



Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

Sir Arthur Keith's Legacy: Re-discovering a lost collection of human fossils



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ARTICLE INFO

Article history:

Available online 11 June 2014

Keywords:

Skhul
Shukbah Cave
Kebara Cave
el-Wad cave
Palaeolithic
Natufian

ABSTRACT

In 2001, a collection of skeletal material was donated to the Natural History Museum, London, by the Royal College of Surgeons, London. It consisted of boxes discovered among the personal belongings of Sir Arthur Keith. This paper describes the work undertaken to identify and document the human skeletal material in the Keith Collection. The study identified the human fossils as having come from a number of excavations directed by Dorothy Garrod in the 1920s and 1930s in Israel. The collection contains the long considered lost human skeletal collection from the type-site of the Natufian industry: Shukbah Cave. The majority of this material is of Natufian origin but contains a few Neanderthal specimens. A small amount of heavily fragmented bones associated with Skhul VII and IX were also found. The most remarkable of the re-discovered collection is the material from el-Wad and Kebara Caves. It was identified to be the missing material from the Middle and Upper Paleolithic levels briefly described in 1939 in *The Stone Age of Mount Carmel vol 2*, by Theodore McCown and Sir Arthur Keith. These important fossils hold great potential to answer questions about the Middle to Upper Paleolithic transition in the Near East, and the emergence of anatomically modern humans.

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1. Introduction

In 2001, the Royal College of Surgeons, London (RCS), made a request to the Anthropology curator of the Natural History Museum London, (NHM), Robert Kruszynski, to provide a repository for a series of boxes containing human skeletal material. Although the RCS holds human remains in its own collections, a part of their collection was already transferred to the NHM in the 1950s. The boxes from the Keith Collection came from Buckston Browne Farm, Kent, a research facility built in 1931 by the RCS to provide training to young surgeons. It provided ample space for dissections and operations, and included living quarters for the resident researchers. Shortly after the official opening in 1933, Sir Arthur Keith took up the position of Master and remained there until his death in 1955. Upon the closure of the facility in the early 1990s, the boxes of

human material had been discovered among Keith's (Fig. 1) personal effects. They were labeled with the site names for which he had provided anatomical descriptions during the 1930s: Shukbah, el-Wad, Kebara and Skhul.

The newly re-discovered fossil material was moved from the RCS to the NHM in February 2001. The bones were originally packed in a range of different sized carton boxes lined with cotton wool and newspaper, some infested with insects. Labels were included in some of them, and most of the bones were marked with black ink. In 2006, a first conservation effort was carried out with the goal of stabilizing the material. The cotton wool, newspaper, and insects were removed, and the skeletal material was transferred into conservation standard boxes. These were provisionally curated in the Anthropology stores at the NHM until late 2011, when resources were made available by the then Palaeontology Department (now part of Earth Sciences) at the NHM to carry out further work on the collection.

This article is the description of the project aimed to bring together, evaluate, identify and document Keith's human skeletal collection. Extensive archival research was carried out to ascertain the origin of the material and indicated that the majority of the

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Fig. 1. Sir Arthur Keith. Scottish Anatomist 1866–1955.

material came from Shukbah Cave and a smaller sample from el-Wad, Kebara and Skhūl (Fig. 2). Detailed descriptions and anatomical analyses of all the specimens are beyond the scope of this paper but a full inventory of the material together with matches to published descriptions, and new accession numbers for the NHM, London, are included in the Appendix.

2. The sites

2.1. Shukbah Cave

Shukbah Cave (site also referred to as Shuqba, Shukba, Mount Ephraim and Wadi el Natuf) is located 28 km northwest of Jerusalem (31° 58' N, 35° 03' E) (Fig. 2). The site was discovered in 1924 by Père Mallon (Garrod, 1928) and an excavation between the beginning of April and the middle of June 1928 (Garrod, 1942) was carried out by Dorothy Garrod, who had joined the American School of Archaeology in Jerusalem. Garrod was assisted by George and Edna Woodbury and a team of Palestinian workmen (Fig. 3). A series of trenches were excavated in each of the chambers of the cave.

The stratigraphic sequence of the site consisted of three identifiable layers, named from the top: Layers A, B and D. Layer C was described to be a sterile clayey layer (Garrod, 1930). Garrod suggested that Layer A may have been disturbed. Layer B – later subdivided into B1 and B2 – contained an industry reminiscent of the Capsian industries discovered in Northwest Africa and a series of human burials (Garrod, 1942). After her five years of excavations

at el-Wad cave and her discoveries there, Garrod concluded that, rather than an Eastern extension of the Capsian, Layer B of Shukbah Cave contained a new local Near Eastern Industry, which she named “Natufian” after the location of Shukbah Cave, in Wadi el Natuf, where she had first recognized the industry (Garrod, 1932). Layer D was a hard layer consisting of breccia that appeared to have been eroded and later covered by Layer B and was therefore only present in some areas. It yielded Mousterian implements (Garrod, 1942). The description of Layer D as Levallois-Mousterian was confirmed by Callander and Bar-Yosef (2004), suggesting a correlation of layer D with Tabun Layer B and the Neanderthals.

Dorothy Garrod hoped to return to Shukbah Cave to continue the excavations but in 1929, after exploring a number of caves on Mount Carmel, she was asked by the Department of Antiquities and the British School of Archaeology in Jerusalem to start excavations at el-Wad and later that year at Tabun and Skhūl on Mount Carmel, and these took up all of her attention for the next few field seasons. She never returned to Shukbah Cave and it was not until 1942 (Garrod, 1942) that she finally published her findings from the site.

2.1.1. The human remains from Shukbah Cave

In addition to the stone tool industry discovered in Shukbah Cave, a collection of human remains was excavated during the field season of 1928 (Garrod, 1930, 1932, 1942). Garrod summarizes the human remains from layer B as follows: “Eleven human burials were found in this layer, and of these seven at least had every appearance of being contemporary with the microlithic hearths. In addition, a large number of human bones was scattered throughout the deposit. In one case an adult male skeleton was found in a sitting position under a large fallen rock with the remains of two children on his knees, the bodies being packed into positions with fragments of limestone. Of the remaining burials, two were of young children, and of these one lay in a closely contracted position on a very black hearth. The remaining skeletons were so fragmentary that the position could not be ascertained” (Garrod, 1932) p.258. In 1942, Garrod describes the deposits in more detail (Garrod, 1932, 1942) suggesting the human remains came primarily from the Natufian layer, B. In line with the name of the industry, Dorothy Garrod named this population “the Natufians”. In addition to the human material from layer B, she reported on Mousterian material from layer D (a molar tooth, a hemi-maxilla, a zygomatic, temporal fragment, a femur fragment and a talus) but that it was mixed with Natufian material as a result of Natufian sediments accumulating in crevices in the Layer D breccia (Garrod, 1942).

An initial search of the Catalogue of Fossil Hominids (CFH) (Oakley et al., 1975) shows a summary for the Shukbah Cave human remains of 45 individuals, of which six are numbered and said to be located at the Peabody Museum, Cambridge, United States, but no repository is given for the other specimens. The material labeled as Shukbah in the Keith Collection presented us with the following questions:

- Are these the remaining 39 individuals from the original excavations at Shukbah Cave or were there excavations at Shukbah by a different team that could have unearthed this material?
- Are any of these the 11 burials reported by Garrod in 1932?
- How did the six numbered humans end up separated from the rest of the collection, and how are they associated with the 11 burials?
- If these are the human remains from both layer B and D from Shukbah Cave, can they be identified and documented in detail?

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