

THE EARLY ROCK ART OF AUSTRALIA

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Introduction

Australian rock art is known for several outstanding features. For instance, more rock art is found in this country than any other, and Australia is the only country where traditional rock art continues to be occasionally produced by tribal artists, where numerous indigenous rock art custodians still live and where valid ethnographic research about rock art and its meaning or significance can still be conducted in various regions. Another distinction of Australian rock art is the enormous antiquity of some of it. It has been rightfully suggested that the longest surviving, continuous cultural tradition in the world is that of the Australian Aborigines.

While it is no doubt true that Aboriginal cultures can be "traced back" to the original human settlement of Australia, currently thought to have occurred at least 60,000 years ago (Roberts *et al.*, 1993), it would be quite wrong to see Aboriginal history as one continuous and uniform tradition. There were many cultural changes in this long period and there were external influences from time to time. Nowhere is this more vividly reflected than in the continent's rock art, which consists of a rich diversity of stylistic and technological traditions. There are countless sites where successive traditions occur together, each component created in response to previous ones (Bednarik, 1991/92), providing the researcher with relative chronological depth for such assemblages.

The claims of recent years that Australian rock art is among the oldest known in the world are of considerable interest, in that they form an important aspect of the emerging picture of human cognitive evolution. The traditional archaeological model of art origins emphasizes the role of southwestern Europe, especially the significance of the Franco-Cantabrian traditions found in deep limestone caves. We know today that this model is almost certainly false, and that Europe was a peripheral area in human cognitive evolution. The main theatres of this process were almost certainly in Asia and Africa, but their importance remained largely ignored. Some notable exceptions were Anati (1986), who drew attention to the early art of Africa, and Bednarik (1994a), who reviewed the Pleistocene art of Asia and located the oldest known rock art in the world. It is clear that Asian rock art and portable art can be traced back some hundreds of millennia, and that it is therefore reasonable to assume that the first humans who crossed the sea to reach Australia would have been cognitively and technologically capable of producing some form of art.

The first settlement of Australia

The time of the first human occupation of the island continent, however, remains unknown. Available evidence of human activity in Australia has been getting steadily older over the past few decades, and currently stands at an estimated 60,000 years. Such ages have been obtained by luminescence dating only (either thermoluminescence or optically stimulated luminescence). They are not generally accepted by all

archaeologists, a few of whom still argue that the earliest safe dates are only around 40,000 years (Allen & Holdaway, 1995). Indirect and rather tenuous evidence of human presence in excess of 100,000 years has become available (e.g. Kershaw, 1993). Most recently, a claim has been made for northern Australian cupules to be between 58,000 and 75,000 old (at the Jinmium site; Fullagar *et al.*, 1996), as part of a proposal that occupation of the site commenced between 116,000-176,000 years. However, almost no Australian archaeologists accept these claims, which are based on a method considered to be inappropriate for the saprolithic sediments in question (Bednarik, 1996).

Of great importance in this context is the question of maritime navigation, which most scholars accept as evidence of language ability, and which some have mistakenly argued is first apparent in the initial landfall of Australia (Davidson & Noble, 1992). It is clear that competence in navigating open ocean was essential for the many sea crossings required to reach Australia from Asia. Most Australian archaeologists still assume that *Homo sapiens sapiens* swept through the Sunda Islands directly from the Asian mainland shortly before 60,000 years BP and occupied Australia soon after. But this model is entirely without support. First, there are no modern human remains known anywhere in the supposed catchment area of this movement into Australia, from the entire time in question (Bellwood, 1985), and we do not know how these humans were related to *Homo erectus* in Southeast Asia generally (consider the current controversies concerning the Ngandong hominids). Second, it cannot be denied that human remains in Australia, while certainly being of *Homo sapiens*, commonly present some erectoid features. Third, it is difficult to explain why the supposed replacement of the resident population in Europe should have occurred so much later than the movement of Moderns into Australia. Fourth, Australian researchers have remained unaware for several decades (because the reports were not published in English) that Dutch, Indonesian and German researchers had long found numerous stone tools together with a Middle Pleistocene fauna on the island of Flores. These stone tools of *Homo erectus* occurred in a thin stratum with a *Stegodon* fauna (Verhoeven, 1968; Maringer & Verhoeven, 1970). Recent palaeomagnetic dating of the layer confirms the earlier estimate that these artefacts are about 700,000 years old (Sondaar *et al.*, 1994). Similar tools have also been found on Sulawesi and even Timor, i.e. further east, sometimes with similar fauna. Flores is separated from Asia by Wallace's Line (between Bali and Lombok), a biogeographical barrier limiting the movement of most species from Asia to the Lesser Sunda Islands. It is assumed that Flores was never connected to Asia, therefore *Homo erectus* had navigational capability already at the beginning of the Middle Pleistocene (if not earlier), and probably reached Timor, the last stop to Australia. Most importantly, the use of seaworthy water craft is not an innovation of modern humans, but of *Homo erectus* (Bednarik, 1995; 1997a; 1997b), who almost certainly must have had sophisticated language to organize such colonizing expeditions.

Earliest evidence of Australian art

At this stage we do not know when hominids reached Timor to live on the "door step of Australia", but it was probably very much earlier than 60,000 years ago, at which time we think we can assume their presence in nearby northern Australia. It is therefore advisable to reserve our judgment on this issue, and to await more reliable evidence. We need to consider, however, that hominids have colonized the islands to the northwest of Sahul (the Pleistocene Greater Australia) hundreds of thousands of years ago, undertaking numerous sea crossings, and that they were highly competent

navigators and colonizers long before modern humans made their debut. When they eventually reached Australia, they can be presumed to have brought artistic behaviour with them, and we even have evidence of this. At the very sites that produced the currently oldest occupation dates, Nauwalabila I and Malakunanja II rockshelters in Arnhem Land, haematite fragments occur right down to basal occupation deposits. Many of these bear striation marks which I have examined, and which were made when the nodules were intentionally abraded against hard rock. We cannot know what the red pigment was used for, but it served most probably as colouring matter.

There is nothing surprising about these finds. Haematite and ochre have been found in the Acheulian of southern Africa, southwestern Europe and India. Striations occur on a specimen from Hunsgi, India (Bednarik, 1990a) which are thought to be several hundred millennia old. In view of the extensive Acheulian evidence of ochre use in Eurasia and Africa, forms of symbolism in addition to language may have been practiced before the initial arrival of man in the Lesser Sunda Islands, at least 700,000 years ago.

No pigmented rock markings have been found from the early settlement period of Australia. Perhaps none were made, but it is more likely that none survived. This is because petroglyphs do occur from this period, and may in fact be quite common. Several long rock art sequences begin with cupules (cup marks), which occur in vast numbers and at many sites (Bednarik, 1993; Welch, 1993; Morwood *et al.*, 1994). This, too, is consistent with evidence in Asia and Europe, where the earliest surviving rock art also consists of cupules (Peyrony, 1934; Bednarik, 1994a). In fact, the pattern is even matched in both North and South America, where only much younger rock art is thought to exist (Parkman, 1992; Bednarik, in press).

There are also two supported claims for very early rock paintings in Australia, both from the Kimberley region. O'Connor (1995) reports excavating part of a roof fall in Carpenter's Gap Shelter, with one of the rocks bearing what are thought to be traces of ochre paint residues. This was found in a layer carbon-dated to about 30,000 BP. More recently, Roberts *et al.* (1997) reported evidence that suggests an age in excess of 17,000 years for some very early Kimberley paintings. It is to be noted that more reliable radiocarbon dating of similar figures in the Kimberley have provided considerably lower ages for these traditions (Watchman *et al.*, 1997). The reports by O'Connor and Robert *et al.* both sound promising, but they remain tenuous and need to be further examined. The same applies to a minimum uranium-series date of about 28,000 years I have secured for speleothem precipitated over the second-oldest petroglyph tradition in the Mount Gambier caves (see below).

The archaic linear traditions

The earliest supposedly dated rock art in Australia, and indeed in the world, has so far been reported in the northeast of South Australia, in a sparsely populated, now semi-arid region called Olary district. A series of petroglyph sites has been subjected to intensive direct dating since the late 1980s (Nobbs & Dorn, 1988; Dorn *et al.*, 1992). Initially this relied on the cation-ratio method, which is now discredited (Watchman, 1993), but the more recent dates are said to be radiocarbon derived. The petroglyphs in this region were pounded into rather soft, dolomitic siltstone, which would normally fall victim to rapid weathering. Here, however, the rock became coated by a thick, dark-brown skin of rock varnish, a natural precipitate of various metal oxides. Protected by this lamina, the petroglyphs survived well, as did organic inclusions also concealed

within this mineral accretion. Accelerator mass spectrometry permits the latter's radiocarbon dating, and dates in excess of 40,000 years BP have been reported from such residues (Nobbs & Dorn, 1993). It would appear that these need to be interpreted as minimum ages for the rock art concealed under the deposits: the deposit should be younger, and if there has been any contamination of the organic matter, it would tend to render the radiocarbon age younger rather than older. It would seem, therefore, that some of this archaic linear art relates to a very early population of Australia, whose art is considerably older than rock art in Europe (with the possible exception of the cupules at La Ferrassie).





Fig. 25. Teetulpa site, north of Yunta, South Australia. Typical archaic linear style motifs on open dolomitic siltstone pavement, protected by thick ferromanganese surface coating.

Fig. 26. Karlie-ngoinpool Cave, Mount Gambier region. Finger flutings of two widely separated periods, the earlier generation being heavily corroded. The cave is of very difficult access, and was used as a Pleistocene chert mine.

Fig. 27. Paroong Cave, Mount Gambier region, at the time of discovery in 1984. Deeply carved circles with internal vertical barring, a typical design of this tradition.

A great deal more research is needed to test these results. Linear and generally geometric petroglyph genres of apparently very great age are widely represented across the Australian continent. They include complex mazes, circles and concentric circles (fig. 25), convergent lines motifs or tridents, spirals, dot patterns or cupules, arcuate marks, wave lines, and sets of parallel lines. They are free of iconic (figurative) elements, although animal tracks do occur, perhaps in the more recent traditions. Figurative elements are introduced late in the sequence, possibly towards the end of the Pleistocene.

The traditions then seem to continue through the Holocene, re-cycling specific motifs and archetypes right up to the present time. In parts of central Australia, these have managed to survive into the ethnographic period (Munn, 1973), and continue to be used extensively in contemporary artistic expression. It is not clear whether this survival is entirely due to full cultural continuity, or whether cultural “re-cycling” of graphic forms (cfr. Bednarik, 1991/92) has contributed. While I favour the latter model we can say, irrespective of this point, that cultural elements have survived in Australia since the time of the Middle Palaeolithic (there can be no doubt that the early settlers of the continent were Middle Palaeolithic seafarers, whose technology survived there longer than anywhere else).

Australian cave art

In addition to the early cupule tradition and the sequence of archaic linear petroglyphs, there is a rather different Pleistocene art body which also has close parallels in western Europe. As in a series of caves in France and Spain (Bednarik, 1986), finger markings occur in Australian caves containing wall and ceiling deposits of a white and soft reprecipitated calcite called moonmilk (Montmilch, Mondmilch or Bergmilch; Bednarik, 1985).

These finger flutings (fig. 26) occur usually in partial or complete darkness, they are sometimes deeply corroded, and circumstantial evidence tends to support a very great age in some cases (Bednarik, 1986; 1990b). There is little doubt that some of these subterranean markings are of the Pleistocene, but it is similarly obvious that some others cannot be so. Actual direct dating attempts have been limited to one site, Malangine Cave, but with only tentative results (Bednarik, 1984; 1985).

Australian cave art is not limited to the finger marking tradition. Simple linear

markings have been made with stone tools in several caves, and there is a distinctive tradition of deeply carved petroglyphs. It consists of linear motifs that closely resemble part of the archaic linear tradition described above (fig. 27).

Finally, there are a number of limestone caves with red hand stencils, near the continent's southern coast and on the island Tasmania. In one of these, Judds Cavern, organic traces in the paint residue have yielded an AMS radiocarbon date of about 10,000 years (Loy *et al.*, 1990).

While the chronological position of the Australian cave art sites remains to be clarified in practically all cases, it is certain that it does include a Pleistocene component. How far this extends into the past remains uncertain. In Europe, finger flutings identical to those in Australian caves have been attributed to the late Aurignacian/early Gravettian in Cosquer Cave (Clottes *et al.*, 1992). A similar age has been suggested by Gallus (1986) for the finger flutings in Koonalda Cave.

Conclusion

There have been a number of claims that Australian rock painting traditions in the Kimberley, Arnhem Land and Cape York peninsula are in the order of 40,000 years old. In reality, it is unlikely that any of the major figurative painting traditions surviving today are of such age. The taphonomic threshold of rock paintings (other than those located in deep caves or under mineral skins) appears to be little more than 10,000 years (Bednarik, 1994b), therefore rock paintings above that age are likely to exist only in circumstances of unusual preservation conditions. In Australia, only a few Pleistocene dates have been reported from rock paintings: the two already mentioned from the Kimberley, one from Laurie Creek, which has since been refuted (Nelson, 1993); one from Gnatalia Creek, which is contradicted by a second result from the same motif (McDonald *et al.*, 1990); and the date of about 24,600 BP from oxalate crusts containing pigment at Laura South (Watchman, 1993). Only the last-mentioned result can be regarded as relevant, and it comes from substrate deposits, not from a surface motif.

The taphonomic threshold for petroglyphs is often much earlier (Bednarik, 1994b), which is why large numbers of such motifs of the Ice Age have survived in Australia. It is reasonable to assume that the Pleistocene rock art of Australia is more numerous than that of Europe. Even if it accounted for only 10% of the surviving rock art of Australia, which may be a conservative guess, it would outnumber the European corpus of that period in the order of a hundred times. But it is to be remembered that the Australian Ice Age rock art generally belongs to Middle Palaeolithic traditions, which creates a rather novel situation: since no significant Upper Palaeolithic rock art traditions have so far been identified in Africa and Asia (probably partly because of neglect), we seem to know of much more rock art from the Middle Palaeolithic, world-wide, than from the Upper Palaeolithic. This is a rather curious situation, because the text books claim that there is no Middle Palaeolithic art, and that art begins with the Upper Palaeolithic of western Europe. In fact, both of these statements of current archaeological dogma are false, which only shows that all standard texts are worthless when it comes to topics of art beginnings and the origins of language, culture, human self-awareness and models of reality. To date, all these and related subjects have been discussed purely in the terms of a false, Eurocentric model of early arts, and these paradigms need to be rejected.

In summary, while the early rock art of Australia cannot possibly be expected to be among the oldest art in the world, it can contribute significantly to a realistic model of the cognitive evolution of hominids.

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Riassunto

L'autore presenta il proprio punto di vista sulla datazione della prima arte rupestre in Australia che mette in relazione con culture del "Paleolitico Medio".

Summary

The author presents his own view on the dating of early rock art in Australia which he relates to cultures of "Middle Palaeolithic" type.

Résumé

L'auteur présente son propre point de vue sur la datation du plus ancien art rupestre en Australie qu'il associe à cultures du "Paléolithique Moyen".

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