KEYWORDS: *Finger fluting – Alpine Palaeolithic – Olschewian – Drachenhöhle – Austria*

PLEISTOCENE ROCK ART DISCOVERED IN CENTRAL EUROPE

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Abstract. The recent discovery of the first authentic Pleistocene rock art in central Europe is reported in one of the classical Palaeolithic cave sites investigated for centuries. The Drachenhöhle in Austria has yielded extensive evidence of human habitation in the Würm I/II Interstadial 325 m from its entrance, in total darkness. The cave art occurs a few metres from that site and was produced by a child or children, most probably 39±5 ka ago. It can safely be attributed to people of Olschewian or Alpine Palaeolithic tool traditions, which seem to be by Neanderthaloid and intermediate *Homo sapiens* hominins. These appear to have harvested hibernating cave bears in their lairs. The Drachenhöhle is the largest such hibernation den known in the Alps, having contained the remains of an estimated 30000 cave bears.

Introduction

Views widely held concerning Pleistocene palaeoart comprise several anomalies. For instance, it is still commonly assumed that this is a feature mainly of Europe, when, in fact, it is far more common elsewhere. Some believe its production commenced with Mode 4 (Upper Palaeolithic) traditions, but there are probably more surviving examples of Pleistocene 'art' from Mode 3 technocomplexes in the world than from Mode 4 (Bednarik 2017a). Many commentators believe that palaeoart functioned as art or symbols, yet there is no proof for either proposition. Rock art consists of non-utilitarian anthropogenic rock markings, and whether it functioned as art or symbols remains to be demonstrated. The sound evidence that children (rather than, for example, shamans) contributed significantly to the Franco-Cantabrian corpus receives minimal attention, and the global data on Pleistocene palaeoart presents us with various apparent incongruities. For instance, Russia's vast territory has yielded some of the most spectacular early portable palaeoart (and not a single fake, in contrast to western Europe and even the U.S.A.), yet no Russian rock art motif has ever been credibly attributed to the Pleistocene.

Here we will examine a similar example: the lack until now of Ice Age rock art in central Europe, a region rich in mobiliary 'art' of that period. There is no shortage of postulated 'Palaeolithic' rock art from several countries of the region, but so far, all such propositions have been falsified. Although Germany, Czech Republic, Austria and Switzerland have yielded impressive portable palaeoart objects from Mode 4 occupation deposits, rock art of the time remained elusive despite efforts by many over the past century. In Germany, the Pleistocene attribution of a 'stag' image with a runic inscription in Kleines Schulerloch, Bavaria (Birkner 1938: Pl. 13; Maringer and Bandi 1953: 23), has long been refuted (Bosinski 1982: 6). The similar claim concerning an 'undetermined' zoomorph in Kastlhänghöhle (Bohmers 1939: 40) also had to be rejected (Freund 1957: 55). The black-brown 'pigmented' limestone fragment from Geißenklösterle, interpreted as a part of an exfoliated, black-painted rock art motif of the Aurignacian (Hahn 1988a, 1988b, 1988c, 1991; Richter et al. 2000), is a fire-spalled rock fragment bearing an accretion of partly combusted plant resin (Bednarik 2002). The same site's 'black, yellow and red coloured' 'rock art fragment' (Hahn 1986; Müller-Beck and Albrecht 1987) is a rock stained by goethite, partly converted to haematite by the reducing flame of a hearth, and a more recent carbonate precipitate containing tiny charcoal flakes (Bednarik 2002). A limestone fragment from Hohle Fels featuring red pigment dot marks, dubbed Germany's only Palaeolithic rock art (Conard and Uerpman 2000), was found to have been painted after its exfoliation (Bednarik 2002) and is therefore portable palaeoart rather than rock art. The numerous exfoliated wall fragments of cave bear polish from the same cave feature no engravings as claimed (Hahn 1991, 1994; Scheer 1994; Conard and Uerpmann 2000; Holdermann et al. 2001); they bear random incisions effected by quartz grains embedded in the fur of the animals (Bednarik 2002), as they are found in numerous other sites (Bednarik 1993).

Two engraved plaques have been reported from Balve Cave in North Rhine-Westphalia. One bears an equine head (Andree 1932: Fig. 2), the other featured undefined grooves but has disappeared. The authenticity of both specimens is very doubtful. Günther (1964: 152) reports that the manganese dendrites Andree had perceived in the grooves are black minerals inherent in the schist and that the corrosion within the grooves renders the claim dubious. The supposedly anthropogenic grooves in the Mäanderhöhle at Veilbronn, northern Bavaria, are natural 'stretch marks' formed as the bulging moonmilk ceiling features expanded (Blumenröther et al. 2015). Purported engravings in another Bavarian cave, Schönsteinhöhle, are claw marks of chiroptera (op. cit.), and a bovid image at Reinhausen near Göttingen is a recent feature. Rumours concerning Pleistocene markings in an unnamed cave in the Rothaargebirge have never been published. The possibility of 'Palaeolithic art' presence at Teufelsfelsen near Bad Griesbach, Bavaria, remains unpublished and untested. The six equid petroglyphs on a schistose outcrop near Gondershausen (Welker 2015), stylistically attributed to the Aurignacian, were made with a fairly blunt steel chisel and date from recent centuries (Bednarik 2016).

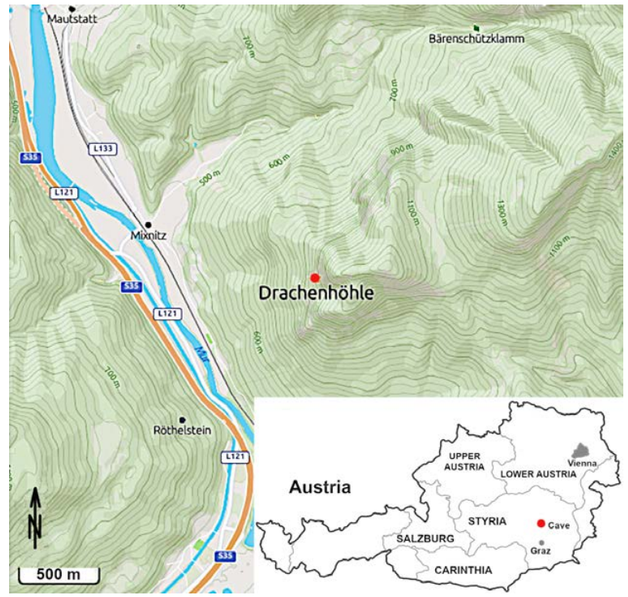

Figure 1. *Location of the Drachenhöhle in Austria.*

In the Czech Republic, most of the sixteen red ochre markings in Mladeč Cave have been suggested to be of the Palaeolithic (Oliva 1989), but detailed analysis revealed them to be modern markings (Bednarik 2006). Black pictograms in the cave Bycí Skála were also attributed to the Pleistocene, an age refuted in Svoboda et al. (2005). Similarly, the black rock paintings and torch smears found in Domica Cave in the neighbouring Slovak Republic probably date from the Neolithic Bükk culture, notwithstanding the claimed presence of Palaeolithic occupation evidence. The Neolithic, Bronze Age and Iron Age occupation remains in another Slovakian site, Ardovská Cave, provide no support for the radiocarbon date of about 42800 years BP from charcoal marks on the cave's wall (Sefcakova and Svoboda 2015).

In Austria, rock art purportedly of the Pleistocene has only been reported from open-air limestone sites at Kienbachklamm near Bad Ischl and Stubwieswipfel in the Warschenegg mountains (Kohl and Burgstaller 1992). The first corpus refers primarily to pareidolic interpretations of natural rock formations, combined with a series of motifs of historical times (Middle Ages to present; Bednarik 2009). The Stubwieswipfel images of animal heads are also part of an extensive body of Historic rock art extending along the Alps' northern limestone belt and found at hundreds of sites.

However, this pattern of untenable Pleistocene age assertions for relatively recent rock art is far from unique to central Europe. It can be found across much of Eurasia (Bednarik 2015, 2017b). In eastern Europe, Cuciulat, Kapova and Ignatiev Caves are at least doubtful cases (Steelman et al. 2002). Peştera Coliboaia in Romania is the only eastern site featuring credible Palaeolithic cave art (Besesek et al. 2010; Clottes et al. 2011). None of the United Kingdom claims (Bacon's Hole, Wye valley, Church Hole, Gough's Cave, Cathole Cave) or Portugal (Escoural, Mazouco, Côa valley, Ocreza) is credible. The same applies to a series of open-air schist sites in Spain and the French Pyrenees (Domingo García, Carbonero Mayor, Bernardos, Ortigosa, Piedras Blancas, Fornols-Haut and Siega Verde). The shelter petroglyphs of Badanj, Bosnia-Herzegovina, and the cave paintings in Romualdova Pećina, Croatia (Ruiz-Redondo et al. 2019), have both been attributed to the Pleistocene, but in both cases without adequate proof. The pattern continues in Asia, where examples include many sites, particularly from the continent's northern regions (e.g. Shishkino, Tal'ma, Zaraut-Kamar Rockshelter, Dunde Bulake Site 1, Tayuan, Aral Tolgoi, Khoid Tsenkher). The obsession with placing relatively recent rock art in the Pleistocene is often fervently defended, making it a wasteful practice: it is much harder to refute than to postulate these claims, usually based purely on stylistic notions (Bednarik 2015).

The Drachenhöhle find

The first authentic Pleistocene rock art in central Europe has now been discovered in one of the region's classical Palaeolithic sites, the Drachenhöhle in Austria's Mur valley (Fig. 1). Named 'Dragon's Cave' because its vast deposits of cave bear bones were attributed to dragons, the massive cave was first explored in 1387 CE, and Kircheri (1678) described the find of a dragon's skeleton from it. Hoernes (1878) located burnt

Figure 2. *Panel A of the Drachenhöhle finger flutings.*

and smashed bones of the cave bear, now attributed to *Ursus ingressus* (Frischauf et al. 2014) rather than *Ursus spelaeus*, near the cave entrance. Count G. Wurmbrandt undertook the first major excavations in 1886 but failed to find Palaeolithic occupation evidence. Austria sought to alleviate a severe shortage of phosphate fertiliser triggered by the First World War, prompting the removal of 24 000 tonnes of phosphate-rich sediment and 170 tonnes of fossil bone between June 1920 and August 1923. In all, it is estimated that the remains of more than 30 000 cave bears have been removed over the centuries. In early May 1921, as the quarrying operations extended about 325 m into the huge passage, quartzite fragments were detected, and Kyrle undertook a controlled excavation of 39 m^2, uncovering about 15 m^2 of the main occupation site (Abel and Kyrle 1931). It yielded over 900 pieces of quartzite deriving from river cobbles, of which 92 were classified as artefacts, over 100 as microliths, over 600 as nondescript flakes and debitage; and there were 74 unworked quartzite cobbles, ten hammerstones and just six flint or chert flakes.

The latter and the presence of three bone artefact finds resembling Mladeč point fragments suggest that the assemblage is of the Olschewian, a central European tradition of the Early Upper Palaeolithic often found in montane caves frequented by hibernating or birthing cave bears (Brodar and Bayer 1928: 9; Bayer 1929). The Drachenhöhle entrance is located at 950 m asl, and its generally horizontal passage rises to 960 m asl. Its main passage is 542 m long, and its width ranges from 20 m to about 40 m; its height is about 15 m. However, the cave system's passages' total length adds up to more than 5000 m (Pfarr and Stummer 1988; Bouchal and Wirth 2000). There are two prominent roof falls along the main passage, and just before the second roof fall, 325 m in from the entrance and in complete darkness, occurs a spring. It represents the only water source in the cave and on the whole mountain. It is no coincidence that this is where the Palaeolithic residents camped, only about 12 m from the spring. Their material culture is widely attributed to a poorly defined technocomplex called the Alpine Palaeolithic, also variously defined as Aurignacian, pre-Solutrean, Szeletian, Mousterian or proto-Aurignacian, which straddles the Middle/Upper Palaeolithic transition and is found both in the Riss-Würm Interglacial (Eem or MIS 5e) and the Würm 1/2 Interstadial (Göttweig). It is of the former period in several Swiss caves, whereas the occurrences in the eastern Alps are mostly of the Interstadial. The only hominin remains known from this tradition are a female upper maxilla from Cotencher, described as Neanderthal appearance; several Neanderthaloid fragmentary remains from the Olschewian of Vindija in Croatia; and an earlier young Neanderthal male interment from a similar context in Regourdou, France. The Alpine Palaeolithic seems to commence with robust *Homo sapiens neanderthalensis* of the Interglacial and continues with the region's perhaps more gracile residents (Bednarik 2008a, 2011) during the Würm Interstadial. As many sites occur at high elevations (up to almost 2500 m asl), they could not have been accessible during stadials.

Having been engaged in investigations in the Drachenhöhle since 1963, we studied the claw markings ('bioglyphs'; Viehmann et al. 1970) of cave bears in the cave in late 2018. While examining the wall in the vicinity of the spring, we located a small group of heavily masked finger markings behind a protruding rock formation (panel A, Fig. 2). A second, more accessible panel of finger flutings was found 1.6 m to its right (panel B, Fig. 3). Local topography at the first panel suggests that the markings were made by right hands only.

Finger flutings are a form of cave art reported so far from 74 sites worldwide, 37 of them in Australia. They also occur in France, Spain, Papua New Guinea and the Dominican Republic. Drawn with outstretched fingers of human hands on soft cave precipitates called moonmilk (*Mondmilch* or Montmilch), the fingers were either held close together or separated. Splayed sets commence with the fingers widely spaced and then closing along the course of the set. Finger flutings can be found in small groups or form large concentrations that may extend over dozens of square metres. Most frequently, sets are of three fingers, but sets of four

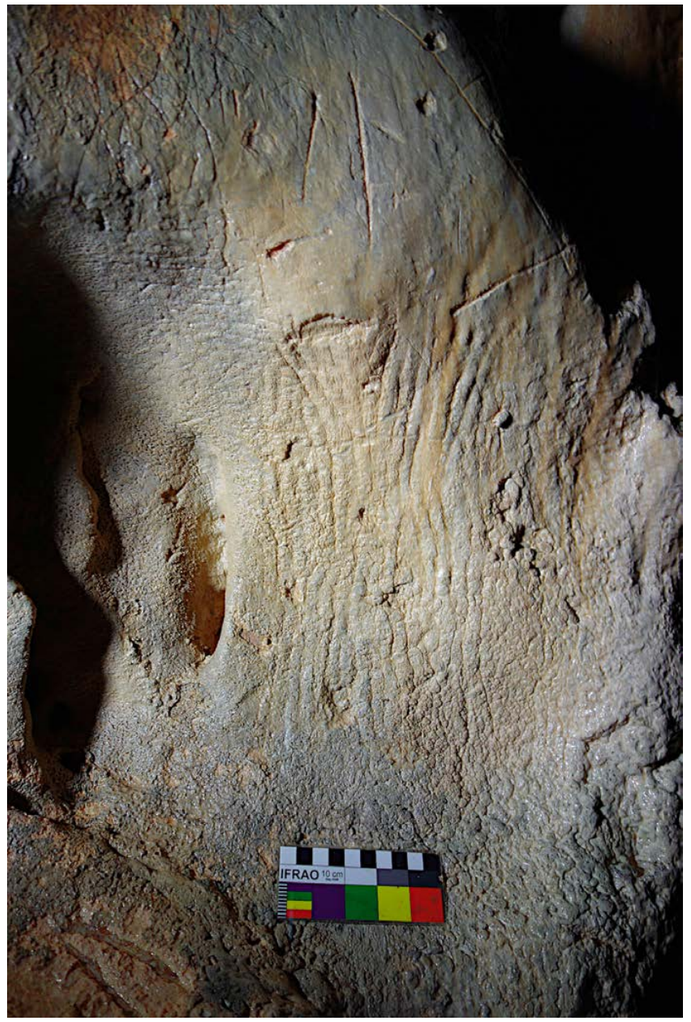

Figure 3. *Panel B of the Drachenhöhle finger flutings.*

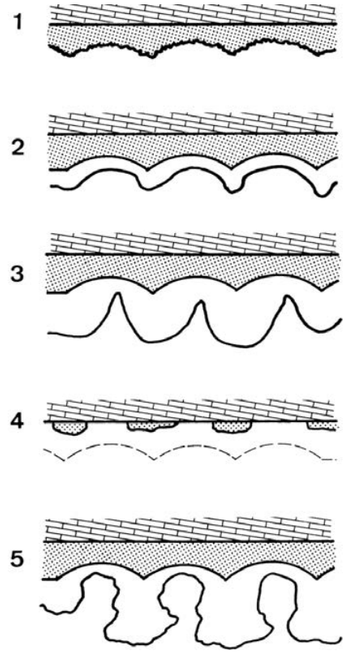

Figure 4. *The typical classes of modification of finger flutings, seen in section: 1 – corrosion and coarsening of the surface; 2 – cutaneous speleothem has covered the flutings evenly; 3 – dense speleothem skin has concealed finger flutings and distorted them to appear as narrow grooves; 4 – the moonmilk has been dissolved, exposing the primary rock; 5 – coral-like speleothems have formed selectively along the ridges between finger grooves (from Bednarik 1999).*

or two finger grooves also occur, as do even single grooves. The standard of measuring them is determining the narrowest point in each set and measuring the total width at that locus, dividing it by the number of grooves to establish the mean finger width (Bednarik 1986). The latter has been found to range widely, from about 7 mm to over 20 mm. Ethnographic measurements imply that 13 mm is a reliable upper limit of prepubescent's marks, but it must be emphasised that many 10 or 12-year-olds have considerably higher average sizes (Sharpe and Van Gelder 2006). Variables such as sex, body type and stature influence these results significantly, and there are adult conspecifics whose finger-widths match those typical of 5-year-olds. Some finger fluting researchers have even attempted to determine the gender of fluters from the locations of the F2 and F4 impressions at the point of commencement. We reject these over-interpretations of the metrical data, but we accept that, as a general rule, most mean sizes of under 13 mm refer to children. Consequently, more than half the measured finger fluting sets of France and Australia are assumed to have been made by children (Bednarik 1986, 1987/88, 1999, 2008b).

All ancient finger flutings in limestone caves have been modified since they were made because their medium, the moonmilk, is not a stable mode of speleothem. It consists of a mass of microscopic calcite crystals that can comprise much moisture, facilitate the deposition of more solute, or desiccate and become as hard as the limestone bedrock, depending on environmental fluctuations. The delicate crystal lattice is destroyed by the fingers' compressive action, often limiting further growth to the ridges between the fingers, which leads to the distinctive morphology seen in Fig. 2 (see Fig. 4, type 3). In panel B, the speleothem masking is thinner and flatter (of type 2 in Fig. 4), but has resulted in more distortion in the lower half.

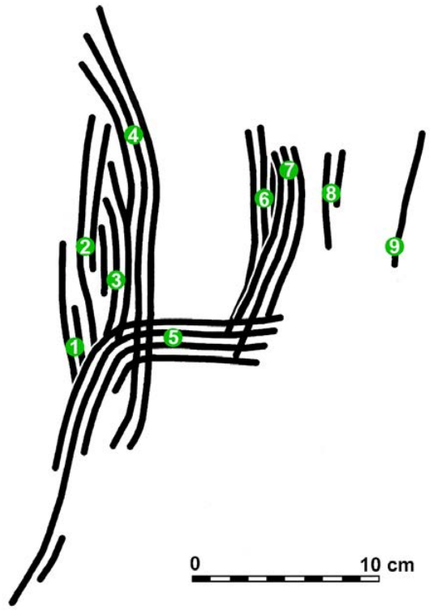

Figure 5. *Analysis of panel A, identifying finger fluting sets and, where possible, superimpositions.*

Most of the world's surviving finger flutings have managed to endure because they hardened and became fossilised. This is also the case in the Drachenhöhle, where the relative hardness of the concealing speleothem is identical to that of the Devonian limestone forming the cave. Nearly all of the 19 finger sets that can be determined in the two panels are of vertical orientation and were drawn top to bottom. The exception is one set in panel A that begins horizontally from right to left but then curves sharply downwards and continues vertically. Numerous cave bear claw marks can be seen in the vicinity of the cave spring, and several occur close to panel B. Two of them were superimposed after the top part of finger flutings was masked by the deposit of cutaneous speleothem. This provides a very conservative minimum age for the rock art because the claw marks must precede the time of extinction of *Ursus ingressus* in the region (about 27.8 to 25 ka ago; Pacher and Stuart 2009; Bocherens et al. 2012; Baca et al. 2016). One of the two superimposed marks is a deep gash that has shattered the speleothem skin with considerable force, which shows that the deposit was already hardened at the time of that event. Therefore, the only realistic explanation is that the finger fluting is attributable to the Olschewian occupation evidence found only metres from it.

The forensic evidence derived from both panels' flutings is limited, primarily because of the heavy subsequent, 'sagging' speleothem growth of panel A and the distortion attributable to modification processes to which both panels have been subjected. Even the superimposition sequence is incompletely clarified (Figs 5 and 6). Nevertheless, finger widths were established for all multi-finger sets (Table 1). While the individual sets were identifiable, the curved set A5's temporal position relative to A3, A4 and A7 could not be ascertained. Also, the relationship between A3 and A4 could not be established (Fig. 5). Similarly, in panel B, some superimpositions are clear; others are not (Fig. 6).

Set No.	No. of fingers	Total width, mm	Mean finger width, mm
A1	2	16.8	8.4
A2	2	17.8	8.9
A3	3	26.4	8.8
A4	3	26.6	8.9
A5	4	30.6	7.7
A6	3	23.4	7.8
A7	3	22.8	7.6
A8	2	16.3	8.2
A9	1	-	-
B1	2	19.2	9.6
B2	2	15.7	7.9
B3	2	18.9	9.5
B4	2	20.1	10.1
B5	3	29.6	9.7
B6	3	28.3	9.4
B7	1	-	-
B8	1	-	-
B9	1	-	-
B10	2	16.5	8.2

Table 1. *Sets of finger flutings in Drachenhöhle, panels A and B, and their overall and mean finger-widths as per Figures 5 & 6.*

It is impossible to exclude the possibility that two individuals could have been involved in creating panel A. The finger sizes implied by A2 to A4 seem more likely to reflect slight spreading of fingers, particularly given the intermediate values of A1 and A8. The empirical data and morphology would favour the hypothesis that a single individual aged five to six years was involved. The possibility that the fluter was a teenager or adult can safely be excluded. However, there is another consideration. The people of the Olschewian were either robust *Homo sapiens* (such as the so-called Neanderthals) or intermediate between them and the fully gracile humans that are their descendants (Bednarik 2008a, 2011, 2020a). It is, therefore, possible that they may have had slightly thicker fingers than fully 'modern' humans.

In panel B, the finger-width metrics are more challenging to establish, except in set B2. There are two options to explain the arrangement. The initial markings B2 and B10 could have been made by a young child, possibly panel A's fluter. After this, an older child, perhaps between seven and ten, completed the panel. The alternative is that all of the panel's flutings were made by the one younger child, and the less regular spacings of fingers could be the result of the rock art producer having had to stretch to reach the panel.

Concerning the establishment of the finger flutings' age, radiometric analysis of the hardened moonmilk speleothem would be possible, but the potential sources of uncertainties seem overwhelming. The continued exposure to vadose water can be assumed to have distorted the ratio of ^{230}Th to ^{234}U through the latter's mobilisation (Tang and Bednarik 2021). Similarly, the credible application of radiocarbon analysis to such porous speleothems is not feasible. The massive sediment deposit in the cave has been largely removed, and the only human occupation evidence found, apart from the entrance area, is the two sizeable Olschewian deposits a few metres from the rock art. The only radiometric dating from the site presents two very different results from the occupation deposit. They possibly refer to the much longer lower occupation and to the less substantial upper stratum, respectively. Charcoal yielded 25 040±270 years bp (ETH-10404; 29 961±329 cal. BP), and a cave bear tooth provided an estimate of 39 420+1070/-940 years bp (VERA-2543, 43 467±829 cal. BP) (Rabeder and Kavcik 2013). This wide range agrees entirely with the extensive dating results from the Olschewian of Istállóskö Cave in Hungary (Valoch 1968: 359). The Istállóskö radiocarbon ages range from 31 540±600 to 44 300±1900 years bp (Markó 2015). Salzofenhöhle in Austria has yielded an uncalibrated date of 34 000±3000 years bp (GRO-761; Movius 1960: 361), and the few lithics from Ramesch-Knochenhöhle in Upper Austria are from deposits dated by U-series analysis to between 44.5 ka and 64.0 ka (Rabeder 1985: Fig. 2). Realistically the Drachenhöhle rock art can be bracketed between 44 and 34 ka BP, and attributed to robust humans intermediate between 'Neanderthals' and 'anatomically modern humans'. However, it needs to be noted that more recent age estimates have been proposed for the Olschewian Neanderthals at Vindija (Deviese et al. 2017).

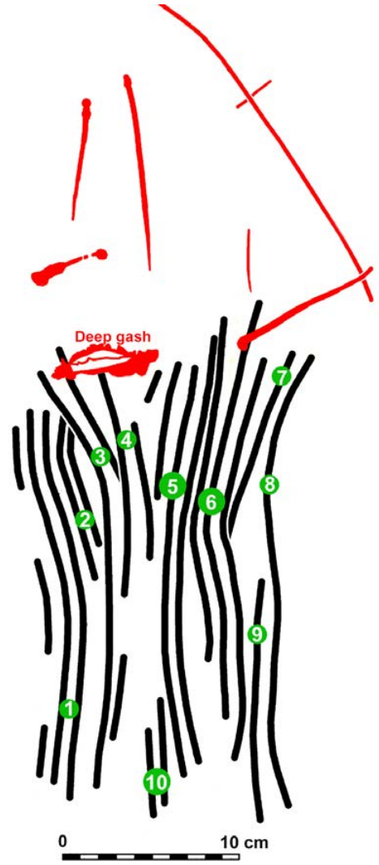

Figure 6. *Analysis of panel B, identifying finger fluting sets and, where possible, superimpositions. The nearby cave bear claw marks are shown in red.*

The Olschewian tradition

The above renders it useful to elucidate the technological and cultural tradition of the people who resided in the Drachenhöhle when cave bears frequented it. Zotz (1951: 119) first observed that it is unlikely that the Alpine Palaeolithic or Olschewian is a single cultural tradition. The primary behaviour evidence, the pursuit of cave bears in their montane hibernation sites, persisted from the Last Interglacial to the Göttweig Interstadial and may well be shared by various technocomplexes bridging the artificial divide between the Mode 3 and Mode 4 traditions. The leitfossil of the late phase of this sequence of traditions is the Mladeč bone point.

The controversy concerning cave bear hunting (Cramer 1941; Koby 1951, 1953, 1954; Koby and Schaefer 1960; Jéquier 1975) is unnecessary. The hibernating bears would have been vulnerable to snaring in the caves' dark and relatively easy to harvest (Bednarik 1993). The chert flake embedded in an *Ursus eremus* (Rabeder 1999; Rabeder et al. 2004; Calligaris et al. 2006) skull from Pocala Cave near Trieste (Bayer 1929: 94; Zotz 1951: 120) or the quartzite flake lodged in the nasal region of an *Ursus arctos* skull from Kitzelberg Cave, the countless charred and smashed cave bear bones from numerous sites, the high percentage of young specimens in many assemblages (Bayer 1929: 94; Zotz 1951: 120), the systematic blows to the same location of many skulls (Tasndi-Kubacska 1936: 104–107) and the extensive hunting evidence in the last refugia of the animal (Musil 1981: 10; Bednarik 1993) suffice to clarify the point. The deliberate deposition of cave bear skulls, frequently together with long-bones, has been reported from Reyersdorfer Cave, Petershöhle, caves of the Bober-Katzbach mountains, Hohler Stein at Schambach, Mornova Cave, Potočka Cave, Salzofenhöhle, Drachenloch, Wildkirchli, Wildenmannlisloch, Montespan, Caverne des Furtins, Regourdou, Saône-et-Loire, Chauvet Cave (several instances), Homoródalm ser, Istállóskö Cave, Kölyuk II Cave (Hillebrand-Jenö Cave), Veternica

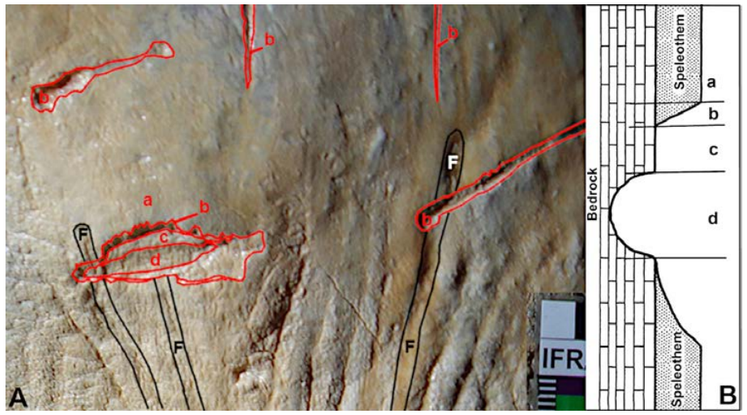

Figure 7. *(A) Details of two cave bear claw marks superimposed over finger flutings in panel B, including the 'deep gash' shown in Figure 6: a = surface of the laminar speleothem, b = speleothem sectioned by claw, c = exposed surface of the bedrock beneath the speleothem, d = groove made by the cave bear claw in the underlying bedrock, F = finger fluting. The ragged edge of the spoeleothem lamina where it has been fractured by the claw shows that the lamina was already fully hardened at that event; therefore, the fracture occasioned by the claw occurred significantly later than when the still soft speleothem was marked by fingers. (B) Vertical section of the 'deep gash', also showing details a–d.*

Cave, Mokriška Cave, Bukovac Cave and Piatra Alta-rului (Bednarik 2017c).

The territory with reported Olschewian or Alpine Palaeolithic sites seems to be roughly defined by Wierszchow and Mladeč in the north; Haligovce, Baia de Fier, Morowitza and Bacho-Kiro in the east; Lokve near Trieste in the south; and Wildhaus and Bockstein in the west. The eastern Alpine sites are relatively central to this range, but unfortunately, almost none have been excavated with much care. The status of the Austrian Palaeolithic cave sites remains, therefore, mostly uncertain. The occupation of the Drachenhöhle, one of many such sites in Styria, was placed in the Mousterian by the excavators (Abel and Kyrle 1931; cf. Kyrle and Ehrenberg 1936) and others, whereas Hilber (1922: 21), Bayer (1929: 90) and Zotz (1941, 1944: 21) always regarded it as Upper Palaeolithic. The issue is further complicated by the frequent confusion in Austria of Riss-Würm Interglacial deposits with Würm I/II Interstadial sediments. Here we regard the Pleistocene occupation of Drachenhöhle to date from interstadial deposits in the vicinity of 39±5 ka old. This view derives some support from two radiocarbon dates secured from the occupation layers. The significant time difference between the Panel B finger flutings and the superimposed deep gash by a cave bear claw, combined with the local extinction of *Ursus ingressus*, favours the placement of the flutings with the lower occupation event. The claw marks in the vicinity of the finger flutings are all regarded as 'exploratory markings', one of the seven types of cave bear bioglyphs we have previously distinguished (Bednarik 1993: 66). Megafaunal bioglyphs of extinct species have previously provided minimum dating of rock art (Bednarik 2020b: 9).

Discussion

The discovery of two small panels of heavily modified finger flutings in one of the classical Palaeolithic sites of central Europe provides that region with the first example of Pleistocene rock art. It occurs in the most enormous cave bear hibernation lair known in the Alps, 325 m from the cave's entrance and next to the only occupation deposit found in 24 000 tonnes of excavated sediment. Some of the finger flutings predate cave bear claw markings by a considerable margin (Fig. 7). Therefore, the rock art can safely be attributed to the nearby campsite of the Olschewian or Alpine Palaeolithic tool tradition of the Göttweig or Würm I/II Interstadial.

The finger markings were made in moonmilk by a child or children aged between five and ten years and were later concealed by further abundant speleothem growth. Although they are quite visible and almost prominent, they remained unnoticed despite centuries of, at times, very intensive research in the cave system.

This find extends the range of regions from which finds of Pleistocene finger fluting have been reported. It also brings to mind other finger fluting productions of Early Upper Palaeolithic traditions, such as those of Chauvet Cave and especially Baume Latrone in France (Bednarik 1986). Moreover, it reminds us of the many unresolved issues concerning the European transition from Mode 3 to Mode 4 technocomplexes and the associated hominin evolution questions. Another factor is that the Drachenhöhle rock art illustrates again that so much of Europe and Australia's cave art has been made by juveniles, while hardly any of it can safely be attributed to adults (Bednarik 2008b). In short, this finding highlights the importance of the still-mysterious cave dwellers of central Europe — remaining enigmatic because their vestiges have been inadequately explored and explained.

The finding of cave art in the Drachenhöhle also implies that there may be many other undiscovered Pleistocene rock art sites in central Europe or anywhere else. If it is possible to overlook such evidence in one of the most intensively studied caves for such a long time, how much more likely is it that such finds could be made elsewhere? Most of the Pleistocene rock art known globally (Bednarik 2017a) is non-figurative; it does not seem to depict objects. On the other hand, most of the zoomorphs in European rock art are not Pleistocene (Bednarik 2017b). Therefore, it is essential that in the search for Ice Age palaeoart, noniconic features must not be neglected. In short, many views widely held concerning Pleistocene palaeoart need to be revised as they comprise several anomalies.

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