

THE HUMAN BONES FROM THE FOURTH CHAMBER, WOOKEY HOLE CAVE.

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One thousand, three hundred and fifty five separate bones and teeth were examined. The majority of the bones were damaged to a greater or lesser degree, only a minimum of reconstruction was possible and no stature estimation could be made. Bones from square 1300/9.50 (Area II fig. 6) were less damaged and were in some instances still in partial articulation.

The aim of the examination was to establish the following facts about the remains excavated from the fourth chamber insofar as the restricted amount of material allowed:—

- 1) The minimum number of individuals represented.
- 2) Their age.
- 3) Their sex.
- 4) The occurrence of trauma, or of pathological or congenital abnormalities.
- 5) The possible connection with the skulls and other bones found in the streamway (Mason 1951).

THE MINIMUM NUMBER OF INDIVIDUALS

Because of the haphazard nature of the skeletal deposit it was not possible to make a simple count of the total number of skeletons, consequently the minimum number of persons present had to be estimated (Chaplin 1971).

Each separate bone and tooth was identified, aged and sexed where possible and assigned to its appropriate side. Teeth can be aged more accurately than bone fragments and thus may be attributed to a more extended age range. The different types of teeth for each age group were counted, yielding the minimum number of individuals possible for each age group and thus a grand minimum of at least twenty eight persons were shown to be represented. (Fig. 8). Three separate skeletal assemblages could be recognised in square 1300/9.50 (Fig. 6a) belonging to a female aged 25-35 years, a 20-22 year old of unknown sex and a third adult. In square 1200/09.00 two further assemblages consisting of lower limb bones of two juveniles aged between 12 and 17 years were recognised.

AGE

Age was estimated by using the stage of eruption or the degree of attrition of the teeth (Brothwell 1963) or from the stage of epiphyseal fusion of the bones (Genoves 1969 a). There were at least three children under 5 years one of whom was aged between 6 and 12 months. Two children were aged between 5 and 10 years and six were aged between 10 and 15 years. No teeth came from any individual who appeared to be over 30 years of age. Slight osteophytic lipping on a lumbar vertebra suggested the presence of one person in the 35-45 age group (Bourke 1967). Fig. 8 shows the age distribution of those individuals identified by their teeth.

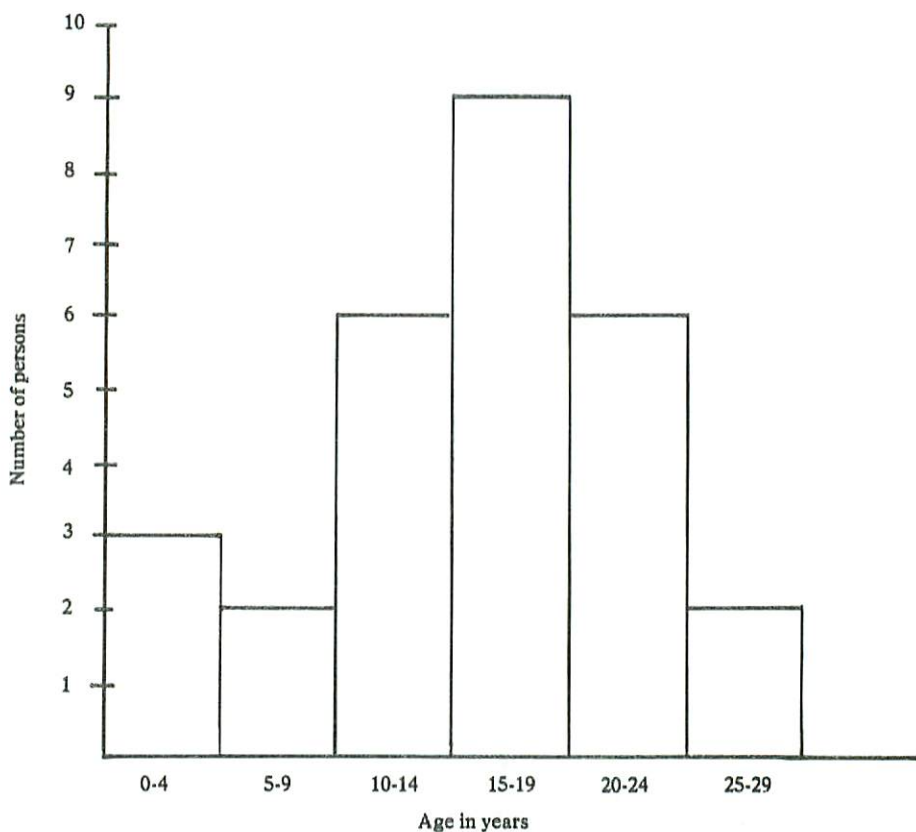


Fig. 8. Histogram showing ages of 28 individuals.

SEX

Sex determination used the criteria described by Genoves (1969 b). However because of the fragmentary nature of most of the bones very few items could be sexed. The exceptions were supra orbital margins from four individuals, of which two were probably female and two probably male. Fragments of six different bones were also present all of which were female.

CONGENITAL VARIATIONS

Portions of seven separate frontal bones were identified. Metopism was present in one frontal fragment. One individual with the lower part of the vertebral column surviving had six lumbar vertebrae, the sixth showing sacralization on the left side. A right patella showed signs of having had a secondary centre of ossification on the upper lateral margin; this occurs in only 5% of the present day population.

PATHOLOGY AND TRAUMA

General

No fractures were noted and there was no sign of any wound or mark that could have been inflicted before or after death, while dismembering a body for instance. As noted above, one lumbar vertebral fragment had a small osteophyte on it. The only other pathological condition present was a small area of periosteal reaction on the shaft of a juvenile femur. This may have been due to early osteomyelitis or a reaction to soft tissue inflammation or to trauma.

Dental

Although two maxillae and ten separate mandibles are preserved (though damaged) the majority of the teeth were loose. The total number of teeth both loose and in jaws was 238: only 5 of these had any caries (2.1%). In four of these teeth, 2 premolars and 2 third molars, the caries were cervical and in one deciduous molar the lesion was on the occlusal surface. Eleven teeth had enamel hypoplasia. Two groups of four teeth each (maxillary permanent incisors and canines) were affected with similar severity and probably came from two individuals. Hypoplasia is associated with malnutrition or disease during the formation of the enamel (Brothwell 1963). Only in the mandibular and maxillary fragments could the incidence and degree of periodontal disease, antemortem tooth loss and abscess formation be ascertained. (see Table 2). In the one hundred and eight available tooth spaces in all the mandibular and maxillary fragments, one abscess was noted and nine teeth had been lost ante-mortem, the sockets being healed.

Table 2. Oral Pathology in the most complete mandibular fragments

| Find No. | Approx. Age | Tooth space | No. of teeth present | No. lost ante-mortem | Caries | Calculus | Periodontal disease |
|----------|-------------|-------------|----------------------|----------------------|--------|-------------|---------------------|
| 234 | 25—30 | 10 | 3 | 5 | 0 | 3 moderate | moderate |
| 418 | 25 | 16 | 13 | 3 | 1 | 13 moderate | severe |
| 509 | 12—16 | 6 | 6 | 0 | 0 | 3 moderate | nil |
| 1007 | 18—21 | 9 | 6 | 0 | 0 | 5 trace | slight |
| 1011 | 22—25 | 6 | 3 | 1 | 0 | 3 trace | slight |
| 1209 | 18—21 | 16 | 15 | 0 | 0 | 0 nil | nil |
| 1446 | 15 | 9 | 6 | 0 | 4 | 3 moderate | nil |
| 1976 | 18 | 5 | 2 | 0 | 0 | 2 trace | severe |

Calculus occurred only on the buccal surface of the teeth. Calculus deposit on the loose teeth was either not present or occurred in very small amounts.

THE POSSIBLE CONNECTION WITH THE STREAMWAY BONES

Between 1947 and 1956 E. Mason and members of the Cave Diving Group recovered 18 skulls and some post cranial bones from the river bed between the second chamber and the mouth of the cave (Mason, 1951, 1958, West 1951) (fig. 4). It is likely that these bones had been washed downstream from the Fourth Chamber. Because of the fragmentary nature of the cranial material from the excavation it is not possible to look for similarities with the streamway material except to note that the only occipital fragment from Chamber 4 displays the same type of "bulge" or "bun shape" (Mason 1951) in 11 of the streamway skulls.

CONCLUSION

The human remains from the Fourth Chamber represent at least twenty-eight individuals of both sexes ranging in age from 6 months to perhaps 35 years of age. Although the bones were lying in great confusion there were no marks on the bones to suggest that dismemberment had taken place. It is probably likely that clothed bodies were placed in the chamber complete and that the flooding stream disturbed the bones and left a protective cover of silt in some cases before decomposition had fully taken place, otherwise groups of articulated bones would not have been preserved.

Because of the small number of persons represented, it is not possible to compare them as a population with others of a similar date, although the age range suggested is in line with what is known of other Romano-British populations (Everton & Rogers).

The small Romano British communities in Hole Ground and the mouth of the cave are discussed elsewhere in this report. The likely size of these communities, the probable span of their occupation and the number of skeletal remains are consistent with the suggestion that Chamber 4 was the group cemetery for this small community.

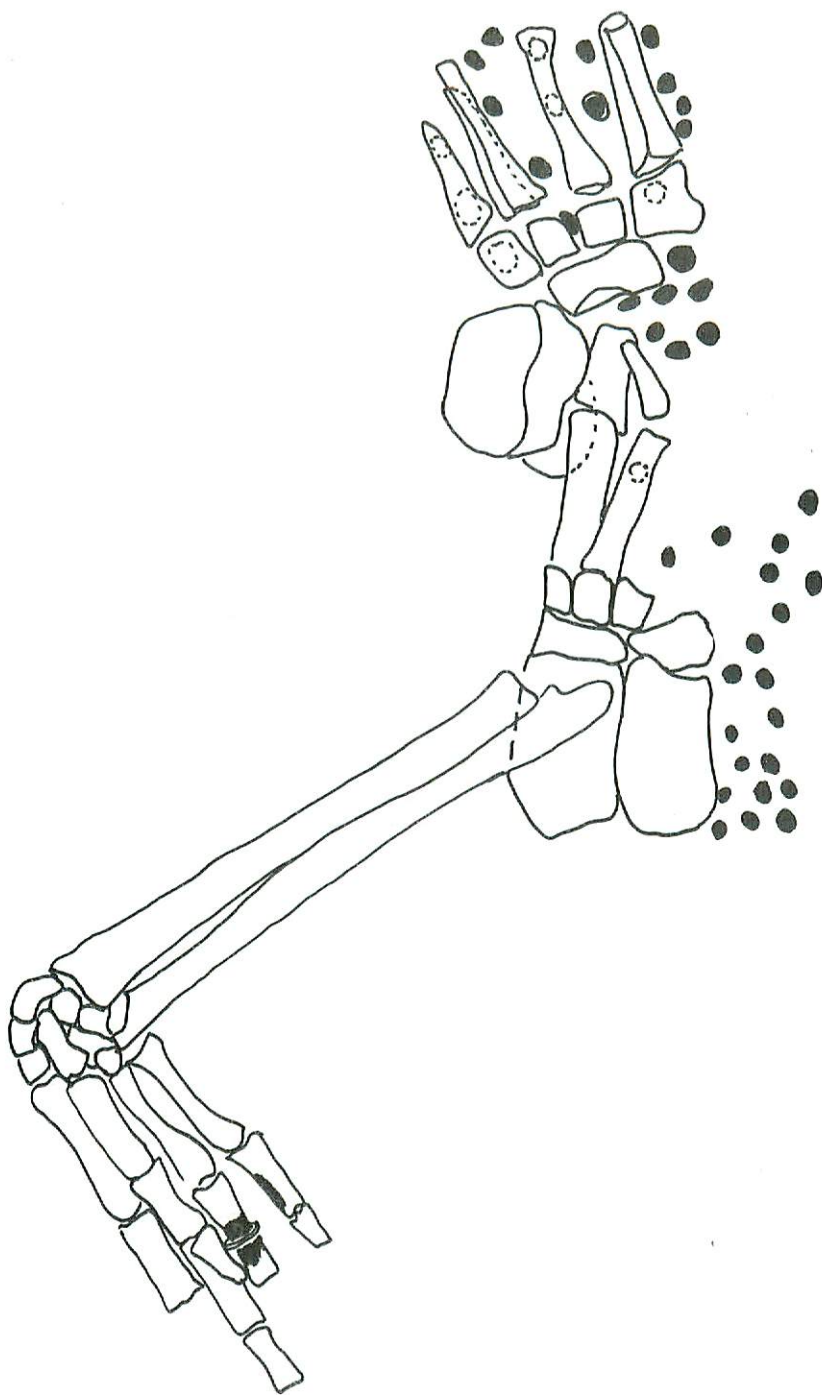


Fig. 9. Feet with shoe-studs and hand with ring. The bronze staining on the fingers is shown black.

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