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BOORPECK: ITS SIGNIFICANCE IN GARIWERD ROCK ART

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Abstract. The recent recording and detailed appreciation of two rock art sites in western Victoria, Australia, revealed they contain attributes of significance to the interpretation of Gariwerd rock art and the overall appreciation of Aboriginal people's use of its landscape. In particular, the recording of an infant's hand stencil and a type of variant hand stencil, the first recorded from within the Greater Gariwerd rock art region. The row of variant hand stencils appears to be in association with the nearby infant's hand stencil, suggesting the elevated catchment in which the site occurs was used during the period of the earliest rock art by family groups, in relatively short foraging excursions from the perimeter of the range. Also, while most hand stencils in the shelter were of left hands, suggesting that most of the stencillers were right-handed, two dry-pigment drawings are likely to have been produced by left-handed people. The two adjacent sites are seen as complementary, as both shelters have very different physical properties in addition to differing rock art repertoires. The two Boorpeck sites continue to enhance the importance of Gariwerd as a highly significant cultural place for local Aboriginal people.

Introduction

Boorpeck is a prominent sandstone outcrop in Gariwerd (the Grampians Ranges) in western Victoria, Australia (Fig. 1). When first visiting the larger shelter (BK-1), it was clear that it was an important site, as it contained a very unusual combination of motifs, with a high number of both paintings and hand stencils. This indicated that the site could add significantly to the story of Gariwerd rock art.

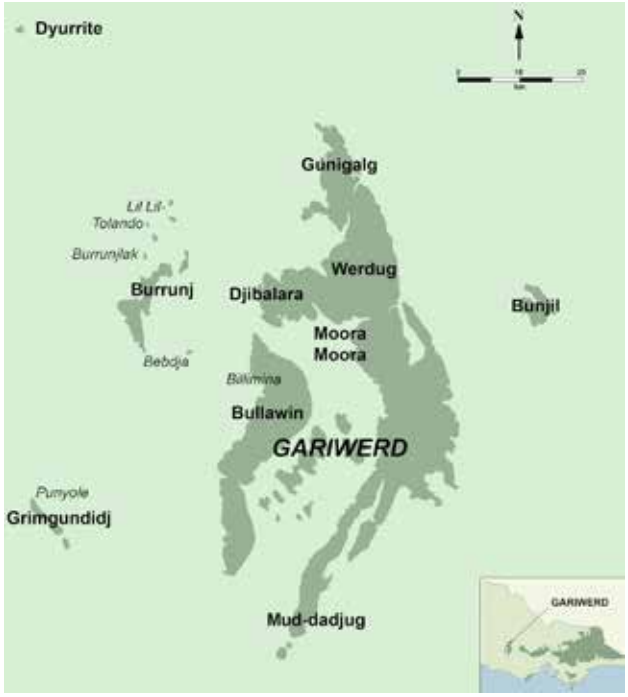

Figure 1. *Location of Boorpeck within the Greater Gariwerd rock art region.*

Despite being at a named feature and not far from an access track, the two rock art sites at Boorpeck were only found in 2013, following the assessment of bushfire damage to other nearby sites by a Parks Victoria team. The two sites are designated as BPK-1 (VAHR 7323/0292) and BPK-2 (VAHR 7323/0291). A detailed recording and appreciation of the site's rock art (Gunn and Goodes 2021) revealed several further attributes of significance to the interpretation of Aboriginal people's use of the Greater Gariwerd landscape. The present recording was undertaken with the full approval and assistance of the three Aboriginal organisations with cultural responsibility for Gariwerd.

Gariwerd and its rock art

Gariwerd is the Aboriginal name for the dramatic Grampians Ranges in western Victoria. The main block of the ranges forms the core of the present Grampians National Park (Day et al. 1984). The ranges are within the traditional lands of the Jardwadjali and Djabwurrung speaking peoples (Clark 1990). Because of their high visual impact and associated important traditional stories, they stand as a prominent spiritual place for peoples today represented by the Barengi Gadjin Land

Figure 2. *BPK-1 and BPK-2 from the north (photograph by LCD).*

Council Aboriginal Corporation (BGLC), Eastern Maar Aboriginal Corporation (EMAC), and Gunditj Mirring Traditional Owners Aboriginal Corporation (GMTO), although other more widely distant groups also have cultural associations with the region (Dawson 1881; Wettenhall 1999; Clark 2017; Parks Victoria 2020).

The ranges of Gariwerd are a prominent set of north-south trending cuestas that rise abruptly to over 800 m above the surrounding plains, peaking at 1167 m on Duwul (Mt William). The ranges have steep cliffs on their eastern faces, with deep gullies and upstanding rock outcrops on their back slopes. They are composed primarily of Silurian-Ordovician sandstones and quartz-sandstones with alluvial flood plains between the ranges (Cayley and Taylor 1997). Rockshelters are common within the range, with many larger shelters facing north-east, away from the prevailing south-westerly cold weather. The ranges also contain a broad range of evidence of Aboriginal use, including quarries, artefact scatters, scarred trees etc. (Gunn 1983, 1987a; Gunn and Goodes 2020). The earliest dated Aboriginal occupation is from 22 000 years ago (Bird and Frankel 2005). To the west of Gariwerd, there are three smaller ranges, Burrunj (Black Range), Grimgundidj (Dundas Range), and Dyurrite (Mt Arapiles), along with a scattering of outlying geologically similar outcrops, all of which are similarly rich in rock art and other archaeological evidence of Aboriginal use (e.g. Bird 1995). Traditional stories and rock art also link Gariwerd to a granite range immediately to the east — a second Black Range. Gariwerd and these outliers form the Greater Gariwerd rock art region (Fig. 2), having more than 160 rock art sites, but with the significant focus of rock art production (46%) being within the northern portion of Bullawin (Victoria Range) (Clark and Harradine 1990: 43).

Boorpeck is a visually prominent rock outcrop within the elevated basin of the Cultivation Creek catchment. The outcrop is at an elevation of 690 m and sits 90 m above the near-permanent waters of Cultivation Creek, with a ten-metre vertical face on its northern side and a steep (35°) backslope. The outcrop has four rockshelters along the base of the northern cliff, but only the two largest, BPK-01 and BPK-02, contain evidence of Aboriginal use. Vegetation around the outcrop consists of a Rocky Woodland community dominated by Grampians gums and Oyster Bay pines with a thick understorey of tea-tree, prickly hakea, and grevillea, and with a diverse array of low shrubs (Day et al. 1984: 40, and pers. obs.). The elevated Basin of Cultivation Creek houses 28 other known rock art sites, and Boorpeck is close to the centre of this group.

In recent years the number of rock art sites recorded in Greater Gariwerd has almost doubled to over 160 sites (e.g. Gunn 2017a, 2019; Gunn and Goodes 2020). No updated comprehensive study of the rock art, however, has been undertaken but, from the many earlier studies, it is apparent that it art consists of four principal groups:

- *red hand stencils*;
- *red paintings* (simple geometric designs and elements; particularly rows of bars, 'bird tracks', and a distinctive elongated stick figure);
- *red and black drawings* (bar sets and animated anthropomorphs); and
- *white pigment* (predominantly paintings of animated anthropomorphous figures, 'bird tracks' and bar sets).

Each of these groups appears to have flowered at different times, with red stencils being the earliest and white paintings the most recent (Gunn et al. 2019).

While local Aboriginal communities today have a strong affiliation with the rock art of Greater Gariwerd, apart from the motif interpretation of the art at Bunjil's Shelter (Clark 2017), little was recorded of its rock art or its artists. While in some other areas of Australia, personal communication and recent ethnographic accounts can still elaborate the role and context of rock art (e.g. Love 1930; Mountford 1968; Mowaljarlai and Malnic 1993; Haskovec and Sullivan 1989; May et al. 2019; Bradley et al. 2021; Goldhahn et al. 2021), due

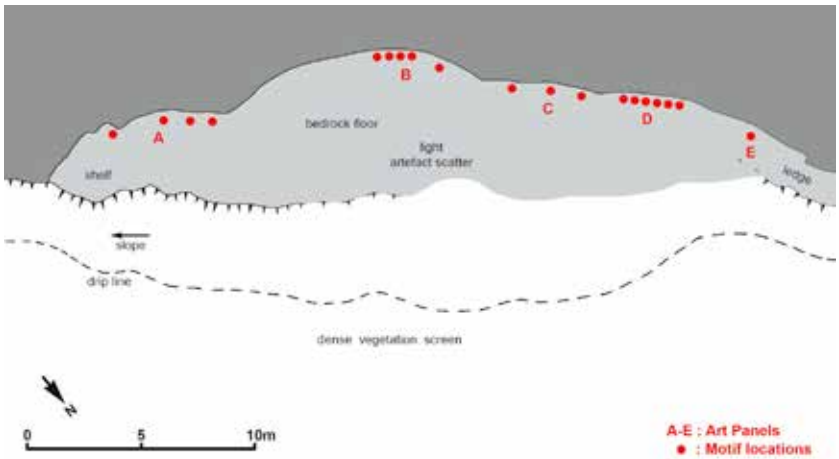

Figure 3. *BPK-1 shelter plan.*

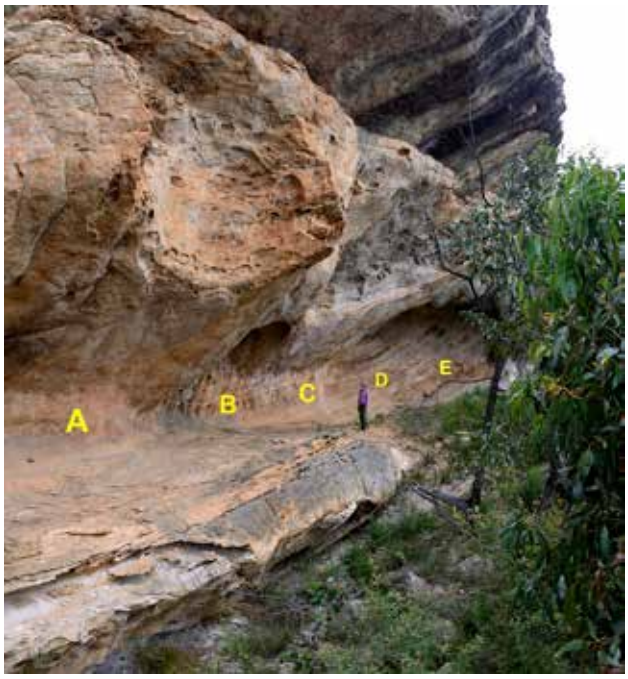

Figure 4. *BPK-1 interior from the south-east showing location of the rock art panels A–E (photograph by RGG).*

to the early disempowerment of Aboriginal people in Victoria through massacre and forced resettlement (e.g. Wettenhall 1999), insights into the artists of Greater Gariwerd are now primarily through the methods of archaeology and art theory (Clegg 1971, 1979; Maynard 1976; Gunn and Lowish 2017).

Methods

Recording the two Boorpeck art sites (BPK-1 and 2) involved producing shelter plans and sections by standard tape-and-compass offsets (cf. Burke et al. 2017). The whole interior of each shelter was examined for rock art by close visual inspection and the use of the DStretch enhancement program app (Harman 2008, 2015; Gunn et al. 2010) on mobile phones and an iPad. When recorded, the art was sketched (freehand), measured and photographed (with a full-frame Nikon D640 camera, using flash to limit the interference of the rock texture with the rock art). A comprehensive set of shelter photographs was taken, including the exterior, interior, and landscape context. The rock art photographs were later used for photo-tracing and further DStretch analysis (using a more extensive computer-based DStretch program). Photo-tracing was done in Photoshop using the layer function to differentiate superimposed motifs. Copies of the photographs were archived with the State authorities and Aboriginal communities as heritage data to monitor any physical changes to the rock art or the shelter.

In classifying the motifs, bar sets (rows of bars) were classed as a single motif (e.g. motif 7) and each constituent bar an element of that motif (e.g. motifs 7a–f). While individual identification (numbering) of all rock art elements is essential for management purposes and some analyses, the previous recording of each constituent bar as a separate motif has created a false indication of the overall quantity of the sites' rock art events (cf. Gunn 1981). So the procedure has been modified accordingly.

Motif length was taken as the maximum dimension. Hand stencils measurements were taken from the middle finger where possible, or, if unobtainable, the knuckle width was recorded (see Gunn 2006). Finger separation angle, such as in variant hand stencils, is the angle of the intersection of the finger axes. For this recording, it is assumed that the hand stencils were produced with the palm against the rock (such as has been commonly observed in Australia, e.g. Crawford 1968: 22) rather than the back of the hand (which would reverse the stencil).

In analysing the rock art, an attempt was made to identify individual production events. These are seen as being the works of one individual at one time instead of subsequent events by the individual or events by other artists. Rock art production events can be differentiated by superimposition, pigment colour differences, visually unified composition, hand stencil size, or other more subtle differences such as in the manner of application (cf. Gunn and Lowish 2017), or by oral communication from appropriate Traditional Owners. Many motifs or fragments may not qualify as an 'art event' because of a lack of any motif correlation. However, a count of the number of recognised 'art events' gives a minimum number within the shelter. This provides another way of assessing how frequently different rock art panels and their shelters were used over time. Of the remaining single motifs throughout the shelter, while some may have been part of other unrecognised 'art events', others (or all) may represent a single 'art event' as one-off products. Consequently, these motifs cannot be included in the (incomplete) count of the shelter's 'art events'.

Motif technique	Nos
painting	58
spraying	16
drawing	6
scratching	1

Motif colour	Nos
brown-red	69
purple-red	4
orange-red	6
white	1
unpatinated	1

Condition	Nos
good	5
fair	19
poor	25
very poor	32

Motif type	Nos
line	11
bar set	10
bar	9
dot	3
anthropomorph	2
area	2
line set	2
bar set + dots	1
'bird track: crow'	1
design apex	1
design converging	1
element apex	1
element curved	1
element 'Y'	1
element arc	1
smear	1
hand left, variant	5
hand left	4
hand right	1
hand (?)	1
hand-left, infant	1
fragment	21

Size class (cm)	Nos
<10	16
10–19	16
20–29	5
30–39	1
40–49	1
>50	2
(n)	41
min.	2
mean	15
median	12
max.	56

Hand stencils	sizes (cm)
knuckle	mid-finger
n.a.	7
n.a.	7
n.a.	7
3	4
7	6.5
7	7
7	7
7	7
8	n.a.

Table 1. *BPK-1 rock art summary.*

Results

BK-1

The BK-1 shelter is long but relatively narrow, 33 × 11 × 9 m, opening to the north-east (40°) (Fig. 3). The shelter floor is a flat bedrock pavement with a small central area of shallow overlying sand. Fifteen surface artefacts were identified. These consisted of 11 quartz flakes of varying quality, two silcrete flakes, and one each of tachylite (or black chert) and (possibly) andesite. The flakes ranged from 1 cm to 5 cm in maximum dimension, and none were retouched or showed evidence of grinding (Gunn and Goodes 2021). Two areas of wall flaking (quarrying) occur at the south-eastern end of the shelter. Quarrying of the hard quartzose sandstone is a common feature within Gariwerd rockshelters and can range from minor flaking to substantial rock extraction. The overhang of the BK-1 shelter extends another four metres beyond the limit of the floor, and a thick screen of vegetation extends across the length of the shelter. The rock surfaces within the shelter currently appear to be largely stable.

The rock art is concentrated into five panels across the rear wall, subdivided by distinct changes in motif density and wall topography (rock art panels A–E; Fig.

Figure 5. *BPK-1 rock art panel B1 – flash-photograph (photograph by RGG).*

Figure 6. *BPK-1 rock art panel B1 – photo-tracing; ex = exfoliated surface.*

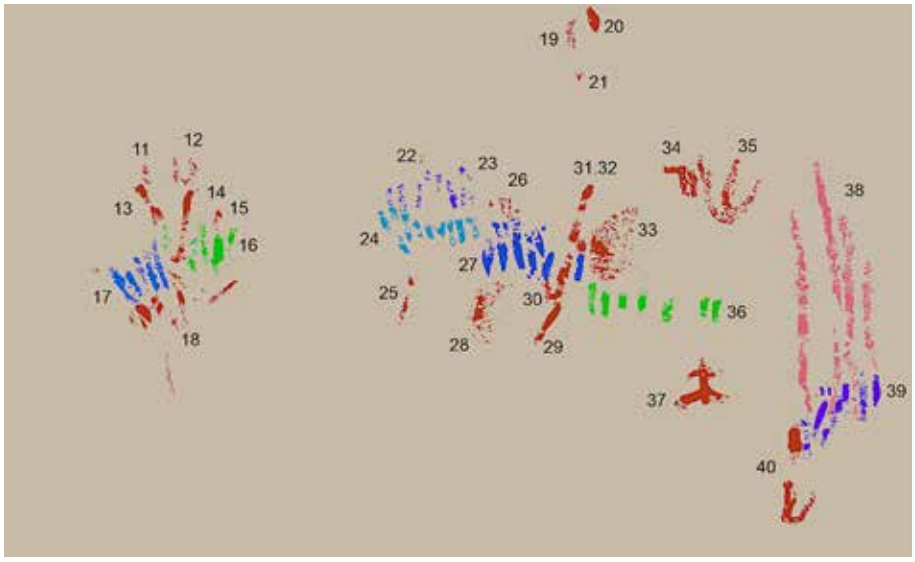

Figure 7. *BPK-1 rock art panel B1 – interpretation of motifs 11–40. These motifs represent the earliest on this panel.*

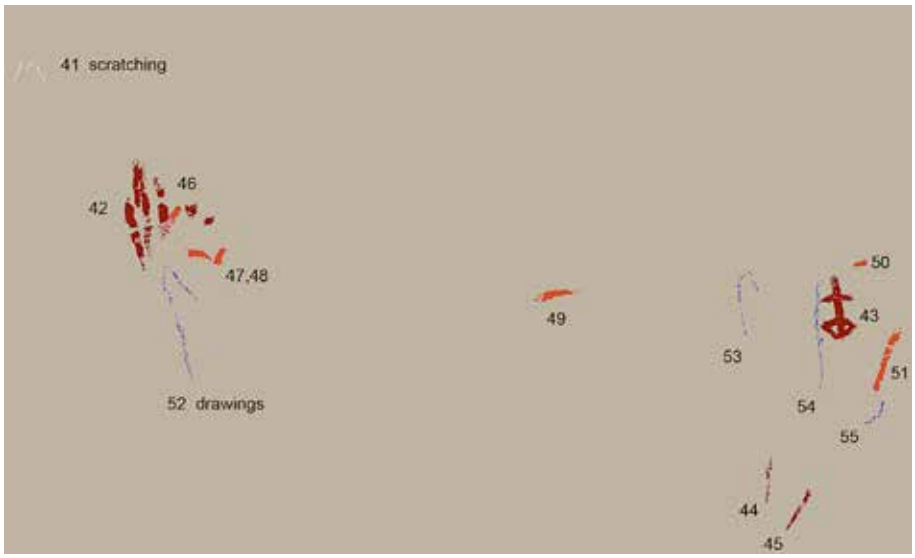

Figure 8. *BPK-1 rock art panel B1 – interpretation of motifs 41–55. These motifs represent the most recent on this panel.*

4). The site contains 81 motifs: 60 of these motifs, involving 126 motif elements, were interpreted to type, while the other 21 motifs were too damaged or indistinct to be classified to type, but the pigment of each was discrete enough to be recorded as a fragment (Table 1; see Gunn and Goodes 2021 for all motif illustrations).

Rock art panels B and D are within recessed alcoves on the rear wall, while rock art panels A and C are on near-vertical wall surfaces. The motifs are concentrated in the centre of the shelter (rock art panel B) and within the northern end recess (panel D). Panel B is dominated by sets of bars and panel D by hand stencils. Panel A contains ten motifs and panel C nine, which are unaggregated individual motifs, although four parallel vertical lines that are evenly spaced at c. 50 cm intervals on panel A are seen as a unified composition. Panel E consists of a single motif at the far northern end of the shelter.

Panel B is 1.5 × 1.1 m in size and contains 45 motifs (Figs 4–8). The motifs consist of nine bars sets, six single bars, five lines, three elemental designs (apex, arc and long curve), two anthropomorphs, a line set, a dot and a smear. The bar sets in some places overlap, indicating that they were not produced during a single 'art event' (Fig. 6). The two anthropomorphs are of different schemas and are not in the same state of preservation, suggesting that they also are not contemporaneous. Panel B has a single scratched motif (a set of three bars) and four drawings (two hook elements, a line and a short arc).

At least three different red pigments were used on panel B: a brown-red, an orange-red and a darker purple-red. These colours also exhibit differences in their preservation, with the orange-red and the purple-red being the better preserved (Figs

5 and 6).

Panel D is 7.0 × 1.5 m in size and has 16 motifs: eleven hand stencils, two drawings, two sprayed patches and one sprayed fragment: 15 in red and one apparently in white (Fig. 9). The white (?) hand stencil is a ghost image where the form of the hand is visible on the unsprayed area of the wall (Fig. 10; and below). The eleven red hand stencils on this panel consist of six standard and five variant forms. The standard hand stencils include a large left hand, four smaller left hands and one right hand,

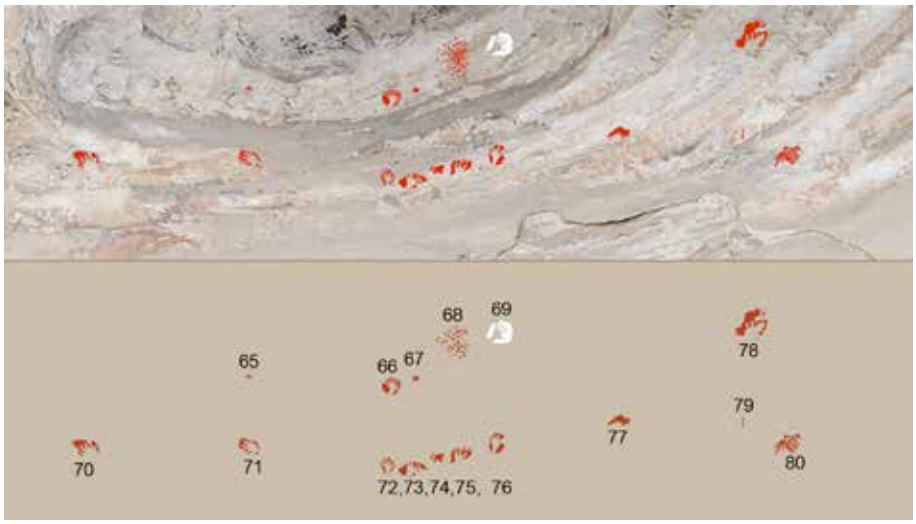

Figure 9. *BPK-1 rock art panel D – motif interpretations (65–80).*

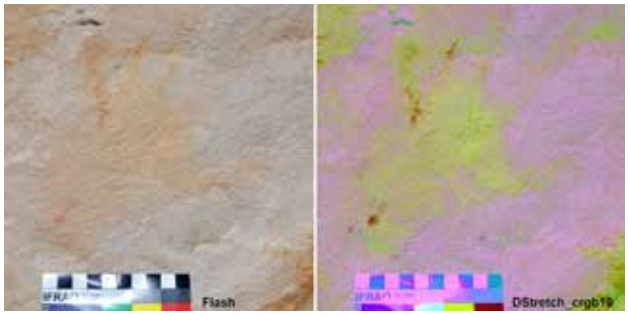

Figure 10. *BPK-1 rock art panel D – photograph and DStretch of Motif 69 (the ghost-hand stencil) (photograph by RGG).*

and a clear infant's left hand (Fig. 11). The variant form has the index and middle fingers splayed to a notably greater degree than the other fingers (Figs 12 and 13). The angles of splay for motifs 73–76 are 31°, 26°, 29° and 33°, respectively. The other four images on this art panel are two sprayed areas (each possibly a trial spray before hand stencilling) and two dry pigment drawings (a multi-pronged apex design and a simple 'Y' shape). All of the motifs on this panel have been damaged either by exfoliation or heavy dust cover.

Fifteen motifs on *rock art panel* B are involved in superimpositions. These superimpositions show that drawings postdate red paintings and that red paintings overlie other red paintings (e.g. Fig. 14). As most of the sequences on the panel are not inter-related, however, no overall sequence for the shelter could be established.

'Art events', involving 33 motifs and 101 elements, were recognised (Table 2). These are predominantly bar sets but also include motif compositions (involving both similar and different motif types), motifs associated by technique (drawings) and form + context (variant hand stencils plus infant hand stencil).

The motifs are positioned from 0.5 m to 2.3 m above the floor, with only four occurring above 1.5 m. The higher motifs are a prominent radial design, a small 'emu track', two red hand stencils and the single (white?) ghost-hand stencil. However, most of the rock

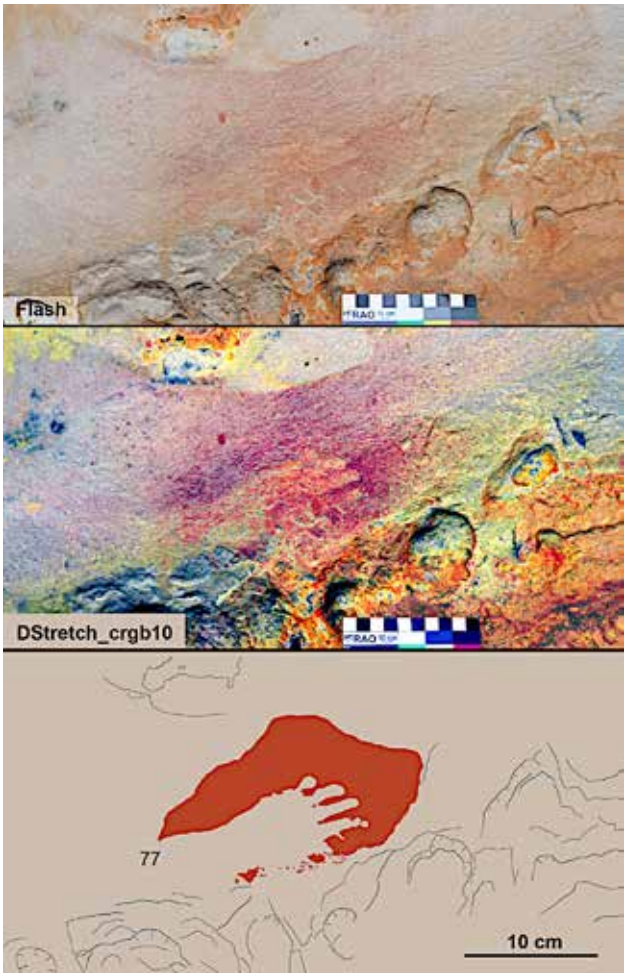

Figure 11. *BPK-1 rock art panel D – photograph, DStretch enhancement and photo-tracing of the infant's hand stencil (photograph by RGG).*

art was produced at a height between one and two metres above the floor: standing height for an adult. The main art panel (B1) is on a slight horizontal belly of the rock face conveniently situated at this height. While the rock art on this panel falls into three clusters, this division may be an artificial product of weathering,

Figure 12. BPK-1 rock art panel D – interpretation of motifs 72–76.

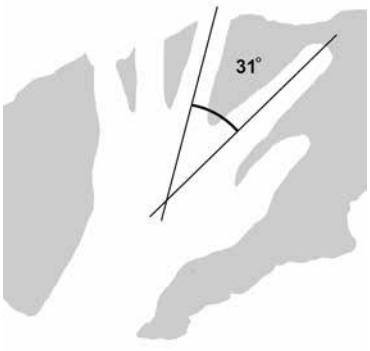

Figure 13. Angle measure for the finger separation of the variant hand stencils.

Panel	Description	Motif
A	Composition of 4 vertical lines	#3–6
A	Bar set (5 elements)	#7
A	Bar set (5 elements), line and 2 single bars	#10
B	Bar set (5 elements)	#16
B	Bar set (5 elements)	#17
B	Bar set (7 elements)	#23
B	Bar set (9 elements)	#24
B	Bar set (11 elements)	#27
B	Bar set (7 elements)	#36
B	Bar set (9 elements)	#39
B	Line set (4 elements)	#38
B	Bar set (4 elements) and 2 single dots	#42
B	Four drawings	#52–55
B	Five single bars and a line	#46–51
C	Bar set (3 elements)	#60
D	Row of 5 variant hand stencils + infant hand stencil	#72–77
D	Two drawings	#79 and 80

Table 2. BPK-1 'art events'.

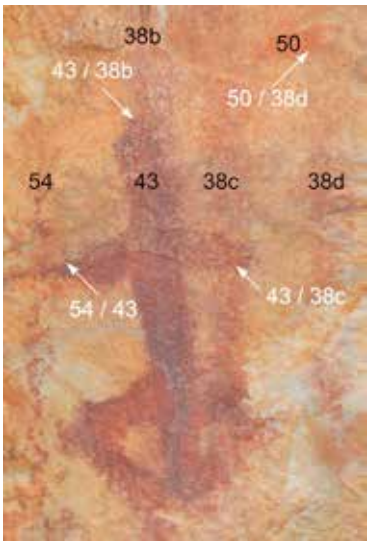

Figure 14. BPK-1 rock art panel B1 anthropomorph (motif 43): detail showing its sequence with motifs 38 and 54, and orange bar (motif 50) overlying motif 38 (photograph by RGG).

as the panel is cut by two large water runs and has suffered from exfoliation. What survives does imply that the arrangement of the composition was dictated by the form of the rock wall on which it was produced.

BPK-2

BPK-2 is a sizeable domed niche shelter (a type often erroneously referred to as a wind-cave) 35 × 13 × 12 m in size and opening to the north-east (40°) (Figs 15 and 16). The shelter floor rises some two metres from the outer dripline to the base of the rear wall. No

Figure 15. BPK-2 interior from the north with a human scale. Rock art panel to the immediate right of the photo (photograph by RGG).

surface artefacts were noticed. The rear wall and ceiling are of very irregular texture, with only small, scattered panels suitable for rock art. The rock surfaces appear to have now mostly stabilised.

The rock art consists of a single panel (0.8 × 0.5m) at one end of the shelter with five motifs: two irregular lines, two ovals, and a fragment — possibly a bar set or an oval (Fig. 17). These motifs are seen as forming a single 'art event'. While irregular lines and bar sets are present in the adjacent BPK-1 shelter, ovals are not present. Despite the irregular wall surfaces within the BK-2 shelter, there are more small panels that could have been utilised. Consequently, the absence of other 'art events' is notable, especially given their number and assumed broad chronological use of BPK-1.

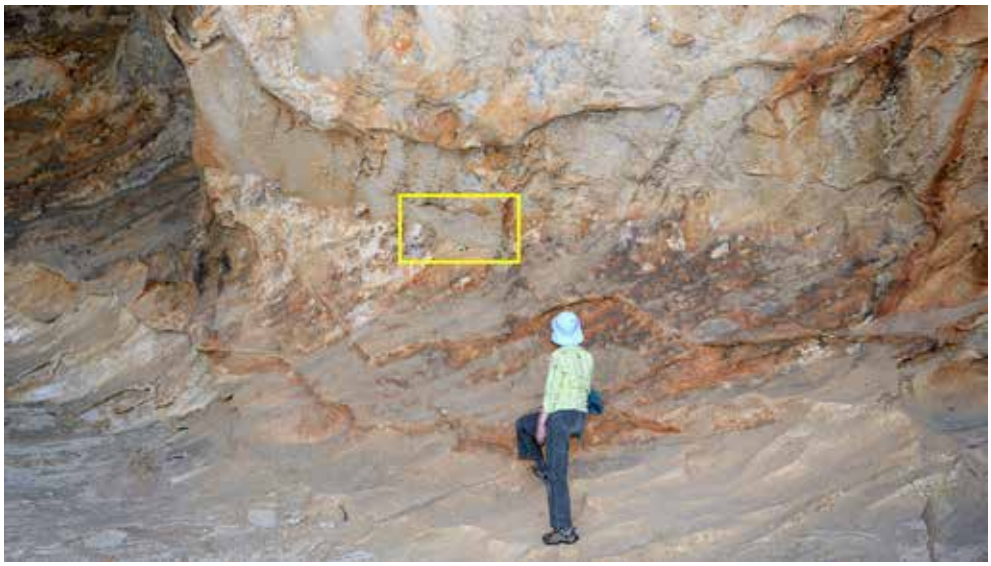

Figure 16. *BPK-2 location of the art panel (photograph by RGG).*

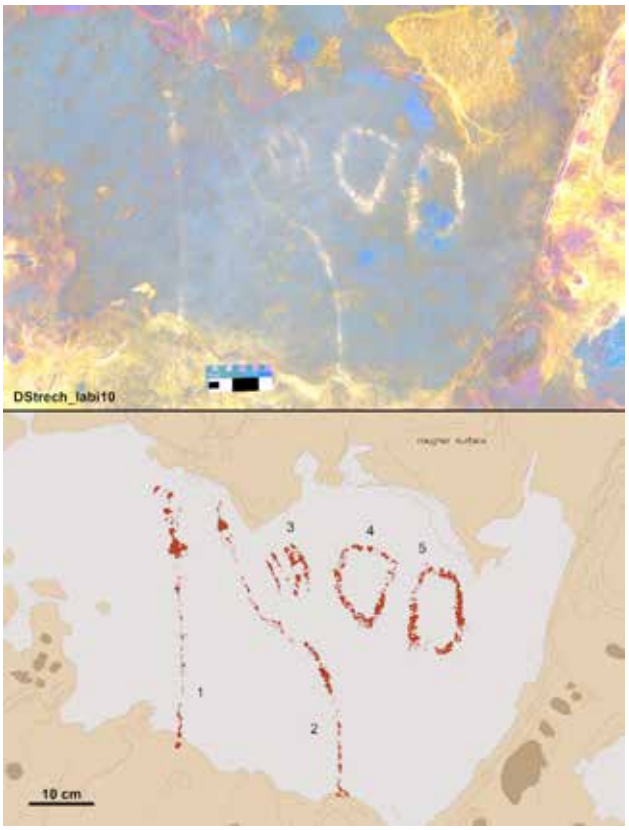

Figure 17. *BPK-2 rock art panel DStretch and interpretation (photograph and photo-tracing by RGG).*

Discussion

Despite their proximity and similar sizes, the marked difference in the rock art of BPK-1 and BPK-2 is seen as complementary, and the differences are suggestive of different artistic/social roles for each shelter. This is often the case throughout Australia at site complexes with more than a single rock art site. In such cases, a large and usually central shelter is the primary site, having a broad range and number of motifs, while adjacent shelters are satellites with a more restricted motif range (e.g. Gunn 1987b: 31–32; Gunn et al. 2018). What these different roles were at Gariwerd art sites, however, is unknown.

The spatial division of two art techniques within a single shelter is unusual in Greater Gariwerd. The occurrence of spatially separated paintings and hand stencils at BPK-1 is therefore seen as particularly notable. While a single hand stencil is positioned above panel B (which has the concentration of paintings), paintings occur on all art panels except panel D, where most hand stencils occur. This separation is unusual as in equally long and topographically segmented shelters such as Jananginj Njaui and Manya, hand stencils and paintings are intermixed on the same panels (Gunn 1981: 87–99, 215–228). Further, of the rock art sites throughout Greater Gariwerd, only five sites have more than five hand stencils and, except for Manya (with 103 hand stencils), BPK-1 (with only 11) has the highest of these. The only site with a comparable motif repertoire of bar motifs and hand stencils is the Moora 2 site, 11 km to the east (Gunn 2017b). There, while the overall motif numbers are lower with ten paintings in red and seven hand stencils (six in red and one in white), the two techniques are similarly spatially restricted: hand stencils to the right of the shelter, and bar sets and other motifs to the centre. The division follows differences in rock cementation in both cases, with paintings on well-cemented surfaces and hand stencils on the more friable surfaces. While Australia has a strong trend for stencils and drawing to be more common on the more friable rocks (Morwood 2002: 210–230; Gunn 1992;

Gunn and Webb 2000), this is not invariably the case.

The white (?) left-hand stencil on panel D is a ghost-stencil: an image where no pigment from the original stencilling pigment is apparent, and the form of the hand is only visible as a negative image in the unsprayed area of the wall; i.e. that area obscured from the spray below the stencilled hand (Fig. 10). Two similar ghost-stencils occur at the Manya shelter, 7 km to the south, where one of these retains minute remnants of white pigment that indicate its original colour.

As mentioned above, five of the red hand stencils have a 'variant' form (cf. Walsh 1979). In this instance, the hand form has the index and middle fingers splayed to a notably greater degree than the other fingers (Fig. 12). The five variant stencils here are placed in a row that follows the contour of the rock and is seen as a composition completed as a single art event, as the variant hands are all the same size (mf 7 cm), finger spread (26°–33°), orientation (tilted to the right) and pigment preservation state. While the variant form of these hand stencils may result from a physical idiosyncrasy of the stenciller, a recognisable signal, or the marking of personal individuality, it is most likely that they were all the work of one individual.

These examples are the first recording of a variant hand stencil form within the Greater Gariwerd art region. It is also the first infant's hand stencil recorded in the art region. While a single child's hand stencil has been recorded at Manya (on the margin of the range; Gunn 1981: 224), the only other site to show evidence of the presence of pre-adolescents is at Gulgurn Manya, at the northern margin of Gariwerd, where there are at least 15 red handprints of one or more children (knuckle width 6 cm).

The paintings at both BPK-1 and 2 are all in a red pigment and are consistent with application by the finger rather than a brush, as the edges of the strokes have more pigment than the centre and no filament traces were detected. In using a finger, the pressure is beneath the ball of the finger, pushing paint to either side of it. Brush application tends to be more even across the width of the stroke.

The drawings were done with an ochre 'crayon', whereby the pigment adheres only to the highpoints of the rock as the crayon is moved. The scratching appears to have been done with a pointed stone edge rather than a metal point, as the lines vary in width along their length, consistent of a slight rolling of the wrist and wearing of slightly different facets of the point (compared to the use of a metal blade which tends to produce a uniform groove).

BK-1 superimposition sequence

The only area of superimpositions within the shelter occurs on rock art panel B1 (Fig. 5). From both motif superimposition and stylistic/technique associations, at least four rock art phases can be identified:

1. The most recent phase consists of four red drawings (#52–55), five single, painted bars (#46–50) and a painted line (#51). The paintings are all in a distinctive brighter red than the underlying motifs. There is no superimposition among drawings and paintings in this group, but the drawings are the better preserved of the two techniques. All of the red paintings display a similar repertoire to each other regardless of sequence. The drawings, in contrast, although of similar simple construction, have a curve or return; this is unseen in the angular nature of the paintings. Along with the difference in preservation, it appears that the drawings may post-date the paintings by some time.
2. The second phase consists of a set of four motifs whose red pigment colour and preservation state are similar: a set of four red bars and two dots (#42), a 'dancing' anthropomorph (#43; Fig. 14) and two short red lines (#44 and 45).
3. The third phase consists of a group of seven red bar sets (#16, 17, 23, 24, 27, 36, 39). These occur in three groups: two to the left, four in the centre and one to the right. In the left and central groups, the sets are arranged in visual relation to one another.
4. The lowest (earliest) rock art phase is the faintest in the sequence. These red paintings include a 'static' anthropomorph (#37), three single bars (#20, 29 and 31), a single dot (#32), a single line (#14), a line set (#38), a smeared area (#33), and 15 fragments.

The scratched motif (#14) and hand stencils do not occur in superimposition with any other motifs at BK-1 and, hence, their position in the site's motif sequence cannot be readily determined. The scratching is unpatinated and, therefore, of relatively recent age and must be placed amongst the upper motifs in the sequence.

The red hand stencils are among the site's most poorly preserved motifs, indicating a relatively early production. The superimposition sequences elsewhere in Gariwerd indicate that red hand stencils invariably underlie (precede) all other colours and techniques (Gunn 1983; Gunn et al. 2019). BK-1 offers no evidence to contradict this generalisation and they are seen as the earliest art in the shelter.

White painted pigment in Gariwerd rock art often retains a high proportion of thick pigment, many retaining brush striations; given the poor adhesive quality of white pigment, often with patches within a motif where no pigment at all remains, this indicates that they cannot be of any great age (cf. Clarke 1976). White stencils, while not being applied with such thick pigment, appear to be contemporaneous with white paintings and drawings. As there are no examples of white pigment underlying red pigment in Gariwerd, white pigment appears to have been introduced into Gariwerd rock art at some time after a local decline in the use of red pigment in rock art. The presence of white pigment represents a distinct and more recent period of rock art production (Gunn et al. 2019). This is supported at the Manya site, some 7 km to the south, where two white ghost-hand stencils overlie red hand stencils (Gunn 1981: 219). Consequently, the

production of the ghost-hand stencil here is considered to have post-dated both the red paintings and red hand stencils. The overall proposed sequence for BK-1 is presented in Fig. 18.

The proposed sequence presented by Gunn et al. (2019) implies that the red painting phase was a unified sequence. However, the sequence at BPK-1 (the bar sets overlying earlier bar sets and line sets) shows that there were multiple, chronologically distinct 'art events' within the phase and that subphases may have occurred. Hence, further clarification of the Greater Gariwerd rock art sequence is required before a better understanding of the whole story of the sequence can be revealed.

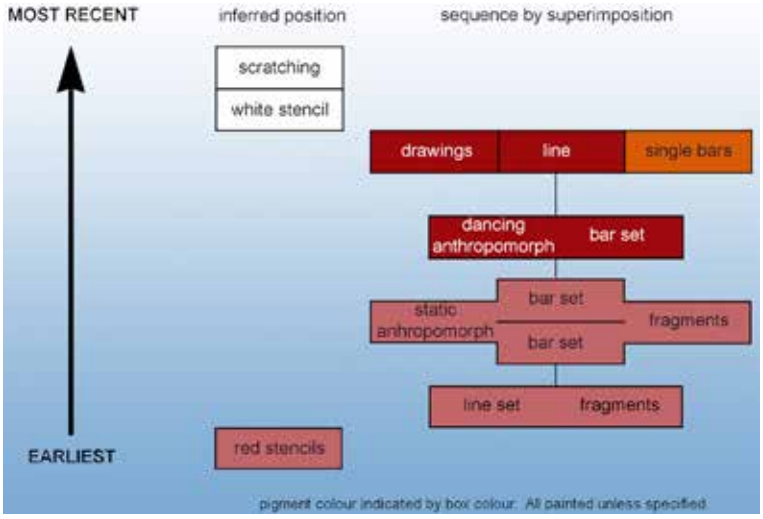

Figure 18. *BPK-1 art sequence. The white and red stencils and the single scratching are not involved in any superimposition. They are positioned in this table according to the relative preservation status.*

The differences in the preservation states of the two anthropomorphs suggest that they are of quite different ages. The fresher-looking (more recent) anthropomorph (#43) is in a 'dancing pose' with its legs tucked inward. Animated figures in red are unusual and have only been reported from two other nearby sites: Billimina to the west and Goat Track 2 on the east side of the range. The earlier anthropomorph (#37) at BPK-1 is a static stick figure, badly damaged by a salt overlay; its form is generic throughout Gariwerd.

Insights into the artists

In addition to using rock art as a basis for formal analyses (comparative statics, style distributions, motif counts etc.), rock art is also a vehicle for learning something of the individuals who produced it. BPK-1 was seen to be a suitable site for exploring this aspect.

The 15 separate 'art events' at BPK-1 indicate that there has been a range of different artists active in the shelter and that, because of the range of superimpositions, the shelter was repeatedly visited over an extended period. This is reinforced by the presence of motifs from all four recognised rock art periods for the region, which are likely to have been chronologically distinct.

Most hand stencils are of left hands. As the hand stencilled is generally the opposite of the persons' handedness (Gunn 2007), those hand stencils at BPK-1 were most likely made by right-handed people. As there is only a single right-hand stencil, this may be either of a left-handed person or a right-handed person making an individual statement in contrast to the other stencils. The orientation of the hand stencils on panel D reflects the curvature of the wall structure, with hands to the left of centre slanting left, those in the centre more vertical, and those to the right slanting right. This implies that the stencillers had an appreciation of the form of the rock face on which they were working. It also suggests that all the red hand stencils were produced as a coordinated 'art event', though whether as a casual arrangement or meaningful composition is unknown.

The size of the stencilled hands includes two that are classed as adult males (middle finger measurement 8.0 cm), four of either adolescents or adult females (mf 6.5 cm or 7.0 cm), and that of an infant (mf 4.0 cm) (cf. Gunn 2006). The low proportion of adult males (49%) at BPK-1 contrast with that at Manya, where adult males account for 73% of 55 hand stencils that could be measured. At Manya, there are similar numbers of right and left hands stencilled amongst the adult male and adolescent/adult female size classes, with no preference for left-handed stencils amongst the smaller hands.

The size of the variant hand stencils (women's or adolescent's class) and their close association with the infant's hand stencil along a common line of the rock (#72–77, Fig. 9) suggest that the two groups of stencils are associated. The variant hand stencils are likely to be those of an adolescent or adult woman, most likely the infant's kin (cf. McDonald 1992: 34).

This is the first archaeological evidence indicating the presence of infants, and hence family groups, within the upper reaches of the Bullawin range; an area that is otherwise the focus of what is likely to have been a significant story place related to the identity of what we are now terming the Marmie motif: an elongated stick-figure wearing what is most likely a corroboree skirt (Fig. 19; cf. the drawings of Barak and others in Sayers 1996). *Marmie* is the Jardwadjali word for father; Smyth 1878 Vol. 2: 77) and replaces the previous and now-inappropriate label of *lizard-man*; (e.g. Massola 1973; Gunn 1983).

In general, freehand lines by a left-handed person on a horizontal surface tend to slant from upper left to lower right, while right-handed people tend to slant from upper right to lower left (Bambach 2003: 35–36). In contrast, on a vertical surface, such as a rock shelter wall, a person drawing a vertical line will tend to slant the line away from the body: left-handed people will bow to the left and right-handed to the right. In contrast, deliberately oblique lines on a vertical sur-

Motifs	Implied handedness	Motif No.
Painted row of 5 bars inclined to the left	Right	17
Painted row of 9 bars inclined left	Right	24
Painted row of 3 bars inclined right	Right	60
Painted 4 slightly S-shaped lines: tops and tails inclined left	Right	38
Painted 4 lines in composition all inclined left	Right	3–6
Scratched bar set of three bars: Two drawn across inclined right (pressure at top right), 1 scratched down inclined left (pressure at top)	Right	41
Painted 'emu track' inclined up to the right (pressure from top of toes down)	Right	57
Painted apex design: lines to the left of centre tend to be straight (steadier across the body), those to right of centre tend to waver (towards the body)	Right	80
Drawn inverted hook	Left	52
Drawn inverted hook	Left	53

Table 3. *Interpreted handedness of freehand motifs.*

Figure 19. *The distinctive Gariwerd marmie figures (photo-tracing by RGG).*

Figure 20. *BPK-1 bar set, showing the right-handed downward motion of the finger curving slightly to the right (photograph by RGG).*

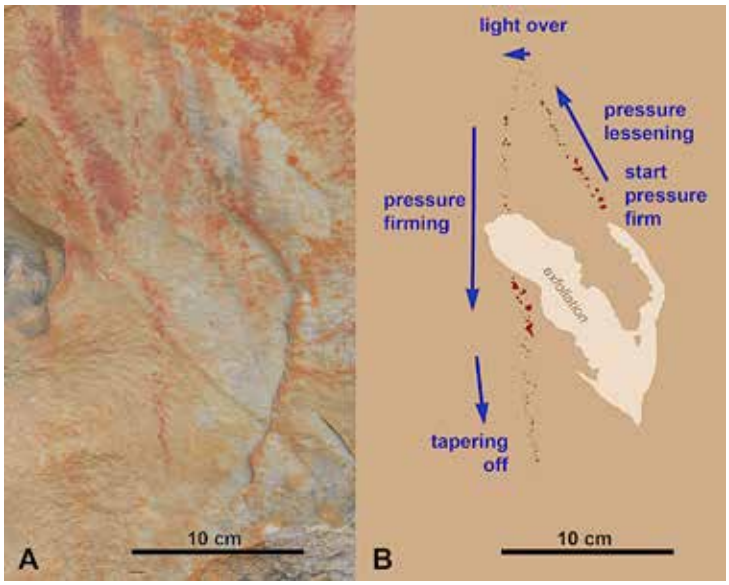

Figure 21. *BPK-1 Motif 52, most likely drawn by a left-handed person: upward from the right and then downwards on the left (photograph and photo-tracing by RGG).*

face will tend to follow the pattern of that on a horizontal surface: left-handed slanting down to the right, and vice-versa. On this basis, right-handedness can be attributed to 11 motifs at BPK-1 (Table 3; Fig. 20).

Two of the motifs appear to have been made by a left-handed person; both are inverted hook motifs drawn with dry pigment (#52 and 53). On both lines, the heaviest pressure is on the upward stroke on the right side, fading out at the apex, then the pressure increases before tailing off again on the left-side, downward stroke: a natural movement for a left-handed person, but non-intuitive for a right-handed person (Fig. 21).

The hand stencils and those eleven free-hand works at BPK-1 suggest that most people who created on its walls were right-handed. Birdsell (1993) found that less than 10% of Indigenous Victorians were left-handed, and while that percentage varied throughout Australia, there is a trend for the number of right-hand stencils (made by left-handed people) to be considerably greater than the percentage of left-handed people in the population (Gunn 2007); as is the case in Greater Gariwerd.

Most bar elements within the bar rows here have been produced as individual strokes, rather than using three fingers concurrently, as is apparent at some other sites in Greater Gariwerd (Gunn 2017c: 4). For concurrent bar stroke sets, the strokes begin at roughly the same height and converge towards their bases. The individual bars tend to be thicker at the top and taper downwards, indicating that they were painted with a downward stroke (cf. Bambach 2019: 54–58). However, the poor condition of the bar motifs does not allow interpretation of whether the bar rows were started at the left (common for right-handed people) or from the right (a natural way for left-handed people to adopt).

The painting of the anthropomorph (#43) illustrates that the head, body and 'skirt' were produced with a single downward stroke, the arms as a single stroke from right to left across the body, and each of the bent legs appears to have been painted with two strokes: hip to knee, then knee to foot. This simple linear construction is consistent with that found elsewhere throughout Greater Gariwerd (Gunn 2005). Similarly, the bars and lines appear to have been painted with a single downward stroke, as evidenced by numerous examples beginning with a heavy impact at the top and trailing away to the base.

While it can generally be assumed that the higher motifs are the work of taller (older) people, this is not always the case. For example, the (white?) ghost-hand stencil in BPK-1 is 1.7 m above the floor and has a middle finger length of 7.0 cm, i.e. within the normal range of an average adolescent male or adult female. In general, a 180 cm male works comfortably on a vertical surface between 1.0 m and 2.0 m above the floor, while a 170 cm adult female has an overlapping range of between 0.9 m and 1.9 m (pers. obs.). Motifs at heights below 1.0 m could be done by either small standing children or crouching adults. As mentioned above, most of the art was produced at a height between one and two metres above the rock floor: standing height for an adult. Hence, while it is possible that children produced the lower art, the quality of the lower motifs is similar to that of the higher motifs, suggesting that all of the motifs were produced by people with a similar knowledge of technique and repertoire. However, it is not possible to propose either the age or sex of the artists of the freehand motifs within the shelter.

Regarding the minimum number of people practising art here, the superimpositions and variations in pigment preservation discussed above indicate that at least five people were involved, and probably more than ten. From personal observation, this is one of the few sites where such a number can be reliably calculated.

Conclusions

Although in poor condition, the rock art at the two Boorpeck shelters forms a significant component for understanding the rock art of Greater Gariwerd. It also demonstrates the value of analysing detailed rock art site recordings in term of art appreciation and not purely archaeology, and looking for the individual as well as the regional patterns: a task that has too seldom been undertaken. This is essential for more in-depth site interpretation and site conservation (Lorblanchet 1975: 125–131; Coutts and Lorblanchet 1982).

The contrast in the rock art of the two adjacent shelters at Boorpeck, both in quantity and motif types, is a stark demonstration of a pattern that occurs, though less noticeably, elsewhere in Greater Gariwerd, where a site with many motifs is surrounded by a suite of smaller satellite sites (cf. Coutts and Lorblanchet 1982). The spatial separation of the paintings and hand stencils in BPK-1 is notably unusual (although probably influenced by the shelters' geology), as is also the range of superimposed motifs, particularly that of red bar sets over other red bar sets. These examples offer further insight into the overall sequence of Greater Gariwerd rock art.

BPK-1 has the first recorded examples of an infant's hand stencil and an adult variant hand stencil. The consistent size of the variant hand stencils suggests a single person made them, either an adolescent or adult woman. The close association of these variant hand stencils and that of the infant strongly suggest that the variants were produced by a relative (social or biological) of the infant. This limited evidence suggests that, at least during the early red phase, to which these stencils belong, the site and the catchment of Cultivation Creek were not restricted to adult males but were visited by family groups. Also, the lack of the *Marmie* motif in the Boorpeck shelters, despite its proliferation in many other (but not all) rock art shelters elsewhere in the catchment, offers the possibility of the rock art referencing social divisions in the use of rockshelters.

All but one hand stencils at BPK-1 were most likely produced by right-handed people, as was probably the case with the paintings. Only two drawings (two inverted hook-shapes) are suggestive of a left-handed artist. The superimposition at BPK-1 does not contradict the proposed model (Gunn et al. 2019), although it expands the red painting period by indicating that it was not a single static period but one of return and revival over a considerable period.

Overall, the two Boorpeck sites continue to enhance the importance of Bullawin (Victoria Range) as a highly significant cultural place for local Aboriginal people and, hence, a place of respect for all Australians. However, the existence of the Boorpeck sites has only recently been recognised, and yet it lies within the greatest concentration of Gariwerd rock art sites. This is another indication of the need for further extensive archaeological survey of the rugged terrain that is Gariwerd if we are to learn and appropriately manage the full extent of its complex Aboriginal story.

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