SYMPOSIUM 5

PLEISTOCENE ART IN AUSTRALIA

Chairmen

Robert G. BEDNARIK
(Australia)

John CAMPBELL
(Australia)
This survey of pictograms dated to Pleistocene and pre-sea-level-stabilization periods in Australia draws upon the work of others as acknowledged. I attempt to cover the main issues, without being comprehensive, as an introduction for a European audience.

**Pleistocene Australia and sea levels**

The Pleistocene was differentiated from preceding and subsequent periods by major climatic changes and it is argued that the Pleistocene / Holocene change saw significant changes in human societies. With global sea level oscillations much water was trapped in the Northern Hemisphere ice cap and glaciers during colder phases; the Southern Hemisphere might have been less glaciated, but reduced sea-levels – over the last 140 000 years – exposed large regions of continental shelf presently below sea level and joined Australia to adjacent land masses. At about seventy thousand years ago, shores were 60 m below present sea levels, resulting in shorter distances between Asia and Greater Australia. Between 25 000 and 15 000 years ago a phase of the Last Glacial Maximum made much of the Australian continent cold and arid. The Centre was probably incapable of supporting human life. In the next 5 000 years, climatic conditions ameliorated; the interior was resettled. Rising seas separated New Guinea and Tasmania from Australia; the continental shelf – in parts more than 200 km wide – became submerged, and its various populations concentrated in, for example, the higher Kimberley and Arnhem Land regions.

If the Pleistocene / Holocene boundary appears less well defined climatically in Australia, what might be more important to human settlement is the rise and stabilization of sea levels about 6500 years ago.

“*Palaeolithic”/“Neolithic*”

The Pleistocene / Holocene change in human societies has been summarized as the change from the Palaeolithic to the Neolithic; this transition was not necessarily the same or as significant everywhere. Arguably the Palaeolithic continued in Australia until – and, indeed, after – European colonization; that “Neolithic” practices were evident in the Australian “Palaeolithic”. Ground-stone tools were in use in northern Australia about 25 000 years ago; savannah grasslands were modified systematically; grasses and other flora were cultivated and their characters modified; the range of fauna was drastically altered by human intervention, including anthropogenic fire regimes. We can question whether the climatic differences between the Pleistocene and Holocene affected the ways of life of early inhabitants of Australia as much as elsewhere.
Conditions 50 000 years to < 10 000 years ago

Nevertheless, climatic and environmental changes accompanying warming and sea-level rise did have significant impacts upon Australian populations. Sources of raw materials, for example, were submerged and lack of access is reflected in the archaeological record. Eucalyptus forest re-colonized the south, while tropical vegetation, reflecting monsoonal rainfall patterns, became established across the north of the continent. Eucalyptus forests contain few edible food plants and such areas appear to have been abandoned. Northern regions became more habitable and were reoccupied, and the arid interior re-vitalized with ephemeral lakes and rivers was settled, with the use of new resources reflected in the archaeological record. Possibly about 6 000 years ago the carrying capacity of the continent was reached. Before and during this period there was a marked change in the range of fauna hunted.

In attempting to date early occupation, the limits of the radiocarbon timescale were quickly reached; ability to analyze small samples of charcoal and bone using accelerator mass spectrometry has extended the usefulness of the technique. Thermoluminescence, OSL, ESP and other methods have been applied.

While human occupation of Australia is minimally dated to about 45 000 years ago, it is likely that modern humans occupied Australia during the period 50 000 to 60 000 years ago. Between about 40 000 and 25 000 years ago most of the distinctive Australian megafauna became extinct. By about 7 000 years ago sea levels were close to their maxima.
Dating ancient rock-painting

Opportunities for preservation are poor at open sites and shallow shelters. In northern Australia, subject to abundant rainfall, the formation of stabilizing crusts and skins over a rock surface can preserve a painting. Aspects of symbolic representation including rock-painting can be dated by indirect and direct methods to more than 40,000 years ago.

In 1984, Chaloupka defined a sequence of flora and fauna depicted in Arnhem Land rockshelters, arguing that a significant proportion was made before the Holocene rise in sea-levels; later “Estuarine” imagery – due to the partially inundated environment of the Arnhem Land wetlands – contrasted markedly with “Pre-Estuarine” images that clearly represent pre-sea-level-rise flora and fauna; the earlier stages he considered dated to the Pleistocene. In 1981, Rosenfeld argued that paintings could be indirectly dated from adjacent 18,000 years old strata at the Early Man site. Painted roof-fall at O’Connor’s Carpenters Gap 1 site was dated to between about 33,000 and 43,000 years ago. The oldest directly-dated evidence of rock-painting – about 25,000 BP – have been reported by Campbell and Watchman from Walkunder Arch.

The problem with some direct-dating approaches is that, while we may be more confident with the dating results of the application of this technique, that we know within reasonable limits the likely date of the pigment applied to a rock-face which has been caught between two accreting layers, we may not know anything about the character of the painting itself: its extent, its style, or what is being depicted.

Perhaps more satisfying evidence for many will be the identification of early pictograms from their subject matter, a recent example being that suggested by the recognition of megafauna reportedly extinct by at least 25,000 years ago. Researchers are faced with a dating dilemma probably not unique to ancient Australia.
PLEISTOCENE ROCK ART: a Colonizing Repertoire for Australia’s Earliest Inhabitants

Jo McDONALD, Peter VETH

We argue that rock art played an integral role in the colonization of Australia – one of the most arid continents on earth. We also propose that there was regional diversification in art before the pre-Last Glacial Maximum (LGM). We critique earlier schema proposed for rock art chronology – recasting this not as an evolutionary trend but rather as a necessary component in the colonization of an arid landscape.

It is clear that there is an older – predominantly geometric – art form across Australia, which is replaced in some areas by one or more figurative art vocabularies; in other areas this iconography appears to endure. Although absolute dating is still in its infancy most researchers consider there is Pleistocene art in Australia.

When people moved into the semi-arid and arid interior of Sahul circa 45 000 years ago conditions were considerably more benign than they are now. There is evidence at this time for highly flexible territorial arrangements and subsistence activities.

The rapid dispersal of colonizing populations into different habitats points to the existence of complex information exchange systems. The establishment and maintenance of social networks would have been particularly important for the long-term survival of small, dispersed and highly mobile populations in habitats characterized by spatially and temporally patchy resources.

Much of the extant body of painted and engraved art in Sahul is of unknown age, and most of it is undoubtedly Holocene in age. However, the art from at least four regions includes likely Pleistocene components: the early paintings from Arnhem Land, the Kimberley, paintings and petroglyphs from Cape York Peninsula and engraved arid zone assemblages including “archaic faces”. The art from each of these areas is quite distinct, and indicates that a symbolic differentiation of populations likely took place before the LGM.

In the Cape York Peninsula, age determinations for pigment minerals contained in oxalate crusts show that paintings were likely being produced in this region 32 600-29 000 years ago. Similarly, excavation at Sandy Creek 1 indicated that this site was first occupied 34 000 years ago, and that painting was a feature of site use throughout the entire sequence. In Sandy Creek 2 a rock painting was direct-dated to 27 000 years ago. Engraved art in this part of Queensland is also known to be late Pleistocene in age: at Early Man Shelter, buried engraved art on the back wall of the shelter (tracks and geometric designs) was dated to a minimum of 15 700 cal BP while a similar age was obtained at Sandy Creek 1. At Green Ant Shelter, a date of 10 000 years ago was obtained for a buried slab with patinated petroglyphs. The engraved art dates are all minimum ages.
On the Arnhem Land plateau four phases of painting have been distinguished based on content and stylistic conventions. Several phases pre-date sea level rise, an inference based on the depiction of extinct animals in the earliest paintings and the fact that contemporary marine and swamp fauna are depicted only in the most recent paintings. There are marked discontinuities between the different phases of painting, reflecting changes in the environment as the sea flooded the Arafura Plain. A recent find in the Katherine area, a depiction of now extinct Genyornis, has provided further evidence of early pigment art: Genyornis became extinct in Australia between 40,000-50,000 years ago.

In the Kimberley region, an OSL age determination of 17,500 years ago on a mud wasp nest overlying a pigment figure suggests that this art tradition was well established at the end of the LGM. Several paintings in the Kimberley have now also been interpreted as depicting the extinct carnivore *Thylacoleo carnifex*. One of these is consistent with the early “large naturalistic phase” while the other is associated with an early Bradshaw figure, with the human and striped marsupial associated with a multi-barbed spear. If this depiction has been interpreted correctly
then it suggests considerable antiquity for this art as there is no available evidence for Thylacoleo carnifex more recent than 44 000 and 42 000 years ago. In many parts of the arid zone, a distinctive suite of petroglyphs has been documented. While being a broadly homogeneous style, variation in the relative proportions of certain motifs suggests regional differentiation within this widespread graphic tradition. These petroglyphs are heavily weathered, patinated and geologically altered. Thus, they are widely regarded as old.

This differentiation of art styles relatively early in the occupation of the continent suggests that symbolism was used to mark identity over areas much wider than has been documented by the chance (firmly dated) occurrences of personal ornaments or fragments of ochre. The marking of places through painting and/or petroglyph would have indicated the relationship of the artists to their country – both to members of their society and to outsiders. The fact that an older – predominantly geometric – arid zone art form present across most of the continent, is replaced in some areas by one or more figurative art vocabularies should form a focus for continuing research. That this iconography has endured in the arid zone to contact is a continuing research focus.
THE GWION OR BRADSHAW ART STYLE OF AUSTRALIA’S KIMBERLEY REGION IS UNDOUBTEDLY AMONG THE EARLIEST ROCK ART IN THE COUNTRY – BUT IS IT PLEISTOCENE?

Mike DONALDSON

The Kimberley region of north-west Australia has many thousands of rock paintings that span a period of thousands of years. Four distinct periods are recognised, based on superposition of styles:
- Early naturalistic animals with irregular painted infill;
- Gwion or Bradshaw figures;
- Wandjinas;
- Post-European contact art.

The post-European contact art dates from perhaps the mid 17th century, and Wandjina art has recently been confirmed to date from almost 4000 years ago. Reliable dates for the earlier art styles remain elusive, but some results suggest the Gwion paintings could be more than 17 500 years old.

Gwion paintings

Since the first publication of sketches by pastoralist/explorer Joseph Bradshaw in 1892, the finely painted small red human figures from the northern Kimberley region of Western Australia that became known as “Bradshaw figures” have fascinated and intrigued all who see them. Other early reports only intensified European interest in these paintings: a Palatine missionary, Father Worms, who worked in the Kalumburu area in the 1930’s, quoted a Gwini elder as “of the opinion that another people, who occupied this district long before their arrival, produced them”. The paintings were termed “Bradshaw paintings” by the Frobenius Expedition in 1938, in the absence of any Aboriginal word for the distinctive figures. The term has been widely used since then but in recent times there has been a preference to apply an Aboriginal name, Gwion Gwion, or just Gwion for these figures.

Description

Gwion paintings depict elegant human figures, typically 40 to 50 cm but rarely up to 2 m tall. The paintings are very finely executed with precise brush strokes, but gender is rarely depicted and there is no facial detail, although leg and arm musculature is commonly clearly defined, as is foot and ankle detail, shoulders, and stomach paunch (figure). The figures are adorned with a variety of body, head, leg and arm ornamentation including belts with various items hanging from them, long conical headdresses, and leg and arm bands. They typically carry several boomerangs and a bag or fan-like item. Two main types of Gwion figures are recognized, based on detailed studies by rock art researcher Grahame Walsh: tassel Gwions and sash Gwions.
Tassel Gwion figures from northern Kimberley.
Tassel Gwions are characterized by elaborate tassels, identified by Ngarinyin elders as made from feathers, which hang from the armpits, shoulders or waist; numerous other accoutrements such as bangles, armlets, headdresses and held items including boomerangs and bags are also depicted. The figures are painted with the finest attention to detail, clearly by skilled artisans using sophisticated brushes and pigments.

Sash Gwions superpose tassel Gwions and are simpler figures with a more robust body shape than tassel Gwions. They are characterized by distinctive three-pronged sashes hanging from a waistband or belt, or (rarely) held in the hand. These are identified as animal skin garments called walbud by contemporary Ngarinyin people. Sash Gwions also have a distinctive set of accoutrements.

The paintings vary from deep purple-red to red and reddish-brown, brown, and even yellow-brown. Most Gwion paintings have been subjected to prolonged weathering and many have clearly faded to some degree, but it is likely that red ochre (haematite, Fe₂O₃) was the major component in the original paint medium. Gwion paintings are mainly on vertical rock surfaces, less commonly on rock shelter ceilings. They are typically in small rock overhangs with irregular rocky floors high up on escarpments, sites that would be totally unsuitable for habitation. Other distinctive small red-painted figures occur in the north Kimberley, referred to as “elegant action figures” and “clothes peg figures”. These styles superpose the Gwion paintings and are therefore deemed to be younger.

**Absolute chronology**

Occupation of Australia has been reliably dated to at least 60 000 years ago, and there is evidence for human occupation in the southern Kimberley by at least 40 000 years ago. Direct dating of Kimberley rock art has used AMS radiocarbon techniques to establish that Wandjina paintings and Wandjina-style beeswax images date from the present to almost 4 000 years, but dating the older art has proved more difficult: an accreted calcium oxalate layer associated with paint from a Bradshaw figure was determined as having formed 3 880 ± 110 years, but this may be a minimum age for the painting. A single optically stimulated luminescence date from quartz grains in a mud-wasp nest overlying a Gwion-style painting gave an age of 17 500 years.

**Conclusions**

One age determination clearly does not provide conclusive evidence for a Pleistocene age for the Gwion figures. However, taken together with the relative chronological sequence, the difference in material technologies compared with later art styles, and the highly weathered nature of the paintings, there remains the possibility that the art could be of Pleistocene antiquity. Only further direct dating of the paintings will establish their age.
HOW OLD IS OLD LOOKING?
The Dampier Petroglyphs in Review

Ken MULVANEY

The Dampier Archipelago lies on Western Australia’s Pilbara coast, extending over an area of 1 456 km² (~300 km² actual landmass) into the Indian Ocean. These islands are the easternmost of a chain of islands that extend from Exmouth Gulf, 335 km to the WSW. They are the only islands which comprise intrusive igneous rock and basalt lava, providing excellent weathered surfaces on which the petroglyphs are preserved. The progression of weathered rind (erosion rate) is among the lowest measured anywhere in the world. This in part explains the abundance of the rock art; more importantly it allows for the likelihood of preserved ancient rock art.

No systematic and complete survey has been conducted of the Dampier Archipelago petroglyphs. However, work to date shows this area to be one of the richest concentrations of petroglyphs in the world. Not only in sheer number (500 000 to 1 000 000), but in the diversity of subject, form and technique displayed. This diversity covers the spectrum of motifs which may be broadly grouped as geometric (shape-like), anthropomorphic (human-like), zoomorphic (animal-like) and “spooromorphc” (track-like), comprising many hundreds of distinct motif types.

Panel depicting many of the motifs associated with the earliest identified artistic tradition of the Dampier Archipelago.
Attempts to date the petroglyphs have not proved successful. Archaeological investigations of shell middens provide evidence of occupation throughout the last 9 000 years. There is one date, ~21 500 BP, from a shell fragment retrieved from a rocky slope containing petroglyphs, which suggests a greater antiquity for human presence in the area. Evidence from other parts of the Pilbara indicates that people were in the region at least 35 000 years ago. Just how this may relate to the production of the petroglyphs, what is their antiquity and temporal patterning is examined through relationship of superimposition and physical condition of the petroglyphs. As weathering is a process of time, the record of contrast-state to describe the weathering condition provides a relative, not an absolute time scale. Contrast-state is an assessment of both the colour difference between the petroglyph and adjacent rock surface, and the comparative weathered condition.

Change in rock art production does not necessarily indicate the emergence or arrival of a replacement people, but it can be indicative of cultural adjustments. The pattern of superimposition and changing motif repertoire indicates that dramatic shifts in artistic expression were tied to changes in the dry land/marine regimes of the Archipelago. Investigation of specific motif types demonstrated that a number of graphic elements appeared in the Dampier Archipelago rock art assemblage at different times. Some of these were relatively short lived, while others were produced over extended periods. Broader archaeological and palaeoclimatological data for the region suggests a number of significant events and changes, providing a logical framework for comprehending the temporal sequence in the rock art.

Five major rock art phases (artistic traditions) are indicated by the evidence. The earlier phases are Pleistocene in age, possible the oldest prior to the LGM (i.e. > 22 000 BP), comprising complex geometric designs, “Dampier faces” and disarticulated blob-head figures (figure). This is followed by a significant change in structure, subject and situation. This suite of rock art is characterised by motifs, especially key subsistence species like emu and kangaroo, which are large and placed in prominent, highly visible locations. The third phase marks an increase in range of subjects, forms and situation of motifs.

The subsequent rock art traditions are directly associated with the formation of the Dampier Archipelago during the Holocene (~8 000 BP). The proximity of marine resources is reflected in the petroglyphs and other archaeological evidence. In addition to the depictions of marine fauna (primarily turtle and fish), human figures, ingroup scenes and dynamic representations, are displayed in association with graphic elements (boomerang, dance wands and headdress). These material culture items have parallels with contemporary and ethnohistorical records of ceremonial performance. Such petroglyphs suggest an antiquity of at least several thousand years for such cultural practices.

It is thus suggested that the Dampier Archipelago petroglyphs span more than 20 000 years of production, only ending with the disruption brought about by the coming of European settlement in the region in the 1860’s. The old-looking rock art could be more than 25 000 years old. It is also evident that structurally elaborate designs existed in the earliest surviving petroglyphs of the area; that there is not a progression through the Pleistocene to Holocene from simple to complex.
TOWARDS A CHRONOLOGY OF ENGRAVED ROCK ART FROM THE CENTRAL AUSTRALIAN ARID ZONE

June ROSS

“Great antiquity” has long been claimed for the engraved rock art assemblage found in arid regions across Australia but it was not until more recently that a chronological measure was assigned to the phrase. A range of indirect evidence has led to claims that engraved assemblages may date from as early as 30,000 years ago although little direct dating of the petroglyphs has been undertaken to support such assertions. Ethnographic accounts document Indigenous informants assigning the origin and antiquity of engraved rock art to the *Alcheringa* (Dreaming or Creation Time) or remote past.

In an attempt to clarify the timing of the origins of engraved rock art assemblages in central Australia, a dating project was undertaken by Dr Mike Smith, Dr Alan Watchman and myself. In two widely separated rockshelters west of Alice Springs, calcium oxalate skins have formed over stylistically similar circles pecked into the upper surfaces of fallen rock slabs. These skins were dated using AMS $^{14}$C. Prior to sampling, excavation of deposits under each of the engraved slabs established the timing of the roof fall, thus providing a maximum age for the petroglyphs on the slabs (~9.3 ka cal BP at Wanga East and ~16 ka cal BP at Puritjarra). Oxalate crusts at Wanga East (figure) began forming in the circles at ~5 ka cal BP and at Puritjarra at ~3 ka cal BP, providing a minimum date for the production of the petroglyphs. It is evident then that this suite of petroglyphs was produced around the mid-Holocene. The reliability of the results is strengthened by the use of two different approaches to bracket the timing of the production of the petroglyphs, and by the repetition of the research at separate locations.

Engraved circle showing area that was sampled, Wanga East.
Before making claims about the antiquity of the engraved assemblage as a whole, it was necessary to develop a relative stylistic sequence for the entire corpus of rock art and establish the position of the dated circles within that sequence. Potential problems in formulating relative rock art sequences based on stylistic similarities have become evident since the more widespread use of direct dating techniques (e.g. Côa valley, Portugal). However, even with the considerable advances in dating techniques, the development of rock art chronologies still depends on stylistic analyses in order to link individual dated motifs to the broader assemblage. In central Australia, the continued use of the same core motif vocabulary through the entire period of rock art production compounds the difficulty of this task. Amongst the engraved assemblage, circles, circle variants and tracks predominate with lines, dots, arcs and fern motifs frequently recorded. Motifs with obvious iconic form other than tracks are less common.

I undertook a fine-grained study of more than 22,000 motifs from 310 sites across the region covering more than 300,000 km² in order to identify subtle temporal or spatial changes in rock art styles. Motifs were categorized into 110 subject classes with information about the technique, method of application, size, location within the site and orientation of the panel documented at a fine scale. The structuring principles of the rock art body and the social and physical contexts in which it was produced were also analyzed. The relationship between the results of these analyses and taphonomic processes such as weathering of the substrate, fracturing or slumping of rock surfaces or accessibility of motifs today were tested, providing broad-scale temporal parameters. Additional understanding of the relative ages of the engraved motifs was achieved by comparing the relative percentages of two stages of patination (“fresh” and “other”). An analysis of superimposition (2,382 instances where the sequence could be established with confidence) of motif classes and techniques provided a means of establishing if techniques were restricted to particular temporal periods or were used contemporaneously. A review of subject matter across the entire assemblage identified a number of chronological markers especially amongst the more recent art.

Nine stylistic groups were identified; several span many thousands of years, some occur coevally, while others are confined to the last few hundred years. Several include many thousands of motifs while others incorporate relatively few. Analysis showed that what appeared on first appraisal to be a homogeneous rock art assemblage was in fact, much more complex with preferences shown for particular techniques at different times, alongside sitespecific chronological choices. While the same core motif vocabulary persisted through time, particular motifs from within the core vocabulary were more common at particular sites and at particular times. The introduction of distinctive motifs and varied techniques became more common in the recent past.

The oldest style included deeply weathered and patinated petroglyphs dominated by a simple suite of small, deeply pecked circles, circle and pits, and single or paired track motifs. Intaglio animal motifs were also associated with the older assemblage. The style and condition of the dated circles from the two rockshelter sites fit within the parameters of this group and suggests that they can be assigned to the oldest phase of petroglyphs in the region. Although it would be unwise to be too definitive about attributing dates to the assemblage based on a single direct dating project, it seems likely that a more recent early to mid-Holocene date may be more appropriately ascribed to the phrase “great antiquity” and the origins of the engraved assemblage in central Australia than has generally been held.
ANCIENT ART AND MODERN AUSTRALIANS:
Continuity in the Laura Art System
(Cape York Peninsula)

Noelene COLE

Two absolute dating methods have been used in the Laura/Quinkan region to date pre-Historic rock art – dating of excavated rock art materials by association with stratified deposits and AMS \(^{14}\)C dating of rock surface accretions associated with rock art. The research indicates a long art sequence and the occasional survival of late Pleistocene art. This paper focuses on evidence for continuous art practice from the late Pleistocene to the modern period.

Sites and evidence

Five of 12 rock shelters excavated in the Laura/Quinkan region have cultural sequences which date from ca. 15,000 BP to ca. 34,400 BP. In Early Man, Magnificent, Mushroom Rock, Sandy Creek 1 and Sandy Creek 2, utilized pigments were recovered from basal deposits and throughout excavation sequences. Archaeological and ethnographic data suggest that these pigments are directly associated with rock painting. Direct dating and paint research by the author and Alan Watchman support evidence for continuous art practice provided by archaeological excavations.

Early Man rock shelter was excavated in the 1970’s by Andrée Rosenfeld. At the base of the excavation a panel of linear, non-figurative designs (pits, tridents or bird tracks and rectilinear mazes) is covered by deposits dated to 13,200 ± 170 BP. An excavated slab with a “bird track” petroglyph was dated to at least 4,060 ± 80 BP. On the rear wall above ground level a frieze of moderately patinated petroglyphs follows the style of the buried petroglyphs. In direct dating research a date of 1,275 ± 95 BP was obtained from oxalates from the base of crust over a design of bird tracks and circles on the upper wall. The data support Rosenfeld’s argument for the relevance of “Early Man” style over thousands of years. As fragments of utilized ochre were found throughout deposits, the use of paint co-existed with the petroglyph tradition. Above floor level, panels of superimposed paintings and petroglyphs suggest successive phases of art over the last few thousand years. Modern use of the shelter is indicated by utilized ochres, fragments of glass and worked wood in surface deposits.

Minimum age estimates obtained by Cole and Watchman at nearby Possum Shelter fit the Early Man continuum: 8,500 ± 60 BP for an engraved cupule and 21,955 ± 55 BP for an incised radiating form.

At Sandy Creek 1 and 2 Mike Morwood et al. recovered utilized pigments throughout excavation sequences, including striated pieces of red pigment dated to 32,000 BP and fragments of yellow dated to 25,900 BP and 28,000 BP. At Sandy Creek 2 Alan Watchman dated successive oxalate laminations associated with red paint particles on the rear wall at 6,655 ± 80 BP, 15,000-16,000 BP and 24,600 ± 22 BP respectively, interpreting the data as evidence of periodic painting from...
ca. 25 000 years ago. Cole and Watchman reported a minimum age estimate of 9 160 ± 70 BP for rectangular petroglyphs on a detached boulder inside Sandy Creek 1 and a minimum age of ca. 2 810 BP for an incised radiating design nearby. Early phases of painting are evident in red and yellow pigments found at the base of the dated oxalate accretions. Surviving wall paintings are likely to date from the late Holocene and modern periods. Surface flakes of bottle glass indicate the European contact period.

Evidence for continuous art practice at Magnificent Shelter excavated by Morwood and Jung includes a sequence of red pigment dated from 11 500 BP. The surviving art of deeply patinated cupules and multi-layered superimposed paintings, some masked in silica crusts, may bracket the excavated sequence. Ground pigment in surface deposits which matches top layers of painting provides modern evidence in this shelter.

Discussion

Although the substantive evidence of continuous art practice presented here may be exceptional, it is likely that equally long and complex art scenarios were played out in rock shelters across northern Australia. The Aboriginal art tradition was intimately connected to its setting – in this case a vast landscape of capacious sandstone rock shelters with fine-grained rock surfaces and locally available, high quality earth materials. A major feature of continuity was the re-use of key shelters (known by Aboriginal people as “ancestral” sites or Stories). Very recent art practice (known from images of horses, pigs, policemen, guns and steel axes) occurred in these ancient sites in the face of warfare against British colonists. The perpetuation of the tradition in such tumultuous times is an indication of its immense cultural significance.

The oldest evidence of the Laura art tradition consists of red and yellow pigments applied to shelter walls or left as fragments on shelter floors. Clearly the use of coloured ochres was an intrinsic feature of rock shelter life from the late Pleistocene. The pigment/paint sequence provides access to a timeline of symbolic values, otherwise poorly preserved in the archaeological record.

Contrary to reports of cultural distance between purportedly “old” rock art and modern Aboriginal people, this paper points to the ongoing relevance of ancient art and ancient art styles. The long-lasting connections to places and non-wavering commitment to marking rocks point to powerful and enduring symbolic relationships to land and its materials. These patterns are in tune with modern Aboriginal knowledge systems and values, which stress the antiquity of ancestral law and its foundations in the Storytime (elsewhere known as the Dreamtime) and the land. As a 21st century postscript to this long scenario, Aboriginal traditional owners continue to live in this area and care for their land and culture.
INVISIBLE LATE PLEISTOCENE ROCK ART:
Lessons from Northern Australia and the British Isles

John B. CAMPBELL, William J. ELLWOOD, Nicola B. WINN

Late Pleistocene rock art has often remained invisible in northern Australia and southern Britain, partly because it has not been looked for in the right places, partly because its existence has often been seriously doubted and partly because environmental changes have often obscured the surviving evidence. It was assumed there was no Palaeolithic cave art in Britain.

Before we go further, let us make clear where we stand in terms of heritage and knowledge. Campbell’s ancestry is predominantly Scottish, though DNA analysis by Oxford Ancestors has shown that during the Last Glacial Maximum his mother’s ancestors were Solutreans in the Pyrenees and his father’s ancestors were late east Gravettians in central Europe. Campbell worked on the Upper Palaeolithic of Britain for his DPhil at Oxford, but also gained field experience in France and Belgium before migrating to Australia in 1975. He then worked closely with an Aboriginal community on the Tully River. The key elder under whose tutelage he recorded places and stories made it fully clear to him that rock art as perceived by archaeologists was a very limited view. This elder showed him exposed rocks at brun (ceremonial) grounds that had been regularly repainted nearly every year, because the heavy wet season rains would weaken or wash away the brilliant ochre pigments. Campbell has worked closely with elders in tropical rainforest and savannah woodland, and he has excavated and recorded sites in both kinds of environment.

Ellwood’s ancestry is predominantly Aboriginal. He is an elder of the Yidinji of Cairns and the Koko Minni of Chillagoe. He trained in archaeology at the University of Sydney and James Cook University in Cairns, and he is now working on a PhD on Aboriginal landscapes of the Chillagoe district. Between his archaeology degrees he was for a time site registrar for New South Wales. He has heritage experience from much of eastern Australia, as well as from a number of trips overseas to North America and Europe.

Winn’s ancestry is predominantly English and Welsh, and she trained in archaeology and ancient languages at Brown University and further in archaeology at James Cook University in Cairns. She is now working on a PhD project on rock art and exchange systems in the Chillagoe district. She has heritage experience from North America, the Pacific (Micronesia) and northern Australia. She is not averse to seeing rock art as a symbolic language system.

There is a widely held belief in mainstream Australia that Aboriginal people did not produce art in the dark zone of caves, despite the fact that sites like Koonalda Cave in South Australia have been known for decades. Although post-glacial or Holocene rock art has been known both in Australia and the British Isles for some considerable time, till comparatively recently Pleistocene rock art was often either elusive or seriously doubted. This paper presents a comparison of studies
Three of the nine baler-shell stencils still visible on a cave wall panel at the start of the dark zone in Spatial Cavern B in the Walkunders near Chillagoe, Queensland; a hand stencil is also visible in this image; the site is more than 100 km from the sea in any direction (photo: N. Winn).
over a number of years by Australian (Indigenous and non-Indigenous) and British research teams focusing particularly on the Chillagoe district of Queensland and the Creswell Crags area of England. The lead author has worked and excavated in both regions.

Rock art studies and archaeology have often had an uncertain relationship. When Campbell began his research on the Upper Palaeolithic of Britain in 1966 no Palaeolithic cave art was known anywhere in the British Isles, unlike France and Spain. He had examined a number of caves to no avail, though he suspected pigments could be hidden by flowstone formations and engravings might be equally difficult to detect. Some British Upper Palaeolithic sites definitely had mobile art, although it was also suspected that the odd object from France might have found its way into British collections.

Cave engravings were found at Gouy just across the English Channel in northern France. The evidence at Gouy is associated with Creswellian-style stone tools (i.e. very ‘British’-looking artefacts) in a formerly sealed cave. In 1997 Campbell and Alan Watchman re-examined a few of the British and Belgian caves (especially Robin Hood’s Cave and Church Hole at Creswell Crags and La grotte du Coléoptère in the Ardennes). In a seminar at Oxford’s Research Laboratory for Archaeology, Campbell and Watchman said that they thought Church Hole would be well worth much closer scrutiny. A year later Paul Bahn and colleagues published their discovery of an engraving of what was initially interpreted as an ibex in Church Hole. It was later described as a stag and a vague engraving of a horse was also found.

Spatial Cavern B near Chillagoe has baler shell and hand stencils at the start of the dark zone. The accompanying image shows a close up of three of the nine baler stencils and an associated hand stencil (figure). The baler stencils are arranged in a slightly curving row on the cave wall. Baler shells were a significant trade item that travelled far into the interior of Australia. They were previously unknown from Chillagoe and we hope to find more direct evidence in new excavations we are planning. We also hope to determine the antiquity of baler shell trade. At the moment hidden layers of paints (red and yellow ochre-based) occur in the rock surface accretion or gypsum oxalate crust near the entrance to Walkunder Arch Cave on the opposite side of the Walkunders. The AMS dates here range from 29,000 to 3,000 years ago. We hypothesise that trade in various materials was already established before the Last Glacial Maximum.
THE NATURE OF AUSTRALIAN PLEISTOCENE ROCK ART

Robert G. BEDNARIK

Some of the most popular assumptions about Pleistocene rock art are falsities: it is not largely a phenomenon found in limestone caves, and thus related to some cultic activities connected with such sites; it is not essentially a phenomenon of the Upper Palaeolithic period; and it is not a phenomenon primarily of south-western Europe. For more than a century we have been indoctrinated by a mythology that is in urgent need of correction before a balanced investigation of global Pleistocene rock art can even be commenced. This is greatly hampered by the incredible disparities in the available published record. Whilst we have many thousands of books and articles, both academic and non-academic, about the Franco-Cantabrian rock art, numbering well in excess of actual art motifs, the rest of the world remains largely unexplored in this respect. The only pan-continental overviews of the Pleistocene rock arts of Asia, Australia and Africa have been provided by this author.

Although the idea of Pleistocene rock art in Australia was first mooted within a few years of the general acceptance of such antiquity in Europe, very little progress has been made in this area during the subsequent century. The first two qualified attributions of Australian rock art to the Pleistocene were provided only in 1981, at Early Man Shelter and Malangine Cave. Better direct dating evidence has been reported from sites in the extensive Abydos and Spear Hill petroglyph complexes of the Pilbara region (figure). Another tentative age estimation by direct means places the earliest petroglyph panels at Sacred Canyon in the Flinders Ranges in the final Pleistocene. Credible Pleistocene dates have also been secured from painting sites.

A retarding factor in the study of Australia’s earliest rock art has been an archaeological model of three sequential styles or phases, the “Panaramitee style”, followed by the “simple figurative style” and the “complex figurative style”. Although it was later widely accepted that the two more recent “styles” could not be upheld as pan-continental, chronologically relevant designations, the Panaramitee concept was maintained and in effect compromised the chronological framework of Australian rock art research for several decades. Although its basis was refuted, it continued to be applied, taught and defended. Since it mistakenly conflated Pleistocene and Holocene traditions into one, separating the chronological entities was rendered difficult.

The earliest period seems to be dominated by cupules and linear grooves, followed by circles and circular motifs, sets of parallel grooves, convergent lines motifs and other specific geometric patterns. This trend is not limited to Australia; it may well be universal. The earliest petroglyphs of Asia, Africa and Europe are also dominated by cupules, and those of the Americas by cupules and linear grooves. Indeed, the pattern is so uniform that these genres of petroglyphs seem to define a Mode 3 or Middle Palaeolithic / Middle Stone Age tradition. Australia was initially settled by Middle Palaeolithic seafarers from Asia, who in view of the much earlier presence of this rock art tradition in India can reasonably be assumed to have imported it with first landfall.
It is then possible to speculate about the extent of Pleistocene rock art in Australia by resorting to the following reasonable assumptions. Deeply hammered, deeply weathered and deeply patinated non-iconic petroglyphs on particularly erosion-resistant rock are probably of the Pleistocene, as are perhaps most of those found in limestone caves. At open sites these petroglyphs occur usually in arid regions, typically on hard rock types such as various types of granites and other igneous facies that suffer little weathering, and on strongly metamorphosed quartzites. At a rough estimate the proportion of motifs that could be expected to fall into this category is at least 10% of the total Australian petroglyph inventory. Since it is reasonably and conservatively estimated that there are at least ten million petroglyphs in Australia, it follows that over a million could be expected to have survived from the Pleistocene. This may well be higher than the number of surviving Middle Palaeolithic petroglyphs from the rest of the world (few are known currently, a most notable concentration being that of the southern Kalahari, dating from Fauresmith and MSA times), and it is certainly significantly higher than the total number of motifs so far reported from presumed Upper Palaeolithic or Mode 4 traditions in the rest of the world (well below 50 000, of which only in the order of 5 000 are figurative).

Consequently, there is more surviving Middle Palaeolithic (or Mode 3) than Upper Palaeolithic rock art in the world. Secondly, whereas there are great variations among the latter traditions, the earlier ones seem to be defined by considerable uniformities across continents. However, it needs to be appreciated that this could well be a sampling issue, attributable to the taphonomy of rock art. All of the world’s surviving Mode 3 rock art can be regarded as being of the greatest taphonomic longevity. It should therefore logically be seen as a taphonomically determined remnant population, from which the less deterioration-resistant forms have all been culled.