

CHAPTER 1

Introduction

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A Proto-Neolithic period cemetery (R. S. Solecki 1963; R. L. Solecki 1981) dating from circa 10,600 years ago (R. S. Solecki and M. Rubin 1958, 1446) was found in the right rear portion of Shanidar Cave (figs. 2–7). The cemetery was found during the fourth Shanidar research project, at the end of the 1960 season.¹ The skeletal remains of thirty-five individuals were identified during the excavation of the cemetery. This is the only prehistoric cemetery site of its kind east of the Mediterranean area, comparable in age to the Late Natufian. Another Proto-Neolithic burial, dated on the basis of associated grave goods, was found toward the front of Shanidar Cave during the third Shanidar research season (1956–57) (R. S. Solecki 1957).

This report deals with the burial practices followed by the Shanidar Cave inhabitants who used the site during the Proto-Neolithic period: the preparation of the graves and the bodies; the cultural materials placed in the graves; the stone alignments and other stone features constructed in the cemetery area; and the materials found in the cemetery fill. There also is a comparative section, in which the Shanidar burials are compared to those from the Natufian of the Levant. This monograph also includes a summary of the palaeopathology of the Shanidar Proto-Neolithic skeletal remains and two appendices, one concerning the initial findings on the skeletal remains and one concerning the beads and pendants found with the burials.

The Shanidar Proto-Neolithic cemetery was found toward the end of the 1960 season, in the course of making an exploratory trench toward the rear of the cave, back from the main excavation. This work had not progressed very far when the cemetery was encountered. Unfortunately, the closeness of the end of the season did not permit completion of exploration in this area of the cave. The excavated part of the cemetery lay

in Squares B1, B2, B3, C1, C2, C3, D1, D2, and D3, a large square measuring 6 by 6 meters (figs. 5, 6, 7). The burials and stone features described in this report were found within this area.

The skeletal finds from the cemetery were unpacked and studied in Baghdad in 1962 by Stewart, with the assistance of his colleague Juan Munizaga, of the University of Chile. Stewart concentrated his attention on the Neanderthal skeletons, while Munizaga spent some of his time unpacking, preliminarily sorting out, and examining the Proto-Neolithic burials. Munizaga wrote a short report based on his examination of the Proto-Neolithic skeletal remains. As this report has not been published to date, it is included here as appendix A for the purpose of historical documentation. Denise Ferembach, a French physical anthropologist with the Centre Nationale Recherche Scientifique (CNRS), examined the Proto-Neolithic burial collection in 1969 and published a report based on her study in the Iraq journal *Sumer* the following year (1970). Ferembach's use of the term "Zawi Chemi" to refer to the Shanidar Cave cemetery collection has caused some confusion (e.g., Mellaart 1975). All of the Proto-Neolithic human skeletal remains were found in Shanidar Cave. None to date have been recovered from the nearby village site of Zawi Chemi Shanidar (R. L. Solecki 1981). The express intention in the Ferembach report was to indicate that the Zawi Chemi culture was present in the cave. In 1981, Anagnostis Agelarakis, then a graduate student at Columbia University and now a professor at Adelphi University, restudied the Proto-Neolithic skeletons in the Iraq Museum in Baghdad. This study formed part of his Ph.D. dissertation at Columbia University (Agelarakis 1989). Agelarakis focused his attention on the pathology of the Shanidar Proto-Neolithic population and the environmental and dietary factors that may have produced the anomalous features found in the skeletons. Agelarakis then compared the Shanidar collection with a human-skeleton collection from the somewhat later village site of Ganj Dareh, in Iranian Kurdistan (Smith 1968, 1974). A summary of Agelarakis's study on the palaeopathology of the Shanidar collection is presented as a separate chapter (chapter 9) in this volume.

The Stratigraphy of the Proto-Neolithic Cemetery (Layers B1a and B1b)

Layer B was located below the uppermost cultural layer (Layer A) identified at Shanidar Cave. It was divided into two parts on the basis of its

stratigraphy and cultural context (figs. 8–14). The top part, Layer B₁, called the “Proto-Neolithic” layer, has been radiocarbon-14 dated (uncalibrated) as circa 10,600 +/- 300 B.P. (Rubin and Suess 1955). The Shanidar Cave Proto-Neolithic layer is coeval with the basal layer, Layer B, of the Zawi Chemi Shanidar village, which lies downstream on the Greater Zab River some 4 kilometers from Shanidar Cave. It has a radiocarbon-14 (uncalibrated) date of circa 10,870 +/- 300 B.P. (R. S. Solecki and M. Rubin 1958). This would fall into the brief cold episode called the Younger Dryas (Broecker 1987, 79–80; Broecker et al. 1989). The lower part of Layer B at Shanidar Cave (Layer B₂) has been radiocarbon-14 dated (uncalibrated) as circa 12,000 +/- 400 B.P. (Rubin and Suess 1955). This latter cultural horizon contained a Zarzian industry first identified by Garrod (1930) from a cave site to the southeast of Shanidar in the lower folds of the Zagros Mountains. Layer A (Neolithic to recent), located above Layer B₁, was a markedly dense occupational zone containing a totally different assemblage of much younger cultural materials. The Proto-Neolithic layer (Layer B₁) was stratigraphically clearly delimited from the Layer A deposits (fig. 6). There was no evidence in any of the cave excavations to suggest that there was an immediate reoccupation of the cave after the Proto-Neolithic period. The time interval between the base of Layer A and the top of Layer B₁ was probably about six thousand years, based on the associated cultural remains. The deposits of Layer B₁ sloped gently downward to the west (the left side of the cave), as did almost all of the cave sediments.

Layer A was a very dense occupational zone and contained many bands of large and varicolored hearth lenses with inclusions of animal bones, potsherds, and a great quantity of goat and sheep dung in its upper parts (fig. 6). Probably some of the widespread burnings evidenced in Layer A were done for sanitary purposes in an effort to rid the habitat of vermin. It is also probable that some of the burnings were accidentally caused by the ignition of dried animal dung, which the modern Kurdish inhabitants of the cave used as an auxiliary fuel. Within the cemetery area, the top of the Layer B deposits was located at various depths in contact with Layer A, suggesting an uneven contact or disconformity between Layers A and B. There was some pitting from Layer A into Layer B. By the time the deposits of Layer A were laid down, the presence of the cemetery must have been long forgotten. Traces of a pit were found in Square D₂, cutting into Layer B₁ to a depth of about 80 centimeters. It measured about 50 by 90 centimeters, in a slightly constricted ovate plan. Its contents included stones, some pottery, stone tools, and animal bones in soft dark-brown

sediment. Another pit, in Square C2, reached a depth of 107 centimeters into the top of the Proto-Neolithic layer. Finds included mullers, choppers, animal bones, and flints. A third pit was found in Square B1 and contained pottery and animal bones in soft sediment.

The Proto-Neolithic deposits in most of the excavated sections of the cave consisted of a rather uniform loose brown sediment, with traces of heavy occupations and numerous flints. The deposits of the cemetery area, however, had a noticeably different configuration. Two distinct stratified beds were evident in the cemetery area (fig. 8–14). There was an upper horizon of dense yellowish loam, relatively free of hearths and organic matter. This lay conformably over a lower horizon of gray-colored, less compact sediment. The latter had many traces of organic matter, ash, and charcoal and contained the burials. No burials were found in the yellowish loam. For purposes of identification the upper yellow loam is here called Layer B1a, and the underlying gray sediment is called Layer B1b. The contrast between the yellow loam of Layer B1a and the underlying gray sediment of Layer B1b in the cemetery area was clearly marked—so much so, in fact, that an initial impression might be that they belonged to two different cultural horizons. However, the detailed analysis of the stratigraphy of the cemetery area, in addition to the study of the cultural remains recovered from both B1a and B1b, resulted in the conclusion that both were specialized but related cemetery deposits.

Shortly before the Proto-Neolithic occupation, there had been a large rockfall from the ceiling of the cave. It had concentrated its force mainly in the area south of the cemetery. Hearths were made in the free areas among the stones north and south of these rocks before the cemetery was laid down. At the time of the establishment of the cemetery, boulders were still visible on the cave surface to the south of the cemetery, but the cemetery area itself was free of large stones. It is reasonable to assume that whatever portable stones lay in this zone were cleared away before burials were made there. In effect, this area appeared to have been situated in a kind of protected niche of the cave, screened off from the front by large boulders.

The excavation of the Proto-Neolithic cemetery was in the northern extension of the main Shanidar Cave cut, that is, in Squares B1 to B3, C1 to C3, and D1 to D3 (figs. 5 and 7). This made a large square measuring 6 by 6 meters. The burials and stone features described in this report were found within this area. The cemetery appeared to extend somewhat to the north and east, into the unexcavated portions of the cave.

The Yellow Loam Layer (B1a)

This distinctive yellow-colored layer covered the entire excavated area of the Proto-Neolithic cemetery. Only occasional patches of similarly colored sediment were found in other parts of the cave deposits. The most obvious of these were located around a large boulder near the lip or entrance of the cave (Squares B13 and C13), from the base of Layer A to the top of Layer B.

Layer B1a was circa 40 centimeters thick in the northern part of the cemetery (Squares B1, C1, and D1), from the depth of 57 to 97 centimeters below “o” datum. Toward the central part of the cemetery, the bed thickened to about 55 centimeters, from the depth of circa 60 to 115 centimeters below “o” datum, and then gradually thinned and finally disappeared beyond the cemetery limits to the south. Layer B1a extended to the north, east, and west beyond the limits of the cemetery excavations. In shape it seemed to be roughly an elongated ovate, oriented NE-SW, and probably measured at least 5.5 meters wide and 7.0 meters long (including the unexcavated portions (fig. 5). It covered the lower cemetery area conformably like a protective cap. In the middle of the cemetery, where the B1a deposits were thickest, a marked bulge could be observed at its upper limits.

Although the B1a deposits were composed primarily of the characteristic yellow loam sediments described above, interspersed through them were undulating bands of ashes and charcoal (figs. 10, 11). At least seven such discrete bands, some over two meters in width and up to four centimeters thick, cut through the yellow-loam deposits of B1a. Possibly they represented the debris of small hearths whose remains were dispersed following their use. This is the normal fate of a dead, open, or unbounded hearth in a trafficked area. If the Proto-Neolithic population had acquired the habit of keeping animals—for example, sheep, as at the nearby village site of Zawi Chemi Shanidar (R. L. Solecki 1981)—a few of these animals could have easily scattered the hearth remains. The burning of widespread patches of vegetation growing at the site was probably very unlikely because the configuration of the cave would have inhibited such growth.

The depositional processes that produced the distinctive sediments of Layer B1a in the cemetery area, we believe, were the result of human agents engaged in a series of recurring activities over an extended period of time. The occurrence of the yellow-loam bed directly over the burial area could not be due to coincidence. We also believe that Layer B1a cannot

be interpreted as the result of a single, large-scale event. We do not believe, for example, that running water could have been responsible for the deposition of the yellow loam of B1a. There are no openings or swallow holes in the ceiling of Shanidar Cave above the cemetery area. We could not find any opening to the outside in the rear of the cave through which sediment could have filtered into the cave. Limestone blocks could have disintegrated to form sediment of this kind, but certainly not in the time span available here. Wind as a carrying agent might be a possibility. However, this is doubtful, because of the concentration of the yellow-loam deposit in a limited area of the cave, specifically in the cemetery locus. Another consideration makes wind and/or water transport of these sediments highly unlikely. The heavier artifacts found in the yellow loam, such as boulder querns and mullers, were certainly objects that had to be carried into the cave in individual lots by humans because of their weight. The associated smaller-sized chipped stone artifacts and other materials incorporated in the yellow loam could have been brought in with container loads of the sediment. However, we were not able to discern any traces of individual dump loads in the deposits. If present, this evidence could have been disturbed by human and/or animal agents. The traces of the in situ hearth bands, as discussed above, found in the yellow-loam stratum also militate against the possibility of wind and/or water transport of the sediment. The yellow loam of Layer B1a probably was most readily obtainable at the front and on the outside talus slope of the cave. Such sediments are found there today, deposited through natural agencies. Wind blowing about in the front area of the cave and runoff from the top and sides of the cave opening at the drip line are likely depositional agents.

We believe, therefore, that the yellow loamy sediment of Layer B1a was brought into the cemetery area by Proto-Neolithic people in some sort of communal effort. Perhaps the yellow sediments were brought in to cover the cemetery in order to lessen the unhealthy atmosphere of the shallow graves in this part of the cave. Perhaps the distinctive colored sediments were placed over the actual burial area as a marker in order to locate the exact position of the cemetery for additional interments or for the performance of ceremonies at the spot. The Proto-Neolithic cave inhabitants must have had the necessary manpower to bring in the sediments contained in Layer B1a, estimated to be circa 24 cubic meters in volume. The sediments were possibly carried in by means of woven baskets, which they probably had, or in skin bags made from animal hides.

Characteristic Zagros Proto-Neolithic cultural materials were present in Layer B1a, but not in the same numbers or varieties as in Layer B1b. These materials included large and small ground stone tools, chipped stone debris and tools, and bone tools (see chapter 5).

The Gray Sediment Layer (B1b)

The gray sediments of Layer B1b lay conformably below the yellow loam of Layer B1a (figs. 8, 12, 13, 14) and generally coincided in areal extent with it. Layer B1b contained much occupational debris, many charcoal flecks, ashes, and snail shells. This was also the horizon that contained the Proto-Neolithic burials and the stone arrangements and pavements associated with the cemetery. The cemetery proper was bounded in part by a curving low stone wall to the west and by irregular patterns of stone pavements or clusters to the east. Apart from these purposeful constructions, there were relatively few stray rocks in Layer B1b.

Layer B1b was roughly elongate ovate in shape (fig. 5), oriented NE-SW. It probably measured at least 5.5 meters wide and 7.0 meters long, including the unexcavated portions—that is, an area of circa 40.0 square meters in extent. It extended to the north, east, and west, beyond the limits of the cemetery excavations. Its full thickness could not be determined because the base of Layer B1b was not reached in all sections of the cemetery during the 1960 season. The B1b deposits appeared to be thickest in the center of the cemetery area, a little over half a meter thick, and tapered off toward the west side, from a depth of about 90 centimeters below datum in the east wall to about 103 centimeters below datum in the west wall. The greatest depth for Layer B1b, reached at the close of the 1960 season, was 155 centimeters below datum in Square D3 (at the west side) and 140 centimeters in Square B3 (at the east side). The gray sediment dipped noticeably to the west, as did most of the other deposits in Shanidar Cave.

The two sublayers (B1a and B1b) in the cemetery area, as noted above, were both in fact markedly different from the Proto-Neolithic deposits found elsewhere in the cave. The distinctiveness of the yellow loam of B1a has already been discussed. The dark-gray sediment and broad ash and charcoal lenses of Layer B1b were also clearly distinct from Proto-Neolithic deposits outside the cemetery. No widespread concentration of ashy, dark-gray sediments, similar to those of Layer B1b, have been found elsewhere in the Shanidar Cave Proto-Neolithic deposits. We believe, therefore, that

Layers Bia and Bib were laid down when that part of the cave was an operating cemetery and that their deposition was solely related to burial activities. Most of the burials within the cemetery were found concentrated in a roughly ovate-shaped area measuring circa 2.0 by 3.0 meters, with the long axis extending from southwest to northeast. Only four burials were found outside this area of concentration, but still within the cemetery proper. A number of earlier graves in the heavily used area had been disturbed when later interments were made. Most of the burials in the cemetery lay on a 5- to 10-centimeter-thick bed of ashes and charcoal. Characteristically, the graves were located at much the same depth, circa 1.0 meter below the “o” datum line, or about 0.5 meters below the contact between the Ceramic Neolithic (Layer A) and the Aceramic Proto-Neolithic (Layer B1). Except for Burial 25, there was no evidence to suggest that special burial pits were dug in the cemetery.

One burial (Burial 27), that of a young adult, was found during the 1956–57 season (R. S. Solecki 1957), some 12.5 meters to the south of the cemetery (fig. 5). The burial goods associated with this burial and its stratigraphic position suggested that it too belonged to the Proto-Neolithic cultural horizon.

Note

1. The fourth Shanidar research project was cosponsored by Columbia University and the Smithsonian Institution in 1960 under a research grant from the National Science Foundation. As in previous seasons, the expedition worked in cooperation with the Iraq Directorate General of Antiquities. The Iraq Petroleum Company, as in the third research season (1956–57), lent generous material assistance to the expedition. The 1960 expedition staff included Ralph S. Solecki and Rose L. Solecki, Jacques Bordaz, and Dexter Perkins Jr., all at that time from Columbia University, and T. Dale Stewart of the Smithsonian Institution. Ibrahim el Zayri represented the Directorate General of Antiquities of Iraq. The expedition divided up its force into two working groups. One worked at the cave excavation under the direction of Ralph S. Solecki. The other worked at the nearby village of Zawi Chemi Shanidar (fig. 1) under the direction of Rose L. Solecki (1981). Bordaz and Perkins divided their time between the two sites. Stewart worked only at the cave. He left for Baghdad with the skeletal remains of the Neanderthals excavated earlier that season and from there went to the United States before the Proto-Neolithic cemetery was found. Therefore, practically all of the exhumation and recording of the burials was done by Ralph S. Solecki, Bordaz, and occasionally Perkins. We closed the excavation on August 31, 1960, expecting to return the next season. All of the human skeletal remains, as well as the cultural materials from the excavation, were sent to the Iraq Museum in Baghdad.

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