

Akeldama repudiation of Turin Shroud omits evidence from the Judean Desert

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Abstract

The claim by noted British and Israeli archaeologists that shroud fragments recently excavated at the Akadelma tombs site in Jerusalem disprove the authenticity of the Turin Shroud is shown to be false on the basis of ancient textile evidence from the Judean Desert and elsewhere. In addition, the frequent criticism by skeptics that the size of the Shroud is too large to have been produced on first-century looms is conclusively refuted.

Keywords: Akadelma, cave, tomb, textile.

1. A FALSE COMPARISON

On December 17, 2009, the world press erupted with new denunciations of the Shroud of Turin [1].

“Shroud of Turin Not Jesus's, Tomb Discovery Suggests,” read the headline in *National Geographic News*. “The newfound shroud was simply woven linen and wool textiles (....) The Shroud of Turin, by contrast, is made of a single textile woven in a complex twill pattern, a type of cloth not known to have been available in the region until medieval times, [archaeologist Shimon] Gibson said.” “Assuming the new shroud typifies those used in Jerusalem during the time of Jesus, the researchers maintain that the Shroud of Turin could not have originated in the city” [2].

“There have now been only two cases of textiles discovered in Jewish burials from this period,” said archaeologist Amos Kloner of Bar Ilan University. “And both appear to contradict the idea that the Shroud of Turin is from Jesus-era Jerusalem” [3].

The *Daily Mail*: “Archaeologists have discovered the first known burial shroud in Jerusalem from the time of Christ's crucifixion - and say it casts serious doubt on the claimed authenticity of the Turin Shroud.... It was made with a simple two-way weave - not the twill weave used on the Turin Shroud, which textile experts say was introduced more than 1,000 years after Christ lived” [4].

This type of “reporting” was based on one research article, “Molecular Exploration of the First-Century *Tomb of the Shroud* in Akadelma, Jerusalem” [5]. The article never referred to the Shroud of Turin, nor did the concurrent news release from The Hebrew University [6]. Probably this discovery of shroud fragments would not have garnered such attention if the popular press had not connected it with the Turin Shroud.

2. DISCOVERY

The Akadelma shroud fragments were found entirely by chance, not unusual in the realm of archaeological discovery. As Professor Shimon Gibson describes it [7] “It was during an excursion I made in 2000 with a colleague, James Tabor, and some of his students to the well known ancient cemetery of Akeldama situated in the lower Hinnon Valley. (....) One of the students drew our attention to... broken stone ossuaries lying scattered about outside a tomb entrance...” They found it was a fresh break-in, with destruction and plunder.

“It was while clambering around in the lower chamber of the cave that I noticed the blackish remains of what looked like a shroud, mingled with a layer of fragmentary human remains, in one of the side loculi. (....) I immediately realized that a relatively well preserved burial shroud in a first-century tomb in Jerusalem would be a unique find” [8].



Figure 1. Wool textile fragment from Akeldama, radiocarbon dated to 50 B.C.E. - 95 C.E.

3. ATYPICAL OF JEWISH BURIAL CUSTOMS

The tomb is said to have all the typical features of first-century tombs in Jerusalem, except for one striking feature. This and other burials in the cave tomb, later found to contain members of the same family, were sealed with hard white sealing plaster – “quite rare,” according to Gibson [9]. White plaster around the edges of the openings of several adjacent loculi clearly indicates that they also were originally sealed shut. The sealing plaster indicates that the family had not intended the customary secondary burials in ossuaries, which in fact did not take place. These were atypical burials, differing from what is known to have been usual in first-century Jewish practice.

Subsequent molecular DNA analysis determined that the remains were of an adult male who had been infected with both leprosy and tuberculosis. Tuberculosis was most likely the cause of death. Mitochondrial DNA analysis showed that this was definitely a family tomb. Three other tomb occupants, two of whom were infants, were also shown to have suffered from tuberculosis. It is reasonable to conclude that the reason for the atypical, sealed burials was fear of contamination.

4. THE BURIAL TEXTILES

A sample of textile from the tomb was tested by AMS radiocarbon dating at the University of Arizona. It was reported to reveal “without question that the shroud was from the beginning of the first century C.E.” Some fragments were determined to be of wool, either of sheep or goat hair. Others from the head area, the largest of which “was about 16 cm. in size,” were of plant origin, probably flax. Since various fragments of both groups, plant and wool, varied according to S or Z twist, it appears that the wrappings were composed of not two, but at a minimum four pieces of cloth. Thus it was not a “shroud” at all. Probably, the man was buried in various pieces of his clothing, as there is historical evidence in rabbinic sources as well as clear archaeological evidence for burial in multiple garments of clothing [10].

The assumption by Gibson, Kloner and others that the burial textiles from the “tomb of the shroud” at Akeldama typify those used in Jerusalem during the first century is over-reaching, without foundation and contradictory to abundant archaeological evidence. Any attempt to extrapolate from these fragments alone, out of no doubt many thousands of burial cloths that did not survive, that all must have been of multiple pieces, and that all must have shared the same type of weave, and therefore any burial textiles differing from these fragments cannot be authentic, is statistically invalid.

Although these archaeologists have been careful to stipulate burial textiles “from Jerusalem,” abundant evidence from ancient burial cloths from excavated sites in the Judean Desert and elsewhere contradicts their claim that the Turin Shroud differs remarkably from other documented burial cloths. Twill-weave textiles, shroud fragments, and intact or nearly intact shrouds have been excavated at various sites.

5. CAVE OF THE WARRIOR

The Cave of the Warrior, so-called, just two miles northwest of Jericho, is a small narrow fissure in a cliff. Owing to its small dimensions, it could never have been used for habitation. It was found by Israeli archeologists in 1993 during a search for additional Dead Sea Scrolls near Wadi el- Makkukah [11]. Were it not for the chance discovery of a Hasmonean coin near the entrance, it is unlikely that the cave would have ever been found and excavated. Another accidental discovery, this time of a 6,000-year-old burial.

Against the background of relatively plain and fragmentary cloth remains such as those from Akeldama, the textiles from this nobleman’s burial are unique both aesthetically and technologically. Three separate textiles comprise the bundle that was found along with sandals, mats, a wooden bowl, a staff and the skeletal remains. When the bundle was opened, conservators discovered a long, narrow sash with an intricately woven fringe, a rectangular cloth, presumably some sort of kilt, and a



Figure 2. Calcholithic linen shroud *ca.* 4000 B.C., 7 m. × 2 m. (22' 11" x 6' 6").

large wrapping sheet, apparently a shroud used to wrap the body, as indicated by the pattern of disintegrated areas.

This 6,000-year-old shroud is a large, rectangular linen cloth, 7 meters (22' 11") long and 2 meters (6' 6") wide. Even though about a third of it is missing, it could still be reconstructed on the basis of surviving parts. The pattern of the stains and the missing areas creates a mirror image, indicating that the textile had been folded twice in antiquity, forming a four-layered wrapping, in which the body of the deceased was placed. The four layers were then sewn together, "as is evident from rows of small holes in each layer" [12].

One might think from size of the cloth that it had been assembled from several pieces. However, it was designed and manufactured as a single sheet. The edges were decorated by bands of a more elaborate weave, incorporating brown and black threads. These were further enhanced by a fringe of long tassels, tied by hand after the cloth had been woven.



Figure 3. Team of Bedouin weavers using a ground loom.

The impressive width of the cloth indicates that it was woven on a ground loom with beams of more than two meters long. This "could not have been accomplished by a single weaver, nor even by two, as often depicted in Egyptian wall paintings" [13]. Three, even four weavers would have been required, as is still practiced by Bedouin weavers. The weavers are thought to have been exceptionally experienced to have produced textiles of such high quality. Dr. Tamar Schick, author of the textiles section of the Israeli Antiquities Authority Report on this discovery, comments: "The warrior's textiles are exceptional in size, accomplishment, refinement and state of preservation. It is, however, unlikely that they were unique in their time" [14]. In other words, she believes that it is likely there were other such exceptional textiles from the Chalcolithic period.

The Turin Shroud has been disparaged by skeptics for being too large to have been produced as early as the first century. These textiles from the Cave of the Warrior, produced 6,000 years ago, absolutely nullify this objection. Large textiles of one design and manufacture are also known from Egypt [15].

6. QAZONE, JORDAN

Burials in Jerusalem in the second-temple period and later tend almost always to be cave burials, unlike the vast cemetery of shaft graves at Qumran, considered to be remains of an Essene community. At Khirbet Qazone, Jordan, located on the eastern shore of the Dead Sea, 3500 such shaft graves were recently discovered. These have been dated to the second and third centuries C.E. [16].

Forty-two pieces of textile shrouds have been found from the fifty graves that have so far been excavated at Qazone. Some burial textiles, mantels and scarves remained in intact or almost intact condition. This includes an intact burial shroud dating from the second century, C.E. It is difficult to tell from the photograph whether this consists of one piece which wrapped the entire body, or whether there was also a second piece wrapped around the head. In any case, it appears to involve at least one large piece of cloth. I might add that some of the Qazone bodies were buried in leather shrouds made from several animal skins stitched together. Thus we can't say, as the Akeldama excavators maintain, that fragmentary remains of one burial must be the paradigm for many thousands of other burials.

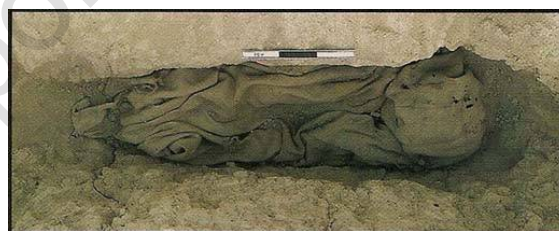


Figure 4. Woolen burial shroud, *in situ*, Qazone, Jordan, ca. second century C.E.

7. MURABBA'AT

At Murabba'at, the site of numerous manuscripts and artifacts in line with the finds from Qumran, archaeologists and textile experts Grace M. Crowfoot and her daughter Elizabeth Crowfoot recorded seven twill-weave fabrics, including a dark blue cloth of fine and regular *herringbone* twill weave (2:2) with Z spun warp threads and mixed S and Z spun weft threads, probably imported [17]. The report did not include a photograph of this textile.

8. MASADA

Numerous textile fragments were discovered at Masada by the Yadin excavations in 1963-65. Avigail Sheffer and Hero Granger-Taylor, archaeologists with the Israel Antiquities Authority, recorded in their preliminary report fourteen twill weave textiles [18]. These include several textiles in diamond twill weave, which is actually a more

complex variation of the herringbone pattern, as the direction of the diagonal is reversed periodically, ultimately forming diamond patterns in the cloth [19]. Most of the textiles found at Masada were imported from Anatolia and farther north, from Germany, according to expert textile analysts. The worn and patched condition of these imported textiles of intricate weave indicates well-to-do people fallen on hard times.



Figure 5. Complex diamond twill, Masada. Wool, red dyed with madder, 7 × 3.5 cm.

It is a good question why we have so many fragments and so few intact cloths. In areas such as Jerusalem, with its very wet and humid winter, consequent deterioration of virtually all textiles is to be expected. The shroud fragments from Akeldama were a fortuitous exception because that particular loculus was placed very high in the cave wall, well above a small fissure of seeping water which infiltrated the cave. Moreover, it was tightly sealed with plaster, and so was not exposed to the same degree of humidity as it might otherwise have been [20].

But what of the many textiles in the Judean Desert, namely, at Masada? We remember that the soldiers who crucified Jesus threw dice for his robe, apparently an unusual, seamless (John 19:23) garment of high quality. Cloth of any kind was the work of months of toil and consequently even the plainest tended to be expensive and was prized booty in the Roman world. Complete garments, even if worn or patched, whenever and wherever they could be found, were taken by Roman soldiers as part of their expected, unofficial compensation.

9. CAVE OF LETTERS

In his monograph, *The Finds from the Bar Kochba Period in the Cave of Letters*, Yigael Yadin listed among the textile fragments found there a woolen cloth woven in a twill pattern, the only twill textile found at that site [21].

10. CAVE OF TREASURE

In the Cave of Treasure, at the archaeological site of Nahal Mishmar, located just southwest of Masada, numerous textiles were found, including linen shroud fragments. These were probably clothing of the deceased used to wrap the body. These were dated to the 3rd millennium B.C.E., on the basis of archaeological evidence and C-14 tests on other objects found in the cave. More than a hundred linen and woolen samples were uncovered in the Chalcolithic stratum from this cave. Superbly decorated art objects were found in this and nearby caves from the same period. The cave of “treasure” was so named due to the hoard of artifacts, including ivories, found wrapped in a mat and hidden deep in a crevice [22].

11. ADDITIONAL CORROBORATING EVIDENCE

My primary purpose has been to draw attention to evidence from the Judean Desert, which was overlooked, if not suppressed by the excavators of the Akeldama fragments, but there is much corroborating evidence from elsewhere of early twill and herringbone weaves.

The Tyrolian Hiker – Dr. Mechthild Flury-Lemberg has shown that the herringbone pattern existed not only during the first century of our era, but long before. She has published a study of woolen leggings (54.6 cm. x 15.7 cm.) found on the frozen remains of a man discovered in the permafrost of South Tyrol in 1994 [23]. They are made of coarse goat hair, and woven in a 2:2 herringbone pattern. The leggings have been dated to *ca.* 800 to 500 B.C.E.



Figure 6. Legging discovered in permafrost, South Tyrol. Wool, 2:2 herringbone weave, *ca.* 800 – 500 B.C.E.

Herringbone Textiles from Northern Europe -- John Tyrer discussed the high development of spinning and weaving “at the dawn of history” [24] pointing to the early production of linen textiles in Europe, where the Z spin predominated. In this diagram, he compares the

herringbone pattern of the Shroud of Turin with those of two cloths from northern Europe woven in herringbone patterns. On the left is the pattern of the Shroud of Turin. In the middle is the pattern of a fragment of a silk shroud with a reversing five-shaft satin weave that was found in a child's coffin in Kent, dating from Roman times. The third is the herringbone pattern of a cloak found in a peat bog at Gerumsberg, Sweden, woven in a 2:2 herringbone pattern and woven without seam. It has been dated to early in the first millennium, about 900 B.C.E. The threads of both these textiles were spun with a Z twist.

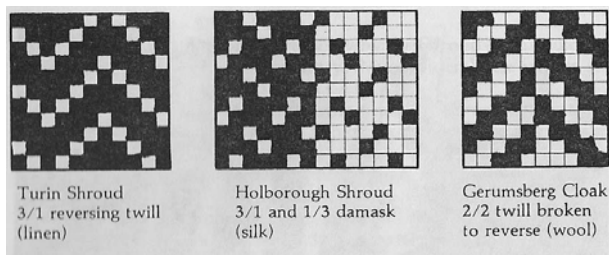


Figure 7. Ancient Herringbone Variations.by John Tryer.

Dura Europos -- Archaeologists R. Pfister and Louisa Bellinger catalogued numerous twill weave textiles among fabrics excavated at Dura Europos, ca. 300 B.C.E. to 256 C.E. [25].

Egyptian Herringbone Linens -- There is a superabundance of very well preserved linen textiles from Egypt. Pietro Savio published a cloth woven in a herringbone pattern, dated to 130 C.E., discovered in the excavations of the necropolis at Antinoë [26]. Among the many examples described by Petrie and Mackay are a number of pre-dynastic burials involving large textiles with the characteristic selvedge fringe. In one example, a long cloth lay below the body and was folded over it in the same manner as the Shroud of Turin [27].



Figure 8. Linen Sash of Rameses III, ca. 1180– 1150 B.C.E. Alternating herringbone patterns of 3:1/4:1/5:1

Another important example is the girdle (or sash) of Rameses III, who reigned during the middle of the twelfth century B.C.E. It is characterized by an intricate design and excellent workmanship. It is woven in five colors, in a design consisting of 3:1 herringbone twill, alternating with 4:1 and 5:1 herringbone twills. This sash is 17 feet in length and tapers in width from 5 inches down to a little less than 2 inches [28].

Pompeii – Vignon published a photograph of a textile woven in 2:2 herringbone twill from the first century C.E. [29] and listed several other comparable twill textiles, including diagram [30].

12. CONCLUSION

Archaeologists who have asserted that the weave of the Turin Shroud was unknown until it was introduced in Europe a thousand years after Christ possibly have been misinformed, despite evidence which should be very well known to textile experts working with them.

We may also ask if the herringbone pattern was so unusual in ancient times as to have been an anomaly. Gilbert Raes, renowned expert on ancient textiles, wrote: "At the beginning of our age both cotton and linen were known in the Middle East. The type of weave [the herringbone pattern of the Turin Shroud] is not particularly distinctive and does not enable us to determine the period in which it was produced" [31].

We conclude with some unintentionally ironic remarks by Dr. Gibson's colleague and chance excavator of the shroud fragments at Akeldama – Professor James Tabor of the University of North Carolina at Charlotte: "Thousands of ossuaries have been found in Israel, especially in the rock-hewn tombs outside Jerusalem. But finding a skeleton still laid out in a loculus and wrapped in its burial shroud was a first.... Gibson and I began to comb the ancient literature for evidence related to the use of burial shrouds and ossuaries among the Jews of Judea and Galilee in the Roman period. As it turns out, the references in the New Testament to the shrouded burial of Jesus provide us with some of our most valuable evidence related to the Jewish customs in use in the early 1st century A.D. in Jerusalem.... After all, Jesus' body was washed and wrapped in a two-piece linen shroud and laid out... in a rock-hewn family tomb just outside the walls of the Old City of Jerusalem. Our man of the shroud must have been similarly prepared for burial" [32].

We began with the claim by archaeologists that the shroud fragments from Akeldama "prove" that the Turin Shroud must be medieval. Now we learn that the New Testament accounts of the burial of Jesus provide the "most valuable evidence" for context of the burial of their "man of the shroud" from Akeldama.

Objections disputing the first-century date of the Turin Shroud – in this case, its herringbone weave and its large size – in fact may corroborate the antiquity of the cloth.

ACKNOWLEDGEMENTS

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REFERENCES

1. Major News websites including ABC, AFP, BBC, CNN, *Daily Mail*, *Daily Telegraph*, *Irish Times*, *Jerusalem Post*, JTA, *National Geographic*, *New York Daily News*, *Science Daily*, *Archaeology Magazine Weekly*, *ERETZ*, *the Magazine of Israel*, Catholic News Service, *USA Today* and *The Times* (London) carried the story, with reference to questionable authenticity of the Turin Shroud.
2. M. Milstein, "Shroud of Turin Not Jesus', Tomb Discovery Suggests," *National Geographic News*, December 17, 2009.
3. *Ibid.*
4. M. Kalman, "Burial cloth found in Jerusalem cave casts doubt on authenticity of Turin Shroud," *The Daily Mail*, December 16, 2009.
5. C.D. Matheson, et al. "Molecular Exploration of the First-Century Tomb of the Shroud in Akadelma, Jerusalem." *PLoS ONE* 4(12): e8319. doi:10.1371/journal.pone.0008319. December 16, 2009.
6. "DNA of Jesus-era shrouded man in Jerusalem reveals earliest case of leprosy," The Hebrew University, Jerusalem, press release, December 21, 2009.
7. S. Gibson, *The Final Days of Jesus: The Archaeological Evidence*. Harper One, New York, pp. 139 ff. (2009).
8. Gibson, *op. cit.*, p.141.
9. Gibson, *op. cit.*, p. 142.
10. Regarding these combined linen and wool textiles and the law against mixing of kinds – sha'atsnez: According to the Mishnah (First Division, Zeraim: Kilaim, 9.4) "The wrappings of a corpse and asses' pack-saddles do not come under the law of Diverse Kinds."
11. T. Schick, et al, *The Cave of the Warrior, a fourth millennium burial in the Judean Desert*, IAA Reports, No. 5. Israel Antiquities Authority, Jerusalem (1998).
12. T. Schick *A 6,000-Year-Old Nobleman: Finds from the Cave of the Warrior*, The Israel Museum, Jerusalem (2003).
13. Schick (1998), p. 20.
14. Schick (1998), p. 22.
15. These are well known and are on display in the Cairo Museum, the Turin Museum, and elsewhere.
16. H. Shanks, "Who Lies Here? Jordan Tombs Match Those at Qumran," *Biblical Archaeology Review*, Vol. 25, No. 5, September/October (1999). Only recently, similar shaft graves, about 50 in number, were discovered at Beit Safafa, a few miles south of Jerusalem. (A. Kloner, "Odd Tomb Out," *BAR*, *op. cit.*)
17. G. M. and E. Crowfoot, "The Textiles and Basketry," in *Discoveries in the Judean Desert, II, Les Grottes de Murabba'at*, par P. Benoit, et al. The Clarendon Press, Oxford, pp. 149-264, 1961.
18. A. Sheffer and H. Granger-Taylor. "Textiles from Masada: A Preliminary Selection," in *Masada IV: The Yigael Yadin Excavations 1963-1965, Final Reports*, pp. 149-264, Israel Exploration Society, Jerusalem (1994).
19. Barber points out that if the zigzag is established during warping the result is a pointed twill, but if done when the weft is inserted the result is herringbone twill. Once both those possibilities had been discovered, the next logical step was to zigzag both at the same time to form diamond twill and its many variants. E. J. W. Barber, *Prehistoric textiles: the development of cloth in the Neolithic and Bronze Ages with special reference to the Aegean*, Princeton University Press, Princeton, NJ, pp 141 f. (1991).
20. Gibson, *op. cit.*, p. 142.
21. Y. Yadin, *The Finds from the Bar Kokhba Period in the Cave of Letters*, Israel Exploration Society, Jerusalem, p. 251 (1963). In connection with Masada, note an important discovery by Mechthild Flury-Lemberg. When the backing of "Holland" cloth was removed in 2002, the stitching that joins the side strip to the main body of the Turin Shroud was analyzed and found to match a counter-hemming stitch on several seamed textiles at Masada. See further, M Flury-Lemberg, *Sindone 2002*, ODPF, Torino, pp. 60, 61 (2003).
22. P. Bar-Adon, *The cave of the treasure : the finds from the caves in Naḥal Mishmar*; translated by I. Pommerantz, Israel Exploration Society, Jerusalem, (1980).
23. M. Flury-Lemberg, "Notiz zum Fischgratmuster auf dem Leinentuch," *Sindon* No. 19-20, pp. 121-124 (2003).
24. J. Tyrer, "Looking at the Turin Shroud as a Textile," *Textile Horizons*, pp. 20-23 (December, 1981), reprinted in *Shroud Spectrum International*, 6, pp. 35-45 (1983).
25. R. Pfister and L. Bellinger, "The Textiles", in *Final Report, IV, Part II, The excavations at Dura-Europos*, edited by A.R. Bellinger, et al (1945). Dura Europos dates from ca. 300 B.C.E to 256-7 C.E.
26. Msgr. P. Savio, *Ricerche sul Tessuto della Santa Sindone*, Tipografia Italo-Orientale, Grottaferrata (Roma) pp. 21, 47 (1973) citing Albert Gayet. Photos on p. 49.

27. W. M. F. Petrie and E. Mackay, *Heliopolis, Kaft Ammar and Shurafa*, London, School of Archaeology in Egypt, University College and B. Quaritch. p. 12. (1915).

28. A. Braulik, *Altägyptische Gewebe*, A. Bergstrasser, Stuttgart, p. 8 with fig. 2 (1900). Braulik describes several other examples of ancient Egyptian textiles woven in various herringbone patterns. This girdle is also described in T. D. Lee, "The Linen Girdle of Rameses III," in *Annals of Archaeology and Anthropology* of the Liverpool Institute of Archaeology, Vol. V, pp. 84-96 (1912). More readily accessible is Fr. E. Wuenschel's discussion of several very ancient herringbone twills in "The Truth About the Holy Shroud," *American Ecclesiastical Review*, pp. 10 f., (1953), heavily dependent on Braulik. Tyrer, *op. cit.*, p. 21, describes the Rameses girdle as "a plain lift weave," unlike descriptions by Braulik, Lee and Wuenschel. Possibly the alternating herringbone weaves comprised a decorative edging.

29. P. Vignon, *Le Sainte Suaire de Turin devant la la Science, l'Archéologie, l'histoire, l'Iconographie, la*

Logique, Masson et Cie, Paris, p. 79, fig. 32 (1938).

30. Vignon, *op. cit.*, p. 80 and *passim*.

31. G. Raes, "Appendix B, Rapport d'Analyse," [sic] *Report of the Turin Commission on the Holy Shroud*, trans., ed. M. Jepps, (London: Screenpro Films, 1976), p.83, reprinted in *La Santa Sindone* (gennaio, 1976).

32. J. Tabor, *The Jesus Dynasty*, Simon and Schuster, New York, pp. 12 f., (2006).

PHOTO CREDITS

Figure 1. Shimon Gibson.

Figure 2. Peter Laryi for the Israel Museum, Jerusalem.

Figure 3. Tal Vogel for the Israel Museum, Jerusalem.

Figure 4. T. Springett for *Biblical Archaeology Review*.

Figure 5. Israel Exploration Society.

Figure 6. Abegg-Foundation, Riggisberg, Switzerland.

Figure 8. World Museum, Liverpool.

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