

interest in these often fascinating deposits and provide a launch pad for more detailed investigations. As with all the books in this series, its cheap price means you can't really go wrong and I heartily recommend it to any caver with the slightest interest in how that mud that chokes their dig got there in the first place.

Andy Farrant

*Paviland Cave and the 'Red Lady' A Definitive Report.* Edited by Stephen Aldhouse-Green 2000. Western Academic and Specialist Press. Bristol. HB 314pp. 132figs. 38clr pls. Price £40. ISBN 0 9535418 1 9

In January 1823, the Rev. William Buckland, the first Professor of Geology at Oxford University, excavated within Goat's Hole cave at Paviland in the Gower peninsula of South Wales, finding the partially preserved burial of a man in his late twenties, 'healthy but dead', accompanied by 'two handfuls' of pierced periwinkle shells and fragments of rods and rings carved from ivory. A mammoth skull was found close by and other animal bones and worked flints were also recovered from the excavation.

The bones lay in a mass of red ochre, which had stained the bones and shells, hence the burial, unfortunately misidentified as female, came to be known colloquially as the 'Red Lady' of Paviland. Buckland was at the time a believer in the Deluge hypothesis as explanatory of cave fillings, river terraces and other Pleistocene depositional and faunal evidence, hence the 'Red Lady' was rationalized as Romano-British in age and the ivory artifacts as made from 'diluvial' material, washed into the cave long before.

Material had already been recovered from the cave in 1822 and collection of finds continued through the 19<sup>th</sup> and into the 20<sup>th</sup> century. Recognition that the artifacts were Palaeolithic followed the visit to Oxford in 1863 of Lartet and Christy, co-authors of the epoch-making publication of palaeolithic art and artifacts in *Reliquiae Aquitanicae* (1865-75). By 1912 when Prof. W.J. Sollas, the then Professor of Geology at Oxford, with Abbé Henri Breuil on hand to identify the flints, undertook a thorough excavation, the main occupation had been identified as Aurignacian and the Palaeolithic age of the burial recognized. Unfortunately however, by then the greater part of the deposits in the cave had been removed and although Sollas found large numbers of artifacts and a large quantity of mammalian remains, most of these came from material already disturbed by collectors or storm waves washing into the cave.

As a result, disentangling the probable sequence of events in the cave was not possible before the advent of radiometric dating and other scientific methods now generously deployed to telling effect in this truly multi-disciplinary report, with contributions by 21 authors marshaled in 12 chapters, an exemplary foreword by Rhodri Morgan AM MP, First Secretary of the National Assembly for Wales, and summaries in English, Welsh, French, German and Spanish. The publication was supported by the University of Wales College, Newport, and the Friends of the National Museum of Wales.

Investigations directed by Aldhouse-Green [AG] in 1997 as part of the project also involved three other nearby caves; Hound's Hole, opening like Goat's Hole onto the limestone marine cliff at about 15 m OD; Ogof-y-Mor, a sea-cave at present beach level and Foxhole Cave, at 41 m OD, opening onto a steep narrow dry valley leading back though the cliffs to the coastal plateau behind.

After initial phreatic development, Goat's Hole and Hound's Hole appear to have developed along steeply inclined tectonic fissures, with the southerly up-dip portions of the caves removed by progressive marine erosion of the cliffs beginning at least by 300 ka in

Oxygen Isotope Stage 9 [OIS]. The last periods of sea-level higher than the present affecting these caves were during the Ipswichian Interglacial (OIS-5e), between 130 and 118 ka. The suggestion that weathering and denudation are responsible for the absence of mural Palaeolithic cave art from these and other caves in unglaciated southern Britain [Lowe] carries little conviction, remembering the finds from Seine-Maritime and Mayenne (location map in Scarre (ed), 1992, 74), where conditions will have been hardly less adverse. Discussion of the morphology of the cliff and planed-off shore platform with its inner end close to OD, might usefully have taken account of the occurrence of similar hard-rock platforms higher up the Bristol Channel, notably at Brean Down (ApSimon, 2000), where the platform appears to pass under a rockfall attributed to the Early Devensian, suggesting that at Paviland an exhumed fossil platform may be involved.

The local last glacial maximum, when ice covered northern and eastern Gower to within 10 km of Paviland, is dated ca 22.8±2 ka cal-BP, co-incident with the Heinrich-2 thermo-haline cold event, but parts of Wales may have been more or less continuously ice-covered between 70 and 15 ka, while sea-level in the Bristol Channel remained below -80 m throughout the period from 40 ka [Bowen]. The Goat's Hole radiocarbon dates are calibrated by reference to the Greenland ice-core records (p.62-3), allowing correlation between human occupation and Greenland ice-core 'interstadials'.

The investigations in 1997 showed that deposits preserved in a hollow in the floor of Goat's Hole were part of a colluvial talus cone; some 5.5 m of original deposit capped by Holocene stalagmite were indicated, with a possibly Ipswichian marine shingle intercalated at ca 15 m OD, all long since destroyed. The basal deposit, equivalent to Sollas' 'Lower Scree', yielded sparse, heavily splintered faunal remains, with Thermoluminescence [TL] determination [Debenham] giving a pre-Ipswichian age; the lower division of Sollas' 'Upper Scree' may plausibly have contained Mousterian implements, the upper division, locally separated by ochreous clay, had been rich in faunal remains and Upper Palaeolithic artifacts.

In contrast, Hound's Hole retained cemented breccias and stalagmite, with TL and Uranium dates [Ivanovitch & Latham] suggesting a range from OIS-6 to OIS-3, mid-Devensian, but with no Upper Palaeolithic deposits preserved. Foxhole Cave, yielded early Mesolithic and Neolithic human remains overlying Lateglacial soliflucted scree, which could cover undisturbed Upper Palaeolithic occupation.

The radiocarbon dates from the Oxford Accelerator Unit, 45 for Goat's Hole and 8 for Foxhole Cave [Pettitt], allow the equation of calibrated dates for human presence with Greenland ice-core climatic phases. These equations are then used to develop the concept of a faunal bio-stratigraphy of herbivores, carnivores and humans, with humans in intervals with fewer carnivores, and with a divide at ca 27 ka. Before 27 ka, the fauna included woolly rhinoceros, reindeer, bison, giant deer (?) and arctic fox, with bear the main carnivore and only one dated human occupation (Aurignacian; Mousterian and perhaps the Leaf-point element are probably older than 30 ka). After 27 ka, there was a more diverse fauna including mammoth, reindeer and horse, with carnivores rarer, and Gravettian occupation phases. Pettitt shows that dates for Currant and Jacobi's Coygan - Pin Hole (OIS-3) 'faunal assemblage zone' fall into two groups, an 'earlier' and a 'later', which are separated at Goat's Hole, between 35 and 25 ka, by a 'restricted taxa fauna'. The implication is that there may be both variation in faunas due to maritime / continental effects and more temporal variation in the OIS-3 stage than yet realised.

Swainston points out that the extant assemblage of lithic artifacts from Goat's Hole is a palimpsest, with six recognisable components: Mousterian, Leaf-point, late Aurignacian,

Fontrobertain<sup>1</sup> facies of Gravettian, Creswellian, Final Upper Palaeolithic. The Mousterian is represented by a dozen disc cores and flakes, mostly of river-gravel flint, with some worn chert flakes that might represent a still older episode. The leaf-point group includes two bifacially worked pieces. The raw materials used by this and all later groups included imported flint, either from a now drowned source on the floor of the Bristol Channel southwest of Milford Haven, or from Wiltshire or Devon.

The Aurignacian is numerically dominant with 55 tools out of a total of 405; the preferred material was imported flint (58.5%), other non-local materials used included Greensand chert, perhaps from Somerset and speckled rhyolite probably from Pembroke. Happily Swainston uses the analytical methodology and typology of de Sonneville Bordes and Perrot, hence her results can be compared with those of continental archaeologists; types identified comprise busked graters (burins busqués), characteristic scrapers and Aurignacian blades, though the ratio of blades to flakes is low, reflecting the limitations of the raw material. A shouldered scraper and other pieces have inverse retouch, i.e. on the bulbar surface, unique to this site. None of these flints had the red ochre staining of objects found with the 'Red Lady', leaving no reason to link that burial to the Aurignacian occupation. Some flints were burnt, charred bone gave a date of ca 29,000 BP.

The Gravettian is represented by a typical tanged piece in good flint with parallels in the Maisi-Sres-Canal site in Belgium; a date around 28-27 ka BP is likely. The Late Upper Palaeolithic element is compared to finds from a number of sites in South Wales, including Nanna's Cave on Caldey; the reviewer may be pardoned for thinking that doubts about the Upper Palaeolithic dating of those sites had been resolved in *Welsh Antiquity* (ed. Boon and Lewis, 1976, 39-40).

The chapter on artifacts of ivory, bone and shell [AG] underlines the importance of this extraordinary assemblage, which turns out not to be Aurignacian, but to date from 26-21 ka BP. Of the ornaments, 3/4 were found with the 'Red Lady', a ceremonial burial of ca 26,000 BP (ca 29,600 cal-BP), including ivory bracelets and rod fragments, possibly wands, and pierced shells. Specific parallels for these and other items lie in continental Gravettian contexts.

The three bone 'spatulae' made from horse and deer bone and found in the 1830's, are dated to ca 23,000 BP and were probably deposited at the same time; parallels in the Gravettian of eastern Europe suggest that they are symbolic female representations. Lumps of ivory, cut and polished and stained with ochre are evidence of working on the spot. Mundane uses for ochre include use as a fine abrasive, giving a metallic lustre to ivory, use with grease in dressing hides, when it will adhere to ivory, and in protecting corpses from disturbance by scavengers. The likely source of the ochre was the vein running across Gower from the Mumbles to Limeslade Bay [Young].

The ungulates represented among the abundant mammalian faunal remains [Turner] were prime age animals, with very little sign of human modification, very few cut marks, but much hyaena modification, even though finds of Spotted hyaena were sparse, with the dated examples early and late. Bears were represented by teeth of all ages, hence denning on site is possible; abundant metapodia and phalanges may suggest hunting for bear skins as these bones may be removed along with the pelt. The reindeer remains included prime age male antlers but no juvenile or neonates, the herd's calving grounds were perhaps in the Welsh hills; the prevalence of phalanges, tarsal bones and metapodia suggests human presence.

Trinkaus' detailed study (p.141) of the 'Red Lady' (Paviland 1; 2-4 are fragmentary remains of Holocene age) provided the original impetus for the project and is the first full

---

<sup>1</sup> Named after the Font-Robert site, Corrèze.

description by modern standards. Though the skeleton is incomplete, lacking skull and mandible in particular, the evidence implies burial of a body, relatively undisturbed. Its estimated height is 173.5 cm, weight 72.9 kg, generally relatively gracile, its conformation between modern tropical and modern temperate populations, slightly below and very close to the Middle Upper Palaeolithic [MUP] male mean. Halliday's complementary study of body proportions notes that the MUP sample is most similar to recent Africans. Paviland characteristically has a longer shinbone in relation to his thighbone than do modern Europeans and his proportions are more linear than average European males today. Though like other MUP specimens, he was not as tropically adapted, falling very near the multivariate region of overlap between recent European and recent sub-Saharan Africans. The analysis of stable isotope levels in the bones of the 'Red Lady' [Richards] presents some surprises, with the  $\delta^{13}\text{C}$  value indicating a 10% intake of marine protein, perhaps salmon from the extended River Severn, if not from visits to the coast, 80-100 km to the west, while the  $\delta^{15}\text{N}$  value indicates a diet of mainly animal derived protein. Bison, though present locally, were apparently not a substantial part of his diet.

The interpretative chapter, 'Climate, ceremony, pilgrimage and Paviland: ...' [AG], emphasizes the significance, in terms of human beliefs in supernatural presences and places, of the deliberate burial, with its accompanying 'status' objects, noting the presence of the mammoth skull and limestone slabs, possibly at head and feet, and the additional discovery in 1839-40 of bones of a child. He distinguishes 5 human 'events' spread out over 8000 radiocarbon years:

I	ca 29,000 BP	charred bone (Aurignacian visit?)
II	ca 26,000 BP	'Red Lady' ceremonial burial
III	ca 24,000 BP	ivory pendant
IV	ca 23,000 BP	bone spatulae
V	ca 21,000 BP	ivory working.

These are taken to suggest that the cave had acquired ancestral status as a locus consecratus. Analysis shows human presence preferentially during milder events and integration of faunal evidence allows distinction of 5 phases:

- 1 (ca 35-32.5 ka BP): hyaena common, woolly rhinoceros and reindeer, possible human presence (Mousterian? = Neanderthals);
- 2 (32.5-30 ka BP): bears appear, bison, giant deer (?); no certain human presence;
- 3 (30-25 ka BP): rich fauna of 'mammoth steppe' type, certain human presence (Aurignacian, Gravettian, 'Red Lady');
- 4 (25-21 ka BP): climate deteriorating, humans still present - local ivory working;
- 5 (20-15 ka BP): cold, few finds, reindeer and hyaena return, red deer may appear at end, no human presence.

Human settlement in phase 3 may have been attracted by expanding bear and mammoth populations; conversely and apparently unlike neanderthals, earlier modern humans perhaps avoided coexistence with hyaenas. AG sees the Aurignacian event as perhaps due to an isolated, rapidly moving dispersal group with simplified equipment; Gravettian visits may have been for ivory, worsening climatic conditions necessitating tighter social networking, leading to homogenous material culture and far flung iconographic traditions reflected by the bone spatulae.

The interpretation of the ceremonial burial, the 'Red Lady', is discussed against the background of widespread Gravettian burials in Europe, with which it shares the presence of symbolic colours; red (ochre - AG's preference is for the body having been buried in ochre-stained garments), black (manganese ore) and white (ivory); and other features, even though Paviland is among the earliest so far dated. He discusses the possibility of the corpse as hero or shaman, being carried for burial in a place of the spirits, the cave as a tour of a sacred land, a gate to the world of the dead, - or a grave with a view.

Following this, the late Professor Rhys Jones contributes a perspective from aboriginal Australia on 'Place, ochre and death', in a valedictory survey of the evidence for continuing association between cult and site over thousands of years. The conclusions it offers as to the expression in magic and ritual of communality of human response to the great issues of life, as in the choice of colours in early prehistoric art, black/dark, white/light, red (ochre)/blood, are supportive of AG's interpretations.

The report concludes with appendices on the history of museum collections [Walker and others], the condition of artifacts and traces of use [Swainston], catalogues of mammalian vertebrate remains [Turner] and avifauna [Eastham], and a comprehensive index.

The presentation of this volume is generally excellent and reflects great credit on all concerned. Though the interpretative sections are sometimes over-indulgent, they make a stimulating read. However, while Australian aborigines preserve traditions of happenings very distant in time, the places remain accessible to visits, whereas at Paviland such memories may have had to be transmitted over intervals of perhaps hundreds of years when severe climate made visits impractical. The reviewer remains disappointed that in a definitive report no room was found for a comprehensive republication of the lithic artifacts; of 405 tools only 16 are illustrated here, compared with 23 illustrated by Campbell (1977). Admittedly Sollas' 1913 publication was as good as could have been achieved then, given Breuil's collaboration, but comprehensive illustration and description to the standard achieved in this report would surely have been worthwhile. He would also have liked to have seen a proper, contoured plan of the surrounding area, for which Fig. 1.2, without scale, north point or explanatory captions, is a poor substitute.

Sadly, the lack of stratigraphic recording of the deposits at Goat's Hole has negated any possibility of distinguishing assemblages of fauna or artifacts, or of discerning patterns of activity, or of formulating hypotheses about human behaviour outside the cave, as was possible for example even at a humble site such as King Arthur's Cave, where the stratified deposits were recorded (ApSimon *et al.* 1992). Nevertheless we must be very grateful to the authors for making this, the most celebrated of all British Upper Palaeolithic sites, accessible to modern international scholarship.

A.M. ApSimon

#### REFERENCES

- ApSIMON, A.M. 2000. Brean Down Sand Cliff revisited: Pleistocene stratification, new finds and the date of the Maritime Bell Beaker. *Proceedings of the University of Bristol Speleological Society*. **22.1**. 53-80.
- ApSIMON, A.M. SMART, P.L. MACPHAIL, R. SCOTT, K. and TAYLOR, H. 1992. King Arthur's Cave, Whitchurch, Herefordshire: reassessment of a Middle and Upper Palaeolithic, Mesolithic and Beaker site. *Proceedings of the University of Bristol Speleological Society*. **19. 2**. 183-249.

- BOON, G.C. AND LEWIS, J.M. (eds) 1976. *Welsh Antiquity: Essays mainly on Prehistoric Topics Presented to H.N. Savory on his Retirement as Keeper of Archaeology*. Cardiff. National Museum of Wales.
- BUCKLAND, W. 1823. *Reliquiae Diluvianae: or Observations on the Organic Remains Contained in Caves, Fissures, and Diluvial Gravel and on other Geological Phenomena Attesting the Action of an Universal Deluge*. London.
- CAMPBELL, J.B. 1977. *The Upper Palaeolithic of Britain: A study of Man and Nature in the Ice Age*. Oxford. Clarendon Press. 2v.
- LARTET, E. AND CHRISTY, H. 1865-75. *Reliquiae Aquitanicae; being Contributions to the Archaeology and Palaeontology of Périgord and the adjoining Provinces of Southern France*. London.
- SCARRE, C. (ed.) 1992. *Past Worlds: The Times Atlas of Archaeology*. London, New York, Sydney, Toronto. BCA.
- SOLLAS, W.J. 1913. Paviland Cave: an Aurignacian Station in Wales. *Journal of the Royal Anthropological Institute*. **43**. 325-74.