia, rt.	17	4	23.5
Tibia, lt.	18	2	11.1
Humerus, rt.	36	1	2.8
Humerus, lt.	29	4	13.8
Radius, rt	16	3	18.8
Radius, lt	16	1	6.2
Total	164	16	9.8

The effects of severe stress to a pregnant mother may manifest themselves in the fetal bone development and the presence of Harris lines in the fetus.

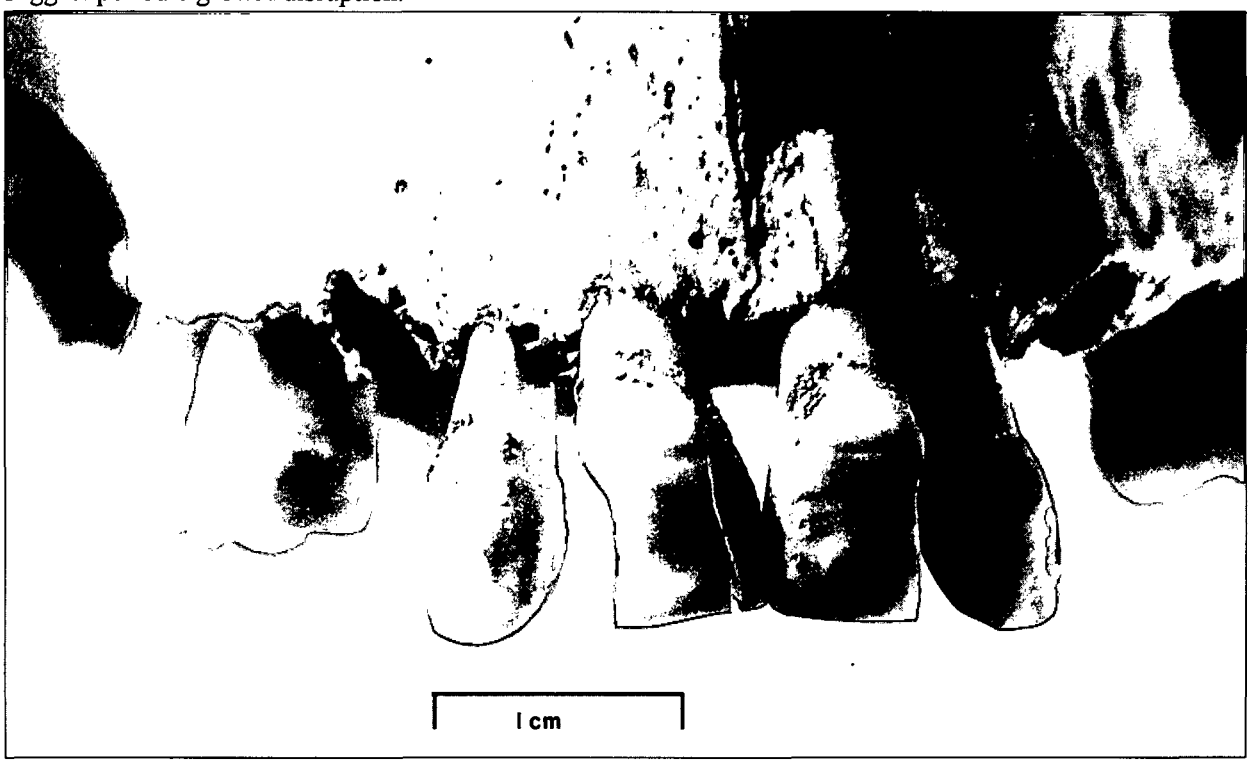
Ann Magennis (1990) questions this interpretation of Harris lines. In a study of a sample from the Denver growth study, she has shown that Harris lines are part of the normal growth pattern and may not reflect pathology. It is interesting to note that there appear to be peaks of line formation during periods of rapid growth.

Three adult long bones (tibiae) were examined along with 20 juvenile tibiae. The proportionately small number of long bones in the skeletal material precluded the thorough examination of this stress indicator. Of the three adult specimens, only one displayed signs of severe repetitive Harris lines while the other specimen displayed less obvious signs of disrupted growth. The juvenile material did not show signs of disrupted growth.

Dental Enamel Hypoplasia

Dental hypoplasias, or deficiencies in enamel thickness of a tooth, often result from systemic growth disturbance (Goodman, Rose, and Armelagos 1980). The growth and development of juvenile and adult dentition is sensitive to stress and will become disrupted temporarily if the stress is severe. If stress occurs during the formation of dentition, it will often cause major enamel deformation or complete enamel formation disruption (pl. 8.6). Since dental enamel is not remodeled, it serves as an indelible indicator of early developmental stress (Huss-Ashmore, Goodman, and Armelagos 1982; Goodman and Armelagos 1985a, 1988; Goodman, Rose, and Armelagos 1980, 1984). This chronological information collected through measurement of the distance between the cemento-enamel junction and the hypoplasias (Rose 1977) provides a "memory" of earlier metabolic stress. We are able to examine the age of onset of childhood stress in adults who have survived that stress. The single-tooth technique requires only one tooth type for analysis. Usually the mandibular canine is chosen for measurement due to its relatively long developmental time span and its sensitivity to environmental stress. Although this technique is

Plate 8.6 Teeth of an adult individual. Severe dental hypoplasias on the central and lateral maxillary incisors suggest periodic growth disruption.



well-suited for fragmentary or poorly preserved specimens, it fails to distinguish between hypoplasias caused by trauma or congenital defect and those due to environmental stress (Huss-Ashmore, Goodman, and Armelagos 1982). The multiple-tooth technique, on the other hand, provides a longer record of development, and allows for the differentiation between systemic and non-systemic causes of hypoplasias. Results of a study undertaken by Goodman, Rose, and Armelagos (1980) on the Dickson Mound site in Illinois indicate that 95% of chronological growth disruption is visible on either incisors or canines. It is suggested, therefore, that a "best tooth" technique can be adopted in order to assess population stress (Huss-Ashmore, Goodman, and Armelagos 1982).

The chronological patterns derived from any of these methods potentially begin to qualify the term "environmental stress." Swardstedt (1966) noted the seasonality of stress in a medieval population. The repeated occurrence of hypoplasias separated by twelve-month intervals in the Dickson Mound population indicated annual cycle of stress to Goodman, Rose, and Armelagos (1980) as well. Environmental stress in these instances may be nutritionally based. Differences in the frequencies of hypoplasias according to sex, age, class, and culture provide other more socially oriented definitions of environmental stress. The relationship between the occurrence of dental hypoplasias and decreased longevity is still being studied. It has been suggested that individuals constantly exposed to stress will exhibit hypoplasias as an indicator of childhood hardship and early mortality as a result of adulthood stress. Similarly, it has been hypothesized that individuals stressed during childhood will be more susceptible to future stress (Huss-Ashmore, Goodman, and Armelagos 1982).

Two techniques were applied to the Hesban material: the "best tooth" technique and the multiple tooth technique. Since the number of canines present in the group of 85 adult mandibles was limited, the single-tooth technique allowed only for a presence/absence analysis of dental hypoplasias. The multiple-tooth technique incorporated all present dentition except the third molar in the measurement of chronological age and hypoplasias. Thus, a more elaborate and revealing pattern of stress emerged from this method.

Nineteen individuals out of the original 85 retained a canine tooth which was examined using the single-tooth technique. Of this small group, 90.5% displayed hypoplasias. This unusually high percentage is clearly indicative of stressors in the Hesban population.

The multiple-tooth technique supported this contention as well. Individuals with more than two teeth (not including the third molar) were selected for this method. Forty-five individuals qualified. Each specimen's tooth was examined for attrition and hypoplasias. Precise chronological calculations were made in order to assess the frequency and age of the individual during the period of stress. The results indicated that 53% of the adults displayed hypoplasias with the peak period of disruption occurring between 2.0 years to 5.5 years of age.

Next, the pattern of growth disruption for each individual was recorded. The frequency of two hypoplasias being separated by 6 months, 12 months, and 18 months became an important tool for the assessment of patterns. The Hesban population displayed eleven occurrences of 6-month disruption intervals, twenty of 12-month intervals, and seven occurrences of 18-month intervals. It appears from this data that the Hesban population was subjected to an annual period of stress, perhaps linked directly to agricultural cycles. Famine and disease may have occurred each year at the time when new seeds were being planted and grain stores had been depleted.

Analysis of the dental material added to the initial conviction of stress in the Hesban population. A proportionately high number of mandibles were found to display dental socket resorption due to tooth loss. Although this condition can be attributed to tooth loss due to old age, it can also be the result of premature tooth loss due to poor diet, infection or trauma. Out of 85 individual mandibles, 16 were too resorbed to adequately age by means of dental attrition. Thus, 19% of the Hesban mandibles suffered severe resorption of dental sockets.

The presence of alveolar recession, a condition caused by periodontal disease and infection was found more frequently than dental resorption. Out of 85 individual mandibles, 26% displayed this.

Did the People of Hesban use Antibiotics?

In 1980, Bassett and co-workers (Bassett *et al.* 1980) reported the discovery of antibiotic use in a prehistoric Nubian population that predates modern

Plate 8.7 Discretely flourescing osteon of an adult individual amidst non-flourescing osteons indicating the ingestion of the antibiotic tetracycline *in vivo*.

use by 1400 years. Evidence of tetracycline, a broad-spectrum antibiotic, was found in the bones from a series of sites in Egypt and the Sudan roughly contemporaneous with Hesban. The evidence suggests that these groups were ingesting therapeutic doses of the antibiotic. The extent of the use was quite remarkable in one such population. In an examination of the femora of 55 individuals the NAX-population (X-Group period dated A.D. 350-550), 53 (96.4%) showed some indication of tetracycline "labeled" bone (Collins and Armelagos 1997). Tetracycline binds calcium (physicians advise their patients not to drink milk or take antacids containing calcium when taking tetracycline) and is incorporated into bone or teeth that are mineralizing at that time. Tetracycline is said to "label" actively calcifying tissue. A thin-section of bone exposed to the ultraviolet light of a microscope glows a distinctive yellow-green color at the 490 nanometers wave-length. Modern researchers use this feature of tetracycline to measure the amount of bone forming during the period in which the antibiotic was ingested (Frost 1963; Frost *et al.* 1961a, 1961b).

The report of ancient tetracycline use raised skepticism by some researchers who suggested that the fluorescence was the result of post-mortem infestation of molds (Piepenbrink 1986; Piepenbrink, Herrmann, and Hoffman 1983). While it is possible that fluorescent post-mortem mold may infest a bone, the pattern of tetracycline fluorescence can be distinguished. A distinct pattern is visible within the individual bone-forming units (osteons) and between osteons. Only the osteons that have formed during the ingestion and metabolism of the tetracycline will be labeled (Keith and Armelagos 1982, 1988, 1991). Thus one may find an osteon fluorescing next to an osteon that is not fluorescing.

Tetracycline-labeled bone has been found in a Christian population (A.D. 550-1450) from the

island of Kulubnarti in the Batn el Hagar south of Wadi Halfa (Hummert and Van Gerven 1982) and from populations that lived at the Dakhleh Oasis. The Dakhleh Oasis is 660 km SSW of Cairo and dates from the Roman period (A.D. 400-500). Cook, Molto, and Anderson (1989, figure one) report osteons that show differential labeling in which there were three rings of labeled bone within a single osteon (previously mentioned concentrically labeled osteon). In a 19 year old Egyptian from the site, there is evidence of labeling in the lamellar bone (bone that is characteristic of a rapidly growing individual). They also found irrefutable evidence of *in vivo* tetracycline labeling in the tooth enamel (Cook, Molto, and Anderson 1989: 142).

Traces of tetracycline have been found in the Hesban population. Thin sections were made from nine juvenile and one adult femora. The adult specimen displayed definite osteon fluorescence as well as feathering which represents an osteon that displays interruption of mineralization (pls. 8.7, 8.8, and 8.9). This indicates that tetracycline ingestion was not continuous during the calcification of that osteon. It verifies the conjecture that fluorescence was not the effect of post-mortem mold infestation. Of the nine juvenile specimens, four displayed fluorescence, two showed no sign of fluorescence, and two are too poorly preserved to analyze.

Although quantifying the amount of tetracycline fluorescence in the Hesban population is impossible at this point due to the poor preservation of the skeletal material, it appears that its presence is undeniable. There was no evidence of the diffuse fluorescence that characterizes mold infestation. It appears that the people of Hesban were ingesting tetracycline during their life time.

If the Hesban folk were consuming tetracycline, the source of the antibiotic remains to be determined. Tetracyclines are produced in nature by streptomycetes, a mold like bacterium. The source of the tetracyclines in prehistoric Nubians has been traced to possible contaminated grain. Bassett *et al.*

Plate 8.8 Flourescing osteon of an adult individual with feathering, showing the disruption of the mineralization process of the cell.

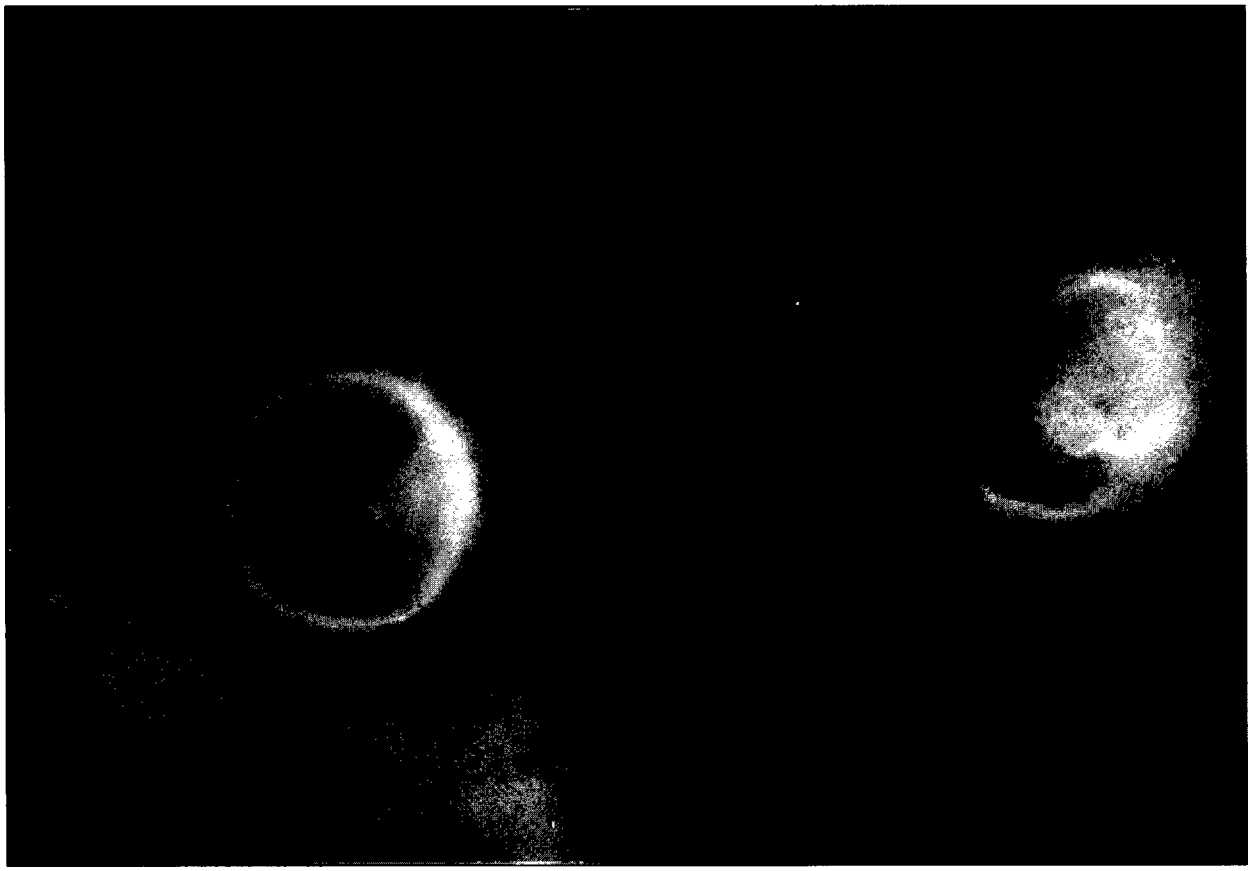
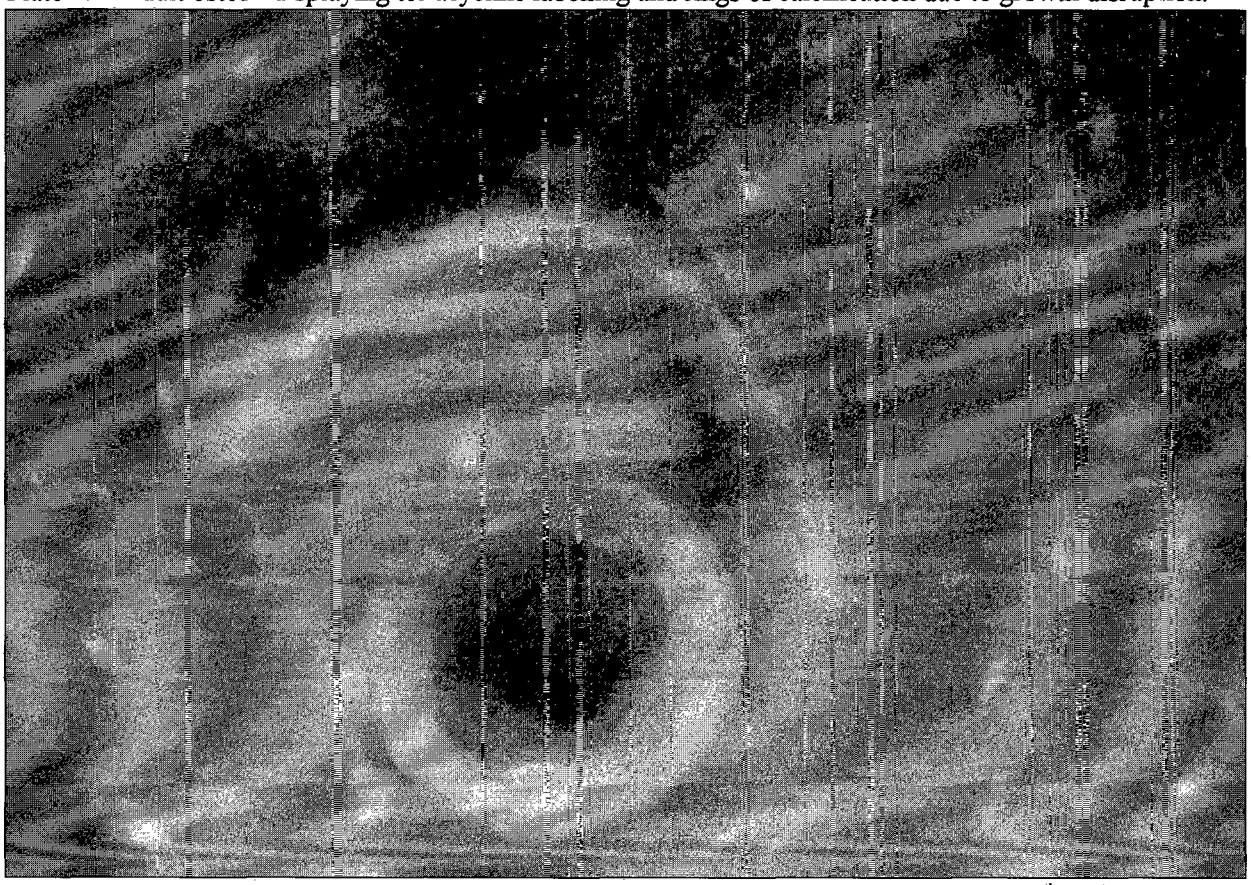


Plate 8.9 Adult osteon displaying tetracycline labelling and rings of calcification due to growth disruption.



(1980) suggest that grain stored in mud bins provides ideal conditions for the growth of streptomycetes. A dry, warm, and alkaline environment also provides an ideal condition for the growth of streptomycetes. Since streptomycetes comprise 60-70% of the soil bacteria in Egypt and the Sudan, the opportunity for contact with grains (wheat, barley, and millet) stored in the mud bins would be ample enough to produce tetracycline.

The ethnographic and archaeological evidence suggests that brewing beer was the source of the antibiotic. In fact, it is the streptomycetes that makes the fermentation process possible since it inhibits bacteria that would interfere with the yeast. Recent archeological evidence (Williams 1996; Young 1991) demonstrates the process by examining the residues that remain in ceramic vessels. Samuel (1996a, 1996b) has provided the most complete analysis of Egyptian brewing based on archaeological remains. Samuel and others (Katz and Maytag 1991) have used this evidence to produce a beer using ancient recipes. The history of brewing has been studied. Chemical, lithic, and phytological evidence suggests that beer was produced in the Near East for thousands of years. In particular, the recovery of six-row barley (*Hordeum vulgare*) at archaeological sites has been used to infer the brewing of beer (Michel, McGovern, and Badler 1992). Interestingly, this specific grain was identified by Gilliland (1986) in his ethnobotanical and paleocological interpretaion of the site. Similarly, LaBianca (1990) described the presence of storage silos and food storage facilities at Hesban, leading to the assertion that the Late Hellenistic diet included several types of grain.

Conclusions

Throughout this paper, emphasis has been placed on the limitations presented by the fragmentary and incomplete Hesban skeletal remains. Several conclusions, nonetheless, can be

formulated. It appears at this point that the Hesban population was not under severe stress. First, the mortality rate, which shows a pattern of high infant mortality, a plateau during adolescence, and a relatively normal curve at old age, is frequently calculated for agricultural populations throughout the world. Even the higher rate of mortality found in females between the ages of 17-35 at Hesban can be correlated with similar populations. This pattern is explained by the added physiological stress on an individual during reproductive years.

Indications of severe nutritional deficiency are also absent in the Hesban population. Obvious signs of vitamin deficiencies (rickets, scurvy, or beriberi) are nonexistent. Iron-deficiency anemia, caused by low iron levels in the body, does not appear to be a major stress factor either. Because iron-deficiency anemia produces a skeletal condition such as porotic hyperostosis, it is easily recognizable in a population. The Hesban population displays only trace signs of this condition: orbital pitting. Many of those with traces of pitting in the orbit appear to have healed lesions or partially healed lesions, thus indicating that iron-deficiency anemia was a minor source of stress.

Due to the relationship between nutritional deficiencies and infection rates, it is important to analyze the frequency and extent of periosteal reaction in the Hesban population. Once again, only minor cases of this pathology were seen, with healed lesions occasionally found. Since both the occurrences of porotic hyperostosis and periosteal reaction appear minimally in the Hesban population, it can be stated with reasonable confidence that nutrition, and ensuing infection, did not serve as major stress factors.

Trauma and excessive physical labor may also serve as stressors within the population. In examining this population, no major indications of trauma were noticed. Fractures or evidence of violence were absent. The frequency of arthritis could have potentially indicated excessive physical exertion (if the vulnerable joints of the bodies of young individuals displayed lipping) but the lack of post-cranial remains rendered this analysis impossible. In all, the Hesban population appears to lack signs of severe stress.

The abundance of cranial material from this population leads to several affirmative conclusions. Cyclical stress is apparent through the examination of the dental material. Yearly stress markers appear in the form of dental hypoplasias on many of the Hesban individuals. These pathologies in conjunction with one another indicate that the people living at Hesban suffered yearly bouts of stress (as is common to most agricultural populations, but were able to survive these periods with only minimal developmental disruption.

Two more points of interest must be mentioned. The first relates to the discovery of tetracycline in the population. While the fluorescing of osteons in the adult and juvenile samples clearly show that the antibiotic was ingested, the amount of tetracycline has not as yet been determined. This information may prove vital since tetracycline can aid in the fight against infection.

Lastly, the large number of mandibles present in the population allowed for the examination of dental health of the Hesban individuals. Tooth loss, alveolar recession and dental caries were commonly found. This indicates relatively poor dental health. A surprising number of individuals were examined with complete tooth loss. This condition may be a reflection of age or may occur due to poor dental hygiene. Assessing the age of a mandible with complete tooth loss is difficult. Thus the precise dental information obtainable from these individuals is limited.

It was hoped that pathological or demographic differences between the tombs would be recognizable upon the completion of this analysis. The limited and fragmentary nature of the skeletal material required us to combine the anatomical features from each tomb and assess the population as one unit. This procedure produced favorable results in some instances (a larger sample size was formulated) but may have incorporated unknown bias into the sample due to the age differences of the tombs.

The analysis of Hesban skeletal population has generated many interesting questions. Perhaps with a greater integration of archaeological information and the processes that contribute to annual stress events we will better understand how the people of Hesban lived and how they died.

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Note

[1] Rothschild and Martin note that arthritis implies an inflammatory process that is not necessarily a part of the pathological process of arthritic change. In a similar vein, they criticize the use of the term "degenerative joint disease" since it may not be a consequence of arthritis. In actuality, what we have called arthritis and "degenerative joint disease" in this study refers to the inability of the cartilage to repair itself leading to skeletal changes of the underlying bone.

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Chapter Nine

COMPARATIVE ROMAN-BYZANTINE TOMBS IN TRANSJORDAN

Howard P. Krug

Chapter Nine

Comparative Roman-Byzantine Tombs in Transjordan

Tomb Typology

The study of tombs can help us understand man's past and the way he viewed death. By studying the architectural features of tombs and the objects interred, we can better understand the material culture of the people who lived during that time. In a recent publication Gonen (1992: 6) stated that "using physical features of burials is one of the most important elements for identifying and classifying tombs." Another author noted that "the study of them [tombs] is important, not only for what they suggest concerning belief in the future life, but also for what their contents reveal about the cultural levels of ancient peoples, since objects of daily use were customarily interred with the deceased" (Reed 1962: 663).

History of Tomb Classification

While classifying tombs based on physical features is not a new idea, in the last thirty years one can see from the works of Loffreda, Ar, Gonen, and most recently Bloch-Smith the systematic classification and cataloging of tombs is new. When archaeology was in its infancy in the mid-1860s it was noticed that many tombs were scattered across Palestine. It was further recorded that these tombs were found in places where there were ancient villages. As early as 1869, Wilson, one of the early pioneers, developed a system of classification under three categories of "Rock-hewn, Masonry and Sarcophagi Tombs" (Wilson 1869). Wilson elaborated on the distinctive characteristics of each type of tomb and illustrated representative types. He even dated the tombs based on their physical features. Though this early classification was crude it provided a useful framework for studying tombs (Wilson 1869). Fisher (1938: 550-558) architecturally classified the tombs he found at Gerasa into five basic types, roughly very similar to the ones presented in this publication, but he didn't provide many comparisons or detailed descriptions. Hamilton and Husseini (1935: 170) classified the shaft tombs (our Type Va and Vb) they excavated at Nablus into four types. At Tell en-Nasbeh the tombs were not classified by physical features at all, but rather by the types of grave goods found, most notably the lamps (McCown 1947). At best, one can say that while the reporting of the tombs excavated at en-Nasbeh was done, the classification of the tombs was haphazard. At Jericho, Bennett in the 1950s identified four common types (Bennett 1965: 516). She identified three reused tombs (here Type Vb) dating either from the Early Bronze or Middle Bronze period, as characterized by a shaft with a chamber at the base, but without loculi (Bennett 1965: 516). Loffreda (1968) classified Iron tombs found in Palestine, but his classification was regarded as too simplistic by some archaeologists. While many other examples of non-standardization of classifying tombs can be documented, it will be sufficient to say that a system of classifying and cataloging Roman-Byzantine tomb types is needed. Consequently, it is with this in mind that the catalog on Roman and Byzantine tombs of Jordan will be presented below.

Purpose of Catalog

This catalog examines salient architectural features that can be used in the classification of tomb types excavated and published in Jordan. It is hoped that this catalog will help start a dialogue for standards of terminology and aid in the systematic classification and publication of tomb types,

especially from the Roman period. This project was created originally to validate the major types, architectural features, and dates, developed from the Hesban excavations and as refined in the field during the 1987 Tell el-'Umeiri (East) Necropolis survey.[1] After reading extensively and consulting with other funerary excavators, it was decided it would be more useful to develop the catalog into a database form that would list architectural features, date, contents, and number of people buried. By listing pottery and personal objects it is hoped that researchers in these other areas will save time when conducting research.

The purpose of this catalog is to first establish and catalog salient architectural features, which will aid in future surveying and registering of the many types of tombs encountered for the Roman period in Jordan. Second, the catalog provides a standardized working typology of basic types for Roman and Byzantine tombs. Third, it aims to illustrate the development and evolution of types in the Roman and Byzantine epochs. While it must be noted that the catalog focuses on tomb architecture, it is hoped the tombs presented here will spawn many other studies in burial customs of various periods. Last, the typology suggested here, and developed during the Hesban and 'Umeiri projects, can at a future date be enlarged to encompass most of the sites of Roman and Byzantine Palestine.

Methodology

The catalog is broken down into ten architectural types similar to the Hesban classification with a minor variation for continuity. One major distinction can be illustrated in Type Vb and will be discussed later.[2] In presenting the catalog each type will be briefly discussed in its geographical as well as their historical context. This catalog represents research on over 370 excavated and published tombs.[3] Wherever possible, information has been standardized (without compromising the excavator's description) to ensure classification in the easiest manner possible. At many sites, the catalog is limited by the incompleteness of the excavator's published report, which this author has no control over.[4]

Because this catalog includes a greater variety of tomb structural types then the six major types encountered at Hesban, it was found necessary to expand the structural variation into ten main architectural types. While the Hesban excavations established (six) major types, this catalog further adds to the major types. Tomb Type I is a chamber tomb with loculi radiating from the chamber. Type II is a horizontal shaft tomb cut into the hillside ending in a loculus or chamber. Type III is a chamber tomb with adjoining arched alcoves (arcosolia) containing sunken or trough graves. Type IV contains a chamber possessing both loculi and arcosolia. Type Va is designated as a vertical shaft tomb having a rectangular shape until it widens out at the base to accommodate arcosolia with trough graves and loculi. Type Vb is a vertical shaft narrowing to form a ledge ending in a single burial space. Type Vc is a tomb with a vertical shaft ending in a single chamber. Type VI is a natural cave used as a tomb. Type VII is a partially or fully constructed cist tomb. Type VIII is an above ground megalithic tomb of which only five have been identified in Jordan, as opposed to the ten or more found in Palmyra, Syria.

In the catalog each type will be presented separately with a brief introduction and some preliminary analysis of dating and usage.

Since this is a catalog limited only to tombs excavated and published in Jordan, no survey work will be included. The dates given are those provided by the excavators. In the discussion a few brief comments will be made, however, when comparing dates of a given type. Indeed, much of the information presented in the catalog is at the mercy of the excavator's report. Where descriptions were confusing, or obscure language was employed, common terms were used to make reading more understandable. Many times when information was not given, it will be labelled "Data not available" in the catalog. Where no objects or pottery were found the word "None" will be written. The grave goods will be presented, but no interpretation of the finds will be provided, since the catalog does not focus on objects interred, but rather on the classification of architectural types. Such a comprehensive catalog would be a separate volume. A map of Transjordan showing the distribution of each type is provided (figs. 9.1 and 9.2).

The information that is recorded for every tomb type is broken down into ten informational columns to facilitate research and study.

Figure 9.1 Map of northern Transjordan showing tomb sites and tomb typology.

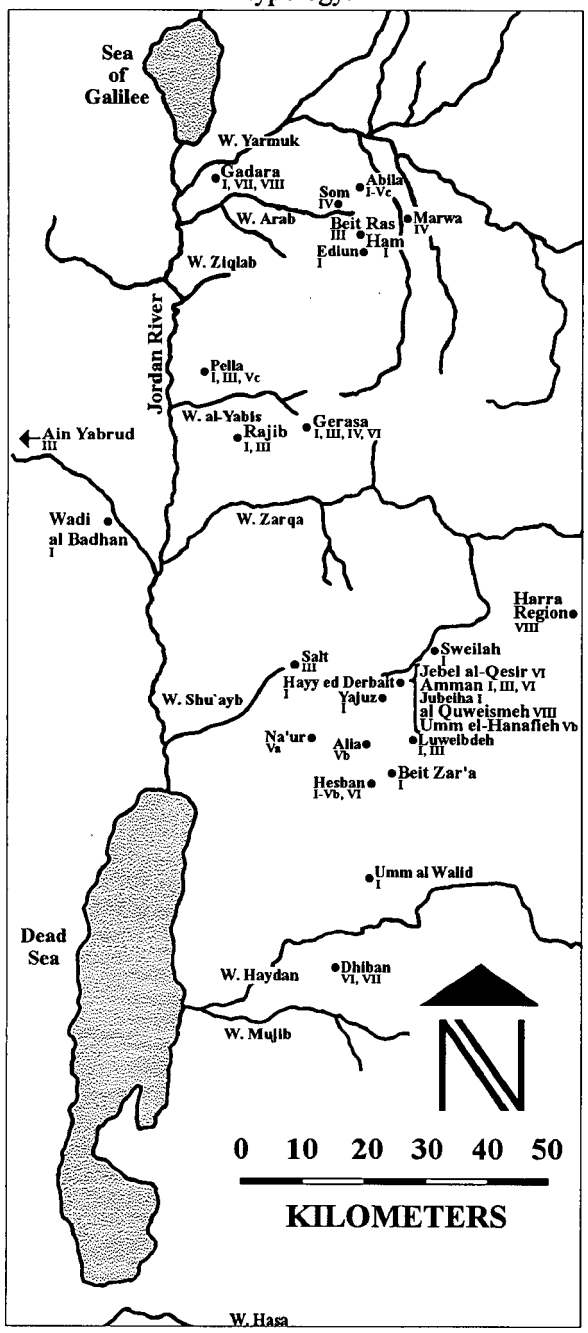
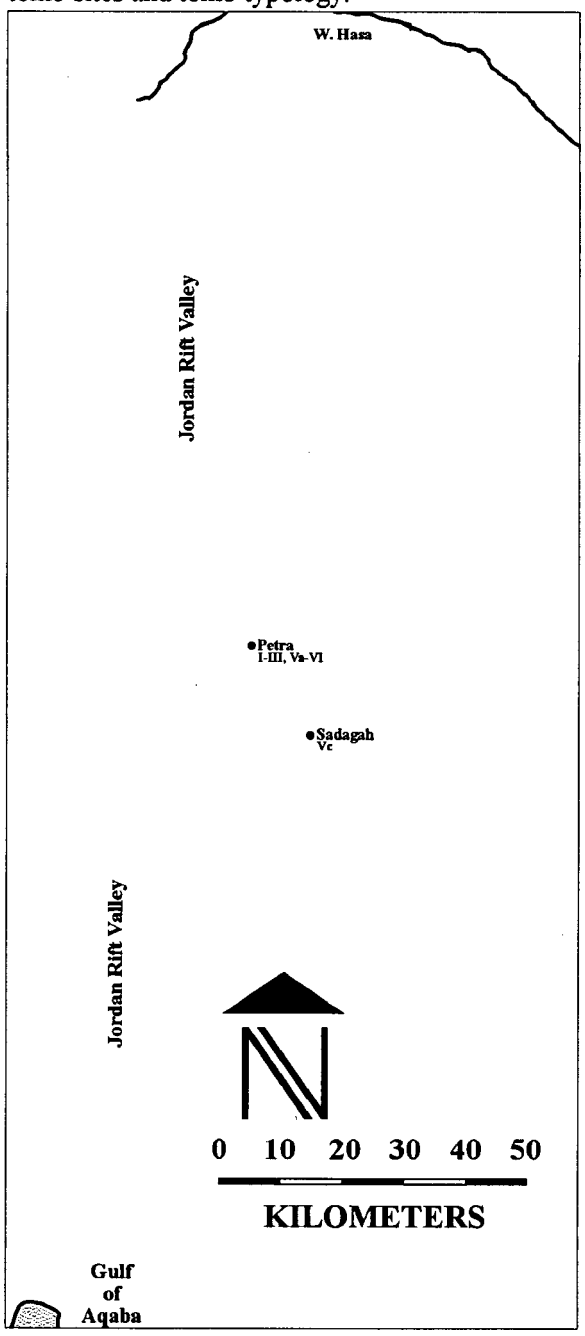


Figure 9.2 Map of southern Transjordan showing tomb sites and tomb typology.



The first column, "Tomb Number," is the site and tomb number in the catalog. All tombs have been cataloged using both the site name given by the excavators and the tomb number assigned by the excavators. For consistency and uniformity a tomb number was assigned in the catalog when no number was found to be so designated. An example is the unnumbered Amman tomb uncovered in 1946. So many tombs were later found after its discovery that they eventually were numbered in successive order, though many of these tombs originally had not been assigned a number. As far as possible all sites and

tombs are arranged alphabetically.

The second column, "Reference," includes the citation using the author's name and year along with page numbers. If the author has more than one publication in a given year an "a" or "b" will be added after the publication date. The bibliography at the end of the catalog will provide a full reference.

The third column contains the date of the tomb as assigned by the excavator. In some instances when the date originally was given in years, in the catalog this has been converted to time period-date, such as Early Roman or Late Roman. For greater accuracy, both the period date and year(s) are given with many tombs. Neither the dates nor time period assigned are discussed or altered by the author.

"Architectural Features" is the concern of column four. As previously mentioned, these features are the crux of this classification system. When recording and cataloging the terminology, a standard uniform terminology is employed. Through the use of physical salient architectural features of the tombs, this project seeks to build a classification system that can be used to both shorten and provide a standard survey, as well to clarify the comparative results of excavation recording. In addition, physical attributes of a burial site have been found to be a valuable indicator in dating the time when the tomb was constructed.

The column of "Grave Furniture and Decoration" deals with physical attributes of a tomb's construction. Plaster, sculptures, coffins, and decorated columns are all included under column five. The absence of grave furniture is designated by "Not applicable."

Column six, "Entrance," classifies the manner in which the tomb was entered. In three of the tomb types the entranceway is a major salient feature. In some cases the entryway is one of the major reasons for the classification. Since there was a variance in types of entryways, a standard terminology remained elusive.

The types of pottery and number found were recorded under column seven, "Pottery." The information here was completely dependent on written excavation reports. Since lamps are commonly used as indicators of when the tomb was in use, and are also the most frequent of grave goods interred, they are listed first in priority.

"Personal Objects" have also been recorded, but due to the vast quantity, numbers of actual objects or subclassifications were not always done. Beads, for example, are not broken down into the type of material in which they are made (glass, stone or carnelian). They simply are classified as beads. However, where possible, tomb objects were classified according to the metal of which they were made. The personal objects column also includes non-ceramic vessels, such as glass etc.

Column nine is "Ritual Objects," if so designated by the excavators. These include any grave offerings that have been thought to have a spiritual or ritual nature; as for instance, the food found placed in bowls for the "feast of the dead." When no ritual objects were found, "Not applicable" was placed in this column.

The final column is "Burial Remains," where the possible minimum number of individuals is recorded.[5] If there is unusual treatment of the remains it is under this column that it is noted. No further elaboration or discussion will be done in this brief overview, if the burial follows the standard practice that already has been discussed in the overview of types at the beginning of the book.

Type I: Chamber Tombs with Loculi Radiating from the Chamber

There are 70 tombs cataloged as Type I (table 9.1). Most of these tombs were excavated at Abila, Amman, Hesban, and Pella (see fig. 9.1). Type I tombs typically consisted of a single chamber that was reached by a stepped passageway, a dromos, or a shaft that dropped down to steps entering into the chamber, depending on the geographical terrain. In this discussion and catalog, a dromos is used interchangeably with an unstepped passageway, covered or uncovered. Tomb H 11 at Abila, contained a stepped entrance with covering stones and four more steps leading to a stone rectangular door wedged shut with chink stones. Tombs at Abila, Amman, Gerasa, Hesban, and Pella contained swinging doors, some with locking mechanisms still intact. Many loculi-chambered tombs were accessed via a stepped passageway similar to F.31 at Hesban.

Once inside the chamber many variations were seen. The average chamber measured 3.00 × 5.00 m with the largest being 15.00 × 20.00 m. The loculi also varied from tomb to tomb, but the average size was 2.00 m in length and 0.70 m wide. Some loculi were twice that width, such as Abila K 1 and Pella

T 64 which allowed for large coffins or two trough graves. Within this catalog the number of loculi often depended upon the size of the chamber and the length of time the tomb was in use, with numbers ranging from two loculi up to large burial complexes containing 26 loculi on two levels. Many loculi contained coffin fragments and nails. A Type I average tomb characteristically possessed 6-15 loculi. In some chambers, basalt or limestone sarcophagi were found, such as Abila L 17, Gerasa T 8, and Pella T 12 and T 56. Sometimes sarcophagi were discovered uncovered inside loculi.

Of the 70 tombs (Type I) cataloged, only 26 had a hollow depression or "sump" in their chambers. What is curious is that all the Type I tombs at Hesban contained hollow standing pits or sumps (listed from now on as depressions). Throughout all cataloged sites in Transjordan, about one third contained central depressions. The number of lamp niches varied from tomb to tomb, with some not having any. In a few tombs, the corner loculi contained lamp niches probably used for the construction of the loculi. Sometimes, due to the shortage of burial spaces, floor graves were cut in the central portion of the chamber. Some were even cut into the depressions themselves. Due to the large numbers of people interred and long periods of use, it has been suggested that floor graves were added later to accommodate more burials. This makes sense because pottery and grave goods associated with the floor graves appeared to date later than the artifacts in the loculi found at Hesban and Abila.

Type I tombs were some of the most elaborately decorated tombs. Tomb H 31 at Abila contained funerary busts while T 87 at Pella had painted plaster figurines and Petra T 64 was one of many that had both pilasters and friezes. At Umm el-Walid T 1, a Greek epitaph inscription was uncovered in the chamber.

In summary, 31 of the Type I tombs were found to have been constructed in the Early Roman period, though they continued to be used into the Late Roman through the Byzantine period. Another 18 were Late Roman and 12 were Roman, with only three being dated by excavators to the Byzantine period. As can be seen, most were constructed in the Early Roman period with a few being Late Roman in construction. It is possible that the one tomb dated to the Byzantine period was thoroughly cleaned of all contents and then reused. These "family," extended-use tombs contained not only the largest number of grave goods, but also the largest variety of artifacts. The most common ceramic objects found in the tombs were lamps and juglets. Based on the status of a family member being interred, the grave goods varied, as seen in the catalog. Most of the personal objects consisted of beads, bracelets, earrings, (hereafter termed jewelry), cosmetic applicators, pins for clothing, and glass vessels. Rarely were weapons interred in loculi during the Roman and Byzantine periods.

Table 9.1 Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 1	Davis 1983: 40-44; figs. 6, 7	LR-E Byz	1 chamber; 14 irregularly-cut loculi with depression off center; 3 lamp niches; workmen making larger arcosolium cut into one of the loculi	Greek inscription; bas-relief of man; 2 reliefs of stylized angels; iron nails	Stepped dromos leading through door into chamber	2 lamps, small juglets	Beads, bracelets, buttons, 1 cosmetic spatula, finger rings, glass fragments, copper pins, small hinge	Not applicable	Robbed
Abila H 2	Davis 1983: 33-40; figs. 1-5	ER to LR 63 B.C.-A.D. 135	1 chamber; 6 squared loculi unsealed; 3 lamp niches; no depression	Copper coffin bracelets; 3 terra-cotta figurines; iron nails with wood fragments	Door sealed with 3 rectangular stones on 2 ledges; steps led into chamber	Lamps, bowls, jugs, juglets, storage jars	Alabaster vase, basalt mortar, beads, 1 bone tool, bracelets, buttons, fibula, glass pieces, rings	Not applicable	1 burial in floor and 1 in each loculus
Abila H 3 (Nabatean)	Fuller 1987: 55-57; fig. 17	LR-E Byz	1 chamber; 6 triangular loculi; depression; 2 triangular lamp niches	Raised-stele reliefs in shape of conical obelisks (in entrance)	3 raised-relief stele protected in alcove (similar to Petra)	Lamps (frag)	Data not available	Not applicable	Excavated in 1959 or robbed; 2 children; 1 UD
Abila H 6	Smith 1989: 28-36; figs. 6-8	Rom; E Byz reuse	1 chamber with 3 loculi levels (10 in upper, 9 in middle, 1 in depression); loculi sealed with cobble and clay-based mortar, some with painted seals; some loculi arched; some rectangular; no lamp niches	Fragments of anthropoid figures; plaster remains from loculi	Swinging basalt door with decorated lintel; door knocker; locking mechanism intact	28 lamps, bowls, large bag jars (at least 82 vessels)	Beads, bone fragments, 1 gold earring, glass unguentaria, 1 bronze ring, 1 spindle whorl	Not applicable	At least 74 adults and children (equally divided)

Table 9.1, *continued.* Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 7	Smith 1989: 36; fig. 9	Byz; Iron IIC/Per above sealing stones	1 chamber; 8 loculi with 1 double loculi; depression; lamp niche	Nail fragments	Sealed by 3 stones on ledge; stepped dromos led to chamber	Data not available	1 small glass container	Not applicable	Robbed; at least 43 persons: 18 adults, 25 children
Abila H 11	Smith 1989: 26-28; figs. 4, 5	ER-LR; mid. 2nd-4th cent. A.D.	1 chamber; 10 loculi with 8 double loculi; depression; 7 lamp niches; each rectangular loculi had arched lintel; pit cut into depression	Damaged wooden coffins; raised relief on ceiling; fragmented anthropoid bust	Vertical shaft with 4 large rectangular blocks; 4 stepped dromos led into chamber; door with recessed arch	1 lamp, 2 large bag jars (one with inscription)	Beads, small scarab	Not applicable	At least 14 persons; moistness of tomb made identification difficult
Abila H 12	Smith 1989: 39, 40; fig. 11	Byz	1 chamber; 5 loculi with one floor grave; 2 rounded and 3 flat openings	Metal fragments; 64 nail fragments	Data not available	None	None	Not applicable	Data not available; water damage
Abila H 21	Smith 1990: 46, 47; fig. 10	LR	12 loculi; sump; loculi sealing stones broken and strewn around chamber; 3 loculi broke into loculi H 22	Coffin rings	Dromos cut 3 m below ledge led into unsealed entrance	Data not available	Data not available	Not applicable	Robbed and badly disturbed
Abila H 22	Smith 1990: 47, 48; fig. 10	Rom	1 chamber; 11 loculi; loculi sealed by plaster; 3 loculi broke into H 21	Coffin rings; painted plaster	Opened from south	Data not available	Data not available	Not applicable	Robbed
Abila H 25	Smith 1990: 48-50; figs. 13, 15	ER	1 chamber; 8 wide loculi; depression	Coffin nails; bronze rings; wooden coffin fragments	Dromos led to broken stone door	5 lamps, bag jars, cooking pot, 1 small pot	Beads, 1 bronze disc, 1 glass bottle, 3 gold earrings, 1 kohl stick, bronze rings, spindle whorls, 13 unguentaria	Not applicable	Robbed in Byz period
Abila H 26	Smith 1990: 50-53; figs. 16-18	ER-LR; A.D. 50-150	1 chamber; 5 loculi (3 double size); 1 lamp niche in double-size loculus; depression extended back into one of the loculi; antechamber also appeared to be chamber filled with glass and pottery	Wooden coffins	Shaft with ledge for blocking stones that led to antechamber with 2 shallow niches; floor opened into dromos with 6 steps into chamber's sump	Lamps, 4 bag jars	Terra cotta figurine frags, 3 gold earrings	3 legged basalt incense burner	Robbed (paper with 1989 date)
Abila H 28	Smith 1992: 44-47; figs. 8-11	LR-Byz.	1 chamber; 2 loculi; no depression; no lamp niches.	Coffin nails; 15 bronze (coffin?) discs; rings	Antechamber with stepped dromos led to rectangular entrance	1 lamp, bag jars, cooking pots	Beads, a bronze bangle and bracelet, gold earrings, 1 bronze bracelet, 1 spindle whorl, 1 unguentarium	Not applicable	At least 6 persons: 1 male, 2 children, 2 females, 1 undetermined
Abila H 31	Smith 1992: 46-49; figs. 12-17	LR-Byz	1 chamber; 8 wide loculi; 1 lamp niche	8 large funerary busts; fragments of busts; coffin rings, wood; metal fragments	Antechamber around dromos with 5 steps; door blocked by rectangular stone in antiquity	4 lamps, 5 bag jars, 1 cooking pot, small juglet	Beads, blades, 1 bronze fibulae, glass frags, 1 bronze hairpin, rings, spindle whorls, surgeon's implements, 11 unguentaria	1 half of eggshell	At least 21 persons: 3 children, 3 sub adults, 3 young adults, 4 mature adults (2 females, 2 males), 5 older adults (2 males, 3 females)
Abila H 32	Smith 1992: 49-53; figs. 18-22	ER-Byz	1 chamber; 8 loculi, some partially sealed; no depression; no lamp niches	Coffin rings; metal rings	Vertical shaft with ledges for blocking stones; unstepped dromos led to unsealed entrance	2 juglets, 1 black ribbed jug	Beads, 1 wire bracelet, spindle whorls, 1 glass ornament, 1 metal needle, earrings, 1 terra cotta unguentarium	Not applicable	Robbed; at least 20 persons: 2 sub adults, 2 young adults, 2 males, 3 females, 11 adults
Abila J 1	Davis 1983: 44-48; fig. 8	LR-L Byz	1 chamber; 8 irregular-cut loculi; 1 step into depression; no lamp niches in chamber, but 4 lamp niches in corner loculi; loculi sealed with rect. stones	Plastering; painting on wall; iron nails; bronze straps	Vertical shaft with ledges for 5 sealing stones dropped to forecourt with door and steps leading into chamber	Large pots (frag)	Beads, bracelets, 2 bronze coins, 2 gold rings, pins	Not applicable	Robbed
Abila J 6	Davis 1985: 78, 79	LR-E Byz	1 square chamber; 6 loculi; recessed bench	Metal brace; metal hinge spikes; nails	Data not available	Lamps, bowls, small globular juglet, juglets (frags)	glass bowls, vases (frags)	Not applicable	Robbed; disarticulated; 5 adults, 1 child
Abila J 21	Davis 1985: 75-78; figs. 6-8	LR-Um	1 chamber; partial ceiling collapse; 3 mud-based mortar sealed loculi; 1 grave cut in floor	Not applicable	Vertical shaft collapsed into entrance	Lamps, 1 lamp filler, globular juglet	Beads, glass bracelet, necklace with amethyst gemstone, spatula	Bones of chicken or sheep/goats	Disturbed/Disarticulated; at least 11 persons: 2 males, 3 females, 1 newborn, 2 children, 3 UD

Table 9.1, *continued*. Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila K 1	Davis 1985: 70-74; figs. 2-4; photos 234, 434	ER-Byz (floor grave Byz)	1 chamber; 15 loculi (some rounded and squared); depression; 1 floor grave; 2 lamp niches; 2 loculi outside entrance; arcosolium possibly in Loc. 6 and 7 with trough graves; 3 loculi with shallow trough graves; 4 loculi had stone-cut pillows	Data not available	Door sealed by 2 stones; 2 loculi in antechamber.	13 lamps, bowls, cooking pots, juglets	Beads, bracelets, coins, earrings, 5 glass unguentaria	headstones (limestone busts may indicate cult feasts)	At least 43 persons: 12 males, 8 females, and 23 UD
Abila L 3	Fuller 1987: 37-39; fig. 6	ER-Byz	1 chamber; 11 loculi; depression	Not applicable	Vertical shaft with 4 rectangular sealing stones made forecourt leading into chamber	Lamp (frag)	Frags of terra sigillatta	Not applicable	At least 4 persons: 2 adults, 1child, 1 UD
Abila L 15	Fuller 1987: 33-36; figs. 1-4	L Hel-ER	1 chamber; 5 loculi	4 wooden coffin bosses; iron coffin rings	Vertical shaft blocked by 3 rectangular stones with 5 steps leading to forecourt entrance	3 lamps, 1 miniature bowl, 1 jar, juglets, cooking pot	Beads, a bronze bell, bracelets, 2 wooden boxes, 1 bone cylinder, disc, bronze earrings, bronze fibulae, bronze medallions, mortar and grinder, needles, pins, shells, glass vessels, spindle whorls, glass piriform unguentaria	Stones with remains of offerings for food and burnt incense; 1 altar	Robbed; at least 7 persons: 2 females 25-35 years, 2 female young adults 17-25 years, 1 child 5 years, 1 child 7-8 years, 1 infant
Abila K 4	Fuller 1987: 38-40; fig. 7	ER-L Byz	1 chamber; 23 loculi, two tiered high; two floor graves	Iron brace fragments; remains of wooden ossuary found in floor grave	Stepped entrance with basalt swinging door	16 lamps, bag jar (frag)	Beads, 1 bone kohl applicator, bronze, copper, iron bracelets, 1 bronze canister, 1 carved bone pendant, coins (from robbery), silver earrings, spindle whorls, spoke, silver cap for a tube	Not applicable	Robbed; at least 36 persons: 11 newborn, 4 children, 1 male young adult, 2 females, 1 adult male 35-45 years, 7 adult females 25-45+ years, 10 undetermined
Abila L 5 Mourner's Tomb (French Q13)	Fuller 1987: 41-45; figs. 8, 9	ER-Byz (painting, A.D. 259)	1 chamber; 12 loculi	8 sarcophagi; 2 funerary busts; wall paintings of animals	Entrance facade decorated with wall paintings	Lamp (frag)	1 bone carved figure, 2 circular medallions, gold earrings	Not applicable	Robbed; at least 39 persons: 1 male sub adult, 1 male adult 25-35 years, 1 female subadult, 7 children, 16 newborn and infants, and 13 adult undetermined
Abila L 17 (French Q5)	Fuller 1987: 50, 51	LR-Byz	2 chambers; 17 loculi in main chamber; 1 floor grave in back chamber	2 basalt sarcophagi; 2 plastered loculi painted with badly damaged inscriptions	Data not available	Lamp (frag)	Data not available	Not applicable	Robbed; at least 12 persons: 2 male and female subadults, 6 adults, 3 young adults, 1 infant
Amman T 2	Harding 1951b: 30-33; fig. 1; pl. IX	Rom; dated by coins to late 2nd cent. A.D.	1 square chamber; 9 loculi; 3 sarcophagi; 1 sunken grave	3 sarcophagi; iron nails	Swinging door with small bronze ring; 8 steps led into chamber	8 lamps, 1 chalice, 5 cooking pots, flask, jugs, juglet	Iron anklet (frag), beads, bronze bracelets, bronze coins, gold earrings, amber pendants, basalt quern, bronze ring, leather sandals, bronze kohl stick, glass vases, spindle whorl	Incense burner?	Data not available
Amman T 6 (6th Circle)	Rashdan 1984: 24, 25; pls. 2.3, 2.4[6]	ER	1 chamber; 11 loculi; depression; 1 triangular lamp niche; 2 of 3 loculi on one side of chamber raised and wall arched with recessed loculi	Not applicable	Blocked by stone	3 lamps	Data not available	Not applicable	Robbed; few bones
Beit Zar'a T 1	Khadija 1974: 157, 158; figs. 1-3; pls. LXXVII, LXXVIII, LXXX	ER; 1st cent. B.C.	1 chamber; 23 loculi; widened depression; 8 loculi cut into walls and floor of depression; some loculi sealed and some left open	Data not available	Dromos slope led to small entrance	1 lamp, 1 bowl, 1 jug, 1 globular juglet, 2 unguentaria	Beads, 1 bronze bracelet, 1 glass bottle, 1 necklace, 1 cylinder seal in the necklace, bronze spatula, spindle whorls	Not applicable	Robbed partially

Table 9.1, *continued.* Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Beit Zar'a T 2	Khadija 1974: 158; fig. 1; pls LXXIX-LXXX	ER; 1st cent. B.C.-2nd cent. A.D.	1 square chamber; 7 loculi; shallow depression; floor of each loculus has 1 m wide cut with bench on both sides and dome concave cut roof	Not applicable	Forecourt led to small entrance with two steps leading to floor inside chamber	Data not available	Data not available	Not applicable	Robbed completely
Ediun T 1	Suleiman 1987: 543, 544	LR	Square chamber; 11 loculi	Not applicable	Sealed by swinging door decorated with circular medallions	Data not available	1 bronze spoon, iron bracelets	Not applicable	Disturbed/ Disarticulated
Gadara (Umm Qeis)	Weber 1988: 349-352; fig. 1; pl. LII.1	LR-Byz	1 chamber; 14 loculi; corner rooms for ossuaries	Sculptures near entrance; mosaic; Roman marble statues	Long staircase led to apse-like antechamber; 14 stone lined tombs in apse with 2 cut steps leading to underground chamber		1 chain with bronze bells, glass vessels, metal tools, 1 set of surgical instruments	Not applicable	Data not available
Gerasa T 3	Fisher 1938: 552-554	ER-LR	1 chamber; 1 possible loculus	Not applicable	Forecourt with 4 cut steps led to entrance with removable stone slab	1 lamp, 1 cup, 1 juglet	Bottles; 1 small bronze bell	Not applicable	Data not available
Gerasa T 4	Fisher 1938: 554-557; figs. 33-36; pl. CXLII	Rom; Byz reuse; end of 1st cent. beginning of 2nd cent. A.D.	1 chamber; 6 sealed loculi; circular pit in tomb	Not applicable	6 stepped dromos led to swinging door with socket over vaulted entrance	20 lamps, 1 boat lamp (frag), 6 bowls, 8 pots	Coins; 3 glass plates	8 glass votive cups; 2 decorated figurines	Data not available
Gerasa T 5	Fisher 1938: 558, 559; fig. 37	Data not available	1 chamber; loculi	Not applicable	Unstepped dromos led to pivotal door with lentil	15 lamps, bowls, cooking vessels, 1 cup, jars, pot	Coins; 3 glass vessels	Not applicable	At least 1 person
Gerasa T 8	Fisher 1938: 561-564; plan XLVII; figs. 39-41	ER; 1st cent. A.D.	1 unfinished chamber; 1 loculus; 2 sarcophagi; 1 limestone ossuary to right of entrance	1 ossuary; 2 decorated sarcophagi	Stairwell into chamber with pent roof; door sealed with slab	8 bowls, 10 cooking vessels, 5 cups, 4 jugs, 1 pot, 2 stands	5 coins; balsomarium glass (frag)	Not applicable	Data not available
Gerasa T 9	Fisher 1938: 564; figs. 42, 43; pl.CXLIII	Rom; Byz reuse	1 chamber; 2 loculi, another started; empty sarcophagus; tomb reused as storehouse	Not applicable	Door sealed with slab	4 basins, 6 bowls, 5 cooking pots, 1 cup, 1 funnel, 1 jug, 1 plate	Balsomarium (frag)	Not applicable	Data not available
Gerasa T 10	Fisher 1938: 564-566; fig. 43	No date given; based on Rom(?) pottery	1 chamber; "narrow recesses to place bodies;" it is also possible the narrow recesses might be benches carved into the walls	Not applicable	Steps unevenly cut led to entrance sealed with 1 stone	3 lamps, 1 amphora, 5 bowls, 2 cups, 1 jug	Iron ring with glass paste inset	Not applicable	At least 1 person
Gerasa T 12	Fisher 1938: 568-571; fig. 46, 47; pl. CXLIII; plan XLVII	Data not available	1 chamber; 2 irregular loculi; possible depression	Not applicable	Sealed with stone slab	9 basins, 16 bowls, jars, plates (frags), pitchers	Finger rings, bits of wire, fragments of figurines	Not applicable	Data not available
Ham T-1	Shraideh and Lenzen 1984: 299; pl. LVII	LR	Large chamber (24.40 × 10.00 m); loculi	Sarcophagi	Decorated limestone door with snake and torch carving; lintel with flowers and head	Lamps	Glass	Not applicable	Data not available
Hayy ed-Derbait T 3	Suleiman 1984: 17-21[7]	Rom	1 irregular chamber; 3 loculi; lamp niche	Not applicable	Sealed by stone slab	Data not available	Data not available	Not applicable	Data not available
Hayy ed-Derbait T 4	Suleiman 1984: 17-21	Rom	Rectangular chamber; 2 loculi; hole in loculi leading to tombs 3 and 5	Not applicable	Sealed by stone slab	1 lamp	Data not available	Not applicable	Few bones
Hayy ed-Derbait T 5	Suleiman 1984: 17-21	Rom	Small rectangular chambers with shelves; 4 loculi	Iron nails	Sealed by stone slab; cut steps led to chamber	Data not available	1 bronze bracelet, glass bottle, 1 bronze earring, 1 kohl stick, small pearl	Not applicable	Data not available
Hayy ed-Derbait T 6	Suleiman 1984: 17-21	Rom	Chamber; 3 loculi; hole connecting to T 2	Not applicable	Destroyed by bulldozer	No sherds	Data not available	Not applicable	Data not available
Hesban F.1 (Rolling-Stone)	Waterhouse 1973: 115-117; fig. 8; pl. XV.A	ER-LR	Square chamber; 12 loculi; depression; 4 lamp niches; rolling stone door with two stone walls providing track for door	Iron nails with wood object	Forecourt led to rolling stone in grooved track	2 lamps, jugs, bowls, 1 cooking pot, 1 juglet, 1 strainer juglet, storage jar	Beads, buttons, a bronze bell, 1 "tear" bottle, bronze and glass bracelets, gold earring, ivory and bone hairpins, bronze and silver rings	Sheep and goat bones	Robbed recently; at least 77 persons

Table 9.1, *continued.* Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Hesban F.6	Waterhouse 1973: 117, 118; pl. XI.B	ER	Square chamber; 9 loculi; depression; 4 lamp niches; cup-like indentation outside of door	Basalt mortar; parts of wooden coffins and nails	Cup-like indentation marks with 3 cut steps led to flat rectangular stone found *in situ*	5 lamps, 2 bowls, 2 cooking pots, sigillata jug	Beads, bracelets, buttons, coins, cosmetic box and applicator, earrings, 1 gaming piece, mirror, garment needles, 1 alabaster cosmetic palette with shell lid, pendants, rings, spatula, scarab, iron spoon (?), 1 spatula, tess, glass vessels (bottles, bowls, vases)	Not applicable	Disturbed anciently
Hesban F.14	Beegle 1975: 206-208; pl. IX.A, B	ER-Byz	1 chamber; 9 loculi; depression; loculi 3 and 4 blocked by stone shoring to prevent ceiling collapse; north part of chamber was ceiling collapse	Not applicable	Steps led to stone slab	2 bowls, 2 two-handled pots	1 bracelet, bronze earring, 1 large bronze surgical instrument, 33 tess	Not applicable	At least 1 person (robbed?)
Hesban F.18	Beegle 1975: 209-211; pl. IX.B	ER-E Byz	1 chamber; 12 loculi; depression	Metal objects; metal nails	Sealing stone chinked in place with 3 steps into main chamber	5 lamps, bowl, 2 cups, 3 cooking pots, 1 pot, 1 pedestal lamp, unguentarium	Beads, bronze bell, "tear" bottle, coins, earrings, hairpins, bronze surgical instruments, bone needles, bone and bronze pendants, rings, tess, spindle whorls, glass vials, vases	2 ER cooking pots containing human bones	At least 11 persons: 4 adults, 3 males, 2 females, 1 child, 1 infant
Hesban F.31	Davis 1978: 137-141, fig. 12, pl. XIII, XIV.A	ER-E Byz	1 chamber; 14 loculi; depression; 1 triangular lamp niche; arched ceiling	Metal fragments; tacks	Dromos with two steps leading to large stone slab entrance	3 lamps, bowl, cooking pot, strainer juglet	Alabaster bowl, amulet, beads, bracelets, brooch, bronze rod, buckle, buttons, coins, flints, glass vases (frag), ivory applicator, needles, pins, glass pendant, rings, bronze rod, scarab, spindle whorls	Bones from pigs, possible sacrifice	At least 35 persons; some evidence of cremation
Jerash T 1 (Painted tomb)	Ma'ayeh 1960: 115, 116	Rom; 2nd cent. A.D.	1 chamber; 17 loculi; all loculi had worked closing stones, 1 with covering stone of solid marble	Marble covering stone with Latin inscription; plaster and decoration uncovered around some loculi	Forecourt with 6 steps led to narrow door inside another 14 steps into floor of chamber	Lamps	Coins	Not applicable	Data not available
Jubeiha T 1	Suleiman 1987: 543	ER	Semi-oval chamber; 9 loculi	Not applicable	Data not available	2 jars	1 bronze belt (frag), glass bottle	Not applicable	Disarticulated
Luweibdeh T 2	Dana 1970: 37, 38; pl. I-IV	Rom-Byz	1 chamber; 7 loculi	Not applicable	Hewn doorway closed by rough stones	Lamps, juglet, 1 unguentarium	Data not available	Not applicable	Data not available
Pella T 8 Area IIH	Smith 1973: 182-195; figs. 58-61	ER-LR; 1st-4th cent. A.D.	1 chamber; 11 loculi; ceiling collapse due to T 7 above it	Not applicable	Conjectured stairway-like dromos with a blocking stone *in situ*	Lamps	Beads, earrings, 2 spindle whorls, 4 glass vials	Not applicable	Data not available
Pella T 12	McNicoll *et al.* 1982: 84-87; fig. 16	ER-LR	Square chamber; 11 loculi, 1 double loculus; depression; 1 floor grave cut into sump containing ossuary; few loculi contained trough graves	1 ossuary; large wood fragments (possible funerary platform)	Data not available	Data not available	Glass vessels	Not applicable	Robbed
Pella T 13	McNicoll *et al.* 1982: 84-87; fig. 17	LR	1 chamber; 11 loculi; depression; 2 rectangular depositories cut into floor; 2 floor sunken graves containing sarcophagi with gabled lids	Sarcophagi	Data not available	Lamps	Glass vessels	Bundle of leaves in form of bouquet to hide odors	Robbed; 1 sarcophagus contained 2 skeletons
Pella T 52	McNicoll *et al.* 1984: 72	Data not available	Square chamber; 8 loculi; retaining walls near door	5 sarcophagi in 2 loculi	Dromos with cut staircase leading to swinging door	Data not available	Data not available	Not applicable	Robbed
Pella T 54	McNicoll *et al.* 1992: 124-132; fig. 19; pls. 87-91	ER; mid first to beginning second cent. A.D.	Rectangular chamber; 13 unsealed loculi; cedar beams used to support ceiling; 3 sarcophagi in chamber; 1 double loculus; dividing wall between loculi 5 and 6 collapsed; 8 loculi unexcavated due to instablitity	Well-preserved wood with nail holes; wooden coffins; stone sarcophagi with carved lids	Dromos with entrance sealed by mud and mortar	3 lamps, 1 juglet	1 basalt bowl, 1 bronze juglet holder, 1 bronze ladle, 1 pair of leather sandals, 1 bronze stud (for sandals), glass vessels including 1 aryballos, 5 balsamaria, 3 beakers, 6 bowls, 3 dishes, 2 tumblers	Not applicable	At least 6 persons

Table 9.1, *continued.* Tomb Type I.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Pella T 56	McNicoll *et al.* 1986: 176; pl. XXVII	LR; 3rd cent. A.D.	Large chamber with central pillar; 11 loculi	6 sarcophagi	Vaulted dromos built of ashlar masonry decorated led to door with locking device	1 juglet, fragmentary pots	Glass vessels	Not applicable	Robbed
Pella T 64	McNicoll, Smith, and Hennessy 1992: 133-141; fig. 20; pls. 92-96	ER-LR; (most use from 3rd and 4th cent. A.D.)	Chamber; loculi; 1 loculus with built-in sarcophagus or bone repository covered with baked capping tiles; 2 loculi each containing 1 sarcophagus	Laurel leaves in wooden coffins; plaster used in 1 coffin; bronze piece from coffin; iron nails.	Dromos led to swinging door	10 lamps, 2 bowls, 1 ceramic figurine (frag), 1 funnel, 4 jars, 1 jug, 1 juglet	3 bronze bracelets, bronze cap, coins, bronze and gold earrings, bone needle, bone pins and points, glass vessels including balsamaria, bowls (frags), dish, small jars, flasks, unguentaria	Not applicable	Robbed; at least 30 persons
Pella T 87	Potts *et al.* 1988: 147	E Byz	Data not available	3 painted plaster figurines	Data not available		Bracelets, 3 cymbals, cruciform pendants, pierced coins, 1 large bowl, 1 double unguentarium (250 objects)	Not applicable	Data not available
Petra T 64-B	Zayadine 1982: 365-374; figs. 1-6	ER-LR; 1st-4th cent. A.D.	Large square chamber; 9 loculi; loculus 4 had three superimposed shelves and trough graves; loculus 5 had 2 shelves and chamber with 3 sunken graves; pilasters flanked some loculi	2 pilasters bases supporting cornice and frieze	Data not available	11 lamps, 1 bowl	1 bronze bell, 2 coins	Funeral stele with inscription in front of loculus 6	Robbed: disturbed and burnt bone
Petra T 813	Zayadine 1974: 142-145; fig. 5; pls. LVX, LXV-LXVII	ER; 1st cent. A.D. through E Byz	1 chamber; 11 loculi each with trough grave; tomb carved into cliff; courtyard with columns	Inscription in loculus; inscription fragment in plaster	Large stairway from T 824 led to open door with 2 side columns carved with lintel above door; entrance about 2.50 m high	1 lamp (frag), fragments of Nabataean plates	Beads, 1 bronze coin, small gold jewelry,	Not applicable	Data not available
Petra "Tomb of the Urn"	Browning 1973: 214-217; fig. 153	ER; A.D. 70	1 chamber; 3 loculi above door cut into facade; central loculus mouth blocked by carved stone.	Stone carving of king	Door elaborately carved facade 2 stories high	Data not available	Data not available	Not applicable	Cleaned thoroughly
Petra Turkamaniya "Inscription Tomb"	Browning 1973: 233; fig. 170	ER	2 chambers, 1 large chamber and 1 small chamber containing loculi	Nabataean inscription	Courtyard in front of tomb with carved facade; bottom of facade eroded	Data not available	Data not available	Not applicable	Data not available
Rajib T 1	Bisheh 1973: 63, 64	ER; 1st-2nd cent. A.D.	Square chamber; 13 loculi; depression; rock-cut pit covered with rectangular slab in main chamber	Data not available	Sealed with 1 stone and chinking stone	3 lamps, 1 broken candlestick, cooking pot, vessel	1 candlestick, bronze objects	Not applicable	Data not available
Rajib T 3	Bisheh 1973: 65	LR; 3rd cent. A.D.	1 chamber; 14 loculi; depression; lamp niches	Iron fragments	Dromos with entrance sealed by stone slab	Vessels (frag)	Beads, glass bracelets, 1 bronze buckle, glass, gold earring with pendant, glass bracelets, 1 iron	Not applicable	Data not available
Sweilah T 1	Ma'ayeh 1960: 115	Rom	1 chamber; 26 loculi 2 stories high; 2 arches	3 large sarcophagi	Data not available	Data not available	Data not available	Not applicable	Robbed
Umm el-Walid T 1	Zayadine 1981: 347-349; fig. 3	LR; 3rd cent. A.D.	Hexagonal chamber; 3 loculi on 3 superimposed stories on each side (45); dome ceiling; paved chamber floor with concentric flagstones	Greek funeral stele inscription	Flight of 3 steps led to chamber	1 lamp	Beads, glass bracelets	Not applicable	Data not available
Wadi el Badhan T 4	Dajani 1953: 78-81; figs 17, 18	ER; 50 B.C.- A.D. 50	1 chamber; 15 loculi; rounded extension accommodating 4 new loculi; 4 loculi with head rests; 4 loculi with countersunk ledges	Data not available	Opening in wall from main hall (T 1)	2 lamps	2 bracelets, 1 glass "perfume" bottle	Not applicable	Robbed
Yajuz T 1	Thompson 1972: 37-45; fig. 1, 2; pls. II-VII	LR; used through E Byz and Mamluk	1 chamber; 10 loculi, 2 unfinished; depression; all loculi had plastered floors and walls based on finding one loculus with plaster	1 basin; 2 olive presses; 1 nail; plaster	Through blocking stone with some steps leading to chamber; lintel found near olive press	Data not available	Button, basalt grinder, metal, glass vessels (frag), tess	Not applicable	Robbed; reused as olive press

Type II: Horizontal Shaft Tombs Cut into the Hillside Ending in a Loculus or Chamber

There are ten tombs that are classified Type II in this catalog (table 9.2). Because of lack of finds and architectural features some excavators hypothesized that some were left unfinished (as in F.40 from Hesban). At Abila, the discovery within J 12 and H 5 of metal bands and iron spikes led excavators to believe these loculi could have contained coffins at one time.

These tombs were entered by means of using a sloping dromos or a slanting shaft that led to a single loculus or chamber. The entryway usually was sealed with a single stone slab. Sometimes there were no sealing stones. Most Type II tombs were used for single burials.

Type II was constructed and enjoyed a long use during the Roman period. The tombs were constructed and used from Early Roman through Early Byzantine, 63 B.C.-A.D. 491. At Hesban, all the Type II tombs, with the exception of one dating to Early Roman, while in contrast, at Abila they mainly date to the Late Roman or Early Byzantine. Out of the 11 tombs, five were constructed in the Early Roman, four were constructed in Late Roman, and one in the Byzantine period.

This type of tomb appears to have originated in the Early Roman and was used as a type of burial throughout the Roman period and saw very limited use. One explanation of the tomb, H.5, was dated to the Byzantine, on the basis on three bag jar sherds. It needs to be noted, however, that these jars are similar in style to jars from the Roman and Byzantine periods.

One of the unique characteristics of Type II was the paucity of grave goods. Most of the tombs contained only sherds (one tomb contained two unguentaria), fragmented glass objects, and simple jewelry, (beads and bracelets). However, five of the 11 tombs contained no personal objects. At Hesban, both E.2 and E.3 contained a single coin.

Table 9.2 Tomb Type II.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 5	Smith 1989: 35, 36; fig. 8a	Byz	1 loculus	Flat pieces of metal (part of coffin band)	Shaft sloped into entrance with partial *in situ* sealing stone	Sherds	Data not available	Not applicable	Robbed
Abila H 16	Smith 1989: 41	LR-E Byz	1 loculus	Not applicable	Sealing stones cemented by groundwater	Data not available	Data not available	Not applicable	Robbed
Abila H 20	Smith 1990: 45, 46; fig. 9	Rom	Shaft sloped, ended in 1 loculus	Not applicable	Dromos led to 1 loculus	2 terra cotta unguentaria	1 ivory spoon (frag)	Not applicable	No burial remains
Abila J 7	Davis 1985: 83	E Byz	1 small rounded chamber	Not applicable	Into chamber from west side	Data not available	Iron ring bracelet	Not applicable	1 adult
Abila J 8	Davis 1985: 83, 84	Byz	1 narrow loculus	Not applicable	Shaft with ledge for sealing stones led to entrance of 1 loculus	Sherds	none	Not applicable	1 adult
Abila J 12	Davis 1985: 84	Byz	1 small chamber	Iron spikes	Shaft with ledges for sealing stones sealed with mortar; doorway led to very small chamber	Data not available	Data not available	Not applicable	1 adult with shoulders propped against rear wall due to shortness of chamber
Abila L 18	Smith 1990: 40; fig. 1	LR-Byz	Small rounded chamber	Not applicable	Narrow sloping shaft led to 1 chamber	Data not available	Data not available	Not applicable	Robbed; no remains
Hesban E.2	Waterhouse 1973: 120	ER	1 loculus	Not applicable	Shaft that sloped into 1 loculus sealed with slab	Data not available	Coin	Not applicable	Fragmented remains
Hesban E.3	Waterhouse 1973: 120	ER	1 loculus	Not applicable	Shaft that sloped into 1 loculus sealed with slab	Data not available	Coin	Not applicable	Data not available
Hesban E.6	Stirling 1976: 102, 103; pl. XVI.E	ER	Horizontal shaft ending in chamber (possibly unfinished)	Not applicable	Rectangular stone slab	1 lamp (double nozzle), 2 "cooking pots" (registered as bowls)	1 tess	Not applicable	No skeletal remains; possible cremation

Table 9.2, *continued.* Tomb Type II.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Hesban F.40	Davis 1978: 145	LR or E Byz	1 chamber (author hypothesized incompletion)	Not applicable	2 stepped entrance sealed by large stone and 1 step inside main chamber	Data not available	1 bead, glass frags, seed	Not applicable	Robbed
Petra North Tomb El Habis	Horsfield and Horsfield 1939: 104, 105; fig. 9; pl. LV	ER; 1st cent. B.C. and 1st cent. A.D.	1 chamber with 4 sunken floor graves	Not applicable	Shaft that sloped and led into 1 chamber	Bowl (frag), pots	Data unavailable	Not applicable	At least 4 persons

Type III: Chamber Tombs with Adjoining Arched-alcoves (arcosolia) Containing Sunken or Trough Graves

There are 21 Type III "arcosolia chamber tombs" identified in this catalog (table 9.3). Most Type III tombs contained three arcosolia around a single chamber. There was only one exception, it was the "Tomb of the Roman Soldier" that had two chambers with arcosolia. The sizes of the chamber varied from 3.00-5.00 m. Most Type III chambers were found to be "squared," unlike loculi-chambers that were characterized by a standard rectangular shape. Type III tombs were generally entered one or two ways: the classic dromos or a stepped open court entrance. At Pella, Tombs T 39 and T 40 were connected through a dromos that was especially large, being 10.00 m wide by 6.00 m deep. Abila J 4 and Gerasa T 7 contained a simple forecourt with steps that opened up into a single chamber. At Abila J 3, a unique entrance can be seen, where a vertical shaft with sealing stones opened up to a chamber containing arcosolia. At first this tomb was thought to be of the typical, vertical shaft Type Va variety. However, instead of dropping down to an expected bottom floor, containing either loculi or alcoves, the bottom surprisingly revealed an entrance way to three descending steps which led to a single chamber.

Chambers of tombs of Type III almost invariably contained an arcosolium cut respectively into each of three walls (the fourth wall already being occupied by the entrance doorway). The bottom floor of many arcosolia contained deeply cut depressions, forming trough graves. At times, stones were found in such graves, carved to form "pillow" head rests. In some instances the bottom half of the arcosolia were plastered, similar to those found within Hesban F.5. In Abila J 4, a small cross could be seen above each arcosolium, indicating possible Christian burials.

Type III tombs enjoyed the longest usage of any of the tomb types, ranging from Early Roman through Byzantine. Of the 21 Type III tombs cataloged, eight were constructed in the Roman or the Late Roman and remained in use through the Byzantine period. These results are in accord with the dating of Type III tombs uncovered at Hesban. F.5 and F.10 were constructed in the Late Roman period. Of the 21 tombs, four were dated to the Roman period, with one of the two having been constructed in the Early Roman period. Interestingly, Pella T 40, a Type III, dated exclusively to the Early Roman period. These results indicate that arcosolia tombs in Transjordan no longer should be assumed to be a characteristic Byzantine constructed feature. Indeed, only two tombs were constructed and used exclusively in the Byzantine period.

The many grave goods recovered give evidence that these Roman chamber tombs were "family tombs," where husbands, wives, and siblings were clearly laid to rest. Personal items recovered included jewelry, funerary bells, carved wood figurines, bone pieces, glass plates, cosmetic accouterments, cooking pots, glass vessels, and a bone carved plaque.

Table 9.3 Tomb Type III.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila J 3	Davis 1983: 48, 49	LR-E Byz	1 chamber; 3 arcosolia each having trough graves and stone-cut pillows; no lamp niches	Not applicable	Vertical shaft with ledges for sealing stones removed; 3 steps led into chamber	Data not available	Beads, bracelet, ring, spatula, animal bone with metal ring around it	Possible sheep or goat bone	At least 6 persons: 1 adult, 3 children, 1 male, 1 female
Abila J 4	Davis 1983: 49, 50; fig. 9	LR-L Byz; early 4th cent. A.D.	1 chamber; 3 arcosolia each having trough graves and 2 having stone pillows	3 small crosses above entrance; each side of arcosolia had cross	Stepped forecourt led to removed sealing stone	4 lamps	Data not available	Not applicable	Robbed
Abila J 13	Davis 1985: 79-81; fig. 9	LR-L Byz; robbed(?) in UM	1 square chamber; 2 arcosolia with recessed exterior ledges	Not applicable	Dromos led to entrance of chamber	Lamps	Beads, bone pieces, bowls (frags), 1 bracelet with small bell, bracelets, 1 gold earring, glass vessels (frags), funerary bells	Not applicable	Robbed; at least 23 persons: 3 male, 2 female, 18 UD
Abila L 2	Fuller 1987: 51, 52; fig. 15	Rom, Byz	1 chamber with partial collapse; 3 arcosolia, 2 with stone pillows and a trough grave below with one arcosolium unfinished	Not applicable	Sealed by 3 sealing stones	7 lamps	Beads, bronze and iron bracelet (frag), bronze coins, glass lamp filler, double glass kohl, 1 glass funnel, unguentaria, 2 rings, glass vessels	Not applicable	At least 39 persons: 5 male, 5 female, 13 children, 7 newborn, 9 UD
Abila L 10	Fuller 1987: 52, 53; fig. 16	Byz-UM	1 chamber; 3 arcosolia, each one with trough grave	Iron coffin ring frags, small carved bone plaque	Data not available	2 lamps and lamps (frag)	Bronze and iron bracelets, 1 carved bone plaque, 1 coin, 1 necklace (frag), large glass plate, bronze pendant, and ring (frag)	Not applicable	Robbed; at least 6 persons: 1 male, 1 female, 2 children, 1 newborn, donkey bones
Abila L 21 "Tomb of Pious Byzantine"	Smith 1990: 42-45; figs. 5-8 graves	Byz	1 chamber; 3 arcosolia with trough graves and stone pillows; 1 large sealing stone	Not applicable	Dromos led to removed blocking stone	1 lamp	Beads, bronze ring, clothing fasteners, fibulae, bronze bangles, 1 glass plate frag, 1 piriform pendant	Not applicable	Robbed recently; poorly preserved
Ain Yabrud T 1	Husseini 1936: 54, 55; fig. 1; pls. IV-VIII	LR; 4th cent. A.D.	Small chamber; 3 arcosolia with trough grave in each	Not applicable	Data not available	55 lamps, 1 jug, pots	Beads, 1 glass bracelet, earrings, coin, rings, pendant, 1 glass pot, double kohl tube, 1 spatula	Not applicable	Data not available
Amman T 7 "Cave of the Seven Sleepers"	Khouri 1989: 27-30	Rom-E Byz	1 chamber; 3 arcosolia containing trough graves	Remains of plastered interior	Small door with carved frieze of 5 medallions above; rounded columns on door sides; 2 shell niches	Jugs	Beads, coins	Not applicable	Data not available
Beit Ras T 1 (Painted Tomb)	Zayadine 1976: 285-294	Rom-Byz	1 chamber; 1 arcosolium containing 2 trough graves; 1 arcosolium with 1 trough grave; 1 bench	Painting on south arcosolium	Passageway led to 1 door	Data not available	None	Not applicable	none
Gerasa T 7	Fisher 1938: 560, 561; pl. CXLII; plan XLVII	No datable material	1 chamber; 3 arcosolia with trough graves, sarcophagus, 2 pits size of sarcophagi (function of pits not discussed)	Iron nails	May have been antechamber; door blocked with stones	Sherds	Beads, kohl stick	Not applicable	1 articulated male skeleton
Hesban F.5	Waterhouse 1973: 120-122; fig. 9	LR-E Byz	1 chamber; 3 arcosolia each with 2 trough graves covered with ceramic tile like lids	Metal frags, plaster	4 steps led to swinging door with fluted base reliefs, pillars, and dressed lintel	4 lamps, 1 bowl, 2 two-handled jars	Beads, bracelets, 3 coins, rings, glassware (frag)	Not applicable	Robbed
Hesban F. 10	Waterhouse 1973: 122, 123	LR	1 chamber; 3 arcosolia; a depression; 2 arcosolia had 3 trough graves and 2 recesses; west arcosolium broke into F.8 and was unfinished with only one trough grave	Not applicable	Large stone slab sealing door	1 lamp (6-spouted), 2 large jars, 1 jug, 2 juglets	Beads, 1 small bell with clapper, bronze and iron bracelets, 3 belt buckles, 1 gold earring, ivory pinhead, necklace, 1 ring, 1 spindle whorl, spatula, 3 vases (1 alabaster and glass)	Desiccated dates	Robbed anciently
Luweibdeh T 1	Dana 1970: 37, 38; pls. I-IV	Rom; reuse in Byz	1 chamber; 3 arcosolia; line of stones separated arcosolium from rest of tomb introduced later	Not applicable	Possible antechamber leading to entrance closed with rough stones	1 lamp, 1 "pottery" bottle	Data not available	Not applicable	Data not available
Pella T 2 in Area II H	Smith 1973: 175-177; fig. 55	LR; 3rd-4th cents. A.D.	1 chamber; 3 arcosolia each with trough grave; partial ceiling collapse	Not applicable	Possible forecourt with badly eroded steps led to small doorway	Lamps, lamp frags	Medieval objects (robbery)	Not applicable	Robbed anciently

Table 9.3, *continued.* Tomb Type III.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Pella T 5 in Plot E	Smith 1973: 178-180; fig. 56; pls. 23A, 23B	No date	1 chamber; 2 arcosolia cut; tympana were not well defined; lower part of arcosolia was plastered	Frags of wood in bottom of troughs	Door destroyed during cutting of road	15 lamps(?), large number of MB sherds in soil debris	Beads, buckles, rings, earrings(?)	Not applicable	Little skeletal remains
Pella T 39A	McNicoll, Smith, and Hennessy 1982: 87-101; fig. 18; pls. 28, 29, 134-137	LR; 3rd cent.-3rd quarter of 4th century	1 square chamber; 3 arcosolia with trough grave in each; shallow semi-circular recessed repository; tomb also contained transverse rock-cut vaults	4 bronze nails (frags), wood, iron spikes	Large dromos with 2 tombs opening off it; forecourt with steps led to chamber; tomb 40 and niche 39B also opened off dromos	29 lamps, amphoriskos, 1 bowl, 1 cooking pot lid	Beads, bracelets (frags), 1 bronze bell, 6 coins, wood figurine, 1 gold and 2 bronze earrings, bone pins, bronze, ivory, and bone carved plaques, bronze rings, and bronze thimble (?), glass amphoriskos, flasks, jars, vases	Niche with ash and cooking pots (funerary banquets?) in dromos, by 39A	Disarticulated remains
Pella T 40	McNicoll, Smith, and Hennessy 1982: 87, 88	ER; late 1st B.C.-early 1st cent. A.D.	1 chamber; 3 arcosolia; trough graves; located in same dromos as T 39A but robbed	Not applicable	Large bay-like dromos (10 m wide by 6 m deep); also opened to 39A; built forecourt with swinging door	1 bowl	Data not available	Not applicable	Robbed
Petra B 1	Horsfield and Horsfield 1939: 102, 103; figs. 3, 7; pl. LII	Per/Hel-ER	Shaft opening up to small chamber with 3 arcosolia	Not applicable	Shaft 2 meters deep sealed with sand	1 lamp, water jug, cooking pots	Copper wire bracelet, bone ring, mask mold of Isis, tiny relief of Pegasus, 4 weaving weights	2 pots held food	At least 21 persons
Petra "Tomb of the Roman Soldier"	Browning 1973: 200; fig. 133	LR	2 large chambers with arcosolia	Stone statues (1 of headless Roman soldier)	Door elaborately carved facade 2 stories high	Data not available	Data not available	Not applicable	Data not available
Rajib T 2	Bisheh 1973: 64, 65	LR; late 3rd cent. A.D.	1 chamber; 3 arcosolia; 2 arcosolia on one side, 1 limestone sarcophagus in main chamber; pitched roof	Iron nails, iron frags	Small opening blocked by stone slab with 4 roughly cut steps down	Lamp, cooking pot	Candlesticks, 4 coins, earrings, glass (frag)	Not applicable	Data not available
Salt T 1	Hadidi 1979: 129-137; figs. 1-4	LR; 3rd-4th cents. A.D.	1 chamber; 3 arcosolia each containing decorated sarcophagus; 6 sunken graves vertically imposed in floor, cover stones of lower grave making floor of upper	Sarcophagi, arches in main chambers	Swinging door *in situ* above door with carved whirling wheel motif decoration	1 lamp, flask, water jar, juglet, cooking pot	Beads; bronze, glass, and iron bracelets; coin, 3 pairs of gold earrings, gold leaves, pendant, glass bottle and pot, gold ring, 1 signet ring	None	At least 49 persons based on bones and skulls

Type IV: Chamber Tombs Containing Both Arcosolia and Loculi

Having a sample of only eight in our survey, Type IV is not well represented in the Roman-Byzantine period (table 9.4). Though Type IV tombs vary in size and shape, most contain rectangular-shaped chambers. A standard dromos with steps leading into a single chamber was typical of the tombs' entranceway. A second type of entrance was through an outer court with steps leading to the doorway. Tomb G.10, the Rolling-Stone Tomb from Hesban, contained a court entrance with a track for the rolling stone. Type IV tombs essentially were chamber tombs having multiple loculi, but also having an annex constructed as a single arcosolium. In rare instances, there could be more than one arcosolium to each side. In F.28 from Hesban, an arcosolium was cut above the loculi on each of the three walls. It has been hypothesized that the arcosolium represents a later addition, added to make space for more burials (as will be discussed later).

At Jerash T 1, a most unusual large tomb contained Ionic columns fronting its entrancedoor. Within its main chamber area, three graves were found located on the floor. Also in T 1, three sarcophagi were uncovered. Type IV tombs sometimes exhibited other features, such as channels cut for drainage, as seen in Hesban F.28. Almost half of the Type IV tombs contained a depression.

Of the eight tombs classified as Type IV, all were constructed in the Roman period. Four were constructed in the Early Roman, three in the Late Roman, and one assigned to the Roman period. Hesban F. 8 dates in construction and primary use to the Early Roman, though it was reopened and used in Late Roman times. Six out of the eight were reused through the Roman into the Byzantine period. A couple of tombs were reused into the Umayyad and Ayyubid/Mamluk periods. It would be an inaccurate assumption to state that in Transjordan, the arcosolium was added in the

later Byzantine period, since three of the eight tombs were used exclusively in the Early Roman and Late Roman. While this is a small sample, it seems premature to label all arcosolia additions to Type IV as Byzantine in origin. Finally, in light of this comparative dating, it has been shown that Type III "arcosolia chamber tombs" were constructed in the Late Roman period. Note the exception of Pella T 40 which was dated exclusively to the Early Roman.

Unusual objects sometimes were also found such as a millstone in Jerash T 1. Type IV tombs are to be considered, for the most part, as "family tombs," the burials containing jewelry, funerary bells, coins, mirrors, bone pieces, cooking pots, glass plates, and vessels.

Table 9.4 Tomb Type IV.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 38	Smith 1992: 53-55; figs. 23, 24	ER; reuse in LR and Byz	1 chamber; 8 loculi, 2 being shelf-like (3.0 wide×2.2 m deep); 2 loculi 3.0 ×2.2 m deep (more like raised alcoves)	Frags of metal coffin rings	Vertical shaft with ledge for sealing stones; dromos led to unsealed entrance	2 lamps, 2 bag jar sherds	Beads, 2 pairs gold earrings, 1 gemstone, 1 coin, 1 metal pin, ring	Not applicable	Robbed
Abila L 11	Fuller 1987: 53, 54	LR-Um	1 chamber with 2 loculi; 1 miniature arcosolium	Not applicable	Blocked by stone not *in situ*	Sherds	Data not available	Not applicable	Robbed
Abila L 13	Fuller 1987: 45-48; figs. 10-13	LR-Byz	1 chamber with 13 loculi; 5 graves; 1 arcosolium; 2 free-standing Ionic columns carved from bedrock inside near entrance; 2 raised relief columns in chamber; 1 loculus and 1 grave in arcosolium with stone-cut pillows	2 sacrophagi carved from floor of tomb with secret sacrophagus carved into bottom of 1 sarcophagus; decorated with painted raised reliefs; 2 limestone busts; some loculi sealed with painted floral patterns	Decorated façade	85 lamps	Iron signet ring	Possible altar in front of arcosolium	At least 93 persons: 28 newborn, 33 children, 6 female, 7 male, 9 adults, 10 UD
Hesban F.8	Waterhouse 1973: 118-120	ER	1 chamber with massive roof collapse; 12 loculi with trough graves; 6 additional trough graves give evidence of possible arcosolium in east wall; broken into by cutting of F.10, arcosolium (?) became part of F.10	Not applicable	Stepped dromos sealed with stone slab *in situ*	Data not available	Beads, bronze ring, button	Sheep bones and melon seeds	Robbed anciently
Hesban F.27	Davis 1978: 130-134; fig. 10	LR-E Byz; final use Ay/Mam	Square chamber; 8 loculi; 1 arcosolium with 3 trough graves; 1 large depression; sub chamber cut in west chamber; 1 lamp niche	Iron frags, iron nail	Dromos with 6 field sealing stones *in situ* but broken	1 lamp, 1 plate	Bracelets, basalt bowl, hairpins, needles, pins made of bone, buttons, coins, gold earrings, ivory mirror handle, flint scraper, bronze spatula, spindle whorl, glass vessel frags	Not applicable	Data not available
Hesban F.28	Davis 1978: 134, 135; fig. 11; pl. XII.B	ER-L Byz (5 phases of use)	Square chamber; 12 loculi; 3 arcosolia cut above loculi; depression; 2 drainage channels on both sides of main step; 3 unfinished loculi in north wall; arcosolia had raised lip at front edge with cut drainage channel	Metal frag	Blocking stone *in situ* with rubble in front of stone	Sherds	Bead, bronze brooch, coin, 3 gaming pieces, olive pit, glass vase	Not applicable	Robbed
Hesban G.10 (Rolling Stone)	Stirling 1976: 103-106; pl. IX.A	ER; use in LR; final use in Byz	1 chamber; 10 loculi; 2 arcosolia; arched ceiling; depression; lamp niches (triangular)	Metal frags, iron nails	Rolling stone *in situ*, track cut into bedrock	4 lamps	Beads, coin, glass bottle and frags, gold earrings, bronze fibula, ivory pin, stone spindle whorl	Not applicable	Robbed modern (through roof)
Jerash (Roman) T 1	Zayadine translated from Qudat, F. 1981: 346, 348; fig. 1; pls. I-V (Arabic)	LR; 2nd-4th cent. A.D.	Large rectangular chamber; 2 loculi, 1 with trough grave; 1 niche-like alcove containing 3 sarcophagi with 1 millstone; 3 floor graves in main chamber area	2 Ionic columns in front of alcove, 1 column flanking loculus entrance, 3 sarcophagi	Limestone swinging door with 4 steps leading down into main chamber	3 lamps, amphora, 2 juglets, 1 3-handled storage jar	Beads, coins, glass unguentarium	Not applicable	No burial remains found
Marwa T 1	McCown 1939: 1-31; fig. 1	LR; 2nd-3rd cent. A.D.	1 large chamber with 11 loculi; 1 arcosolium with trough grave	Basalt sarcophagus (frag)	Dromos leading to remains of rabbeted door	Lamp (frag)	2 glass bottles	Not applicable	Robbed

Table 9.4, *continued.* Tomb Type IV.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Som T 1	Lux-Wagner 1986: 287-300	LR	Large rectangular chamber; 13 loculi; 1 arcosolium with cut bench on each wall	Altar, inscription, plaster paintings of floral designs and creatures; arched niche above 1 loculus	Forecourt with 3 descending steps into chamber; inscription on lentil	Sherds	Not available	Altar	Robbed

Type Va: Rectangular-shaft Tomb Which Widens Out at Its Base to Accommodate Arcosolia with Trough Graves and Loculi

There are 15 tombs assigned to Type Va in the present catalog (table 9.5). These tombs are entered by a rectangular shaft which drops vertically into the ground to the depth of 1.00 m, at which point the shaft frequently narrows to form ledges so as to hold up sealing stones. Beneath the stones, the shaft sinks further to a depth of 0.50-1.00 m, and there widens into alcoves or reveals one or more loculi; as seen in Abila L 6. If more burial room was needed, a trough grave would at times be cut at the base of the shaft (like Hesban F.9). Hesban F.4 provides an example of an alcove containing trough graves sealed by tightly fitted stones.

It is because the shaft tombs so frequently were reused during the Byzantine period that the label "Byzantine shaft tombs" commonly applied to them. A careful analysis by the excavators, as shown in this catalog, reveals that the majority of these shaft tombs were in fact constructed in an earlier period. Of the 15 presented in this catalog, four show use exclusively in the Byzantine age, while the 11 remaining excavated at Abila and Hesban seem to have been constructed during the Early Roman and Late Roman periods. Of these latter ten, three are to be dated exclusively to the Early Roman and the Late Roman periods. Because Type Va resembles so closely the Roman Age Type Vb tombs, it may be concluded on architectural grounds alone, that many of these tombs were first constructed during Roman times.

Of the tomb types here surveyed, Type Va turns out to be the easiest to detect by potential tomb robbers; rarely has a tomb of this Type been found intact, most of them were robbed either anciently or in modern times. Type Va and Type Vb tombs turn out to be not rich in grave goods when compared to the chamber tombs (Types I, III, and IV). Nevertheless, the former are likely to contain beads, funerary bells, bracelets, coins, rings, and glass fragments. Lamps were discovered in only two of the 14 Type Va tombs cataloged (Na'ur T 1 and Hesban F.12). The incense shovel found in Hesban F.4 turned out to be an unusual find. These tombs varied widely as to the number of burials. While Hesban F.7 contained only a single infant burial, other Type Va tombs contained as many as 18 individuals, as illustrated in Hesban F.30. An average number interred per tomb thus can not be given. This is due to the fact that six of the tombs cataloged had been robbed prior to excavation, and another three didn't include burial remains in the excavation report. The available evidence indicates, however, that most Type Va tombs contained more than one burial.

Table 9.5 Tomb Type Va.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 24	Smith 1990: 48; fig. 12	Rom/Byz	Vertical shaft with burial chamber cut at shaft base	Not applicable	Shaft narrowed for ledge for sealing stones	Data not available	Glass beads, bronze funerary bell	Not applicable	No articulated remains
Abila L 6	Fuller 1987: 55	Byz	Vertical shaft with 3 loculi at base; 1 loculus off one wall and 2 loculi off of another wall of shaft	Not applicable	Vertical shafts with sealing stones in place	Data not available	1 glass (frag)	Not applicable	Robbed
Abila L 8	Fuller 1987: 54, 55	LR; 3rd-4th cent. A.D.	Shaft with loculus (sealed) in west wall; arcosolium in south wall at base of shaft	Not applicable	Vertical shaft with ledges for sealing stones	Sherds	1 bronze bell with clapper, iron bracelet (frag), glass beads, 2 gold earrings, iron finger ring, small wooden head	Not applicable	At least 2 persons: 1 newborn, 1 child

Table 9.5, *continued.* Tomb Type Va.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Hesban F.4	Waterhouse 1973: 123-125	LR; reuse in E Byz	Vertical shaft; floor with alcoves on each side and loculus at one end; each alcove had trough grave covered by stones	Not applicable	Shaft with narrow ledges for 5 large sealing stones *in situ*	Data not available	Beads, bronze and glass bracelets, bronze clip, bronze and gold earrings, 2 bronze fibulae, glass frags, 2 iron hunks, part of iron key, ivory needle, incense shovel, iron tack, bronze tubes	Not applicable	At least 17 persons: 3 males, 9 females, 2 adults, 2 children, 1 infant
Hesban F.7	Waterhouse 1973: 125	ER	Vertical shaft (2.50 l × 0.60 w × 2.20 d m); 1 small recess sealed by upright capstones	Not applicable	No evidence of original sealing stones	Data not available	Data not available	Not applicable	1 child
Hesban F.9	Waterhouse 1973: 125	ER (most likely LR)	Vertical shaft; 4 grave "recessed chambers" on each side of shaft with 1 cut into floor; floor grave sealed by 4 capstones; all graves sealed by capstones	Not applicable	Vertical shaft with ledges for sealing stones not present	Data not available	Glass bracelet (frag), iron rings and tacks	Not applicable	Data not available
Hesban F.12	Beegle 1975: 204-206; fig. 9	LR-Byz	Vertical shaft with 2 alcoves; 1 grave sunk into floor; 2 alcoves off each side of shaft contained trough graves	4 iron nails	Vertical shaft with ledges; 5 stones sealing entrance	1 lamp	Beads, bronze and iron bracelets, bronze brooch, coins, frit mold face (for earring), 5 metal objects, tess	Not applicable	At least 13 persons: 9 adults, 4 children
Hesban F.15	Beegle 1975: 208	Byz	Vertical shaft with north alcove broke into chamber of another tomb; south alcove never cut	Not applicable	Vertical shaft	Data not available	Data not available	Not applicable	Data not available
Hesban F.17	Beegle 1975: 208	Byz	Vertical shaft with 2 alcoves; 1 sunk grave in floor at base of shaft; similar in design to F.12	Hooked nail (possible coffin)	Vertical shaft	Data not available	Data not available	Not applicable	At least 2 (?) persons
Hesban F.16	Beegle 1975: 209	LR-E Byz	Vertical shaft with 2 alcoves; 1 floor grave (not used)	Not applicable	Vertical shaft with ledges for sealing stones not present	String-base juglet	Beads, bronze and iron bracelets, glass pendants, bone (ornamental) and bronze pins, bronze rings, glass vessels	Not applicable	At least 11 persons: 5 males, 1 child, 3 infants, 2 UD
Hesban F.30	Davis 1978: 136	LR; use through Ay/Mam	Vertical shaft with alcove on each side of shaft; arcosolium was squared and sloped into ceiling	Not applicable	Vertical shaft with no ledges but had to have for horizontal blocking stones	Data not available	Beads, bronze and iron bracelets, coins, bronze earrings, bronze fishhook, shell pendant, iron rings, iron tag	Bones of chicken, dog, large mammal, and sheep	Robbed modern; at least 18 persons: 12 adults, 4 children, 2 infants
Hesban K.1	Davis 1978: 147; fig. 13	LR-Byz	Vertical shaft with arcosolium on each side on shaft; sunken floor grave at base of shaft; each arcosolium had 1 trough grave	Not applicable	Vertical shaft with ledges; 4 sealing stones *in situ*	Data not available	Glass bracelet (frag), coin	Not applicable	Robbed Ayy/Mam (coin); at least 1 adult
Hesban K.2	Davis 1978: 147, 148	Byz	Vertical shaft was not completely excavated	Not applicable	Shaft with ledges for sealing stones; 3 of 4 sealing stones intact	No pottery	Bronze anthropomorphic bottle (form of female)	Not applicable	Data not available
Na'ur T 1	Abbadi 1973: 69-71; pls. XLI, XLII	LR-Byz	Vertical shaft ending in large chamber with 6 sunken graves; bench separated 2 benches from rest of tomb	Plastered walls; bench separated 2 graves from rest	Shallow shaft with ledge for large covering stone (pushed aside)	Lamps	Beads, bronze bracelets, coins, 1 bronze cross, bronze nose ring, rings, bone spindle whorl	Not applicable	Robbed; fragmentary skeletal remains
Petra BI, 1	Zayadine 1979: 185-189; figs. 1, 2a; pls LXXXIII-LXXXIX	ER	Shaft opened into chamber; 8 graves sunk into floor, many covered	Iron nails	Rectangular shaft with toe holds	4 lamps (1 with lion head), bowls, cup, unguentaria, moulded vase frag	Bronze bells, silver coins	Not applicable	At least 8 persons

Type Vb: Vertical Shaft Narrowing to Form a Ledge Ending in Single Burial

This category comprised the largest number of tombs under one category with over 170 tombs having been recorded (table 9.6). Out of the 170 tombs, over 142 came from the Amman Airport excavations at the cemetery of Alia. Some of the tombs from the Amman Airport were combined together in this catalog because they were so similar: they had the same grave goods and the same number of people interred in them.

These tombs consisted of a single vertical shaft cut to the depth of 0.50-1.00 m. The shaft width was often dependent on the size of the body being

interred. At Alia, the shaft edges were rounded when the tomb was constructed for a child. The seal for the tomb would usually consist of roughly cut large stones chinked by smaller stones to seal the grave. There were no identifiable architectural features other than the presence of a single shaft ending in a burial space. Alia T 3 contained an unusual lead ossuary with a cover. Inside the ossuary were found cremated remains. Such discoveries, however, were not the norm at the Alia cemetery.

All of the tombs contained at least one burial. Some tombs at Alia and Abila contained multiple burials. The largest number interred at Alia was three. Out of the 142 Type Vb tombs from Alia, 20 contained two or more burials interred within a single grave.

The range in dates for the construction and usage of these tombs is firm. Out of the 170 tombs, 156 date to Late Roman in usage and construction. Only three tombs from Abila are dated exclusively to the Byzantine period and only one tomb is dated to Early Roman. Type Vb tombs were probably used in order to bury many people quickly and efficiently. Only six tombs at Alia contained sherds. Six out of seven of the Abila tombs contained pottery. The most common grave goods associated with these types were: beads, bracelets, cosmetic accoutrements, bone needles, bronze buckles, rings, and earrings. Leather cloth pieces and sandals also were uncovered in the Airport excavations. Most of the Abila tombs contained either a small amount or no personal objects. This has led excavators to remark that these tombs probably were used for those of a lower socio-economic status (Smith 1992). In light of what was uncovered at Alia, it is an assumption that may be premature.

Table 9.6 Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila H 8	Smith 1989: 24; fig. 3	Hel with Byz sherds (above sealing stones)	Shaft ending in single grave	Not applicable	Vertical shaft with ledges for 4 sealing stones	3 unguentaria	Data not available	Not applicable	No remains
Abila H 9	Smith 1989: 24; fig. 3	Hel with Byz sherds (above sealing stones)	Shaft ending in single grave	Shaft ending in single grave	Vertical shaft with ledges for 3 sealing stones	None	Data not available	Not applicable	2 adults, 1 infant
Abila H 23 "Unique Shaft Grave"	Smith 1990: 47, 48; fig. 11	Rom/Byz	Vertical shaft with ledge ended in grave; shaft intersected by channel	Data not available	Vertical shaft with ledges for sealing stones, disturbed	Data not available	Data not available	Channel under grave (cultic purpose?)	No burial remains
Abila H 29	Smith 1992: 40; figs. 1, 2	Rom	Shaft ending in single grave	Funerary bust (frag)	Vertical shaft with ledges for 4 flat boulders to seal tomb	Terra cotta unguentarium	1 piriform	Not applicable	1 adult
Abila H 30	Smith 1992: 40-42; fig. 3	LR and E Byz	Deep shaft grave NE/SW orientation	Not applicable	Vertical shaft with ledges for sealing stones	Sherds	None	Not applicable	Robbed
Abila H 33	Smith 1992: 42; fig. 4	LR	Shaft grave with wide loculi at base	Metal ring frag	Shaft with ledges used for 6 sealing stones	Data not available	Data not available	Not applicable	Poorly preserved bone splinters
Abila H 34	Smith 1992: 42; fig. 5	Rom and Byz	Shaft with sealing ledge created by narrowing shaft to form single grave	Not applicable	Shaft with ledges for sealing stones (removed)	1 terra cotta juglet	1 worked piece of ivory, silver ring	Not applicable	Robbed
Abila H 35	Smith 1992: 42; fig. 6	LR and Byz	Shaft with sealing ledge cut into bedrock with chamber at base of shaft	Not applicable	Sealing stones displaced	Sherds	Data not available	Not applicable	Robbed; disarticulated single adult
Abila H 37	Smith 1992: 42, 43; fig. 7	LR and Byz	Single burial at floor of shaft	Not applicable	Shaft has a step, (possible dromos); stopped construction because it ran into another tomb	Data not available	Data not available	Not applicable	No remains
Abila J 9	Davis 1985: 85, 86	Byz with Hel juglets (possible heirlooms) or LR?	Shaft ending in single grave	Not applicable	Shaft sealed by ledge of 6 rectangular stones	5 juglets	None	Not applicable	At least 2 persons: 1 adult female 45 years, 1 sub adult female 10-14 years

Table 9.6, *continued*. Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila J 10	Davis 1985: 86	Byz	Vertical shaft with grave at floor	Not applicable	Shaft with ledges for 4 blocking stones—one collapsed into grave	Sherds	None	Not applicable	Robbed or not used
Abila J 11	Davis 1985: 84	Byz	Rectangular shaft ending in single burial space	Broken nails	Rectangular shaft cut with ledges for sealing stones	Sherds	Data not available	Not applicable	1 child
Abila J 14	Davis 1985: 86; fig. 10	Byz	Vertical shaft ending in single grave	Not applicable	Vertical shaft with ledges for 4 sealing stones (3 *in situ*)	Data not available	Data not available	Not applicable	1 adult male 45+ years
Abila J 15	Davis 1985: 86, 87; figs. 11, 12	Byz	Vertical shaft with grave	Not applicable	Vertical shaft with ledges cut for 4 sealing stones	Data not available	Beads, 1 small bell, 1 finger ring	Not applicable	1 female child 10-15 years
Abila J 18	Davis 1985: 88	Byz	Vertical shaft ending in single grave	Not applicable	Vertical shaft with ledges for sealing stones *in situ*	Data not available	Data not available	Not applicable	At least 1 person (possible male?)
Abila J 22	Davis 1985: 88	Byz	Vertical shaft	Not applicable	Shallow shaft with ledges for sealing stones	1 small juglet above sealing stones	Data not available	Not applicable	No remains possibly due to moisture in grave
Abila J 23	Davis 1985: 88	Byz	Shallow vertical shaft (.70 m) cut into J 25 immediately below it	Not applicable	Narrow and shallow shaft with no sealing stones in situ	Data not available	Data not available	Not applicable	1 adult 25-35 years
Abila J 24	Davis 1985: 89	Byz	Vertical shaft ending in single grave	Not applicable	Vertical shaft with sealing stones	1 Hel lamp (heirloom?)	Data not available	Not applicable	1 adult 25-35 years
Abila J 25	Davis 1985: 89, 90	Byz	Vertical shaft immediately below and toward 1 side of grave J 23	Iron nail	Sealing stones	1 Hel lamp (heirloom)	1 bronze mirror, 1 bronze ring, 1 seashell, 1 spatula, 1 bone spindle with small wheel, spindle whorls	Not applicable	1 sub adult female 17-25 years, fetal remains in pelvic region
Abila K 2 (Roman Sarcophagus)	Davis 1985: 81-83; photo 89?	Rom	Basalt sarcophagus buried in ground	Not applicable	Shaft ending in single grave	Data not available	None	Not applicable	Robbed (?)
Abila L 19	Smith 1990: 40, 41; fig. 2	LR-Byz	Shaft ending in burial space at base of shaft	Not applicable	Shaft narrowed as it deepened to form ledge for sealing stones	Data not available	Data not available	Not applicable	Number not determined
Abila L 20	Smith 1990: 41, 42; figs. 3, 4	Rom/Byz	Shaft ending with burial space at end of shaft	Not applicable	Shaft dromos terminated to a single grave	None	1 small glass bottle, 1 iron ring with engraved gemstone	Not applicable	At least 11 persons: 7 adult males, children, infants (secondary burial remains)
Alia T 1	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones; corners were rounded	Data not available	Anklet, leather, rings	Not applicable	1 adult
Alia T 2	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male
Alia T 3	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Lead ossuary with cover	Vertical shaft 1.45 × 0.60 × 0.60 m deep; roughly cut covering stones made of hard limestone chinked with small stones	Ceramic jug	Data not available	Not applicable	1 adult male 50+ years, cremated
Alia T 4	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft grave 1.90 × 0.40 × 0.55 m; roughly cut covering stones made of hard limestone chinked with small stones	Not applicable	Pair of leather sandals	Not applicable	At least 2 persons (one pushed to corner)
Alia T 5	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.30 × 0.45 × 0.55 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, bronze buckle, copper and steel bracelets, fiber core, wires	Not applicable	1 subadult female

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 6	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.09 × 0.55 × 0.50 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Sandals	Not applicable	1 adult female
Alia T 7	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 1.63 × 0.40 × 0.10 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult female 40+ years
Alia T 8	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 1.95 × 0.40 × 0.40 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	Data not available
Alia T 9	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.00 × 0.50 × 0.23 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Bronze bezel ring	Not applicable	1 adult male
Alia T 10	Ibrahim and Gordon 1987: 72	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.43 × 0.42 × 0.42 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 iron/bronze bracelet, 1 limestone button, 1 cloth remnant, 1 silver chain, leather sandals, 1 silver pendant, 2 copper rings, 1, small clam shell	Not applicable	1 adult female
Alia T 11	Ibrahim and Gordon 1987: 73	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.10 × 0.58 × 0.28 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 cloth covering whole body and leather stain	Not applicable	1 young adult female, 1 child
Alia T 12	Ibrahim and Gordon 1987: 73	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Clothing remains, leather sandals	Not applicable	1 subadult female
Alia T 13	Ibrahim and Gordon 1987: 73	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Shaft measured 2.00 × 0.50 × 0.32 m; roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bronze bracelet, clam shell	Not applicable	1 male or female 30-35 years, possible child
Alia T 14	Ibrahim and Gordon 1987: 73	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	39 beads, iron blade (frag), iron/bronze bracelets, 1 bone cosmetic tool, bone needles and hairpins, leather sandals, wire ring	Not applicable	At least 3 persons: 1 female, children
Alia T 15, 19, 21, 24	Ibrahim and Gordon 1987: 73, 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult each
Alia T 16	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	At least 2 persons: 2 adult males
Alia T 17	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather (?)	Not applicable	1 adult
Alia T 18	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 child
Alia T 20	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Rings, band ring frags, leather remnants, 1 stone seal	Not applicable	1 adult

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 21	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult
Alia T 22	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather button (?)	Not applicable	At least 2 persons: 1 male 34-39 years (top), 1 female 25-35 years
Alia T 23	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	At least 2 persons: adults
Alia T 25	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather	Not applicable	1 adult female 35-50 years
Alia T 26	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 female
Alia T 27	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 male
Alia T 28, 29	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult in each grave
Alia T 30	Ibrahim and Gordon 1987: 74	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads	Not applicable	1 child 4-6 years
Alia T 31	Ibrahim and Gordon 1987: 74 -76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult 20-35 years
Alia T 32	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	Fragmented remains
Alia T 33	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, earrings, 1 clam shell	Not applicable	At least 1 person
Alia T 34	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 2 copper bracelets, 2 hoop earrings, 1 frit , glass, 2 copper rings	Not applicable	At least 2 persons: 1 above covering stones and 1 under
Alia T 35	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 25-40 years
Alia T 36	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, bracelet, 1 scaraboid amulet	Not applicable	1 adult female 40-55 years
Alia T 37, 38	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	Each grave contained fragmentary adult remains
Alia T 39	Ibrahim and Gordon 1987: 75	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 iron bracelet, 2 copper/ bronze bracelet/anklets, 1 bronze ring, leather sandal soles	Not applicable	1 adult
Alia T 40	Ibrahim and Gordon 1987: 75, 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 1 copper bracelet, 1 copper sheath on iron core, 4 bone amulet pendants, 1 amulet/pendant, 3 bronze/copper rings, dentalium shells	Not applicable	1 female, poorly preserved

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 41	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; very shallow	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 poorly preserved
Alia T 42	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 1 bronze spatula	Not applicable	1 poorly preserved
Alia T 43, 45	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 child in each grave
Alia T 47	Ibrahim and Gordon 1987: 76	LR	Stone built cist with 8 ashlar orthostats	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, bronze coin, leather sandals	Not applicable	At least 2 persons: 1 male, 1 female
Alia T 46	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult female 50+ years
Alia T 48	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Caps, leather cover, tunic covering much of the body	Not applicable	1 adult male
Alia T 49	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 young adult female 20-25 years
Alia T 50	Ibrahim and Gordon 1987: 76	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 iron bracelet, leather covering body	Not applicable	1 child
Alia T 51	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 child
Alia T 52	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 1 bone amulet, silver earrings, iron and copper rings, 1 frit spherical, 1 tubular shaped object	Not applicable	1 child
Alia T 53	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather sandals	Not applicable	1 adult male 40-55 years
Alia T 54	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather sandals	Not applicable	1 adult female 50+ years
Alia T 55	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather sandals	Not applicable	1 adult female (?)
Alia T 56	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 30+ years
Alia T 58	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 1 cowrie, leather stain, 2 shells	Not applicable	At least 2 persons: 1 adult female 25-40 years, 1 infant
Alia T 59	Ibrahim and Gordon 1987: 77	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult
Alia T 60	Ibrahim and Gordon 1987 77, 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	1 terracotta figurine	Roughly cut covering stones made of hard limestone chinked with small stones	Alabaster pyxis	1 coin, 1 gold earring, bulbous with opal, wooden vessels, bezel ring, leather stain, 1 shell	Not applicable	1 subadult female 16-22 years

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 61	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 female
Alia T 62	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones and contained wooden coffin	Wooden coffins, iron nails	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 body (?)
Alia T 63	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 40+ years
Alia T 64	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Marble alabastron	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	2 bone amulets, bone hairpin frags, frags of bezel ring, 1 cockle shell, 1 basalt rubbing stone	Not applicable	1 adult female 40+ years
Alia T 65	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, copper bracelet/ amulet frags, bronze spatula frags, copper earring frags	Not applicable	1 child
Alia T 66	Ibrahim and Gordon 1987: 78	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, ring frags, 1 bronze mirror	Not applicable	1 adult female (?)
Alia T 67	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Bronze anklet, beads, bronze wire bracelets, 1 bronze button cover, glass beads, 1 bone hairpin, 2 shells	Not applicable	1 adult female 35-60 years
Alia T 68	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bronze cosmetic spoon, bronze earrings, iron scissors (?), bronze spatula	Not applicable	1 adult female 35-45 years
Alia T 69	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 iron bracelet, 1 silver coin, rings	Not applicable	1 adult female 50+ years
Alia T 70	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 gray stone button	Not applicable	1 adult
Alia T 71	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Iron bracelet frags, gray stone button from T 70 (?)	Not applicable	1 child 10-13 years
Alia T 72	Ibrahim and Gordon 1987: 79	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 24-27 years
Alia T 73	Ibrahim and Gordon 1987: 79, 80	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Sherds	Iron bracelets, gold earrings, 1 copper band ring, glass vessel	Not applicable	At least 2 persons: 1 female 40-50 years on cover slabs, 1 male 35-45 years below cover slabs
Alia T 74	Ibrahim and Gordon 1987: 80	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bone anthropomorphic amulet, copper and iron bracelets, copper ear-rings, bronze kohl tube, bronze pins, bronze ring, 2 pairs of sandals	Not applicable	1 adult female 35-45 years

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 75	Ibrahim and Gordon 1987: 80, 81	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 2 ivory (?) bracelets, copper bracelets, glass bracelets and rings, bronze button cover, gold earrings, bone hairpins and needle, 1 bronze kohl tube, leather clothing, bronze medallion, necklace, glass oinochoe, iron pins, iron ring, 2 pairs of sandals, sea urchin test, bronze spatula, ivory spindle and whorl, shells, glass vessels, earrings	Not applicable	At least 3 persons: 1 female 45+ years, 1 male 20-27 years, 1 subadult male 14-19 years
Alia T 76	Ibrahim and Gordon 1987: 81	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	2 amulets, 1 faience amulet, 2 twisted armlets, leather sandals and bands, copper earrings, 1 fragmented bone hairpin, 1 bronze knob, sandals, spatula frags	Not applicable	1 adult female 50+ years
Alia T 77, 78, 79, 81	Ibrahim and Gordon 1987: 81, 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult in each
Alia T 80	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	2 bodies squeezed together
Alia T 82	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; 2 shafts conjoined	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads and leather pouch and sandals	Not applicable	1 adult female
Alia T 83	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	Data not available
Alia T 84	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 copper ring, 2 fine wires	Not applicable	Data not available
Alia T 85	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Glass beads, copper bracelets/anklets, bronze band	Not applicable	1 child 5-7 years
Alia T 86	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult in each
Alia T 87	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult 50+ years
Alia T 88	Ibrahim and Gordon 1987: 82	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult female 27-38 years
Alia T 89	Ibrahim and Gordon 1987: 83	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; 2 shafts conjoined	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, bracelet frags, 2 bone hairpins, remnants of leather clothing	Not applicable	At least 3 persons: 1 adult male 25-40 years, 1 adult female 50+ years, 1 adult
Alia T 90	Ibrahim and Gordon 1987: 83	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones.	Data not available	Anklets, beads, and bracelets	Not applicable	1 young adult
Alia T 91	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather soles	Not applicable	1 subadult (?)

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 92	Ibrahim and Gordon 1987: 83	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones.	Data not available	Leather frags	Not applicable	At least 2 persons
Alia T 93	Ibrahim and Gordon 1987: 83, 84	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; 2 shafts conjoined	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather frags	Not applicable	At least 2 persons
Alia T 94	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bead, 1 iron bracelet, gold earrings	Not applicable	At least 1 person
Alia T 95	Ibrahim and Gordon 1987: 84	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones.	Data not available	Sandals	Not applicable	1 subadult 15-19 years
Alia T 96	Ibrahim and Gordon 1987: 84	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 subadult 12 - 16 years
Alia T 97	Ibrahim and Gordon 1987: 84	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 glass bottle, 1 iron bracelet, copper and gold earrings, bone hairpins, leather soles, 1 bronze cosmetic spoon; beads, bone hairpins and leather soles may be from another grave	Not applicable	1 female
Alia T 98	Ibrahim and Gordon 1987: 84	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather soles	Not applicable	1 adult male 24-40 years
Alia T 99	Ibrahim and Gordon 1987: 84, 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Hairpins, 1 omphalos base, bone pins, 1 bronze ring, shells, 2 glass vessels	Not applicable	At least 2 persons: 1 adult male 34-39 years, 1 adult female 25-35 years; 1 burial above the other
Alia T 100	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	1 sherd	Bead or button, iron bracelet frags, 1 bronze iron ring	Not applicable	At least 2 persons: female; 1 burial above the other
Alia T 101	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult female 40-50 years
Alia T 102	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 child
Alia T 103 A-B	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Bone hairpins, iron ring, leather covering on one body	Not applicable	At least 2 persons: 1 adult male 30-45 years; 1 female
Alia T 104	Ibrahim and Gordon 1987: 85	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Terracotta figurine	Roughly cut covering stones made of hard limestone chinked with small stones	1 broken vessel	Band bracelet, button cover, band ring frags, leather remains	Not applicable	1 child 4-7 years
Alia T 105	Ibrahim and Gordon 1987: 86	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Copper amulet frags and bracelet, copper earring frags, 1 iron ring, 4 glass vessels	Not applicable	Remains of graves 105-110 mixed; 1 adult male
Alia T 106, 109	Ibrahim and Gordon 1987: 86, 87	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Copper bracelet frags, leather, 1 iron ring	Not applicable	1 subadult female 16-19 years (106), 1 adult female 25-40 years (109)

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 107	Ibrahim and Gordon 1987: 86	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather sandals	Not applicable	At least 1 person
Alia T 108	Ibrahim and Gordon 1987: 86	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 30+ years
Alia T 110	Ibrahim and Gordon 1987: 87	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	2 sherds	2 iron bracelet frags, bone pinhead, iron pins, copper wire	Not applicable	1 female
Alia T 111	Ibrahim and Gordon 1987: 87	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bow, copper/iron bracelets (frags), 1 bow, 2 gold earrings, bronze crossbow fibula frags, leather garments	Not applicable	At least 4 persons: 1 adult male 40-55 years, 1 adult male 25-26 years, 1 newborn, 1 child 1-3 years, child on chest of 1 adult
Alia T 112	Ibrahim and Gordon 1987: 87	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 1 shell	Not applicable	1 subadult female 16-19 years
Alia T 113, 115	Ibrahim and Gordon 1987: 87	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 child
Alia T 114	Ibrahim and Gordon 1987: 87	Data not available	Deep	Not applicable	Data not available	Data not available	Data not available	Not applicable	1 adult
Alia T 116, 120	Ibrahim and Gordon 1987: 88	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult
Alia T 117	Ibrahim and Gordon 1987: 88	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, bronze rings, leather soles, wood cork	Not applicable	1 adult female 35-45 years
Alia T 118	Ibrahim and Gordon 1987: 88	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	3 bone plaques, silhouettes of Corinthian capitals	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Cloth frags, 1 bronze cosmetic spoon, 3 gaming pieces, 1 bronze rivet	Not applicable	At least 1 person
Alia T 119	Ibrahim and Gordon 1987: 88	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Small pot handles	Finger rings, copper earrings, rings	Not applicable	At least 1 person
Alia T 121	Ibrahim and Gordon 1987: 88	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather soles	Not applicable	At least 2 persons: 1 adult female with child in arms
Alia T 122	Ibrahim and Gordon 1987: 89	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Bone hairpins	Not applicable	1 subadult
Alia T 124, 126-128	Ibrahim and Gordon 1987: 89	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	Each contained 1 child
Alia T 123	Ibrahim and Gordon 1987: 89	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather soles	Not applicable	1 child 7 years
Alia T 125	Ibrahim and Gordon 1987: 89	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 iron ring	Not applicable	At least 1 person

Table 9.6, *continued.* Tomb Type Vb.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Alia T 131	Ibrahim and Gordon 1987: 89, 90	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Pyxis lid frags	Leather sole frags, wood comb frags	Not applicable	1 adult male 40+ years
Alia T 132, 134	Ibrahim and Gordon 1987: 90	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	At least 1 person
Alia T 133	Ibrahim and Gordon 1987: 90	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; 2 shafts conjoined with row of dividing stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Sherds of krater rim	Copper earring frags, leather sole frags	Not applicable	At least 3 persons: 1 male (?), 1 young adult 18-21 years, 1 child
Alia T 135	Ibrahim and Gordon 1987: 90	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones; corners were rounded	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	2 copper and iron bracelets	Not applicable	1 child
Alia T 136	Ibrahim and Gordon 1987: 90	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Gold earrings, bronze rings, bronze toggle pin	Not applicable	1 adult female (?)
Alia T 137	Ibrahim and Gordon 1987: 137	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Leather (?)	Not applicable	1 adult male 40+ years
Alia T 138	Ibrahim and Gordon 1987: 90, 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	1 bracelet	Not applicable	Robbed
Alia T 140	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Beads, 2 copper armlets, copper bracelets, 2 hoop earrings, leather remains	Not applicable	Partially robbed, 1 adult female 30+ years
Alia T 141	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult in each
Alia T 143	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	2 copper earrings	Not applicable	1 female
Alia T 146	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Data not available	Not applicable	1 adult male 40+ years
Alia T 148	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	2 faience beads	Not applicable	At least 1 person
Alia T 164	Ibrahim and Gordon 1987: 91	LR	Rectangular shaft cut into limestone narrowed for ledges with covering stones	Not applicable	Roughly cut covering stones made of hard limestone chinked with small stones	Data not available	Glass beads, small bone amulet	Not applicable	Data not available
Hesban F.11a, 11b	Beegle 1975: 204	LR-Byz	Vertical shaft (1.84 × 0.53 × 0.60 m)	Not applicable	Open	Data not available	Oil or perfume vase	Not applicable	No remains (excavator hypothesized used)
Petra A 1	Horsfield and Horsfield 1939: 94, 95, 109; pl. XLVIII	ER	Vertical shaft 0.45 m deep with pit graves cut into the floor	Not applicable	Covering stones at ground level	Cups, pots	Glass bottle, stone window grill	Not applicable	Data not available
Umm el-Hanafieh T 1-5	Ma'ayeh 1960: 115	Byz	5 shaft graves; 1 contained small lead coffin; tomb included to show use of cremation	Medium-sized lead pot with burnt human bones in lead coffin	Data not available	Data not available	1 lead pot	Not applicable	Data not available

Type Vc: Vertical Shaft Ending in a Single Chamber

Thirteen tombs were classified Type Vc (table 9.7). Though Type Vc was not represented at Hesban, it is represented at three sites in the north and Petra in the south of Jordan. Many of these tombs are entered via a deep shaft with sealing stones. When the shaft terminates, it opens up into a chamber. In Petra Area B, tomb T 1, the shaft was 2.50 m in depth, similar to the Early Bronze shaft tombs in Transjordan. In Petra B 2, a shaft sealing with stones were flush with the ground, which was unusual.

Many Type Vc tombs were comprised of a single chamber with graves cut into the floor. If graves were not cut into the floor, as was the case at Abila J 5 and L 16, then coffins or sarcophagi were used. At J 5, a rock-cut bench was carved and on it was placed a wooden bier. The number of sunken graves in the floor ranged from one to as many as four. Other architectural features included limestone sarcophagi and cut features such as niches and recesses cut in the sides of the chamber. The most unusual item found was a small round lead box within T 2 at Jerash. In Petra Area B, T 1, the sunken graves possessed covering slabs. Apparently, these covers represent an anomaly, as no others were found among the many Type Vc tombs surveyed for this catalog.

These Type Vc chambers tombs all contained multiple burials. Most of the tombs that weren't robbed contained four to twenty bodies. Many Type Vc tombs contained at least one body per sunken grave. In Petra E 2, all four bodies appeared as if they had been dissected. However, this is not reported anywhere in the tombs surveyed for the entire catalog, so no explanation can be given for this type of practice.

The range in dates of Type Vc tombs varies from site to site. All Type Vc tombs at Petra and nearby were dated to the Early Roman, which comprised the largest site, seven out of nine having been excavated there. At Abila the dates varied widely from the Late Hellenistic (J 5), Late Roman (L 16), and Roman with continued use into Byzantine and Umayyad periods (L 7). Pella T 6 is dated to the Roman period. At Jerash a Type Vc tomb was constructed in Late Roman but remained in use into the Early Byzantine. Judging from the wide variety of dates assigned, it is difficult to establish a solid date. It can be stated that many Type Vc tombs were constructed and used in the Early or Late Roman periods.

The associated grave goods are widely varied, from as little as one item up to many items. Some of the goods associated with Type Vc tombs were jewelry, coins, discs, plaques, plates, and glass vials. Pottery objects, such as lamps, bowls, juglets, bowls, and small pots, were commonly placed with the deceased.

Table 9.7 Tomb Type Vc.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Abila J 5	Davis 1983: 50-54; fig. 10	LR	1 chamber with 1 rock cut bench	5 iron rings part of wooden bier	Vertical shaft with 4 rectangular stones with only 1 ledge on north side; blocking stone to seal entrance into tomb was removed	1 lamp	Not applicable	Not applicable	Robbed; At least 3 persons with 1 more in shaft
Abila L 7	Fuller 1987: 55	Rom, Byz, and Um (based on sherds)	1 chamber with 1 floor grave	Possible wooden platform	Data not available	Anthropomorphic lamp handle, lamp (frag)	Sherds	Not applicable	Disturbed; 1 male, 1 female
Abila L 16	Fuller 1987: 36, 37; fig. 5	L Hel-ER	1 chamber	2 wood coffins, coffin nails, braces	Shaft sealed by 3 blocking stones on 2 ledges; door to chamber blocked by 3 stones *in situ* wedged in opening	2 piriform unguentaria	1 small glass vessel	Not applicable	At least 4 persons: 3 males, 1 child

Table 9.7, *continued.* Tomb Type Vc.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Jerash (New Rock Cut) T 2	Naghawi 1989: 201-218; figs. 1-6	LR; reuse in E Byz; 3rd cent. A.D.	1 chamber; 7 limestone sarcophagi; 1 clay coffin (H 0.80 × W 0.32 × H 0.29 m); sunken grave; niche	Bronze handle, nails, iron rings, 7 decorated sarcophagi and lids, 1 round small lead box (0.42 diam. × 0.35 m depth)	Vertical shaft with sealing stones	Lamps, amphora, 2 storage jars	Bronze amulet, beads, bronze bracelets, 1 bronze bowl, 1 brooch, gold earrings, 1 bronze fibula, pendants, 1 bronze pierced plaque, 4 pairs of leather shoes, 5 glass vessels	Not applicable	At least 5 persons: 1 female, 4 undetermined
Pella T 6 in Area II G	Smith 1973: 181, 182	LR-E Byz; 3rd-6th cents. A.D.	Chamber with 2 graves sunk into floor	Not applicable	Inaccessible	5 lamps	Iron blade (broken), coin, 1 tiny bone pendant, glass vial	Chicken bones found in graves	At least 20 persons; disarticulated
Pella T 7 in Area IIH	Smith 1973: 182-195; fig. 58	Rom/Byz-Abb (Medieval deposits); 650-700 A.D. inscription	1 chamber with graves cut into floor; collapsed into Tomb 8	Lintel found with 5 lines of Greek text	Dromos 1.85 m long open to open entrance; dress stones possibly 2 courses high originally sealed door	12 lamps, bowls, double-handled jar, jars	Beads, bronze canister with silver top, coins, crosses, figurines of moulded plaster, rings, toggle pins, glass vials	Sheep/goat bones	Data not available
Petra Area B T 1	Zayadine 1974: 139, 140; pl. LXIV.2	ER	Deep shaft (2.50 m) led into 1 chamber; 2 graves (possibly sunken?) with covering slabs missing; house built on top of shaft tomb	Iron nails, colored plaster frags	Vertical shaft with sealing stones not *in situ* with toehold on sides of shaft	1 small cooking pot, frags of decorated plate	Beads, 8 bronze bells, 1 decayed bronze object, 1 silver coin, 2 gold earrings, 1 alabaster pyxis, 1 unguentarium	Not applicable	Robbed; 1 complete skeleton on top of grave
Petra Area C T 1	Zayadine 1974: 140; figs. 3, 4; pl. LXVIII	ER	Shaft, 1 chamber (2.60 × 3.53 m) with 4 sunken graves into floor; each grave covered by 5 slabs	Not applicable	Deep vertical shaft led into chamber	Data not available	1 spindle bottle (frag)	Not applicable	Disintegrated bones
Petra B 2	Horsfield and Horsfield 1939: 103, 104; fig. 8; pl. LII	ER	Shaft ends in 1 chamber; 3 graves cut into floor	Not applicable	Shaft 2 m deep with sealing stones flush with ground	Bowls, 1 painted plate (frag)	1 vase	Not applicable	Data not available
Petra E 1	Horsfield and Horsfield 1939: 112, 113; fig. 16	ER	1 chamber with 4 sunken floor graves	Not applicable	Deep vertical shaft opened to chamber	2 lamps, juglet, 3 small pots	1 bottle, 1 disc	Not applicable	At least 4 (?) persons; all bodies in grave looked dissected
Petra E 2	Horsfield and Horsfield 1939: 112, 113; fig. 17	ER	1 chamber with 4 sunken floor graves; 2 recesses on sides of chamber; grave covering stones found intact	Not applicable	Deep vertical shaft that opened to chamber	Lamps, small bowls	Copper and silver bracelets (frags), fragmentary moulded horses figurines (toys)	Not applicable	At least 4 (?) persons; all bodies in grave looked dissected
Sadagah T 1	Kurdi: 1972: 85-87; pls I-IV	ER; 1st cent. A.D.	1 chamber with 3 transverse arches creating 4 tiers with 6 loculi like bays in each tier; walls separated by thin limestone walls	Not applicable	Vertical shaft dropping 2.10 m deep	7 lamps, cup, juglet, unguentarium	None	Not applicable	Data not available

Type VI: Natural Caves Used as Burial Sites

There are ten tombs that were classified as natural caves, or Type VI tombs (table 9.8). Obviously many of the family chambers of Types I, III, and IV started as natural caves and were enlarged and changed from their original natural condition. So, for the purposes of this catalog, a Type VI cave is a natural cave that retains much of its rough original uncut structure. In many caves, interior walls were built with stone or mudbrick and shelves were cut. Unlike the other tomb types, if the excavator said they excavated a cave, it was recorded in this catalog as a cave. The condition and amount of construction to each tomb varied as can be seen in the following comparison of two Type VI tombs. The first is the Jebel Jofeh, Amman tomb identified as a cave, though it had extensive work done to it. The cave contained eight loculi, three small sarcophagi, four pillars, and two benches. Pillars were constructed to stop ceiling collapse and the loculi were all built of mud brick walls. In addition, mudbrick arches were added to the cave. An example of a cave where there is little evidence of structural changes is that of Hesban F.28, which is a simple cave with a single loculus. Some caves originally used for tombs were later utilized for domestic purposes. Such was the case in F.37 in Hesban where a sarcophagus was found near a tabun. In F.37 they improved the interior by plastering the floors and ceilings. Some caves had

entrances which were stone-cut as well as decorated doors, such as at Petra Cave 2. Type VI entrances varied; some were entered via a dromos and some through a door with lentils. Only one cave was entered through the roof by lifting covering slabs. Surprisingly, Hesban F.37 possessed an unblocked open entrance. This, however, was not the norm.

All Type VI tombs, with the exception of one cave, contained more than one burial. Hesban F.37 and F.28, as pointed out earlier in this book, contained 40-44 individuals. This was an exceptional large number of burials when compared to other caves excavated in Transjordan. If Hesban is not included, then the maximum number interred was 11 from Dhiban H 1. The average number interred in caves was between two and four individuals. The question of why there is such a vast difference between the Hesban caves and other cave-tombs will have to await further study. The dating for Type VI tombs ranges in date from Early Roman through Byzantine. The usage of a cave for a tomb began in the Early Roman and continued through the Roman and on into the Byzantine period. The usage of the Amman tombs correspond to the Hesban tombs with the heaviest use coming in the Late Roman period.

Grave goods varied between the various Type VI tombs. The usual jewelry, belt buckles, coins, hooks, cosmetic accoutrements, unguentaria, glass vessels, and vases were recovered. In Petra Cave 2, a figurine was found in the forecourt and in Hesban F.37 a basalt millstone was uncovered. It is interesting that the intact cave from Amman Jebel Jofeh contained over 211 vessels, 118 of which were lamps. Most Type VI tombs contained at least one lamp along with other types of ceramic vessels.

Table 9.8 Tomb Type VI.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Amman T 3, (Jebel Jofeh Amman)	Harding 1951a: 81-94; figs. 1-4; pls. XXX-XXXIV	Rom	1 chamber; 7 loculi; 8 graves sunk in floor; 3 small sarcophagi; 4 pillars (built to stop collapse); 2 benches; loculi divided by stone and mud-brick walls; several built arches (vaulted) in chamber	Mudbrick built arches, nails, 3 sarcophagi (2 with decorated lids)	Dromos with flight of steps to entrance with decorated door with lintel	211 vessels: 118 lamps, cooking pots, flasks, jugs, bowls	Beads, bells with clappers, 1 belt fastener, bracelets, buttons, coins, glass vessels, 34 gold earrings, pendants, 2 plaques, 1 electrum ring, silverware, spatula, ointment spoons	Not applicable	Robbed; water damage; some signs of being burnt; secondary remains
Amman T 1, (Nabataean Tomb)	Harding 1946: 58-62; figs. 1-4; pl. XIX	Possibly built in IR; ER reuse; 50 B.C.-A.D. 50	2 chambered (mean size=4.5× 5.0 m); mud-built benches; one of best examples of possible reused tomb from earlier period	Benches	Under roadway not accessible	2 lamps, 2 Nabataean bowls, 2 sherds from Iron Age	Glass vases; frags of bronze box corners	Not applicable	Robbed; frags of bones
Amman T 4, (Jabal Jofeh El Sharqi)	Bisheh 1972: 81-83; figs. 1-4	LR	Chamber built by 2 flimsy walls of stones and earth	Iron nails	Door with lentil and socket with 2 steps leading into chamber	4 lamps, 1 candlestick	Beads, bezels, bracelets, olive seeds, 1 glass flask, rings, 1 bronze kohl-stick, bronze pins, hair-dressing, needles, olive seed	Not applicable	Robbed; at least 5 persons
Amman T 5 (Citadel Hill Tomb)	Hadidi 1982: 287, 288; pls. LXXXII-LXXXVII	LR; 2nd-3rd cent. A.D.	Natural cave with main hall, 2 benches, 2 sarcophagi, 1 raised loculus	2 sarcophagi with decorated lids	Door of undressed stones sealed with mud	4 lamps, juglet, piriform juglet	Bracelets, 3 bronze rings, coins, glass bottles, 1 unguentarium	Not applicable	Each sarcophagus contained adult male and female
Dhiban H 1	Tushingham 1972: 105; plan 8	Rom (?) or Byz (?)	1 chamber; pillar-supported roof; well built arches; masonry built walls forming natural bays; stone floor	1 sarcophagus	Through roof by lifting covering slab	Sherds	Beads, 1 bronze buckle, 1 coin, 1 glass bottle, pendant (?) for an earring	Iron ring	At least 11 persons
Gerasa T 11	Fisher 1938: 566-568; figs. 44, 45; pl. CXLIII	Byz	1 chamber; originally natural cave; 11 masonry built loculi; some sealed	1 sarcophagus, 1 lead coffin	Forecourt with no steps to cave	2 lamps, 1 amphora, 3 bowls, 1 cup, storage jars, 1 plate, 3 cooking pots	Beads, 3 stands, iron rings	Not applicable	At least 1 person: 1 articulated skeleton
Hesban F.37	Davis 1978: 142, 143	ER; use through Byz	1 cave; 5 sarcophagi; plastered walls and ceiling; balat (limestone paving floor); tabun used for domestic purposes near 3rd sarcophagus; limestone shelf in back of cave	Iron nail (possible coffin)	Unblocked	Lamp	Beads, flint blade, bracelet (frag), bullet (Mod.), buttons, coin, bronze earring (frag), glass frags, iron hook, basalt millstone, broken glass ring. bronze ring, iron tools	Not applicable	At least 44 persons: 9 adults, 4 children 1 year, 33 newborn to 6 months, animal remains from domestic dwelling

Table 9.8, *continued.* Tomb Type VI.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Hesban F.38	Davis 1978: 143-145	ER; real funerary use in LR and Byz	1 cave with loculus	Not applicable	Data not available	Lamp, bowl, pot	Beads, bronze bell, bracelets, bronze brooch, buttons, coins, glass frag, bone hairpins and needle, silver hook, bronze necklace, bronze ring with cross, iron ring	Not applicable	At least 40 persons
Jebel al-Qesir	McGovern 1980: 61 (Baq'ah Valley 1977-78)	Byz	3 caves; circular and irregular elliptical in shape	Not applicable	Data not available	Diagnostic sherds	Data not available	Not applicable	Disturbed; robbed
Petra Cave 2	Horsfield and Horsfield 1939: 106, 107; fig. 11; pl. L	ER; 1st cent. B.C. and 1st cent. A.D.	1 chamber; 2 loculi; 1 sunken floor grave	Not applicable	Forecourt with steps leading down into Nabataean decorated door	Data not available	10 small metal bells and unguentarium; figurine head found in forecourt	Not applicable	At least 2 (?) persons

Type VII: Cist Tombs Partially or Fully Constructed

Type VII was of simple construction and included 29 tombs (table 9.9). Cist tombs are graves formed by constructed walls. The location of this type is limited to two sites: Dhiban and Gadara. A feature both sites have in common is that the construction of most of the tombs were related tangibly to the buildings surrounding them. At Dhiban many of the Type VII tombs were cut into the walls of the Nabataean Temple structure. In R 3, for example, three of the walls were built using stones while the fourth side used the already existing temple wall. In R 16, from Dhiban, two walls were stone built, one wall utilized the temple, and the other side was formed into a wall by the use of a sarcophagus. All the tombs at Gadara either used limestone or fieldstones for constructing tomb walls. Many of the tombs were found sealed with covering slabs or stones. Most Type VII tombs were simplistic in design and had no architectural features associated with them. They were simply a hole in the ground somewhat similar to Type Vb.

All Type VII tombs contained multiple burials. In Dhiban R 3, the minimum number of individuals (MNI) recorded within one tomb was 14 heaped in one part of the cist. The maximum number of individuals was found in R 7 which contained 20 individuals, though represented mainly by skulls. The average numbers of individuals interred in Type VII tombs ranged from three to six individuals. The count was based primarily on the number of skulls. In many cases, most of the individuals interred appeared to be secondary burials and not primary to the cist tombs.

While most Type VII tombs from Dhiban date in construction to the Byzantine period, at Gadara they date to the Late Roman. The four tombs at Umm Qeis were constructed in Late Roman with continued use in the Byzantine period.

The type of grave goods recovered were very similar to the goods in Type Va and Vb tombs. They consisted of jewelry, belt buckles, coins, cosmetic accoutrements, and glass vessels. Only two tombs contained sherds; the remainder of Type VII tombs contained no pottery items at all. The most unusual artifact uncovered from a Gadara tomb was a set of surgical instruments which may be indicative of the status of the person buried in the tomb. If it did belong to a doctor, they were not found in conjunction with other grave goods. Unfortunately, the tomb had been robbed and looted, making it impossible to reach any firm conclusion.

Table 9.9 Tomb Type VII.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Dhiban R 1	Tushingham 1972: 107, 108; pl. IX.; plan 9	Byz	Single tomb with built walls and covering slabs	Not applicable	Covering slabs, only 2 *in situ*	Data not available	Beads, bronze, glass and iron bracelets, iron torque, copper wick holder (frag)	Not applicable	At least 6 persons

Table 9.9, *continued.* Tomb Type VII.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
Dhiban R 2	Tushingham 1972: 108; pl. IX. 1; plan 9	Byz	Single tomb with built walls and covering slabs	Not applicable	Stone covering	Data not available	Beads, bronze bracelets, 2 coins, earrings, bronze rings, finger rings, bronze cross pendant, shells	Not applicable	At least 3 persons: 3 adults, 1 child
Dhiban R 3	Tushingham 1972: 108, 109; pl. IX.; plan 9	Byz	3 of the walls were stone built, one of the walls was the Nabataean temple	Iron nails	Not applicable	Data not available	Beads, bone pin fragments, bronze, iron, glass bracelets, bronze cross pendant, bronze rings, coins, glass bottle	Not applicable	At least 14 persons heaped in 1 part of tomb
Dhiban R 7	Tushingham 1972: 110; pl. VII.2; plan 9	Byz; 1 modern burial (*ca.* 1933?)	Stone built walls used podium of Nabataean temple for one wall, covering slabs over tomb	Not applicable	Covering slabs	Data not available	Beads, bronze and glass bracelets, 4 combs, 4 bronze girdles (?), 31 finger and earrings, 4 mirrors	Not applicable	At least 20 persons; mainly skulls
Dhiban R 8	Tushingham 1972: 110; pl. IX; plan 9	Byz	Tomb was constructed of stone built walls and covering slabs; floor was hard packed earth	Iron rings	Covering slabs	Data not available	Beads, bronze and iron bracelets, iron button, coin, iron cross, 1 bronze earring, iron ring	Not applicable	Number unknown; bones friable
Dhiban R 10	Tushingham 1972: 111; plan 9	Byz	Tomb was constructed of stone built walls and covering slabs; floor was hard packed earth; covering stones utilized a wall	Not applicable	Covering stones	Data not available	Beads, bronze, glass, and iron bracelets, bronze button, bronze cross pendant, iron ring, kohl bottle, unguent spoon	Not applicable	At least 10 persons, based on skull count
Dhiban R 11, R 12, R 13	Tushingham 1972: 111; plan 9	Byz	Tombs were constructed of stone built walls and covering slabs; floors were hard packed earth; covering stones utilized a wall	Not applicable	Data not available	Sherds from R 12	1 coin from R 11; R 13 contained 34 beads, 2 iron ring (frags)	Not applicable	Robbed
Dhiban R 14	Tushingham 1972: 112; pl. IX.2; plan 9	Byz	3 walls built of stone and one utilized the temple wall	Not applicable	Covering stones were worked slabs	Data not available	Beads, 4 bronze bracelets, base for kohl container (?), finger rings	Not applicable	Robbed
Dhiban R 15	Tushingham 1972: 112; plan 9	Byz	3 walls built of stone and one utilized the temple wall	Not applicable	Covering slabs undisturbed	Data not available	1 belt buckle (?), bronze coins, bronze finger or earring (frag)	Not applicable	At least 2 persons
Dhiban R 16	Tushingham 1972: 112	Byz	2 walls were stone built, one wall used sarcophagus, and fourth wall used temple	1 stone sarcophagus, palstered stone walls	Data not available	Data not available	Data not available	Not applicable	Robbed
Dhiban R 17	Tushingham 1972: 112, 113; plan 9	Byz (?)	3 walls of built stone, one wall used temple wall and most of its walls were robbed	Not applicable	Data not available	Bowl sherds (possibly intrusive from outside)	Coin, iron ring	Not applicable	Not applicable
Dhiban K 1	Tushingham 1972: 113; plan 8	Byz	Stones piled above grave	Not applicable	Data not available	Data not available	Beads, bronze and iron bracelets, bronze clamp, earring	Not applicable	Teeth
Dhiban K Grave B	Tushingham 1972: 114; plan 8	Byz	Limestone slabs laid on sides to construct walls and covering	Not applicable	Data not available	Data not available	None	Not applicable	At least 5 persons
Dhiban K Grave C	Tushingham 1972: 114; plan 8	Byz	Limestone slabs laid on sides to construct walls and covering	Not applicable	Data not available	Data not available	Beads, iron bezel, bone bottle, 1 small iron hook, kohl applicator, 1 bronze pendant	Not applicable	At least 3 persons
Dhiban K Grave D	Tushingham 1972: 114; plan 8	Byz	Limestone slabs laid on sides to construct walls and covering	Not applicable	Data not available	Data not available	Beads, coin, pendant, bronze ring	Not applicable	At least 3 persons
Gadara (Umm Qeis) T 12, 17	Weber 1988: 350, 351; fig. 1; pl. LII.2	LR and Byz	Stone lined tombs	Not applicable	Data not available	Data not available	1 chain with bronze bells, glass vessels, 1 set of surgical instruments	Not applicable	Data not available
Gadara (Umm Qeis) T 15, 19	Weber 1988: 349-352; fig. 1; pl. LII.1	LR and Byz	Stone lined tombs	Not applicable	Data not available	Data not available	Data not available	Not applicable	Double burials
Gadara (Umm Qeis) T 6	Weber 1988: 349-352; fig. 1	LR and Byz	Stone lined tombs	Large frag of colored mosiac covered tomb	Data not available	Data not available	Data not available	Not applicable	Data not available
Gadara (Umm Qeis) T 2-5, 7, 13, 14, 18	Weber 1988: 349-352; fig. 1	LR and Byz	Stone lined tombs	Not applicable	Data not available	Data not available	Data not available	Not applicable	Data not available

Type VIII: Masonry Above Ground Built Tombs

The smallest category in this survey catalog is Type VIII, with only four tombs belonging to this category (table 9.10). This type of tomb has the most variation in its architectural form. Type VIII consists of a large central chamber that was entered through a standard doorway. At Amman, the above ground tombs were a little less elaborate. The al-Quweismeh "Family Tomb," from Amman was constructed using ashlar masonry. The tomb also contained two chambers with two sunken graves in one chamber and one sarcophagus in the other. The first chamber was entered via four steps.

Type VIII tombs range in date from Early Roman through Late Roman. All had been robbed, so the common types of grave goods are not listed.

In the Harra Region in northern Jordan another Type VIII variation can be seen. The two tombs uncovered were massive cairn burials measuring up to 7.00 × 6.50 m. They were constructed to create an inner burial chamber. In the tombs were found Saifaitic inscriptions. Pottery was not found. The cairns were used for multiple interments. In T 1, worked flints and stone bowls in fragments were uncovered. Inscriptions, an arrow head, and various pieces of jewelry were uncovered in T 2. Both of these tombs were constructed in the Late Roman period.

Table 9.10 Tomb Type VIII.

Tomb Number	Reference	Date	Architectural Features	Grave Furniture and Decoration	Entrance	Pottery	Personal Objects	Ritual Objects	Burial Remains
al-Quweismeh T-1 "Family Tomb"	Khairy 1980: 51-61; figs. 1-7; pl. III	LR; 2nd-3rd cent. A.D.	2 chambers; ashlar masonry constructed building; 2 sunken graves; 1 sarcophagus in 2nd room; building contains semicircular vault	2 columns; 1 sarcophagus	4 steps lead to entryway to building	Globular vessels, sherds	1 bronze buckle	2 altars	Not applicable
Harra Region T 1	Clark 1981: 235-239; figs. 1, 2a; pl. LXVIII	LR-Byz	Basalt walls constructed around bodies with heap of stones over bodies measuring 7.0×6.5 m; stones arranged to create inner burial area	Not applicable	Not applicable	Data not available	Beads, stone bowl (frag), 2 worked flints	Not applicable	At least 2 persons: 2 adult males
Harra Region T 2	Clark 1981: 239-253; figs. 1, 2b; pls. LXVIII-LXXV	LR-Byz	Basalt walls constructed around bodies with heap of stones over bodies measuring 7.0×6.5 m; stones arranged to create chamber and then piled up and around them	Saifaitic inscriptions	Not applicable	Not applicable	1 arrow or javelin head, 2 beads, 1 stone bowl (frag) 2 bracelet, iron buckle, curved iron object, pieces of copper wire and sheet of copper, bronze cosmetic applicator, scarab	Not applicable	At least 4 persons: 2 females (1 associated with infant), 1 adult male
Gadara (Umm Qeis)	DeVries 1973: 77, 78; pls. XLVII-XLIX	Rom inscription dating to 355/356 A.D.	Mausoleum; mostly destroyed; building originally on 6.38 × 6.25 m square paltform	Possibly included stairway and inscription	Data not available	None	None	None	Data not available

Notes

[1] The author wishes to thank Lawrence T. Geraty and Øystein S. LaBianca for funds and guidance in the survey of the Tell el-'Umeiri (East) cemetery. That is where the idea of a catalog was first conceived.

[2] To keep in continuity with the tomb types in this volume, I have chosen to modify Tomb Type V (vertical shaft tombs having a rectangular shape) into subcategories which I have labelled: Va, Vb, Vc. I also have added the additional types VII and VIII to Waterhouse's six types cataloged at Hesban. These two tomb types were not found at Hesban but at other Transjordanian sites.

[3] This catalog will never be complete because of the lack of general information in the excavation reports published. This is also not an exhaustive catalog but the catalog is comprehensive enough to establish a burial typology based on architectural types and present a preliminary history of Roman and Byzantine burial customs in Jordan.

[4] One of the problems can be simply illustrated by examining the report of T 90 from the Pella excavations. The tomb was recovered intact but all that was published in the preliminary report was "three-chambered loculus tomb with glass vessel." This is one of the major reasons why some tombs from various sites including Pella were left out of the catalog.

[5] The following are age groups: Child (age 2-12); Subadult (age 13-19); Young Adult (age 20-24); Mature Adult (age 25-49); and Older Adult (age 50+).

[6] A special thanks to Hanan Azar for translating this article.

[7] All types of Hayy ed-Derbait tombs were translated by Sameh Faud Khamis and Hanan Azar.

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Appendix A

MISCELLANEOUS TOMB PROBES

Appendix A

Miscellaneous Tomb Probes

ROBBER PIT PROBE E.1 (H71)

Robber pit north of an empty tomb entrance.

Locus		Pottery Readings
1	(mixed fill)	Byz bods, Ay/Mam dom
2	(S end of pit)	No pottery
3	(N side of pit)	Ay/Mam, UD
4	(NE corner)	Ay/Mam
5	(NE under 4)	Rom?, Byz, Ay/Mam

TOMB PROBE E.5 (H74)

In anticipation of a tomb here, a number was cut for identification into the rock face at the beginning of excavation, but it turned out not to have any underground cavity and digging was soon terminated. Thus, a non-productive probe for possible tomb made E of rock face.

Locus		Pottery Readings
1	(loose fill)	LR, poss E Byz, Byz, UD
2	(soil mixed with rock)	Poss LR, Byz dom, UD

"OIL VATS" F.3 (H71)

Probe for possible tomb. What was found was an industrial complex, seemingly oil vats. The complex consisted of three vats surrounding a fourth vat, which was cut into the limestone deep below the soil level. Each of the vats was about 1.75 m in length and a little over 0.50 cm in width. The depths remained undetermined, as vats were not excavated, except the fourth vat, locus 3.

Locus		Pottery Readings
1	(topsoil)	Byz, UD
2	(gravelly, below top soil)	Byz
3	(shallow central vat)	No pottery

TOMB PROBE F.13

A cut in the rock was exposed when removing the dump north of Tomb F.5. A probe through surface soil filled with stones and large rocks failed to reveal a tomb in the vicinity.

Locus	Pottery Readings
1	Byz dom, L Byz, Ay/Mam, UD
2	I2/P, Byz

TOMB PROBE F.19 (H74)

Probe for possible tomb at and under the lip of a low cave.

Locus		Pottery Readings
1	(loose, rubbly fill soil that had backed into cave entrance)	I2/P, poss ER, LR, Byz dom, Ay/Mam, UD
2	(ash layer of a campfire)	No pottery
3	(fill soil on bedrock outside the mouth of the cave)	No pottery

TOMB PROBE F.20 (H74)

A probe was placed against an outcropped bedrock in hopes of discovering a tomb. Immediately encountered was a medium brown hard-packed soil with much root disturbance and fist-to-foot-sized rocks, sloping to 20 degrees downward to the NE. Apparently this was water laid fill from higher levels up to the modern day. All that was uncovered was a shallow cave.

Locus		Pottery Readings
1	(fill from higher levels)	Poss I2, LR, Byz, Ay/Mam mod, UD

"DEPRESSION" F.21 (H74)

A non-productive probe for possible tomb at a depression.

Locus		Pottery Readings
1	(a natural depression containing fill dirt from higher levels)	Bods: poss LR, Byz, UD

"ANIMAL OCCUPATION" F.22 (H74)

Probe at a sloping depression for possible tomb, the hard packed soil sloping slightly downward to the north apparently formed by modern animal occupation.

Locus		Pottery Readings
1	(surface soil)	Rom, Byz, Abb, Ay/Mam, UD
2	(dump layer)	No pottery

3	(natural fill layer with stones)	No pottery
4	(ashy carbonized soil near SW balk)	No pottery
5	(dung layer)	Ay/Mam, UD
6	(rocky layer apparently man-made fill layer for locus 5)	Byz, Ay/Mam, UD
7	(hard-packed soil)	Ay/Mam
8	(loose natural fill soil)	Poss Rom, prob Byz, Ay/Mam
9	(dark brown layer with clay-like surface)	Bods: Byz, UD
10	(clay-like soil)	Byz, poss Um, UD
11	(hard-packed soil)	No pottery
12	(soft clay-like soil)	No pottery
13	(hard-packed soil)	No pottery

DOMESTIC CAVE F.23 (H74)

Probe for possible tomb at the mouth of a cave and extending within the shallow cave. Apparently the cave had been utilized as a "domestic" shelter during Ummayad times.

Locus		Pottery Reading
1	(water-laid soil)	Byz, Ay/Mam, UD
2	(water-laid clay-like dirt)	Poss Byz, Um, poss Ay/Mam, UD
3	(hard-packed soil)	ER, poss LR I, Byz I, Mod
4	(occupational layer: with gravel)	Poss ER, LR, Byz, Um dom, UD
5	(hard-packed sterile layer over bedrock)	No pottery

TOMB PROBE F.24 (H76)

A possible tomb site was suspected when a probe with an iron rod indicated a deep cutout indentation within the face of a rock. Investigation showed that the site was formed by quarry activity and had not been used as a tomb.

Locus		Pottery Readings
1	(top and subsoil)	Poss I, E Byz, UD
2	(loose soil)	Rom, E Byz dom, Byz, Ay/Mam

TOMB PROBE F.25 (H76)

Unproductive probe at right angle to an upright stone which was thought to mark a possible tomb entrance.

Locus		Pottery Readings
1	(loosely packed soil)	LR, E Byz, Rom/Byz bods
2	(tightly packed soil)	LR, E Byz, UD

TOMB PROBE F.26 (H76)

Probe along an exposed rock ledge, anticipating a shaft entrance.

Locus		Pottery Readings
1	(soil mixed with field stones)	Byz, Ay/Mam bods
2	(tightly packed soil)	LR, Byz, Ay/Mam

TOMB PROBE F.29 (H76)

Probe along a rock ledge, anticipating a tomb. The ledge turned out to be an indentation of a quarry.

Locus		Pottery Readings
1	(loosely packed soil)	Prob E Byz bods
2	(loosely packed subsoil)	I2/P, E Byz

TOMB PROBE F.33 (H76)

Unproductive probe for a possible tomb along a stone that lay beneath a shallow rectangular cut.

Locus		Pottery Readings
1	(top field soil)	Byz, Ay
2	(packed soil along bedrock edge)	E Byz, UD
3	(subsoil under locus 2)	Poss LR, E Byz dom

DOMESTIC CAVE F.34 (H76)

In an effort to learn more about burial patterns associated with the Tell Hesban occupational history (especially the Iron Age), exploration of four caves was undertaken. For the first time access was permitted to the caves in a privately owned orchard immediately below and west of Area C.

F.34, on the lower west slope of Tell Hesban, was a rather large cave with some ceiling alteration in the form of arching at the back. A one meter wide probe trench was sunk in the cave on a line perpendicular to the entrance face and the same procedure was followed outside the entrance in order to get an accurate stratigraphic profile of the cave's history. It appeared that the cave was used largely for domestic purposes. Its earliest use in the Late Roman period was evidenced by concentrations of sherds in Locus 4d, a layer immediately above bedrock. The cave was extensively used in the Early Byzantine III-IV periods, during which time a large circular cut was made in the bedrock. The southeast sector of the trench exposed only a portion of this circular cut.

The third phase of the cave's history, the Late Byzantine period, yielded significant ceramic materials;

a number of "wasters" indicated that pottery making was carried on at Tell Hesban, probably in the immediate region.

The cave saw very heavy use in the Ayyubid/Mamluk period. Objects from this phase included a partially broken lamp, an iron ring, and glass fragments. The bones of sheep and goats were also evident.

In modern times the cave has been used largely as an animal pen or as an occasional shelter.

Locus		Pottery Readings
Cave Entrance		
1	(top soil near entrance)	Few LR, Byz dom, 3 Ay/Mam
2	(subcompact soil)	I2/P, ER, LR, E Byz, Byz, Ay/Mam
3	(stones mixed with soil)	LR, Byz, AY/Mam
Cave Interior		
4A	(interior near cave opening)	LR, E Byz III-IV, Byz, Ay/Mam
4B	(light brown clay stratum)	Byz, Ay/Mam
4C	(white *huwwar* layer)	LR, LR/Byz, E Byz IV, L Byz I
4D	(layer of clay)	LR, E Byz, E Byz IV, L Byz
4E	(limestone bedrock)	No pottery

CAVE-TOMB PROBE F.35 (H76)

Probe beneath a stone ledge thought to be the top lip of a possible cave containing a tomb.

Locus		Pottery Readings
1	(surface soil under stone ledge)	I2/P, ER, LR, E Byz, Byz, Ay/Mam dom

Bone Analysis

Sheep/goat	5
Cattle	9
Horse	4
Lrg mammal	8
UD	13

CAVE-TOMB PROBE F.36 (H76)

Probe of what appeared to be the suggestion of a cave entrance.

Locus		Pottery Readings
1	(dirt mixed with fist-sized rocks)	LR, Byz, Ay/Mam
2	(lightly packed soil)	I1, LR 1, Byz, Ay/Mam

Bone Analysis (Locus 1)

Sheep/goat	1
Donkey	1
Lrg mammal	2
UD	3

TOMB PROBE F.39 (H76)

Probe for possible tomb at a rock ledge with a mark in it; it turned out to be a quarry site.

Locus		Pottery Readings
1	(reddish-brown soil layer)	LR, E Byz, L Byz, Ay/Mam, 1 mod

"CAVE SHELTER" F.41 (H76)

A large cave located northeast of Tell Hesban had several small arched chambers cut into the back of its ceiling, not unlike those of F.37 and F.38. A 1.00 m wide probe trench, cut at right angles to the entrance face and continued to the rear of the cave, produced no evidence of burial activity. The cave was apparently utilized only for limited domestic purposes as a shelter in the Iron Age II period and through the Early Roman, Early Byzantine, and Ayyubid/Mamluk periods. The lack of domestic ware indicated that it served more as a temporary shelter or animal pen than for extended human occupation.

Locus		Pottery Readings
Cave Interior		
1	(probe top surface)	ER, Um, Ay/Mam
2	(subsurface)	Rom, Ay/Mam
3	(W end of probe trench)	Rom/Byz, Ay/Mam
4	(25 cm below surface)	Few Byz, Ay/Mam
5	(pit at west end)	No pottery
6	(sandy soil in pit)	No pottery
7	(E end of pit)	ER, Byz, Ay/Mam
8	(E end of probe trench)	No pottery
9	(crack in bedrock within probe trench)	Rom/Byz
10	(bedrock E end)	I2/P, ER, E Byz, Ay/Mam
11	(bedrock)	No pottery

Appendix B

OBJECTS LIST

Appendix B

Objects List

Tomb Name (Year)

Locus #	Object	Object #	Accession #
E.1 Robber pit probe (H71)			
4	iron nail	337	71.032
E.2 Tomb (H71 & H74)			
3	coin	unreg	
E.3 Tomb (H71)			
No objects found			
E.4 Cave (H74)			
3	shell bead	1909	74.242
4	bronze coin (Ayyubid: Al-'Adil, A.D. 1196-1218)	1738	74.084
5	clay bead	unreg	
	glass frag	unreg	
E.5 Tomb (H74)			
1	glass frag	unreg	
2	glass frag	unreg	
E.6 Tomb (H74)			
4	Herodian type double-nozzle lamp	1880	DAJ[2]
9	2 ER bowls	1937, 1997	74.263, 74.315
10	1 tess	unreg	
F.1 Tomb (H71)			
1c	bronze ring	958	71.361
	Herodian lamp frag	1239	71.805
1g	LR jug (frags)	1242	71.808
2	2 iron bracelet frags	999, 1163	71.393, 71.477
	ER strainer juglet	1040	71.643
	3 ER bowls (frags)	1109, 1243, 1247	71.526, 71.809, 71.813
	2 LR bowls (frag)	1245, 1248	71.811, 71.814
	LR juglet frags	1241	71.807
	ceramic pottery	1057	71.418
	ivory hairpin frag	996	71.391
	silver ring	997	DAJ
	inlay wood frags	998	71.392
	2 glass bracelets	1000, 1157	DAJ, DAJ
	2 bronze bracelets	1159, 1164	71.474, 71.478
	3 ivory hair needle frags	1041, 1160, 1161	71.406, 71.428, 71.475
	2 glass buttons	1058, 1165	71.419, DAJ
	iron ring frag	1059	71.420
	ivory pinhead frag	1060	71.428
	bronze bracelet clasp	1061	71.429
	gold earring frag	1158	71.473
	5 glass beads,1 UD	1162, 1167, 1198, 848	71.476, 71.480, 71.501, 71.791
	glass (?) button frag	1166	71.479
	tear bottle base	1237	71.792
4	cooking pot frag	1249	71.815
	wood object with 2 iron nails	1062	71.403
5	faience bead	1199	71.502
	bronze ring on finger bone	1200	71.668
	ER storage jar frags	1250	71.816
	ER bowl	1246	71.812
6	ER bowl frags	1244	71.810
7	bronze ring	1220	71.519
8	bronze bracelet	1221	71.520
	bronze bell frag	1222	71.521
	Herodian lamp frag	1240	71.806
9	glass bead	1208	71.509
F.3 Oil Vats (H71)			
1	1 tess	unreg	
F.4 Tomb (H71)			
4	2 pairs of gold earrings	588	DAJ
	hair ornament	unreg	
	bronze clip	431	71.095
	2 LR bronze fibulae	543, 593	DAJ, 71.656
	ivory needle frag	544	71.122
	iron bracelet frags	587	71.149
	bronze lunate earring frag	559	71.130
	bronze earring	589	71.150
	glass frags	unreg	
	2 faience beads	590, 591	71.748, 71.749
	iron tacks	586	Lost
5	bronze bracelet	592	71.164
	glass frags	unreg	
6	bronze Roman incense shovel	752	DAJ
	2 gold earrings	750, 753	DAJ, DAJ
	bronze tube	755	71.232
	bronze ring	751	71.230
	2 glass beads	757, 758	71.778, 71.234
	part of an iron key	756	71.233
	2 iron chunks	unreg	
7	3 glass bracelets	759, 760, 761	71.661, 71.787, DAJ
	bronze tube (?)	762	71.235
F.5 Tomb (H71) October 16, 1997			
1	bronze coin (obliterated)	545	71.803
2	4 LR lamps	954, 957, unreg	71.639, DAJ
	2 LR 2-handled jars	955, 956	DAJ, 71.640
	LR bowl	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
3	bronze coin or medallion (LR: Philip I, A.D. 243-249)	1224	DAJ
	bronze coin (LR: Constantine II, A.D. 337-340); both coins fromTrough 6	1225	71.633
	many small beads	unreg	

F.6 Tomb (H71)

Locus #	Object	Object #	Accession #
1	6 tess	unreg	
2	cosmetic applicator	596	DAJ
	ER I-II cooking pot	598	71.634
	iron spoon (?)	607	71.156
	iron bracelet frags	608	71.157
	2 parts of lead decorator object	609	71.158
	ER terra sigillata jug	610	71.796
	ER clay bowl frags	611	71.159
	baked clay bowl	612	71.635
	clay lamp frag	613	71.168
	Herodian lamp	614	71.636
	4 glass beads	614a, 617, 618, 619	71.750, 71.751, 71.752, 71.169
	stone button	615	DAJ
	bone button	620	71.170
	bronze coin (UD)	616	Lost card
	bone hair needle frag	621	71.171
	bronze bracelet	641	71.185
	bone needle frag (4)	642, 643, 644, 645	71.186, 71.187, 71.188, 71.189
	small iron nail	597	71.151
	ivory finger ring	682	71.206
	iron ring	683	71.207
	glass vase	729	DAJ
3	shell cosmetic box with ivory lid representing the body of a swan	675	DAJ
	ivory wing and wing frag of "swan"	676	DAJ
	ivory tail of "swan"	677	DAJ
	bronze spatula	685	71.209
	glass bead	686	Lost
	glass button (?)	687	71.210
	ivory gaming piece	688	71.211
	3 glass vases	732, 734, 736	DAJ, DAJ, DAJ
	1 glass jar	733	71.793
	1 glass bottle	735	71.659
4	basalt tripod mortar (broken in two; reused as grinding stones	633, 634	71.182, DAJ
	shell	672	71.262
	glass bead	681	Lost
5	2 bronze bracelets	635, 667	71.657, 71.658
	1 amber glass bracelet	748	DAJ
	carnelian cameo	649	71.832
	bead	680	71.754
	bronze ring	679	71.205
	2 iron rings	747	71.228
	bronze garment needle	668	71.523
	alabaster cosmetic palette with shell lid	669	DAJ
	2 ER gold earring frags	670	DAJ
	bronze earring frag	678	71.204
	glass tear bottle (top and side)	726	DAJ
	ivory handle of cosmetic box in the shape of a swan's neck and head	671	DAJ
	glass bowl	727	71.776
	8 glass vases	728, 737, 738, 739, 741, 742, 743, 744	DAJ, 71.223, 71.224,71.660 DAJ, DAJ, DAJ, 71.794
	glass juglet neck	740	71.225
	(?) bronze ornament (two pieces)	745	71.226
	iron nail	746	71.227
	bronze necklace	749	71.229
	2 tess	unreg	
6	frit amulet pendant	622	71.172
	2 bronze hair needles	623, 624	DAJ, 71.173
	8 bone needle frag	625, 626 627, 628 629, 630 631, 632	71.174, 71.175 71.176, 71.177 71.178, 71.179 71.180, 71.181
	1 tess	unreg	
7	bronze coin (provincial Roman: Aelia Capitolina; Marcus Auelius and Lucius Verus, A.D. 161-169)	636	71.654
	bronze coin (2nd-3rd centuries A.D.)	637	71.575
8	iron nail	638	71.183
	gold earring	639	DAJ
9	Herodian lamp (incomplete)	unreg	
10	bronze bracelet frags	640	71.184
11	2 glass rods	673, 684	DAJ, 71.208
	bronze spatula	674	DAJ
	2 glass vases	730, 731	71.777, DAJ
12	2 bronze bracelets	690, 714	71.212, 71.217
	5 tiny glass beads	691	71.213
	iron or bronze needle(?)	692	71.525
	2 gold earrings	698, 699	DAJ, DAJ
	16 glass beads	693, 694 695, 696 697, 700 701, 702 703, 707 708, 709 710, 711 712, 713	71.756, 71.757 71.758, 71.759 71.760, 71.761 71.762, 71.214 71.763, 71.765 71.766, 71.767 71.768, 71.769 71.216, 71.770
	bronze mirror	705	71.215
	ER I-II cooking pot	706	71.637
	bronze finger ring	715	71.218
	glass juglet	736A	DAJ
13	6 glass beads	704, 716 717, 722 723, 724	71.764, 71.771 71.772, 71.221 71.774, 71.775
	iron nail	718	71.219
	2 scarab faience beads	719, 720	DAJ, 71.773
	glass vase frags (base)	721	74.220
	2 bone bracelet frags	725, 754	71.222, 71.231
14	glass bead	689	71.755
	remains of an iron ring	683	71.207
15	Herodian lamp	594	DAJ

Tomb Name (Year)

Locus #	Object	Object #	Accession #
16	Herodian lamp	595	DAJ

F.7 Tomb (H71&76)

No objects found

F.8 Tomb (H71)

6	stone button	959	71.362
	bronze ring	960	71.363
8	glass bead	961	71.364
	1 faience bead	962	71.365
	bronze ring	963	71.366
	seeds	unreg	

F.9 Tomb (H71)

2	iron ring	874	71.311
	iron tacks	unreg	
4	glass bracelet frag	unreg	
	iron ring	unreg	

F.10 Tomb (H71)

2	2 LR vases	1063, 1064	71.795, DAJ
	LR jug	1075	71.645
	bronze bracelet	1065	71.431
	LR 6-spout lamp	1066	71.432
4	LR bronze bangle	1074	71.438
6	LR juglet	unreg	
	ivory pinhead	1067	71.822
	bronze bell and iron clapper	1068	71.664
	LI2 bronze bracelet	1069	71.433
	3 bronze necklace frags	1070	71.434
	bronze buckle	1071	71.435
	LR bronze and iron bracelet frags	1072	71.436
	stone spindle whorl	1073	71.437
	2 glass vases	unreg	
7	iron ring	871	71.309
	bronze buckle	872	71.663
	iron bracelet frags	873	71.310
8	LR juglet	1007	71.642
	alabaster vessel frag	870	71.842
	bronze spatula	1001	DAJ
	gold earring	1002	DAJ
	glass beads	1003	71.394
	iron belt buckle	1004	71.395
	2 iron bracelets	1005, 1006	71.396, 71.397

F.11A & 11B Tomb (H73)

2	LR oil or perfume vase	1473	73.0197

F.12 Tomb (H73)

2	frit mold face (poor condition) could be mounted on an earring	1344	DAJ
3	5 metal objects	unreg	
4	wood bead	1349	73.0093
	iron bracelet frag	1360	73.0101
	4 iron nail heads	1376	73.0112
	small bronze link	1377	73.0113
	1 small lepton-type LR coin	unreg	
	a few tess	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
5	bronze oval-shaped brooch with black polished stone in center	1361	DAJ
	glass bead	1362	73.0102
	2 iron and bronze bracelet frags	1363	73.0103
	bronze bracelet	1380	73.0116
	3 lepton-type LR coins	unreg	
6	iron bracelet	1379	73.0115
	LR lamp (restored)	1346	DAJ
	a few tess	unreg	

F.14 Tomb (H73)

1	bronze earring	1378	73.0114
	bronze bracelet	1397	73.0131
3	bronze earring frag	1395	73.0129
4	3 tess	unreg	
5	4 tess	unreg	
6	7 tess	unreg	
7	2 LR/Byz pots (restored)	1476, 1477	73.0199, 73.0200
	4 tess	unreg	
8	large bronze surgical instrument	1457	73.0184
	Byz bowl	1569	DAJ
	11 tess	unreg	
9	crushed Byz bowl	1570	73.0276

F.15 Tomb (H73)

No objects found

F.16 Tomb (H73)

3	bronze obliterated coin	unreg	73.0243
4	bronze coin (E Byz: Honorius A.D. 395-423)	1529	
5	5 bronze bracelets	1552, 1553 1493, 1513 1514	73.0263, 73.0264 73.0212, 73.0228 73.0229
	1 iron bracelet	1551	73.0262
	2 glass vessels (one blue, one green-gold)	1535, 1536	73.0248, DAJ
	LR string-base juglet	1582	DAJ
	bronze coin (LR: obliterated, *ca.* A.D. 375-392)	1541	73.0252
	3 ornamental bone pins	1504, 1505 1508	DAJ, 73.0224 73.0224
	bronze ring	unreg	
6	3 coins	unreg	
	glass bead	1484	73.0205
	bronze pin	1492	73.0211
	4 Rom glass pendants	1480, 1481 1482, 1483	DAJ, DAJ 73.0203, 73.0204
	child's bronze bracelet	1495	73.0214
	bronze ring	1496	73.0215

F.17 Tomb (H73)

2	hooked nail	1424	73.0156

F.18 Tomb (H73)

1	20 tess	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
4	ornamental shell pierced as pendant	1499	73.0218
	bronze tag	1500	73.0219
	1 tess	unreg	
5	2 bone needles	1512	73.0227
6	parts of a stone bead necklace	1507	73.0223
	6 tess	unreg	
7	parts of a stone bead necklace	1507	73.0223
	7 tess	unreg	
8	bronze ring	1597	73.0292
	bronze jar lid	1619	73.0310
	6 bronze coins (Nabataean: Aretas IV, 9 B.C.-A.D. 40); coins discovered at entrance of loculus 2	1650, 1651 1652,1653 1654, 1655	73.0332, 73.0333 73.0334, DAJ DAJ, 73.0335
	Herodian lamp	1578	73.0281
	glass vase	1580	73.0283
	ER pot	1586	DAJ
	LR bowl	1587	73.0286
	tear vial	1567	73.0275
	LR painted cup	1588	DAJ
	bronze pendant	1606	73.0301
	1 tess	unreg	
9	mended ER cooking pot containing human bones	unreg	
11	gold earring	1534	73.0247
	2 bone needles	1512	73.0227
13	bronze ring	1554	73.0265
	bronze bell	1555	73.0266
	3 glass beads	1558, 1559	73.0268, 73.0269
	4 faience beads	1556, 1557 1560	DAJ, 73.0267 73.0270
	glass vial	1566	DAJ
	ER cooking pot	1573	DAJ
	LR pottery vial	1583	73.0285
	Byz ceramic pot	1571	73.0277
14	gold earring	1562	73.0272
15	ER pot (containing infant bones)	1574	73.0278
	LR cup	1575	73.0279
16	LR lamp	1577	73.0280
	glass vase	1568	DAJ
17	gold earring	1585	DAJ
18	1 bone needle; 2 bone toothpicks	1615	73.0306
19	bone needles, hairpins	1617	73.0308
	metal objects	unreg	
20	LR cooking pot	1572	DAJ
	small metal object	unreg	
21	glass vase	1537	DAJ
	ER lamp	1590	73.0287
	golden half moon earring	1592	DAJ
	3 stone spindle whorls	1596	73.0291
	bronze surgical instruments	1604	73.0299
	bronze bell	1605	73.0300
	2 bone hairpins	1608	73.0302
	2 bone needles	1607	DAJ
22	2 glass vase frags	1612, 1613	73.0304, 73.0305

Tomb Name (Year)

Locus #	Object	Object #	Accession #
	1 bone needle	1616	73.0307
	2 ornamental hairpins	1616	73.0307
	bronze surgical instruments	1621	73.0312
23	metal clumps	unreg	
	metal nail	unreg	
	6 tess	unreg	
24	gold earring	1562	73.0272
	glass vase	1565	73.0274
	Byz pedestal lamp	1581	73.0284
25	1 tess	unreg	
27	1 tess	unreg	
29	2 LR lamps	1609, 1610	DAJ, 73.0303

F.19 Tomb Probe (H74)

1	flint	1801	74.142
	glass frags	unreg	

F.20 Tomb Probe (H74)

No objects found

F.21 Tomb Probe (H74)

No objects found

F.22 Tomb Probe (H74)

4	square cut piece of wood	unreg	
5	bronze bracelet frag	1835	74.173
8	iron knife blade	1939	74.265

F.23 Cave/Tomb Probe (H74)

1	iron hook	1958	74.283
	glass bead (?)	unreg	
	worked stone	unreg	

F.24 Tomb Probe (H76)

No objects found

F.25 Tomb Probe (H76)

1	glass bead	unreg	
2	glass frag	unreg	

F.26 Tomb Probe (H76)

No objects found

F.27 Tomb (H76)

1	Mod bullet	2224	76.048
5	Mod button	2243	76.066
6	glass bracelet frag	2255	76.077
	coin	unreg	
7	bronzeware button	2346	76.153
	bone pin frags	2352	76.157
	2 bone needles	2344, 2345	76.151, 76.152
	ivory mirror handle	2343	DAJ
	Byz lamp frag	2412	76.210
	iron frag	unreg	
	glass frag	unreg	
8B	neck, handle and mouth of glass vessel	2390	76.190
	2 bronze bracelets	2396, 2461	76.196, 76.253
	bronze wire	2395	76.195
	frag of basalt bowl	2745	76.503
	pottery plate	2734	76.493
	coin	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
	bronze earring frag	2457	76.249
9A	copper bracelet	2496	76.284
	spindle whorl	2492	76.280
	bronze spatula	2491	DAJ
13	gold earring	2554	DAJ
	iron bracelet frag	2562	76.340
	2 bone needles	2560, 2557	76.338, 76.335
	iron nail	2605	76.379
22	flint scraper	2635	76.407
23	bead	2684	76.446
	2 glass beads	2685	76.447
	point of a bone pin	2683	76.445
	4 bone hairpin frags	2788	76.538
	2 bone hairpins	2779, 2787	DAJ, DAJ
	2 bone hairpin rings	2785, 2786	76.536, 76.537
	iron bracelet frag	2680	76.442
24	bone pin frag	2690	76.452
	iron frags	unreg	
25	locking hook of cosmetic box	2692	76.454
	bronze wire bracelet	2693	76.455

F.28 Tomb (H76)

11	gaming piece (lost in washing)	unreg	
15	bronze brooch	2424	76.220
	glass vase	2408	76.207
	olive pit	unreg	
	metal frag	unreg	
19	glass frag	unreg	
	UD coin	unreg	
20	glass piece	unreg	
	glass piece	unreg	
23	bead	unreg	

F.29 Tomb Probe (H76)

No objects found

F.30 Tomb (H76)

3	2 coins	unreg	
	glass frags	unreg	
	iron tag	2438	76.234
	iron bracelet frags	2425, 2426	76.221, 76.222
		2427	76.223
	partial bronze earring	2450	76.244
	shell pendant	2451	76.245
	iron ring	2538	76.322
	5 parts of iron bracelet and rings	2550	76.332
	bronze fishhook	2556	76.334
	3 glass beads	2448, 2645	76.242, 76.417
	bronze earring	2449	76.243
	bronze bracelet	2447	76.241

F.31 Tomb (H76)

3	glass frag	unreg	
5	glass frag	unreg	
7	glass and metal frags	unreg	
8	Herodian lamp	unreg	
	alabaster bowl frag	2411	DAJ
	glass vase	2409	76.208
	ER 4-handle cooking pot	2555	DAJ
	ER strainer juglet from Nabataea	2540	DAJ

Tomb Name (Year)

Locus #	Object	Object #	Accession #
	2 bone spindle whorls	2537, 2740	76.321, 76.321
	2 stone spindle whorls	2536, 2515	76.320, 76.300
	Hematite spindle whorl	2505	76.293
	3 ivory decorated pin frags	2716	76.477
	ivory ring frag	2494	76.282
	ivory applicator	2495	76.283
	ER infants silver bracelet	2539	76.323
	6 frags of iron bracelets	2549	76.331
	bronze ring	2516	76.301
	bronze ring with incised inset amethyst	2535	76.319
	bronze rod	2546	76.328
	Egyptian scarab (19th or 20th dynasty: 1320-1085 B.C.)	2525	DAJ
	metal frags	unreg	
9	glass teardrop pendant	2490	76.279
	glass bead	2455	76.247
	coin	unreg	
10	1 tess	unreg	
	iron needle	2638	76.410
	glass frag	unreg	
11	bronze coin (Um: A.D. 661-750)	2592	76.366
	teardrop quartz amulet	2489	DAJ
	glass frags	unreg	
	2 coins	unreg	
12	glass frag	unreg	
13	bronze coin (LR: Constantius II A.D. 354-361)	2665	76.431
	3 Herodian lamps (below lamp niche)	2763, 2764 2765	76.518, 76.519 76.520
	worked flint	2775	76.528
	glass and metal frags	unreg	
	1 tess	unreg	
14	bronze buckle	2552	76.333
16	neck of Roman glass vessel	2799	76.549
20	metal tacks	unreg	
	glass frag	unreg	
21	bronze coin (LR Constans I, A.D. 337-346)	2874	76.614
	2 bronze bracelets	2751, 2773	76.507, 76.527
	2 tess	unreg	
22	bronze ring	unreg	
23	bronze brooch	2794	76.544
	metal tacks	unreg	
24	bronze buckle	unreg	
	worked flint blade	unreg	
27	bronze ring broche	unreg	
	1 tess	unreg	
29	LR I-II little bowl (pot)	unreg	
31	flint	2856	76.599

F.33 Tomb Probe (H76)

No objects found

F.34 Domestic Cave (H76)

2	glass frag	unreg	
	iron nail	unreg	
	iron frag	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
	shell casing for gun	unreg	
4A	glass frag	unreg	
	iron ring	unreg	
	iron frag	unreg	
4B	Mamluk lamp (partially broken)	2642	76.414
	glass piece	unreg	
	coin	unreg	
	clay pottery object	2732	76.491
	iron slag	unreg	
4C	glass rim	unreg	
	glass handle	unreg	
4D	bronze coin LR: Valens, A.D. 364-378)	2666	76.432
	glass frag	unreg	

F.35 Cave-Tomb Probe (H76)

1	decorated ceramic UD object	2582	76.358

F.36 Cave-Tomb Probe (H76)

1	Egyptian turquoise porcelain frag	unreg	
	5 tess	unreg	

F.37 Cave with Sarcophagi (H76)

1	basalt lower millstone	2628	HMS
	iron lock frag	2623	76.396
	iron tool	unreg	
	1 tess	unreg	
2	glass frags	unreg	
	iron tool	unreg	
5	half of glass vase frag	unreg	
	iron frags	unreg	
6	Byz lamp	2923	76.659
	3 glass beads	2908	76.646
	5 tess	unreg	
8	glass frags	unreg	
	bead	unreg	
	2 Ay/Mam glass beads	2805	76.552
	button (?)	unreg	
	bronze bullet (Mod)	2897	76.636
	bottom half of a Byz lamp	2924	76.660
15	glass frags	unreg	
	shell	unreg	
	black button	unreg	
	iron hook	unreg	
	iron nail	unreg	
18	coin	unreg	
	flint blade frag	2914	76.651
	iron bracelet frags	2915	76.652
	2 bone button frags	2916	76.653
	bronze earring frag	2918	76.655
	2 glass beads	2917	76.654
	bronze ring (square)	2919	76.656
	5 tess	unreg	
22	broken glass ring	2907	76.645

F.38 Cave with Loculus (H76)

1	glass frag	unreg	
2	iron ring	2639	76.411
	2 beads	2631, 2689	76.403, 76.451
	bone decorated inlay for buttons	2632	76.404
	crystal (for a ring?)	2630	76.402
3	3 bone hairpins	2752, 2802 2888	76.508, DAJ, 76.627
	bone needle	2748	76.504
	4 bronze rings	2790, 2810 2903	76.540, 76.556 76.641
	iron frags of 4 rings	2904	76.642
	bronze ring with cross	2801	76.550
	6 glass beads	2817, 2869 2870, 2895	76.563, 76.610 76.611, 76.634
	bone (?) bracelet links	2749, 2818 2858, 2861	76.505, 76.564 76.601, 76.604
	iron chain link	2809	76.555
	iron ring	2854	76.597
	bronze bell	2857	76.600
	glass bracelet	2860	76.603
	bronze brooch frag	2902	DAJ
	LR I-II lamp	2922	76.658
	LR I-II bowl	2925	76.661
	LR I-II pot	unreg	
10	bronze wire bracelet	2853	76.596
	coin	unreg	
	metal piece	unreg	
11	iron ring frag	2906	76.644
	bone needle frag	2887	76.626
	glass bead	2909	76.647
	glass bottle neck	unreg	
	glass frags	unreg	
12	silver hook for jewelry attachment	2900	76.639
	bronze necklace with pendant	2901	76.640
	iron ring frag	2905	76.643

F.39 Tomb Probe (H76)

1	glass frags	unreg	

F.40 Tomb (H76)

1	1 tess	unreg	
3	bead	unreg	
	glass frags	unreg	
4	bones	unreg	
	glass and metal frags	unreg	
5	metal frag	unreg	
6	glass frag	unreg	
7	glass frag	unreg	
8	bones	unreg	
	glass frags	unreg	
9	bones	unreg	
	seed	unreg	

F.41 Cave Shelter (H76)

4	bone object (?)	2803	DAJ
	basalt brick	unreg	
	1 tess	unreg	

G.10 Tomb (H74)

1	faience bead	2037	74.352
	Herodian lamp	unreg	
2	gold earring	1970	DAJ
3	metal and glass frags	unreg	
8	Roman bronze fibula	2040	DAJ
10	metal and glass frags	unreg	
13	iron nail	unreg	

Tomb Name (Year)

Locus #	Object	Object #	Accession #
14	bronze coin (Nabataean: Rabbel II, A.D. 71-106)	2101	74.408
16	ivory pin frag	2082	74.392
17	Herodian lamp	2098	74.405
	stone spindle whorl	2076	74.388
19	5 indistinguishable beads	2069	74.381
	glass bottle	2080	74.391
	iron nail	2088	74.396
	2 Herodian lamps	2097, 2099	74.404, 74.406

Tomb Name (Year)

Locus #	Object	Object #	Accession #
K.1 Tomb (H76)			
4	bronze coin (Mamluk, A.D. 1250-1516)	2879	76.618
	2 parts of a glass bracelet	2852	76.595
K.2 Tomb (H76)			
3	anthropomorphic (stylized female form) Byz bronze bottle	2800	DAJ

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