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Archaeology and the Creag nan Uamh bone caves, Assynt, Highland

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ABSTRACT

Excavations in the 1920s at the Creag nan Uamh bone caves, near Inchnadamph, aroused considerable interest in the possibility of evidence for a Palaeolithic presence in north-west Scotland. Four objects found during those excavations, including the one on which the principal claim for a Palaeolithic date was based, are published here for the first time. Two are probable Viking Age/early medieval artefacts of unusual type, one is undated but is possibly also of the same period, and the fourth, while almost certainly of Pleistocene age, is regarded as an unmodified natural object. Collectively these items serve to discount previous claims for Palaeolithic human presence. Radiocarbon dating of the human skeletal remains found, however, suggests the caves were a burial place in the Neolithic period. This paper makes extensive use of archive documentation to put the 1920s discoveries at Creag nan Uamh and their aftermath into historical context.

INTRODUCTION

In a prominent crag of dolomitic limestone on the south side of the valley of the Allt nan Uamh near Inchnadamph, Highland (formerly in Sutherland), there are entrances to three caves – Badger Cave, Reindeer Cave and Bone Cave – and other smaller recesses opening onto a ledge at about 70m above the valley floor (NGR: NC 2679 1704; illus 1–2). In the 1920s, consequent upon excavations by James Cree and colleagues, these Creag nan Uamh caves were associated with claims for Palaeolithic human presence in Scotland (Cree 1927; Ritchie 1929a). While popularly accepted at the time,[1] these claims have subsequently never been validated nor entirely negated.

Following the deaths of all the protagonists involved in these early claims (see Postscript below), the available evidence from the caves was initially summarized by Ford (1959, 171–6) in conjunction with the first published plan, then thoroughly reviewed in the *Proceedings of the Society of Antiquaries of Scotland* by Lawson (1981). He concluded that the evaluation of any archaeological significance of the discoveries at Creag nan Uamh would depend on interpretation of the 'scanty cultural remains (if the latter can be traced)' from Reindeer Cave (Lawson 1981, 20). These remains have now been traced and can be considered in the light of their typology, chronology and context. Firstly, however, it is necessary to recapitulate the history of investigation and subsequent studies, focusing on aspects of relevance to the finds and making use of previously unpublished archive material. The latter also allows for some fresh consideration of the circumstances of the 1926–7 excavations, the excitement of the initial 'discoveries' and the disappointing aftermath in which those discoveries remained unpublished.

It is also important, by way of introduction, to appreciate that archaeologists and antiquaries have, since the 19th century, sought evidence for

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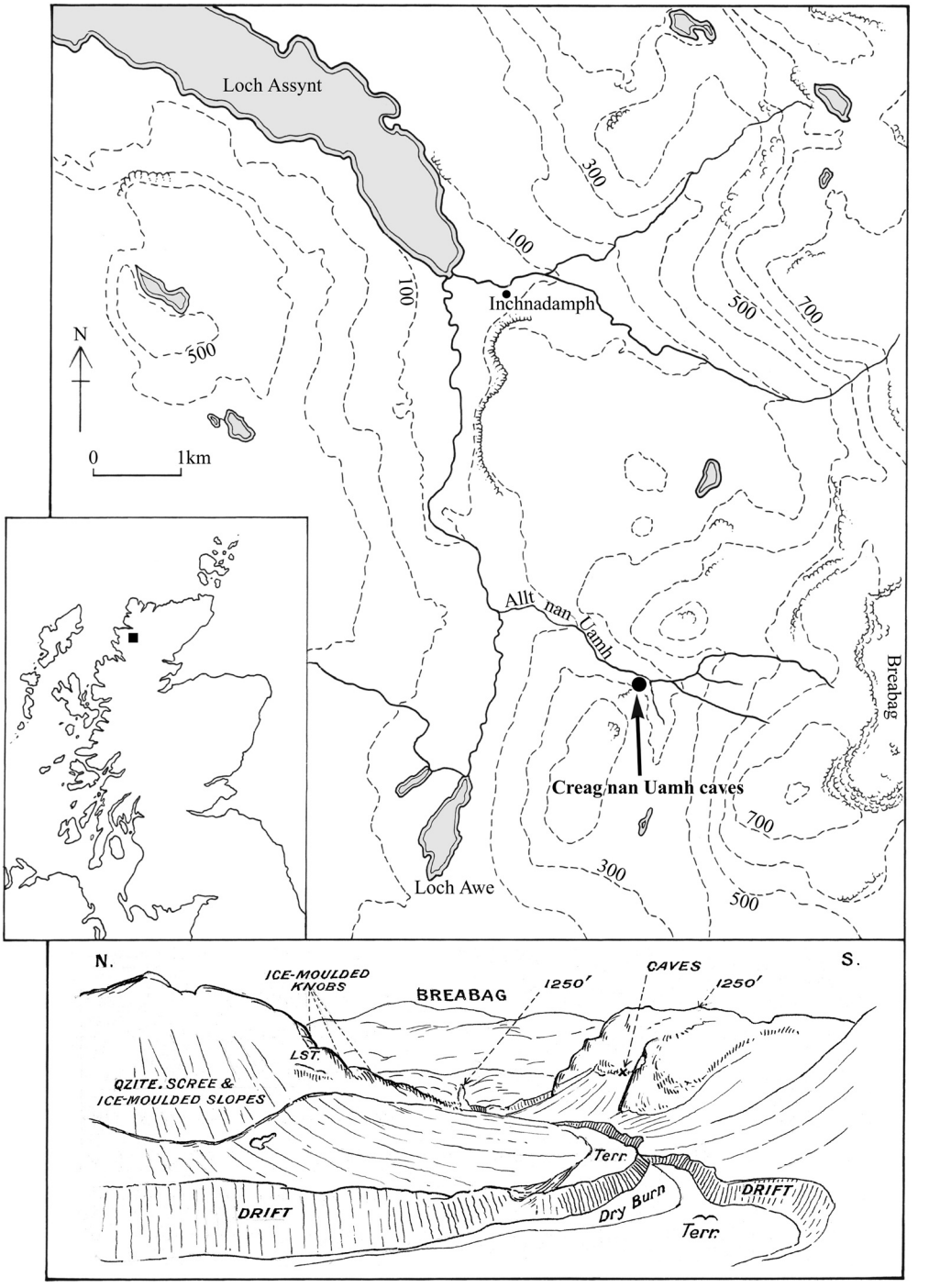
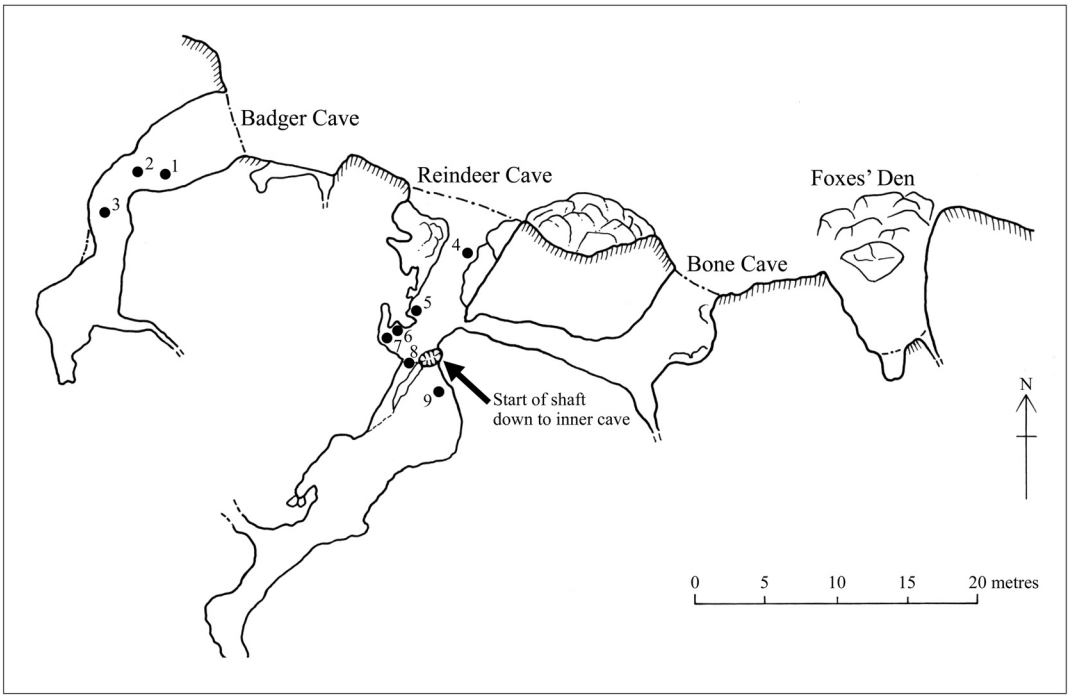


ILLUS 1 Upper: location map of the caves at Creag nan Uamh, near Inchnadamph, with contours in metres above sea level (drawn by Marion O'Neil and Craig Angus). Lower: 1926 sketch by James Phemister of the situation of the Creag nan Uamh caves in the valley of the Allt nan Uamh (from an unpublished draft report for the Geological Survey in the NMS archives)



ILLUS 2 Outline plan of the caves at Creag nan Uamh showing the approximate locations of the finds of objects and human bones (after Gleed-Owen 1999; Lawson 1981). Drawn by Marion O'Neil and Craig Angus. Key: 1, iron blade; 2, antler tine 'handle'; 3, human femur; 4, bone point; 5, ivory pin, head; 6, human cranium, vertebrae and sacrum; 7, ivory pin, base; 8, human 'burial' in fissure; 9, antler tine 'spear-point'

Palaeolithic presence in Scotland and that as yet nothing entirely conclusive has been discovered (Saville 1997). For all phases of the Palaeolithic prior to the last glacial maximum of some 20,000 years ago, the problem is that throughout Scotland severe erosion is likely to have removed or masked any traces of human activity that may once have existed (Ballantyne 2004). For the period subsequent to the last glacial maximum, the problem is to determine when and where in Scotland, if at all, humans were present before the Holocene (ie before *c* 10,000 BP). Thus far there are two, albeit still tenuous, pointers to late Upper Palaeolithic activity in Scotland, one involving artefacts related to a *Federmesser* horizon of *c* 11,750–10,700 BP (Saville 2004, 210), the other depending on artefacts related to an Ahrensburgian horizon of *c* 10,200–9800 BP (Ballin & Saville 2003). The earliest radiocarbon dated evidence for human presence in Scotland, however, is still firmly Holocene and Mesolithic, at *c* 9250–9105 BP (Saville 2004, 206). Of course this information is all recent and is consonant with a framework in which the later Upper Palaeolithic of northern and western Europe, Britain included, is increasingly better understood (Eriksen & Bratlund 2002; Barton 2005, 121–38); in the 1920s when the Creag nan Uamh discoveries were made the picture was much more spatially limited and chronologically confused (Garrod 1926).

BACKGROUND TO THE DISCOVERY OF THE ARTEFACTS AT CREAG NAN UAMH

After the caves of the Allt nan Uamh had first come to scientific attention during work for the

Geological Survey in 1885, Bone Cave (Cave No 3) was excavated in 1889 by John Horne and Benjamin Peach. A simple sequence of deposits on the cave floor was proposed, with two main layers of interest. The lower (Bed 5) contained bones of a fauna including arctic lemming; the higher layer (Bed 3) had bones of northern lynx, reindeer and red deer. The excavators were cautious about their conclusions, but appear to have regarded the lower layer as Lateglacial and the upper as perhaps 'Neolithic' in age (Peach & Horne 1917).

In the publication of the 1899 excavations it was claimed that Bed 3 in Bone Cave contained evidence for human activity:

> No less interesting is the evidence pointing to the conclusion that during the accumulation of this bed the cave was tenanted by man. In various layers, fireplaces and firestones, split and burnt bones were observed but no artefacts were detected. It was noted that some of the [r]eindeer antlers had been sawn off (Peach & Horne 1917, 341).

These claims are difficult to substantiate as there is no detailed record of the position or character of the fireplaces, and the firestones, split and burnt bones and sawn antlers do not appear to be extant. While Bed 3 may have contained the bones of some 'arctic' fauna (ibid), it was clearly also disturbed and incompletely sealed, and there can be no confidence that if there were traces of human activity they were necessarily of any great antiquity.[2] The faunal remains from Bone Cave were carefully analysed (Newton 1917) and their significance for species history in Scotland was readily appreciated (Ritchie 1920), but the minimal traces of human activity, undated and without artefacts, excited no immediate archaeological interest, despite the implied fascinating association for Scottish prehistory between people and reindeer. The original excavations do not appear to have led to any claims for Palaeolithic presence at Creag nan Uamh.

Dorothea Bate, the noted palaeontologist, developed an interest in the Creag nan Uamh caves and intended to undertake fieldwork there in 1915,[3] but for an unknown reason her plans never reached fruition (Shindler 2005, 209–10). Otherwise no further investigations, projected or actual, are known to have taken place between 1899 and the work of Callander, Cree and Ritchie in 1926–7.

James Cree's discovery during a visit to Creag nan Uamh in 1925 of pieces of reindeer antler and the tooth of a bear on the ground surface inside Reindeer Cave stimulated the formation of a Research Committee to undertake new work at this location.[4] The Committee was comprised of Cree, a distinguished amateur archaeologist best known for his work at Traprain Law in East Lothian (eg Cree 1923), John Graham Callander, Director of the National Museum of Antiquities in Edinburgh, and James Ritchie, then Keeper of Natural History at the Royal Scottish Museum in Edinburgh. Ritchie, with the help of one of the previous investigators, John Horne, successfully obtained a grant from the Royal Society of London for a programme of fieldwork under the supervision of Cree.

In 1926, Badger Cave (Cave No 1) and Reindeer Cave (Cave No 2) were excavated, and Bone Cave (Cave No 3) was sampled by a 'small hole' dug at its mouth (illus 3; the photograph, presumed to have been taken by Ritchie, shows the sampling outside Bone Cave to have been quite extensive). Only preliminary reports of this fieldwork were ever published (Callander et al 1927; Cree 1927). Excavations continued in 1927 at Reindeer Cave and Bone Cave, and Foxes' Den (Cave No 4) and other nearby openings were also investigated (Lawson 1981; the 1927 work was never published by the excavators). The 1926 excavations in the then unnamed Cave No 1, now known as Badger Cave (Lawson 1988, 43; 1995, 89), recovered 'a portion of a broad iron blade' in an upper cave earth containing bones of extant animal species (Callander et al 1927, 170), and in 'the subsidiary cave behind No 1' were found an isolated human femur and 'a well-dressed bone haft', again in association with bones of extant

ILLUS 3 Excavations at the Creag nan Uamh caves viewed from the north-west. Source, photographer and date unrecorded, but thought to be a photograph taken by James Ritchie towards the close of the 1926 season. Reproduced with permission from a copy supplied by RCAHMS from the National Monuments Record of Scotland (print no B11592/NC21NE1; © Crown copyright: Royal Commission on the Ancient and Historical Monuments of Scotland)

animals (ibid). There were also, according to Lawson (1981, 10), a possible hearth, pieces of charcoal and cut-marked bones. The iron blade can no longer be traced, but we can accept the excavators' conclusion that it was of relatively recent date.

Cree's site notebook (pp 4–5) for 'Cave No 1' (ie Badger Cave), preserved in the National Monuments Record at the Royal Commission on the Ancient and Historical Monuments of Scotland in Edinburgh, gives further details of the 'bone haft', which is described as:

> … a fine knife handle made of deer horn. This was fluted from near the point to the butt end. Two small holes had been apparently drilled close together near the point and the intervening bony structure had then been removed thus forming an ovoid hole. The hole was evidently intended for suspension. The handle had apparently never been used, and the suggestion may be made that it slipped down from the surface layer of the outer cave and had been irrecoverable.[5]

There is no mention in the notebook of the iron blade, but the following remarks (pp 5–6) concern the human femur:

> About 7' 0" from the entrance to the inner cave a human femur bone was discovered projecting from the side of a burrow. The depth of this from the surface was about 2' 6". No other human bones were recognized and no burial seemed to have

> taken place. The bone may have been brought in to the cave by some animal, but no animal teeth marks were observed on it. No charcoal or other evidence of the occupation of this cave by man was observed.

At Reindeer Cave in 1926, the excavators found in the upper red cave earth of the outer cave 'a human skeleton and portions of another, the latter which was found at the base of the cave-earth, having been definitely interred' (Callander et al 1927, 171). In the same deposit were found 'two bone implements, an awl and a pin of peculiar form' (ibid). In the gravel below the cave earth were discovered the 'vast numbers of shed antlers of young reindeer' which give the cave its name and 'clear evidence of the presence of man, indicated by a simple reindeer horn implement, by humanly cut and scratched reindeer antlers and by fragments of charcoal' (ibid). The excavators judged that:

> … we are dealing here with one of the periods in the Upper Palaeolithic series, certainly belonging to the Magdalenian or earlier times. Lack of artefacts of cultural significance prevents more definite decision in the meantime (ibid).

Nevertheless, the excavators concluded that '[f]or the first time evidence of the presence of Palaeolithic man in Scotland has been found' (Callander et al 1927, 172).

In an account published in *Antiquity*, said to be an abbreviated version of a newspaper report of his lecture to the Society of Antiquaries of Scotland in 1927,[6] Cree gave further details of the finds from Reindeer Cave:

> … the upper deposits contained mammal and bird bones of a moderately remote period together with two objects made by the hand of man. One of these was an awl, about 4 inches in length, which had been made from a splinter of bone. The edges of the splinter were rounded and the flat surfaces highly polished through use. The other object was a large pin made from a cetacean bone. It was found in two pieces, about 6ft apart. The head was formed of a large loop which originally had another loop attached to one side of it, but when the pin was found, this latter loop was wanting (Cree 1927, 219).

In his published note, Cree only mentions one inhumation in this horizon, the 'ceremonial burial' set within a 'small enclosure' formed by two flat stones on edge at the rear of the cave and comprised of merely a skull, four vertebrae and a sacrum, but he records that the pin was found in association with this burial (Cree 1927, 219).

Cree's site notebook (pp 13–17) for Reindeer Cave (Cave No 2) gives the following further pieces of information about the finding of the pin and the enclosed burial:

> Towards the centre of this space [*between the cave wall and the terminal pillar*] about half of a bone pin (the head) was found. This is of unusual form and is made from the bone of some cetacean.… Behind the first mentioned pillar, ie on the west side of the cave is a small bay or recess which extends to the back of the cave. Here in the cave earth a ceremonial burial had taken place. Close to the small natural horizontal hole next the west wall of the cave, a small flat stone had been placed on end. Another flat stone was similarly placed about 8' [*not 8" as incorrectly reported in Cree 1927, 219*] further back. This approached the natural wall on the west side and thus formed three sides of an enclosure. Within this enclosure a human skull (dolichocephalic) was found minus both upper and lower jaw. The skull was resting on its occiput – the top of the skull being towards the back of the cave. The face would thus be towards the roof. Behind this, only a few human bones were recovered, viz some of the vertebrae and the coccyx [*sic – this is actually the sacrum*]. It is noteworthy that none of the larger bones of the body were found.… About 4' 0" behind the skull lay the lower half of the bone pin the head of which was brought to light in the recess in front of the natural wall about 6' 0" nearer the entrance.[7]

The same notebook (pp 18–20) throws more light on the second burial:

> At the extreme back of the cave a large natural 'gash' was found … Later it was found that this hole communicated with a large inner cavern … After clearing away some peaty deposit and the

> layer of cave-earth and some of the bone bearing gravel … a human skeleton was uncovered. The whole of the skeletal remains occupied a space of about 2' 0" × 2' 6" and they were only lightly covered by cave earth. The skull lay face upwards at the foot of the rocky gash and the remainder of the bones were picked up in the restricted space above mentioned. Only one femur bone was found and it lay across the face. I formed the opinion that the skeleton was comparatively recent and that the body had been thrown or placed head down in the 'gash'. The feet had presumably occupied a considerably higher position on the bare rock and when natural decomposition had taken place, the bones had slipped down the sloping rock into the position in which they were found. Animals passing through the hole into the inner cave may have expedited this result. The skull was that of an adult and seemed to be brachycephalic. Some of the teeth of the upper jaw had never erupted and these appeared to have marked pyorrhea in the lower jaw.

In the underlying gravel horizon beneath the upper cave earth, Cree (1927, 220–1) records that:

> … in association with a large canine tooth of a bear and some of the large bones of this animal – all in a high state of fossilization – was found a fragment of a small horn artifact about 2 inches in length; possibly a portion of a spear-point.… Here we have evidence of man's existence in the north of Scotland at a time when ice, many feet in thickness, was covering the mountainous portion of the country and glaciers were slowly moving down the valleys.… Thus we have proof for the first time of the existence of man in Scotland in the late Palaeolithic period.… Our conclusions have received corroboration from the great French archaeological authority, the Abbé Breuil, from whom we were fortunate in receiving a visit.[8]

In an unpublished letter (Cree to Ritchie, 28 June 1926, NMS archive), several small pieces of charcoal are said to have been found in the gravel along with the reindeer antler fragments. Another unpublished letter (Cree to the local factor Murdo Kerr, 21 August 1926, NMS archive), reporting the completion of the 1926 season, notes that Cree found, in the same gravel as the 'spear-point', a '… reindeer horn pick formed from the shaft and brow tine of the antler. It has several cuts and other marks on it indicating human work'. The latter find is not mentioned elsewhere and has not definitely been located;[9] this tantalizing item cannot be assigned any further significance without being able to confirm the identification as a 'pick'.

Although a further season of excavation was undertaken in 1927, nothing else of any substance was published by the excavators, other than the brief comments by Callander (1927) in his lecture to the Society of Antiquaries of London, and the text of Ritchie's 1928 Presidential Address to the Edinburgh Royal Physical Society, in which few details were given apart from the following in a brief account of the Allt nan Uamh cave deposits:

> … in a higher layer, which contains for the first time remains of [r]ed [d]eer, and which, on account of the skeletal character and mode of burial of human remains in it, may be regarded as belonging to the period of Azilian culture between the Palaeolithic and Neolithic Ages.[10] … It is unfortunate that so far the investigations at Inchnadamph have revealed no handiwork of man characteristic of any particular [P]alaeolithic culture, which would enable a definite archaeological correlation of the older faunas to be made. It is clear, however, that we are dealing with Upper Palaeolithic times, and since the later glacial fauna is older than Azilian, since it belongs to the valley-glacier period of the final recession of the ice-age, and is predominantly a [r]eindeer fauna, I venture to correlate it with Late Magdalenian times' (Ritchie 1929b, 193; see also Anon 1929).

Also in 1928, Ritchie addressed the Anthropology Section of the British Association for the Advancement of Science at its Glasgow meeting on the subject of 'Palaeolithic man in Scotland – the evidences from the caves at Inchnadamph, Sutherland', of which only a brief summary was published (Ritchie 1929a).

Subsequent authorities varied in their reaction to the reported interim findings. Childe (1935,

13) accepted the claim for human presence but doubted the Palaeolithic dating, while Movius (1942, 72–4) was initially prepared to accept the findings as an indication of human occupation contemporary with the final glacial stages and confirmed that 'Breuil, who has seen the find, agrees with this conclusion and has suggested to the writer that the scarcity of cultural remains … infers temporary occupation of the cave'. Movius (1953, 82) subsequently wondered if a Postglacial date was actually more probable and Lacaille (1946, 78–9; 1954, 29) seems to have been much more sceptical and strongly doubted the Pleistocene attribution for anything other than the fauna right from the start:

> Il est à remarquer que les cavernes d'Inchnadamph … ont produit des restes de la faune magdalénienne, mais l'absence d'objets travaillés ne permet pas de constater définitivement que ces abris étaient habites par l'homme (Lacaille 1931, 310). [*It can be noted that the Inchnadamph caves have produced the remains of a Magdalenian fauna, but without worked objects it is not possible to say definitively that they were humanly occupied*. AS translation]

Although spelaeological, palaeozoological and tourist interest in the caves has continued (Hawthorne 1957; Ford 1959; Lawson 1988), archaeological interest in the Creag nan Uamh caves appears to have rapidly waned (cf Boyd 1957, 16), and by the time Audrey Henshall wrote her chapter for *The Sutherland Book* she reflected the general archaeological opinion[11] by totally rejecting claims for early human presence:

> At one time it was thought that evidence of [P]alaeolithic occupation had been found in the caves at Allt nan Uamh near Inchnadamph, but this claim is now discounted (Henshall 1982, 135).

Nevertheless, archaeological attention to the caves was coincidentally revived at just the same time by Lawson's 1981 article, published at the end of 1982. In writing his paper, Lawson had access to unpublished letters and manuscripts (in the archives of what was then the Royal Scottish Museum), which clarified the circumstances of both excavation campaigns, added considerable detail concerning the stratigraphy and allowed the presentation of previously unpublished sections and an annotated plan of the caves. At that point, however, neither the finds nor any illustrations of them had been rediscovered, the fauna had not been re-examined and there were no radiocarbon dates, and Lawson was at this stage very dubious about any possibility of Palaeolithic presence (Lawson 1981, 19–20).

Indeed, the renewal of interest sparked by Lawson's paper centred initially on the reindeer remains (Clutton-Brock & MacGregor 1988, 30). Lawson (1984) initiated this interest himself by obtaining some radiocarbon determinations on antlers and then continued the research in collaboration with Clive Bonsall and others. The preliminary study of the reindeer remains indicated they were all naturally shed and the study located none with convincing cut-marks or other traces of working but, during the course of this re-examination, the sheer quantity of them persuaded Bonsall and Lawson that they represented the residue of a cache or repository of stored antlers accumulated by humans for the purposes of tool-making (Lawson & Bonsall 1986a, 4; 1986b, 85–6). On the basis of a radiocarbon date on bulked antler fragments (SRR-1788: 10,080 ± 70 BP), and considering the 'arctic' elements in the fauna and the nature of the deposits, this activity was felt most likely to have taken place at the end of the Pleistocene during the Loch Lomond Stadial (*c* 11,000–10,000 BP).

Both the anthropogenic explanation for the antlers in the cave and the Loch Lomond Stadial dating were highly controversial,[12] but for a while this notion of late Upper Palaeolithic presence at Creag nan Uamh continued to be promoted (Morrison & Bonsall 1989; Lawson 1993, 132; Denison 1994), while other authorities mentioned it with caveats (Smith 1992, 161), or noted it but regarded

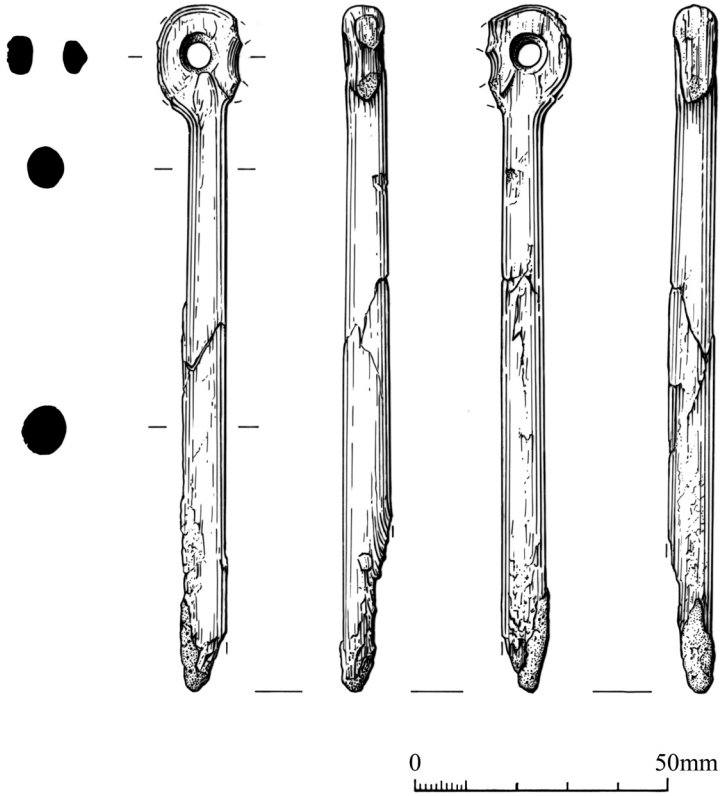
it as still unverifiable (Woodman 1989, 20; Henshall & Ritchie 1995, 15–16). However, further analyses of the reindeer remains and the availability of new, more reliable, radiocarbon dates on single pieces of antler led, in 1993, to a major revision of the previous interpretation (Murray 1993; Murray et al 1993). The bulk of the antlers now appear to have accumulated over a period of thousands of years prior to the last glacial maximum during the late Middle/early Late Devensian stage (*c* 32,000–22,000 BP). Analysis by Nicola Murray showed that a very high percentage of the Reindeer Cave antlers were from females, with the remainder probably from juvenile males. This was explained by the hypothesis that the Assynt area served recurrently as a major calving ground for reindeer, with selections from the accumulating antlers somehow derived into the cave deposits by entirely natural processes rather than being collected by people. Although the missing antler 'artefact' itself had not been found at this stage, archive research had revealed a more detailed description and a sketch drawing of Cree's 'spear-point', which was reproduced without any interpretation of its status (Murray et al 1993, 8 & fig 2; see also illus 9).

References to Palaeolithic hunters at Creag nan Uamh are still sporadically aired, but by the 1990s the general archaeological consensus was again that there was, in the absence of the artefacts, no evidence for human activity at these caves prior to the Holocene (Wickham-Jones 1994, 43; Willis 1994, 4; Close-Brooks 1995, 37; Gourlay 1996, 3; McCormick & Buckland 1997, 86; Saville 1997, 13). The available artefacts from the site can now be examined to see if they support this position.

THE ARTEFACTS

THE IVORY PIN (ILLUS 4)

The ivory pin is described by Cree (1927, 219) as associated with what he considered to be the deliberate interment at the rear of the upper red cave earth in the outer part of Reindeer Cave. However, as Cree's notebook entries make clear (above), not only were the two halves of the pin found about 1.8m (6ft) or more apart, suggesting post-depositional disturbance, but they were not in any close association with the bones, the lower half of the pin being found some 0.9–1.2m (3–4ft) away from the skull (illus 2). This does not in principle entirely invalidate the possibility of an original link between the pin and the burial, but it



ILLUS 4 Walrus ivory ring-headed pin from Reindeer Cave (NMS X.HM 377). Drawn by Marion O'Neil

indicates that there is no positive contextual evidence to demonstrate this, and the radiometric determinations from both the pin and the bones are clearly completely at odds with any such association (see below).

The pin is a substantial example with a robust cylindrical shaft, which has broken near its centre and been repaired (this repair, not very well implemented, was made by Cree soon after discovery and before the object was taken to Edinburgh: unpublished letter Cree to Callander, 4 July 1926, NMS archive). The shaft is truncated by a break at the base, now somewhat obscured by an adhering patch of calcareous concretion. Those parts of the shaft and head retaining the original surface appear polished by use (colour in the region of Munsell 10YR 8/4–8/6: very pale brown to yellow). The surface of the lower part of the shaft has become badly spalled, and this area was selected for removal of a sample for radiocarbon dating (below). The head of the pin is elaborate, with a surviving ring with an 'hourglass' perforation and traces of what may have been a second ring, also with an 'hourglass' perforation, to one side of the head. This would have made the head of the pin appear very unbalanced, and another possibility is that this was an open, double-pronged semi-circular projection rather than a complete ring. The other side of the surviving ring is also slightly damaged, with traces of further, probably very slight, extension in this direction, though it does not appear there was ever any substantial projection on this side, and certainly not another ring.

The maximum length of the whole pin is now 134mm; the shaft has a maximum diameter of 9.5mm and a minimum diameter of 7.5mm. The maximum width of the head is 17mm and the maximum depth 8mm; the 'hourglass' perforation has a maximum diameter of 7.5mm and minimum of 5mm. The current weight is 12g.

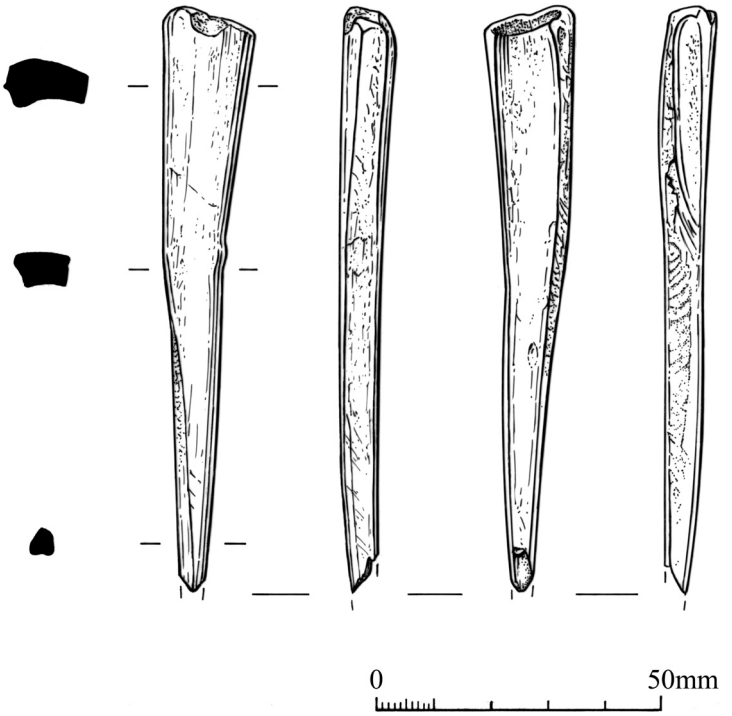
Originally identified as of cetacean bone by Cree, the raw material has subsequently been confirmed by specialist examination (by Jacqui Watson) to be walrus ivory.

Radiocarbon dating of the sample removed from the lower part of the shaft produced a result of OxA-3527, 1900 ± 80 BP, $\delta^{13}C$ –11.7‰ (Hedges et al 1993, 155). Under normal circumstances this determination would calibrate (OxCal v3.9; Bronk Ramsey 2003) at the 95% confidence level to the range 60 BC to AD 340 (ie within the Iron Age), but, because the raw material being dated is from a marine mammal, calibration in this instance must take account of the marine reservoir effect, whereby there is an offset in date between ages derived from terrestrial and marine carbon (Ascough et al 2004). The correct offset to be applied is somewhat problematic in the case of walrus ivory, especially without knowing the residential biography of the walrus from which the ivory derived, but the correction factor could be in the region of 400–500 radiocarbon years. On the basis of current understanding, a 'best guess' for the calibrated calendar age represented by this date would be in the region of AD 1000–1300, or perhaps somewhat earlier in the second half of the first millennium AD, but certainly post-Iron Age (T Higham, pers comm).

Cree (1927, 219) commented that 'no similar pin is in the Scottish National Museum' and it remains the case that no entirely satisfactory parallel for this object from the national collection, or from anywhere else, has emerged. In very general terms, it can be compared to the kind of perforated-headed bone pins or bodkins as found in an early medieval context at Goltho, Lincolnshire (MacGregor 1987, 188 & fig 161:4), or at Hedeby, Schleswig-Holstein (Schwarz-Mackensen 1976, figs 12–13), but these are generally somewhat narrower in the shaft. A more specific parallel, sharing similar dimensions, is provided by a ring-headed pin of antler from Viking/early medieval levels at Staraja Ladoga, Russia (Davidan 1982, fig 1:18), but this example is ornamented with incised decoration on the shaft and so is more obviously a display item. The function of the Reindeer Cave pin is obscure. It could have been a clothing pin, though it is on the large and thick side, and being made from ivory is unlikely to have been for textile working or net-making or similar routine tasks, though it does have some of the character of a tool rather than of a display item. Perhaps it functioned as a hair-pin; or there is even the remote possibility (because the tip is lost) that it could have been a stylus (cf Artursson 1995; Trotzig 2004).

The walrus is a circumpolar species, on the European side of the Arctic living around Greenland and along the northern coasts of Norway and Russia, and a millennium ago along the west and north coasts of Iceland as well. It is just possible that there were occasional strandings on Scottish shores of vagrant animals from which tusks could have been scavenged and worked locally (MacGregor 1985, 40–1; Hall 2001, 175) but it is more likely that either the ivory for the Reindeer Cave pin, or more likely still that the pin itself as a finished object was imported from further north in Europe. Imports of walrus ivory tusks or objects worked from them appear to be very rare in western Europe before *c* AD 1000, becoming more frequent thereafter and in fact most popular in the

Viking world in general during the 11th to 13th centuries AD, after which the use of this raw material declines because of the renewed availability of elephant ivory (Gaborit-Chopin 1992; Roesdahl 2001; 2003). This popularity applies mainly to art objects and special pieces, however, as walrus ivory was a luxury commodity in western Europe. Objects were being made from imported walrus tusks in the 11th century AD in Dublin – where part of a walrus skull has been recovered from excavations (Roesdahl 2003, fig 4) – and in Novgorod, Russia, with a peak during the period AD 1075–1210 (Smirnova 2001a), though the point has been made that, in Novgorod, only noble households and not the general populace had access to walrus ivory objects (Smirnova 2001b). In Greenland and other parts of the far north, however, where it was a more local resource, walrus ivory was also used for simple items such as pins (Liebgott 1992). Without precise parallels and a more exact date for the Reindeer Cave pin, it is not possible to suggest its likely origin with any confidence, or indeed to be certain that it was an import.



ILLUS 5 Bone point from Reindeer Cave (NMS X.HM 378). Drawn by Marion O'Neil

THE BONE POINT (ILLUS 5)

The accompanying label reads 'Reindeer Cave June 1926, bone "awl" found in red cave earth: on east side of cave near entrance'.[13] This artefact is made on a sliver of long bone, very highly smoothed, with all edges rounded off and the surfaces virtually polished towards the pointed end, the actual tip of which is broken off (colour in the region of Munsell 10YR 8/3–8/4: very pale brown). There are some transverse, parallel cut-marks or use-striations clearly visible on the surface of this artefact, mainly in the area adjacent to the broken point.[14] The maximum length is 102mm, maximum width 11mm and maximum thickness 7mm. [Note that Lawson (1981, 13) incorrectly gives the length of this implement as 127mm; the actual length tallies with the 'about four inches' described by Cree above.] The point weighs 10.8g.

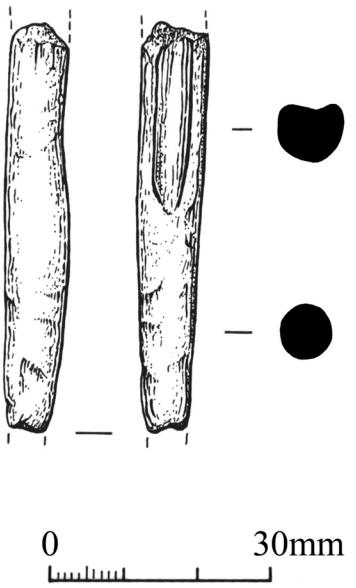
A tentative identification of derivation from a red deer metapodial bone has been suggested (S Payne, pers comm) but the piece retains insufficient diagnostic characteristics for any absolute certainty over its skeletal origin. A sample was drilled from this artefact and submitted for AMS radiocarbon dating but was found to contain insufficient collagen (it had only 0.2mg of 'protein' per gram of bone; R Housely, pers comm).

This is such a simple and basic type of tool that parallels from early prehistory through to the medieval period could be given, which means that in practice it is impossible definitively to assign a date on typological grounds. Given the cave context and the highly use-polished condition, the function might best be regarded as a clothing or hair pin, but in other contexts such an implement might be identified as a weaving pin-beater (MacGregor 1985, 189; MacGregor et al 1999, 1967–8), an identification which would certainly accord with the level of wear and the transverse striations. A potential parallel in the latter case is provided by an example from York, and it would appear that single-ended pin-beaters of this

type do not occur in England after the 13th century AD (Ottaway & Rogers 2002, 2738 & fig 1345:8019).

THE REINDEER ANTLER FRAGMENT OR 'SPEAR-POINT'/'BONE PIN' (ILLUS 6)

This is the object from Reindeer Cave which caused the main interest in terms of evidence for Palaeolithic human presence (see above). It was found in the 'shaft' at the back of the outer cave, 4–5ft (*c* 1.2–1.5m) below the mouth, on 7 July 1926 (illus 2). The text of a letter sent by Cree to Callander on 8 July 1926 which conveys the initial intense excitement over this discovery is reproduced below (Appendix), wherein it is described as a 'bone pin'. In *Antiquity*, it is described as 'possibly a portion of a spear-point' (Cree 1927, 220), and more circumspectly in other publications at the time as 'a simple reindeer horn implement' (Callander et al 1927, 171) and 'a small tapered implement of reindeer horn' (Callander 1927, 91).



ILLUS 6 The antler 'spear-head' fragment from Reindeer Cave, now regarded as a fragment of reindeer tine which is unmodified anthropogenically (NMS X.HM 379). Drawn by Marion O'Neil

The object is a short, thin, rounded segment of antler tine, broken at both ends, with a channel along part of its length. The length is 56mm, maximum diameter 8.5mm and minimum diameter 6.5mm. The channel is 22.5mm long, 5.5mm wide at its broadest point and just 1mm deep. At the thinner end, the segment narrows and rounds-off to the natural tine tip; the original termination cannot have been more than perhaps 3mm further on from where it is now. Judging from the size and shape characteristics of this piece, it is likely to derive from a relatively small tine, and the thicker end would therefore broaden out fairly rapidly after the break to form its junction with the beam. If so, this would not allow the tine segment to have a much greater overall length than at present.

This piece has the same colouration, character and condition as most of the reindeer antlers from Reindeer Cave (colour in the region of Munsell 10YR 7/4–7/6: very pale brown/yellow). Given its location in the cave deposits, and the fact that all the single-entity radiocarbon-dated antlers at Reindeer Cave are of pre-glacial maximum Devensian age (Murray et al 1993, table 1), there is a very high probability that this object is also of similar antiquity.

Is it, however, an artefact? Any arguments in favour of the piece being part of an artefact must hinge on whether the channel and the surface finish are artificial and deliberate. Examination of the other antler tine fragments from Reindeer Cave shows no precise parallel for the channel, though there is a tendency in some specimens for a slight hollowing to occur on the inner surface of the tine as it comes to the junction with the beam. The 'polished' surface of this piece, undoubtedly somewhat enhanced by handling since discovery, does have some parallels amongst the other tine fragments, and can be seen as a natural, post-depositional phenomenon. The consensus of current opinion among those who have seen this piece is that it is almost certainly entirely natural, with no clear evidence for shaping and with the channel perhaps representing erosion that has capitalized on a fortuitous weakness or damaged zone and then been weathered smooth.

Were this an Upper Palaeolithic artefact, the obvious comparisons to be made would be with the grooved antler rods of Upper Palaeolithic age, such as the examples from Church Hole Cave at Creswell Crags (Garrod 1926, fig 31, where the two grooved fragments are incorrectly shown as part of a single artefact), with which the Reindeer Cave object shares some metrical similarities (eg the channel on the most complete Church Hole Cave piece is also 5.5mm at its widest point). There is no evidence as to exactly what was in Cree's mind when evaluating this find, but it is possible that he would have been aware of the best-preserved of the Church Hole Cave rods from its original publication in the 19th century (Dawkins 1877, fig 7; 1880, fig 57). However, examination of the Church Hole Cave fragments, now interpreted as marrow probes and

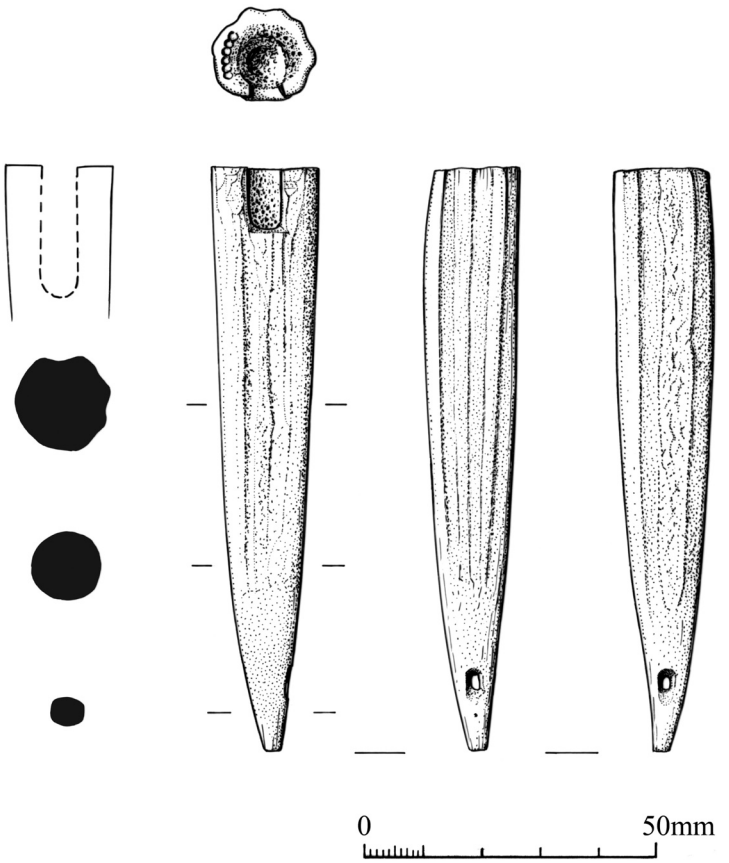
radiocarbon dated to the late 13th millennium BP (Jacobi et al 2001), makes it clear that the grooves or channels are twice as deep and more pronounced, and that they expand towards the point and narrow towards the thicker middle part of the tools, which would appear to be the direct opposite of the form and location of the channel on the Reindeer Cave piece. The channel on the decorated reindeer antler 'lance-point' from Victoria Cave, Yorkshire (Jackson 1945, plate XIIa), is also much more pronounced and, though the channel does in this case taper towards the tip, the artefact as a whole is much more robust and obviously crafted than the Reindeer Cave piece. This more pronounced aspect to the groove or channel is similarly the case with comparable examples from Upper Palaeolithic horizons in France (eg Chauvet 1910, 65).

These comparisons are all with relatively larger and more robust artefacts than the Reindeer Cave piece could ever have been part of, they probably utilize antler from male animals, and of course they are all significantly after the glacial maximum in date, whereas the Reindeer Cave piece is almost certainly of pre-glacial maximum age. On balance, and taking into account all observations it is considered that, despite the initial enthusiasm its discovery engendered (Appendix), this fragment of antler tine is not an artefact.

THE ANTLER 'KNIFE HANDLE' (ILLUS 7)

This item from Badger Cave is accompanied by an original hand-written label: 'Cave No 1. Found at back – entrance to inner cave – in red cave-earth. Top level'. Full account of its finding and location has already been given.

The artefact is a highly wear-polished, shallowly socketed 'handle' of red deer antler tine, weighing 17g. The external surface has been chamfered or fluted, a process which has left distinct 'ladder-rung pattern' tool-marks along some of the chamfered surfaces. This chamfering was perhaps done to enhance the object's appearance or to improve the grip, or both, but there is no other decoration (colour in the region of Munsell 2.5Y 8/4–7/4: pale yellow). It is 100mm in length, tapering in an asymmetric conical fashion from a diameter of 14.5mm to 18mm at the broad end, to 2mm at the tip. The broad end is formed by a neatly cut surface, now worn, at right angles to the length of the tine, and has a rectangular cut-out, 9mm deep and 5mm wide, at one point on its circumference. The socket is relatively crude and minimal, being only 21mm deep at maximum. The pointed end of the artefact is blunted, probably deliberately and is now worn smooth. Towards the tip, at a point where the width is 6mm, is a perforation, sub-rectangular in shape, measuring 4 × 2.5mm, and of 'hourglass' character. There has been some wear at the perforation, but insufficient to remove the marks of the original tooling within. Just below the perforation



ILLUS 7 The antler socketed 'handle' from Badger Cave (NMS X.HM 381). Drawn by Marion O'Neil

on one face is a 'pin-prick' indentation.

The initial assumption by the excavator was that this artefact was intended to be a handle, the cut-out serving to anchor whatever was set in the socket. There is little sign of wear in the socket or cut-out, however, and no staining of the antler from metal. On the other hand, the wear on the surface of the object itself suggests it has been functional. It seems improbable that it could have served as the handle for the lost 'broad iron blade' (see above) from this cave. The perforation at the tip perhaps took a cord or something similar to allow the object to be suspended.

The illustration shows where on the cut surface of the broad end the sample for radiocarbon dating has been extracted by drilling. The resulting determination was OxA-5757, 850±45 BP, $\delta^{13}C$ –21.4‰ (Hedges et al 1998, 438), which calibrates to an age in calendar years of AD 1040–1280, spanning the transition from the Viking Age to the early medieval period (OxCal v3.9; Bronk Ramsey 2003).

General parallels for the use of the tips of antler tines as socketed handles are available from the Iron Age onwards (eg Coles 1987, 88), but no specific parallels for the particular surface treatment, the cut-out at the socket and the terminal perforation of this example have been located thus far. The usage here is clearly something different from the numerous occurrences of roughly hollowed antler tine tips, generally without any surface modification, which are thought to be off-cuts or connected with the production of antler rings (MacGregor et al 1999, 1998–9; cf Waterman 1959, pl XXI). In discussing decorated examples of antler tine tips with relatively shallow 'sockets', Sharples (2004, 265) has doubted any function as handles. Slots or cut-outs similar to the Badger Cave example, though on opposite sides of the broad end rather than just on one side, occur on examples from York and Hedeby (Waterman 1959, fig.19:21; Ulbricht 1978, Abb.3:9), but are also of obscure purpose. A vaguely similar conical and perforated bone object from Thetford (Rogerson & Dallas 1984, fig 199:99) has a surface finish of even more pronounced faceting, but is again of unknown function.

THE HUMAN REMAINS

It was originally recorded that there were the partial remains of at least two individuals from Reindeer Cave, and an isolated femur from Badger Cave (Callander et al 1927, 170–1). The bones were not itemized, and all that can be ascertained from the publications and the unpublished notebooks etc (above) is that the Reindeer Cave bones included in the upper deposits a skull (dolichocephalic, minus both mandibles), four vertebrae and a sacrum, and at the junction with the inner cave an adult skull (brachychephalic and retaining the upper mandible), a femur and an unspecified number of other skeletal parts of what was considered to be a disturbed interment. As Cree wrote of the latter:

> My explanation of the matter is that the person, a man, was deliberately thrown into this recess head down, possibly in the hope or belief that in time the body would slip down still further. After the flesh had all decayed away, the bones would all fall one on top of the other and this would account for the femur being found lying across the face of the skull. The whole thing savours of two bloody murders! You will have noted that I have only mentioned one femur. Was the victim a one legged man, or was his other femur the one we got in Cave No.1? – carried there by some animal (unpublished letter Cree to Callander, 4 July 1926, NMS archive).

When the human bones were anonymously inventoried for a 'drawer and box list' of the Inchnadamph bones in the Royal Scottish Museum, the following were recorded:

> Reindeer Cave, unnumbered, associated with a label reading 'from shaft at back of cave 4' 0"–5' 0" below the mouth, 7th July 1926': R. scapula (adult); R. scapula (foetal?); clavicle; fibula; R. calcaneum; 2 lumbar vertebrae; 1 thoracic vertebra; axis vertebra; first rib.
>
> Reindeer Cave, unnumbered, no label: 2 L. scapulae (immature); humerus (immature); humerus diaphysis (adult); humerus diaphysis (?burnt); R. femur (immature); atlas vertebra; axis vertebra; 2 fragments of vertebrae (immature); 12 rib fragments (probably human); premolar tooth; pelvis fragment (immature).
>
> Reindeer Cave, unnumbered, associated with a label reading: 'from gravel and brownish sand in chimney at back of cave 4' 0" to 5' 0" below the mouth 7th July 1926': 2 metatarsals (1 gnawed by rodents?).

> Reindeer Cave, unnumbered, associated with label reading 'from 3rd layer' (ie from 3rd layer (gravel) 1st July 1926): cervical vertebra fragment; thoracic vertebra fragment; axis vertebra (adult); innominate fragment (immature/foetal).
>
> Reindeer Cave, numbered, associated with label reading: 'found 28 June 1926. From top layer – brown cave earth': 2309 rib (possibly human).

Thus, at the unknown date on which this list was compiled, the two skulls from Reindeer Cave and the femur from Badger Cave were not present. This is undoubtedly because the skulls and femur had been deposited separately with the Anatomy Museum at Edinburgh University, where Ritchie displayed them for the delegates of the British Association for the Advancement of Science meeting in Edinburgh in August 1951 (see Postscript below). Ritchie's notes for the label to accompany this display, dated 10 July 1951, survive in the NMS archive:

> Cave No 1 – Inner extension: about 7 feet from the opening of the inner extension and 34 feet from the entrance of the Cave proper, a single human femur was found projecting from the side of a burrow (probably made by a fox) at a depth of 2 feet 6 inches from the surface.
>
> Cave No 2 – Reindeer cave: 1. Human skull, lacking lower jaw, found in recess behind rock-pillar, buried in the cave earth at a depth of about 1 ft. The position suggested a ceremonial burial as the skull was placed in a small recess formed by the west wall of the Cave, and at each side by a flat stone set on edge. The only human bones found near it were four vertebrae and a sacrum. 2. Human skull and Skeleton, found in Cave-earth at lower end of a rock fissure at the extreme inner end of the Reindeer Cave, 40 feet from the entrance. The skull lay at the lowest part of the fissure, face upwards, with a single femur lying across it, and the rest of the bones were piled up in the restricted space of the fissure.
>
> (Note: While the Reindeer Cave has no direct communication with Cave 1, the fissure above-mentioned continues for 20ft into the Inner Reindeer Cave and it was found by smoke tests that the Inner Cave communicated with Cave 1. There is a possibility therefore that the femur from Cave I may be the missing femur from the skeleton in Reindeer Cave fissure.)

It is also clear from papers in the archive that, at Ritchie's request, Dr L H Wells of the Anatomy Department at Edinburgh University had sent two human bones from Reindeer Cave ('… a portion of rib from the fissure group of bones and a vertebra of the other series'; unpublished letter from Wells to Ritchie, 2 March 1955, NMS archive) to Dr Kenneth Oakley at the British Museum (Natural History) for testing of their carbon content as a preliminary to possible radiocarbon dating. Ritchie also sent numerous antler and animal bone fragments to Oakley in 1955 but there is nothing in the archive to indicate either if any results accrued or if the bones were ever returned.

The inventory list of human bones also suggests, on the basis of the two immature left scapulae and the adult right scapula, that at least three individuals are represented (or perhaps four if the Badger Cave femur was from a separate individual and depositional episode). It was from among the extant bones on this list that Clive Bonsall made a selection for radiocarbon dating in 1995 and obtained the results shown in Table 1 (Hedges et al 1998, 438; calibration from OxCal v3.9; Bronk Ramsey 2003).

The dates in Table 1 suggest that the metatarsal could relate to a separate individual whose remains were deposited before those of another person, who may be represented by the other three dates, which are all compatible and could relate to the same immature

Table 1
Radiocarbon results from human remains

Lab code	*Sample material*	*Lab age BP*	*$\delta^{13}C$*	*Calibrated dates*
OxA-5758	Immature humerus	4515 ± 60	–20.9	3500–2950 cal BC
OxA-5759	Immature femur	4520 ± 50	–21.7	3370–3030 cal BC
OxA-5760	Immature scapula	4470 ± 50	–21.4	3350–2920 cal BC
OxA-5761	Metatarsal	4720 ± 50	–20.8	3640–3370 cal BC

TABLE 2
Radiocarbon dates from herpetofaunal remains

Lab code	*Location*	*Sample material*	*Lab age*	*Calibrated age*
OxA-7293	Bone Cave	Tibiofibula of *Bufo bufo*	4935±55 BP	3940–3630 cal BC
OxA-7292	Bone Cave	Male humerus of *Rana temporaria*	4785±55 BP	3660–3370 cal BC
OxA-7294	Badger Cave	Male humerus of *Bufo bufo*	4455±55 BP	3350–2920 cal BC

individual, although they need not necessarily do so because, as noted above, the two left scapulae on the list suggest the presence of two immature individuals. The dates do, however, clearly indicate human use of Reindeer Cave in the Neolithic period, perhaps specifically for the purpose of burial, though it would have to be admitted that the existing records are insufficiently precise for absolute certainty that formal burial accounts for more than one of the individuals represented.[15]

The phenomenon of interment in caves and rock-shelters during the Neolithic period is well known though it has until recently received little scholarly attention in comparison to work on burials from long barrows and chambered tombs (Barnatt & Edmonds 2002). In Scotland, there are comparably dated disarticulated human remains from Carding Mill Bay rock-shelter and Raschoille Cave (Bonsall 1999; Schulting 2000), both near Oban, and from the An Corran rock-shelter on Skye (Saville 1998), suggesting that it was a relatively common practice for human remains to be deposited in such locations during the Neolithic. In fact this practice was widespread throughout Britain, starting very early in the Neolithic period as indicated by the dates between 4500 and 3800 cal BC on human bones from Fox Hole Cave, Derbyshire (Chamberlain 2001). Directly comparable dates to those from Reindeer Cave have been obtained on human remains from the following caves and rock-shelters in England (Chamberlain & Williams 2001): Derbyshire (Mother Grundy's Parlour; Robin Hood's Cave; Sepulchral Cave), Herefordshire (King Arthur's Cave), Somerset (Flint Jack's Cave; Hay Wood Rock Shelter; Picken's Hole), Staffordshire (Ossum's Crag Cave) and Yorkshire (Scabba Wood Rock Shelter); and in Wales (Chamberlain & Williams 2000): Clwyd (Pontnewydd Cave), Dyfed (Little Hoyle Cave; Nanna's Cave; Ogof-y-Benglog) and West Glamorgan (Spurge Hole). In fact, as Chamberlain (1996) has clearly demonstrated, the radiocarbon dates for human remains from caves in Britain peak in the period 5000–4000 BP, especially in the earlier part of that timespan. The evidence from Reindeer Cave shows that, even in 'remote' north-west Scotland, Neolithic practice was consistent with this trend, and adds to the impression gained from chance finds and surviving chambered tombs that the Sutherland region was well integrated into the wider Neolithic world (cf Henshall 1982).

It should also be noted that the dates obtained by Gleed-Owen (1999, 7) on herpetofaunal remains from Creag nan Uamh include three from the Neolithic period, overlapping in age with the dated human remains (Table 2).

The abundant Holocene 'frog'-fauna at Creag nan Uamh has been linked to particularly favourable climatic conditions for amphibians in the period *c* 8000–3000 BP, when they would have been of increased importance for the diet of those predators responsible for the deposition of their remains in the caves (Gleed-Owen 1999, 10). Gleed-Owen (1999, 8) drew attention to the blackening of one specimen, the tibiofibula from Bone Cave, which might be due to burning and thus might imply human activity, although the date of this specimen is the least well correlated with the dates from the human remains.

CONCLUSION

The outcome of this description of the three objects from Reindeer Cave and a fourth from Badger Cave has been to establish that there is now absolutely no archaeological basis for suggesting human presence at Creag nan Uamh during the Palaeolithic period (cf Saville 2004, 208). In particular, the significance of rejecting the antler 'spear-point' as an artefact must be stressed, as this was the original lynch-pin of the excavators' case for Palaeolithic activity.

Human presence at Creag nan Uamh is first indicated by the skeletal remains, which

radiocarbon dating has shown to be of Neolithic date (Hedges et al 1998, 438), then much later by the walrus ivory pin and antler 'handle' (and possibly also the bone point), probably in Viking Age/early medieval times. Subsequent human activity, perhaps in early modern times, is shown by the remaining untraced artefact (the iron blade) from Badger Cave.

This conclusion does not necessarily mean that a pre-Neolithic human presence at Creag nan Uamh could never have happened, merely that there is no archaeological evidence for this. Nevertheless, it is hoped that there can now be a final end to speculation about Palaeolithic people at this location – an expectation which with hindsight was rather unfortunately raised by the original interim reports and publicity about the 1926 excavations – unless and until any fresh discoveries of clear-cut evidence for early human activity are made. The Creag nan Uamh caves do of course remain of outstanding importance for Quaternary studies, and current and further work on their Pleistocene and Holocene faunal (Kitchener & Bonsall 1997; Murray 1997; Kitchener 1998; Gleed-Owen 1999; Kitchener et al 2004, 74) and other palaeoenvironmental residues will undoubtedly ensure continued scientific interest in this location.

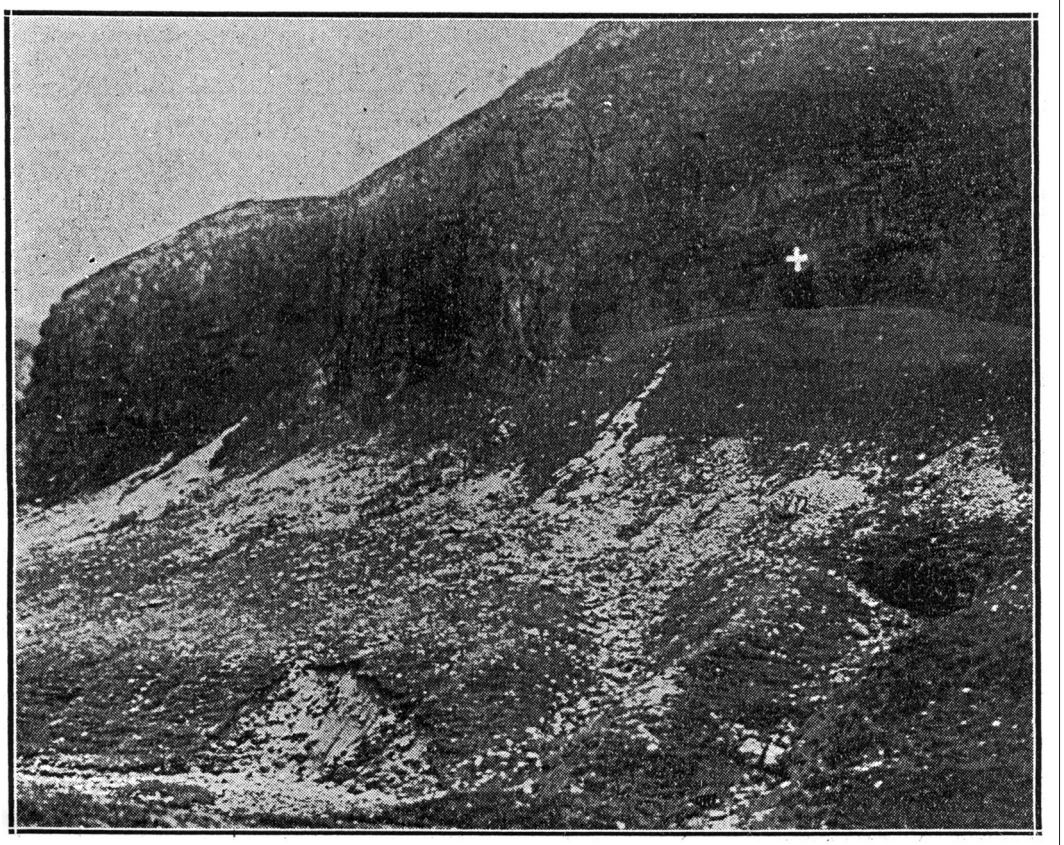
A remaining puzzle is the reason for the rather exceptional – and arguably high status – walrus ivory pin and 'socketed' antler tine being in the Creag nan Uamh caves at all. Like Cree, one might have supposed that the pin could be a grave-good belonging to the human burial, but the radiocarbon dating of the artefacts and the bones indicates the burials in this cave are thousands of years older than both the pin and the antler 'handle'. In the absence of any association one can only speculate on the items being casual losses during some unknown and presumably temporary use of the cave in Viking/early medieval times, though this still leaves the apparent considerable rarity of these objects as an enigma, especially coming from a part of Scotland where solid archaeological evidence for this period is so limited (Small 1982; Close-Brooks 1995, 12–14; Graham-Campbell & Batey 1998, 79; Crawford 2000).

POSTSCRIPT

One of the fascinations of the Creag nan Uamh story is why, despite the considerable early interest (illus 8),[16] it so rapidly petered out and why there was never any final report on the 1926–7 excavations. A major part of the reason must of course be that Cree, the excavation supervisor[17] and probably the chief promoter of the Palaeolithic claim, was unwell during the two years in which excavations took place and died shortly thereafter in February 1929 (obituary in *The Scotsman* 20 February 1929). Callander, however, who was Director of the National Museum of Antiquities of Scotland at the time of the excavations and continued in this post until his death in March 1938, hardly mentioned the caves again in print, though he frequently published in the *Proceedings of the Society of Antiquaries of Scotland* and elsewhere on many other archaeological matters (Anon 1937–8).

The letter reproduced in the Appendix might be thought to give somewhat ambivalent indications of the relations between Cree and Callander. This would be misleading, as other sources suggest they were friendly enough collaborators. For example: 'Callander is I think highly pleased with present results. He leaves here much to his own and my regret on Thursday' (unpublished letter from Cree to Ritchie, 28 June 1926, NMS archive). They were nonetheless certainly different in character – Callander was an insular bachelor (Anon 1937–8; Graham 1981, 220–1), whilst Cree had much more worldly experience, including having been a rancher in New Mexico for many years (see obituary in *The Scotsman* 20 February 1929), and was an old friend and colleague of A O Curle, Callander's predecessor as Director at the National Museum of Antiquities – so personality differences might possibly have contributed to

EARLY MAN IN SCOTLAND



In the cave, marked by a white cross, at the base of the limestone bluff in the valley of Allt nan Uamh, near Inchnadamph, in Western Sutherland, the earliest traces of human habitation in Scotland have been found. Here lived men of the Old Stone Age at a period when ice filled the valley up to the level of the caves, and when the snow-free slopes of the neighbouring hills were grazed by great herds of native reindeer. The photograph was taken during the excavations of last summer by Dr James Ritchie, who was associated with Mr J. Graham Callander and Mr James E. Cree in the investigation.

ILLUS 8 'Early Man in Scotland' photograph and caption as published in *The Scotsman* newspaper (15 February 1927)

subsequent reticence on Callander's part. It is much more likely, however, that the simple fact that the evidence for Palaeolithic presence was so vestigial and potentially controversial made further publication come to seem problematic for Callander, particularly if he was doubtful about the 'spear-point' (which he may never have seen?) being a tool and if no parallels could be found for the larger pin. Callander's antipathy to Gordon Childe (Graham 1981, 221) may also have been a factor, given the latter's scepticism about Palaeolithic presence at the caves (see above). It is of interest that the memorial notice for Cree in the *Proceedings of the Society of Antiquaries of Scotland* (possibly written by Callander?) says '[t]o him also belongs the credit of having realised the importance of the cave deposits at Inchnadamph, which may prove

to be referable to [P]alaeolithic times' (Anon 1929–30, 5), perhaps hinting that scepticism about their antiquity was already by then the dominant feeling.

Callander's notebook (NMS archive) indicates he was at the caves from 21–30 June 1926 and personally involved in the 'howking', as he put it. The walrus ivory pin features in his notebook as a 'perforated bone object', found on the day of his last entry for 30 June. Letters indicate that he returned to assist Cree in 1927, staying from 14 June to 12 July (so was present for the Abbé Breuil's visit), and it is possible that during this lengthy stay he became disillusioned about any major archaeological potential for the caves. It must be significant that the two artefacts from Reindeer Cave remained in the National Museum of Antiquities of Scotland collection but were never registered and stayed forgotten until the 1990s; the 'spear-point' and 'knife handle' were included with the reindeer antlers and other bones donated to the Royal Scottish Museum by Ritchie's son, and did not resurface until after Nicola Murray's reanalysis of the Reindeer Cave faunal collection.

Perhaps it was Ritchie, the least directly involved of the three protagonists in the actual excavation[18] but in other respects the leading member of the trio (he had made the application to the Royal Society for funding the project and was the grant holder and acted as treasurer), who was intended to publish but never did. Ritchie was the Keeper of Natural History at the Royal Scottish Museum from 1921 to 1930, moving to Aberdeen University as Professor of Natural History 1930–6, then becoming Professor of Natural History at Edinburgh University from 1936 until his retirement in 1952. Ritchie clearly continued his interest in the caves – for example in 1933 he lectured to the Edinburgh Geological Society on 'Earliest Man in Scotland and his relation to the Ice Age', in which the Creag nan Uamh caves figured prominently (*The Scotsman* 19 January 1933) – and in the early 1950s, around the time of his retirement, he became interested again. In 1951, Ritchie wrote to Cree's son seeking to borrow his father's excavation notebooks because he was working on the human remains from the caves for inclusion in a display in the Anatomy Museum on the occasion of the British Association for the Advancement of Science's visit to Edinburgh in 1951 (see above), and intimated: '… now I think that the full description ought to be written up and placed permanently on record along with photographs of the specimens' (unpublished letter Ritchie to Gerald Cree, 11 May 1951, NMS archive). An unpublished letter from Professor Stuart Piggott (Piggott to Ritchie, 16 December 1952, NMS archive) confirms this:

> Stevenson at the National Museum tells me that you are turning your attention again to Inchnadamph. I am delighted to hear of this and am sending on to you three notebooks formerly in the possession of Graham Callander which Stevenson had lent me some time ago when I was interested in the site but they should obviously be in your hands.

As already noted, Ritchie was directly involved in the despatch of bones from Reindeer Cave to the British Museum (Natural History) in 1955, and he was still in correspondence about the caves with the Nature Conservancy and the Geological Survey in February 1958, the year of his death. For whatever reason, however, this final report never came to pass. The majority of the antlers and bones from the caves stayed in Ritchie's possession until his death and were bequeathed to the Royal Scottish Museum, being presented along with letters, notebooks, etc, by his son, Professor A Ritchie, in 1959. Other material, mostly human bones, had been kept at the University in Edinburgh.

In his *Who's Who* entry, Ritchie listed archaeology as one of his recreations, along with sketching and golf, and he would perhaps not have regarded an archaeological account of the excavations at Creag nan Uamh as one of his mainstream scientific responsibilities, though he was very aware all along of the importance

of the Pleistocene fauna and must have been conscious that it had received less than deserved treatment. Perhaps Ritchie's disagreement over the interpretation of the stratigraphy at Reindeer Cave with the Geological Survey's field geologist James Phemister (Lawson 1981, 12) was a factor in his reticence, or perhaps more likely – and a lesson for us all – he simply ran out of time.

NOTES

1 For example, after James Ritchie's communication on the results of the 1926 season of work at Creag nan Uamh to the Society of Antiquaries of Scotland in February 1927 (see note 6 below), the following editorial observation appeared in *The Scotsman* newspaper:

> Now, as appears from examination of the contents of caves in a limestone bluff near Inchnadamph … we may hold it as well-nigh established that Palaeolithic man penetrated to the extreme north-western limits of Britain, and, under … sub-arctic conditions, hunted the reindeer and other animals (Anon 1927 'Pages of the past', *The Scotsman* 16 February 1927).

2 Callander (1927, 91) wrote that the reinvestigation of this cave '… revealed a sequence of layers different from those noted by the former excavators, and no traces of fire-places were found'.

3 The possibility that Dorothea Bate had dug briefly at Creag nan Uamh sometime prior to 1925 is raised in an unpublished letter from Ritchie to Cree (8 July 1926, NMS archive). Shindler (2005, 209), Bate's biographer, explains that Bate did indeed get a fieldwork grant from the Percy Sladen Memorial Fund for this purpose, but she has been unable to discover why the proposed fieldwork never transpired.

4 The circumstances of Cree's first (?) visit to Creag nan Uamh and the reasons for his initial interest in the caves remain unknown, though he did have previous experience of cave archaeology, having excavated caves at Archerfield, East Lothian, which produced evidence for Iron Age occupation (Cree 1909).

5 Further information on the 'knife handle' is given in an unpublished letter from Cree to Ritchie (13 June 1926, NMS archive):

> … we got a finely made knife handle made from the tine of a deer horn! This is 4" in length and is perforated by an oval hole about ⅛" in length. It has been drilled from both sides and tapers in the centre. The hole commences about ⅜" from the point. The thick end of the tine has been cut square across and there is a slot cut down ⅜" × ¼" to admit of the thickened portion of the blade entering – in order to keep it firm in the handle. The tine is bored out 15⁄16 to admit of the tang. On the outside it has been nicely fluted from the butt towards the point for a distance of about 2¾". Possibly these flutings have been made by a gouge or similar tool.
>
> Now, all of these relics – bones and everything – came from the surface, and therefore cannot be very old. There are one or two points about the knife handle which suggest to my mind that it is comparatively recent.

6 In fact in the newspaper report in question (*The Scotsman* 15 February 1927) it is asserted that the lecture to the Society of Antiquaries of Scotland on 14 February was delivered by Dr James Ritchie, not by Mr Cree, and the account of the discoveries in the newspaper is actually much briefer than that given in the note in *Antiquity*. It is also clear from the text of the talk as published (Callander et al 1927) that it was not delivered by Cree and, although not specified in the *Proceedings*, it seems apparent that the lecture was presented by Ritchie, as confirmed by a letter from Horne to Ritchie (unpublished letter, 12 February 1927, NMS archive: 'delighted to hear that you are going to give a short account of the [P]alaeolithic discovery at the meeting of the Society of Antiquaries on Monday night', in which he gives apologies for being unable to attend).

7 In an unpublished letter (Cree to Callander, 4 July 1926, NMS archive) the head of the pin is described as found about 3' 0" north of the skull, while the point of the pin was about the same distance to the south of it.

8 The involvement of the Abbé Henri Breuil, already by then the doyen of Palaeolithic archaeology in Europe (Cohen 1999, 309), is another intriguing aspect of the Creag nan Uamh story. Cree's (1927, 221) article would seem to imply that Breuil visited the excavations in 1926, but it appears from Callander's own paper that in fact '… the reindeer bones were seen by the Abbé Breuil in

the late autumn, while passing through Edinburgh' (Callander 1927, 91). Breuil did, however, visit the excavations at the end of June 1927 when he was able to inspect a section through the deposits in Bone Cave (Lawson 1981, 17). As Callander put it in a letter to Ritchie: '[w]e had the Abbé Breuil for a week. He says we are doing the work very well but that we have a most difficult proposition' (unpublished letter, 3 July 1927, NMS archive). And in a letter to Cree, Ritchie mentions having had two long talks with the Abbé in Edinburgh (unpublished letter, 12 July 1927, NMS archive). It would be fascinating to know Breuil's direct opinions on Creag nan Uamh, rather than the few observations reported via others (Callander 1927, 110; Movius 1942, 73–4), and in particular to know his opinion of the 'spear-point', if indeed he ever saw this specimen.

9 The 'reindeer horn pick' but could possibly be a piece in the NMS collection, marked with the number 1465, from the 1926 excavations in Reindeer Cave (registration no Z.1959.33). This item appears to be associated with a label saying 'from 3rd layer (gravel), Reindeer Cave, 29th June 1926', whereas the 'spear-point' was found on 7 July 1926, but the connection with the label is not watertight. The object concerned is the burr, partial beam and partial brow tine of a small antler from a female reindeer, which has a curious and unusual series of indented linear marks in a herringbone-like pattern along some 40mm of the beam. There is no doubt that these marks are natural and integral to the formation process of the beam, even though nothing similar has been observed on any other antlers from Creag nan Uamh. Partly truncating these marks at the upper junction of beam and tine and also present on the opposite side of the beam at the burr end are distinct gnaw-marks. Although diminutive (the surviving length of the burr/beam is 87mm, and of the tine 60mm) the form of this fragment resembles a 'classic' antler pick and is one of the very few pieces in the Creag nan Uamh assemblage which could be conceived as such, however mistakenly.

10 This reference to the Azilian presumably stems from Cree's rather inappropriate comparison of the Reindeer Cave 'burial' with the ceremonial burials from Ofnet, Bavaria, which he described as Azilian–Tardenoisian (Cree 1927, 219). In fact it is clear from Cree's unpublished account of the 1926 season (NMS archive), that the reference to Ofnet came from his reading of Osborn's *Men of the Old Stone Age* (1916, 475–4).

11 The disappearance of the Palaeolithic claims for the Creag nan Uamh caves from then current thinking is made clear by the complete absence of any reference to them in Campbell's comprehensive survey of the British Upper Palaeolithic published in 1977, in which the only reference to Scotland is: '[t]here is as yet no definite either Upper Palaeolithic or even earliest Mesolithic … evidence from Ireland and Scotland' (Campbell 1977, 82).

12 This renewal of interest in the controversial idea of Palaeolithic presence in Scotland did, as in the case of the original claims, garner some publicity (eg 'Research race on to find the first Scots' in *The Scotsman* 8 May 1989).

13 In an unpublished letter (Cree to Ritchie, 28 June 1926, NMS archive), Cree says this artefact was found '… a few inches below the surface' of the red cave earth '… and cannot therefore be attributed to the [r]eindeer period'.

14 When this artefact was undergoing specialist examination in London in December 1990 it was dropped and broke into two main segments with a third small spall. The drawing (illus 5) was made before this occurred, and at the time of writing no attempt has been made to reconstitute the artefact.

15 During the compilation of this paper the human remains have been unavailable for study, their current location being uncertain. The only human remains seen by the author are a complete and ungnawed proximal phalanx and a probable rib fragment discovered among a bag of reindeer antler fragments from Creag nan Uamh, presumably from Reindeer Cave but without specific provenance. The inventory does not indicate the presence of any phalanges, but numerous rib fragments are listed.

16 The wider interest in the Creag nan Uamh discoveries is confirmed by the responses of such luminaries as Leslie Armstrong, Reginald Smith and Mortimer Wheeler to Callander's presentation at the Society of Antiquaries of London in March 1927 (Callander 1927, 110); by the fact that the Abbé Breuil saw fit to visit the excavation (see note 8 above); by references in popular archaeological works (eg Boyle 1927, 170); and by a letter to Ritchie from Liam Gogan of the Irish Antiquities Division, National Museum of Ireland, Dublin, in which he says: 'I was greatly

interested in your recent discoveries which received such widespread publicity in the press. I trust your efforts and those of your colleagues will succeed in bringing Scotland into the family of [P]alaeolithic lands. I believe a claim can also be made for Ireland at least as valid as that made for S Scandinavia' (unpublished letter, 18 February 1927, NMS archive).

17 The responsibilities of the three members of the Research Committee are made clear in a letter from Ritchie to the landowner General Stewart (30 November 1925, NMS archive). Cree will 'superintend and conduct the excavations', Callander with Cree will be responsible for 'determination of the antiquarian relics' and Ritchie similarly so for the 'determination of bone remains'. Cree initially expressed some misgivings about publishing an interpretation of the stratigraphy which contradicted the findings of Peach and Horne (unpublished letter to Callander, 4 July 1926, NMS archive), but a month later, after continued struggles to reconcile the layers he was observing with those recorded by the 1899 excavators, his views had changed:

> … should P. & H. have been wrong in their original conclusions, this fact must be clearly set out, not watered down out of consideration for the susceptibilities of Dr H. In other words, I shall not have my work or conclusions, if correct, either withheld or watered down merely because an eminent man who is still alive has perhaps erroneously committed himself (unpublished letter to Ritchie, 4 August 1926, NMS archive).

Peach had only recently died (on 29 January 1926) when Cree wrote this, but in fact Horne died on 30 May 1928, thus removing the possibility of giving direct offence to their famous predecessors as a reason to hinder any of the trio from publishing their results. Indeed, in a letter to Ritchie dated 12 February 1927, by which time it must have been apparent that the new results conflicted with those from the original excavation, Horne explicitly encouraged him to publish in *Nature* '… so that the results of the exploration may be widely known' (unpublished letter, NMS archive).

18 Ritchie went up with Cree to Inchnadamph for a week or so at the beginning of the excavations in 1926 (see illus 8) and returned for a few days at the end of that season, but appears not to have visited at all in 1927.

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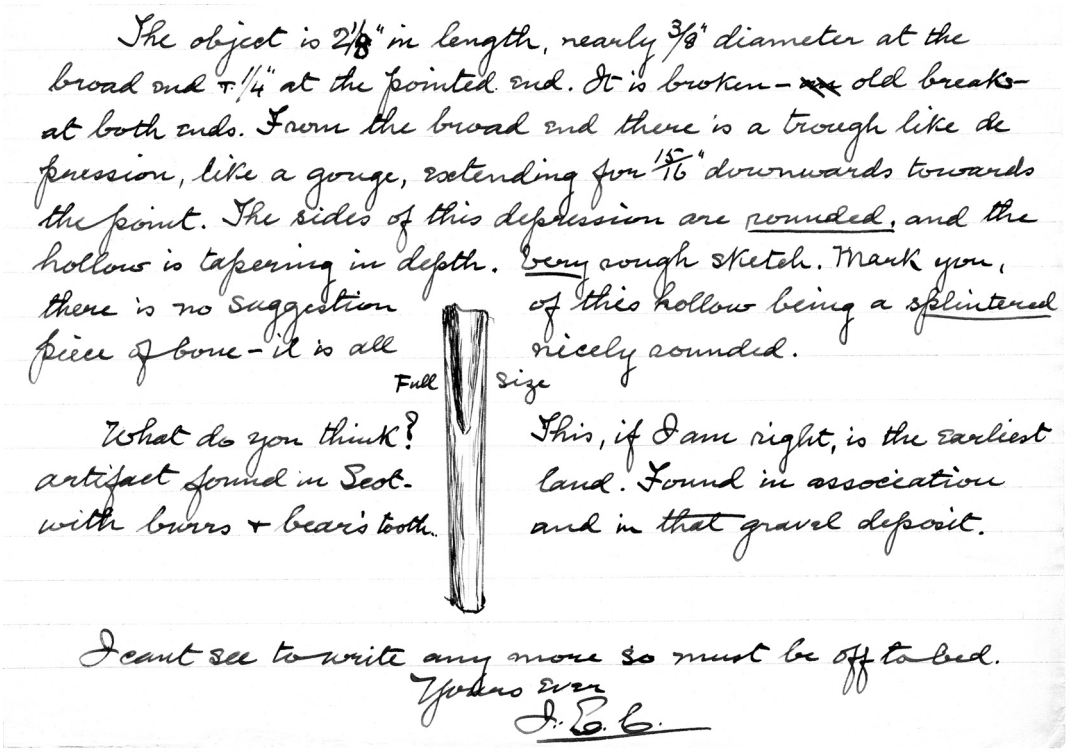

ILLUS 9 Extract from Cree's letter to Callander, 8 July 1926, describing and illustrating the 'bone pin'. NMS archive, reproduced courtesy the Trustees of the National Museums of Scotland

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APPENDIX

[This is a transcription of a letter from James Cree to John Graham Callander from the Royal Scottish Museum archive (reproduced courtesy of the Trustees of the National Museums of Scotland). Underlining and bold are as in the original letter. Callander's response has not been located.]

Hotel, Inchnadamph
Loch Assynt, Sutherland
8th July 1926

My dear Callander

It is already 10 o'clock so this must be just a line. But I wish to tell you of the day's development and of the finds at the Reindeer Cave.

Well, we have now got down about 7' 0" vertical and it seems to me that we have come to the roof of some chamber which apparently extends in a south-westerly direction – one cannot be certain as yet, but things point in that way. The shaft or vertical hole is now about 5' 0" in diameter both ways; a section would be somewhat like this. *[diagram in letter]*

At the very bottom, ie as far as we got today we were finding reindeer horn and I brought home this evening about 65 burrs, besides a lot of bones – big & small – animal and bird. But, this was not all! Are you prepared for a thrill? We got another bear's canine tooth! in the sandy gravel (no clay) at a depth of 7' 0", in association with the deer horn. It measures $3\frac{3}{16}$" in length and is almost black in colour and a bit fragile. Now, according to my reasoning, & I think, following Peach & Horne's statement, viz that the "gravel was shot in by the ice" or the water proceeding from the ice, then must we not assume that this bear's tooth was deposited along with the reindeer bones ie at that period? If so, then we have the earliest record of the bear in Scotland. In other words, if the reindeer bones & antlers are referable to the period when the ice was disappearing from the valley then the bear's tooth must be also. The date of that river gravel deposit is the date of what we find in it. Now, have you recovered from that thrill? I have, I believe, another and bigger one to give you! I am almost confident I have got a portion of a Bone Pin. Now, this is meantime private. Don't be writing or telling Mann. *[ie Ludovic McLellan Mann, a contemporary antiquary, who was very interested in the early prehistory of Scotland – see Ritchie (2002)]* It will soon be enough to tell him when you have seen the thing & confirmed it as a pin. But, again I say unto you "why in the hell did you leave"?

The object is $2\frac{1}{8}$" in length, nearly $\frac{3}{8}$" diameter at the broad end and $\frac{1}{4}$" at the pointed end. It is broken – old breaks – at both ends. From the broad end there is a trough like depression, like a gouge, extending for $\frac{15}{16}$" downwards towards the point. The sides of this depression are rounded and the hollow is tapering in depth. Very rough sketch. *[see illus 9]* Mark you, there is no suggestion of this hollow being a splintered piece of bone – it is all nicely rounded.

What do you think? This, if I am right, is the earliest artifact found in Scotland. Found in association with burrs & bear's tooth and in that gravel deposit.

I can't see to write any more so must be off to bed.

Yours ever

J E C *[James Cree]*