

### *More about finger flutings*

By ROBERT G. BEDNARIK

This paper contains some very valuable details and observations about one of the more neglected topics in rock art research, finger flutings. When I commenced researching this subject in the 1970s I soon realised that we needed a term to define it objectively, rather than one signifying what it reminded us of (macaroni, snakes etc.). I preferred a 'technological' but descriptive term, matching the French *sillons digitaux parallèles* (Drouot 1953). When I used the term 'finger flutings' in a paper, an archaeologist referee remarked sarcastically: 'Tell me more about these flutings? What key are they played in?' More than a quarter of a century later, the term has become respectable, and so has its investigation. Sharpe and Van Gelder demonstrate effectively that this form of rock art can be studied without inventing meanings, imposing nothing on the hard evidence,

which is the hallmark of good rock art science.

The literally tens of thousands of cave bear scratches along the walls of the long galleries of Rouffignac (Bednarik 1993) illustrate vividly that the present cave floor does not resemble the Pleistocene floor levels. The dense vertical markings forming a continuous horizon along the walls indicate reliably the contour of the floor at the time of the cave bear occupation. These observations of changing floor levels in this cave are confirmed by Sharpe and Van Gelder, who note evidence of previous higher sediment levels in Chamber A1. They are also confirmed by their photographs, which indicate the presence of sediment lodged on ceiling surfaces. Moreover, their reported lack of cave bear wall marks as well as hibernation pits (which are very numerous in those parts of the cave system where the floor has essentially remained intact) in the sub-chamber suggests much the same: that the floor was higher in the past, and that access to A1 may not have been possible to cave bears. It is of importance to note that sediment floors in cave spaces can be stable over tens of millennia in some sites, but fluctuate greatly in others. Indeed, in 1982 I observed a fall in cave sediment floor level of about 80 cm in a single day (Bednarik and Bednarik 2002), which illustrates how volatile floor levels in caves can be.

The contention of Sharpe and Van Gelder, that the children whose fingers marked the ceiling in one Rouffignac sub-chamber were carried aloft because their markings are too high above the current floor, therefore needs to be viewed sceptically. The simpler alternative explanation, that the floor was higher at the time the flutings were made, is far more likely to be correct.

Similarly, the arguments against 'clay mining' do not stand up to scrutiny. The authors refer to the potential of clay in making pottery. Cave sediments were in the historically known contexts not mined for ceramics, but as phosphates, for agriculture, in huge quantities and in all continents. The scientific use of the term 'clay' refers either to a granulometric fraction, or to a sediment mostly of hydrous silicates of aluminium and magnesium, and the authors need to qualify their use of the term accordingly. To establish veracity, we would need some analytical data of the sediment. The six reasons listed why there appears to have been no mining of sediment are inadequate to establish this. To illustrate: the sediments of the Drachenhöhle at Mixnitz in Styria, another large cave bear site, were mined on a huge scale, involving also the removal of 250 000 kg of skeletal remains of cave bears. Yet I have not seen any soot or charcoal in that cave, any pick marks, graffiti, or remains of mining tools. This is despite the labour investment of tens of thousands of man-hours in the quarrying of that cave. Either carefully secured archaeological evidence or relevant historical research is required to make any credible pronouncement on the subject of possible sediment mining.

The points about chert mining also need some qualification. For instance, there is the contention that 'fewer nodules in the ceiling of the sub-chamber mean fewer nodules to fall': fewer nodules in the ceiling (and on the floor) can also mean that more were removed by Palaeolithic miners.

Chert deposits have been mined in many caves (e.g. Bednarik 1990b) and I have described evidence of extensive Pleistocene chert mining from a nearby French cave, Bara Bahau. Since we do not know where the floor level was at the time the finger flutings were made, or when they were made, speculations about the absence or presence of chert nodules on the present floor are of limited relevance.

The statement 'The curves of zigzag made by wrist movement differ from zigzag curves made by hip movement' also seems an oversimplification in the pursuit of explanation. From my work I would suggest that the wrist, elbow, shoulder, hip and legs may all be involved — far too many variables before we even consider the involvement of people carrying those whose fingers were used.

The authors speculate whether flutings could have survived immersion in water. I note that finger flutings in Cosquer Cave, which can be demonstrated to be of the Pleistocene (in contrast to those in Rouffignac) have survived for many millennia even below seawater. Contrary to popular belief, cave water as such does not dissolve limestone, the process is a little more complex than this (Bednarik 1999).

'Intentionality' is not just a very rubbery concept (Dennet 1987) that needs to be carefully defined when used in a scientific context, the four reasons the authors provide for their contention that the flutings in the sub-chamber were made intentionally are not convincing. In what way does the chamber's morphology imply intentionality? We cannot even know the size or shape of the room at the time, because we have no indication of where its floor was then. The second qualification, referring to a lack of drawings and other features, is also not an indicator of any intention, nor is the inclusion or exclusion of any shapes so. Conversely, I have not stated that 'caves with particularly difficult access would rule out play as the explanation' in Bednarik (1985).

The authors very briefly canvass the possible antiquity of rock art in Rouffignac. The anthropic wall markings in Rouffignac are of greatly varying ages; they include many Historical and recent markings, including recent finger markings. Have the authors given any consideration to the question of age, what can they tell us about the relative context, the state of weathering, and particularly the compositional properties of the red 'patina'? How do the flutings relate to other features, especially other types of speleothems clearly present (and quite possibly datable)? I would be particularly interested in a detailed analysis of the markings in Figure 6, from Chamber E (see colour plate on the back cover of this issue of *RAR*). What I see in this image is a series of sub-parallel finger flutings, some of which bear compressed, smeared remains of the red surface deposit (I regard the feature described as 'careful re-layering with clay over the flutings' as entirely fortuitous; the fingers of the fluter were simply coated with red sediment). The image also shows a series of markings made with wooden sticks, crossing the finger lines. This panel is a prime contender for 'internal analysis', which would provide superb empirical scientific evidence, because the sequence of markings and the direction in which they were made are

both clearly visible. For instance, the wood marks were superimposed over five of the finger markings, but the first fluting on the left was added later. Similarly, other parts of this composition can easily be analysed, and the results could be the basis of semiotic considerations. It appears that the composition was made in one sitting, therefore the *chaîne opératoire*, largely recoverable, would provide a superb study base to tackle the difficult question of symbolism.

But there are still more important details to be gleaned from just this one photograph. Clearly the wooden stick (or sticks, or some of them) had been burnt, and bore a considerable quantity of charcoal. Extensive charcoal deposits were transferred to the panel, especially on the bottom and right-hand parts, as it was being marked. It is self-evident that there is sufficient carbon present for several AMS <sup>14</sup>C analyses, and that any carbon-isotope results from these charcoal traces would be close to the true age of both the flutings and the markings made with a stick. In short, the research potential of these markings has remained untapped so far.

I wish to emphasise that the authors' repudiation of previous interpretations of the Rouffignac finger flutings is laudable and of course fully justified; it is simply part of that huge corpus of nonsense that has been written about cave art over the past century. But it was written many decades ago, and we have moved on since then. The authors' question, were there snakes in France during the Final Pleistocene, is most relevant. Snakes in Pleistocene Europe seem conspicuously limited to interglacials or inter-stadials, and the point is well made. Similarly, the arguments presented against a shamanic interpretation are valid and they agree with my own observations. Also, I have on various occasions argued against finger flutings being evidence for the removal of the medium (usually *Montmilch* or moonmilk). I also like the point that 'shamans' with their 'visual deprivation'-induced visions would have found it hard to light fires to find their way back to the entrances, hundreds of metres away. This point reminds us that these hypothetical 'shamans' did not have light sources they could switch on and off. But the perhaps most pertinent point the authors make is their last sentence in the shamanism section: the 'proponents have to provide and support a means of discriminating'. That, indeed, is a crucial problem with the shamanic model, and until we have such criteria for discriminating between supposedly shamanic and non-shamanic rock art, the entire paradigm seems to be an exercise in futility.

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## REFERENCES

- BARRIÈRE, C. 1959. Grotte de Rouffignac (résultats des premières fouilles 1957-1958). *Travaux de l'Institut d'Art Préhistorique* 3: 3-8.
- BARRIÈRE, C. 1973-75. Rouffignac: l'archéologie. *Travaux de l'Institut d'Art Préhistorique* 15: 1-160; 16: 1-210; 17: 1-83.
- BARRIÈRE, C. 1982. *L'art pariétal de Rouffignac: la grotte aux cent mammouths*. Picard, Paris.
- BEDNARIK, R. G. 1984. On the nature of psychograms. *The Artefact* 8: 27-32.
- BEDNARIK, R. G. 1985. Parietal finger markings in Australia. *Bollettino del Centro Camuno di Studi Preistorici* 22: 83-8.
- BEDNARIK, R. G. 1986. Parietal finger markings in Europe and Australia. *Rock Art Research* 3: 30-61.
- BEDNARIK, R. G. 1990a. On neuropsychology and shamanism in rock art. *Current Anthropology* 31: 77-80.
- BEDNARIK, R. G. 1990b. About Pleistocene chert mining. *Sahara* 3: 113-15. [RGB]
- BEDNARIK, R. G. 1993. Wall markings of the cave bear. *Studies in Speleology* 9: 51-70. [RGB]
- BEDNARIK, R. G. 1999. The speleothem medium of finger flutings and its isotopic geochemistry. *The Artefact* 22: 49-64.
- BEDNARIK, R. G. and E. BEDNARIK 2002. The Paroong Cave Preservation Project. *Cave Art Research* 2: 1-20. [RGB]
- BREUIL, H. 1952. *Four hundred centuries of cave art*. Centre d'Études et Documentations Préhistoriques, Montignac.
- BREUIL, H., H. OBERMAIER and W. VERNER 1915. *La Pileta a Benaofan (Malaga)*. Institute de Paléontologie Humaine, Monaco.
- CLOTTES, J. (ed.) 2003. *Return to Chauvet Cave: excavating the birthplace of art — the first full report*. Thames & Hudson, London.
- DENNET, D. 1987. *The intentional stance*. MIT Press, Cambridge MA. [RGB]
- D'ERRICO, F. 1992. Technology, motion, and the meaning of Epipalaeolithic art. *Current Anthropology* 33: 94-109.
- DROUOT, E. 1953. L'art paléolithique à La Baume-Latrone. *Cahiers ligures de préhistoire et d'archéologie* Pt 1, 13-46. [RGB]
- FLOOD, J. 1996. Culture in early Aboriginal Australia. *Cambridge Archaeological Journal* 6: 3-36.
- GALLUS, A. 1972-74. A biofunctional theory of religion. *Current Anthropology* 13: 543-68; 15: 92-9.
- GALLUS, A. 1977. Schematisation and symboling. In P. J. Ucko (ed.), *Form in indigenous art*, pp. 370-386. Australian Institute of Aboriginal Studies, Canberra.
- HODGSON, D. 2000. Shamanism, phosphenes, and early art: an alternative synthesis. *Current Anthropology* 41: 866-73.
- LAYTON, R. 2000. Shamanism, totemism, and rock art: *Les chamanes de la préhistoire* in the context of rock art research. *Cambridge Archaeological Journal* 10: 169-86.
- LEROI-GOURHAN, A. 1958. La fonction des signes dans les sanctuaires paléolithiques. *Bulletin de la Société Préhistorique Française* 55: 307-21.
- LEWIS-WILLIAMS, D. 2002. *The mind in the cave: consciousness and the origin of art*. Thames & Hudson, London.
- LEWIS-WILLIAMS, D. and T. A. DOWSON 1988. The signs of all times: entopic phenomena in Upper Palaeolithic art. *Current Anthropology* 29: 201-45.
- LEWIS-WILLIAMS, D. and T. A. DOWSON 1990. Reply to R. G. Bednarik, 'On neuropsychology and shamanism in rock art'. *Current Anthropology* 31: 80-4.
- LORBLANCHET, M. 1992. Finger markings in Pech Merle and their

- place in prehistoric art. In M. Lorblanchet (ed.), *Rock art in the old world*, pp. 451–490. Indira Gandhi National Centre for the Arts, New Delhi.
- MARSHACK, A. 1972. *The roots of civilization: the cognitive beginnings of man's first art, symbol, and notation*. McGraw-Hill, New York.
- MARSHACK, A. 1975. Exploring the mind of ice-age man. *National Geographic* 147(1): 62–89.
- MARSHACK, A. 1977. The meander as a system: the analysis and recognition of iconographic units in Upper Palaeolithic compositions. In P. J. Ucko (ed.), *Form in indigenous art*, pp. 286–317. Australian Institute of Aboriginal Studies, Canberra.
- MAYNARD, L. and R. EDWARDS 1971. Wall markings. In R. V. S. Wright (ed.), *Archaeology of the Gallus Site, Koonalda Cave*, pp. 59–80. Australian Institute of Aboriginal Studies, Canberra.
- MULVANEY, J. and J. KAMMINGA 1999. *Prehistory of Australia*. Smithsonian Institution Press, Washington, DC.
- MUNN, N. D. 1973. *Walbiri iconography: graphic representation and cultural symbolism in a central Australian society*. Cornell University Press, Ithaca, NY.
- NOUGIER, L.-R. 1958. L'art pariétal de la Grotte de Rouffignac. *Archivio Internazionale di Etnografia e Preistoria* 1: 17–33.
- NOUGIER, L.-R. and R. ROBERT 1958. *The cave of Rouffignac*. Transl. D. Scott. George Newnes, London.
- PALMER, D. 2004. Big chill killed off the Neanderthals. *New Scientist* 24 January, p. 10.
- PLASSARD, J. 1999. *Rouffignac: le sanctuaire des mammouths*. Seuil, Paris.
- SHARPE, K. 2004. Incised linear markings: animal or human origin? *Rock Art Research* 21: 57–84.
- SHARPE, K. and M. LACOMBE. 1999. Line markings as systems of notation? In *News 95: International Rock Art Congress proceedings*, p. 46, and *NEWS 95 - International Rock Art Congress Proceedings\_files/sharp.htm*. International Federation of Rock Art Federations, Pinerolo, Italy.
- SHARPE, K., M. LACOMBE and H. FAWBERT 1998. An externalism in order to communicate. *The Artefact* 21: 95–104.
- SHARPE, K., M. LACOMBE and H. FAWBERT. 2002. Investigating finger flutings. *Rock Art Research* 19: 109–16.
- SHARPE, K. and L. VAN GELDER. 2004. Children and Palaeolithic 'art': indications from Rouffignac Cave, France. *International Newsletter on Rock Art* 38: 9–17.
- SHARPE, K. and L. VAN GELDER. 2006. A method for studying finger flutings. In P. C. Reddy (ed.), *Exploring the mind of ancient man: festschrift to Robert G. Bednarik*, pp. 111–134. Research India Press, New Delhi.
- SHARPE, K. and L. VAN GELDER in prep. a. Evidence for cave marking by Palaeolithic children. *Antiquity*.
- SHARPE, K. and L. VAN GELDER in prep. b. The study of finger flutings. *Cambridge Archaeological Journal*.