

Art of the Ancestors

Spatial and temporal patterning in the ceiling
rock art of Nawarla Gabarnmang,
Arnhem Land, Australia

Robert Gunn



ARCHAEOPRESS PUBLISHING LTD

Summertown Pavilion

18-24 Middle Way

Summertown

Oxford OX2 7LG

www.archaeopress.com

ISBN 978-1-78969-070-5

ISBN 978-1-78969-071-2 (e-Pdf)

© Archaeopress and R G Gunn 2018

Cover: Macropod interpretation from Panel B1, Nawarla Gabarnmang
Nawarla Gabarnmang shelter interior from the east

All rights reserved. No part of this book may be reproduced, or transmitted, in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of the copyright owners.

Printed in England by Oxuniprint, Oxford

This book is available direct from Archaeopress or from our website www.archaeopress.com

This volume is dedicated to the memory of
Margaret Katherine (1948-2018)
and
all my other Jawoyn/Mayali colleagues and friends now 'finish-up'

WARNING

This book contains images of Aboriginal people now deceased and, although approval has been sanctioned by the relevant communities, the images may cause distress to some people.

Contents

Acknowledgements	vii
Additional Credits	viii
1. INTRODUCTION	1
Aim	2
Rock art documentation	3
Making a record	4
Rock art appreciation	9
2. JAWOYN LANDS: PHYSICAL ENVIRONMENT	13
Jawoyn Lands	13
Geology and geomorphology	13
Rock shelter development	17
Rock shelter clusters and archaeological site complexes	24
Climate	26
Soils	28
Vegetation	28
Fauna	29
Palaeoenvironment and landscape evolution in western Arnhem Land	29
Summary	33
3. JAWOYN PEOPLE, CULTURE AND COUNTRY	37
Jawoyn society	37
Jawoyn religion	39
Jawoyn land use	42
Impacts of European incursions	44
The persistence of Jawoyn Culture	48
Jawoyn Rock Art and Heritage Project (JRAHP)	48
Summary	49
4. ARNHEM LAND ARCHAEOLOGY	53
Aboriginal Archaeology in western Arnhem Land	53
The north-western region	53
Northern Jawoyn Lands – western region	58
Northern Jawoyn Lands – plateau region	59
Southern Jawoyn Lands – the southern region	63
The Rock Art of north-western Arnhem Land	70
Western Arnhem Land	100
Jawoyn Rock Art	100
Bulajang	109
Nitmiluk National Park	110
Wuratjluk	111
The Jawoyn Rock Art and Heritage project	113
Connecting Country: the Jawoyn Homeland Project	116
Summary	116
5. RESEARCH METHODS	119
Methodology	119
Superimposition	119
The Harris Matrix in rock art studies	122
The Morellian Method	124
The Data	126
The Jawoyn Database	127
Nawarla Gabarnmang field recording	128
Recording the artwork	128

Post-fieldwork photographic enhancement and tracing.....	131
Attributes of the rock art.....	134
The Interpretations	144
6. NAWARLA GABARNMANG AND ITS ARCHAEOLOGICAL CONTEXT	147
Location and recording of Nawarla Gabarnmang	147
The regional context	154
Art shelters	154
Artwork	158
Standing stones.....	161
Other arranged stone sites	172
Burials.....	172
Grinding patches.....	173
Summary	178
7. THE CEILING GALLERY	181
Panel A1.....	182
Panel A2.....	186
Panel A3.....	193
Panel A4.....	209
Panel A5.....	212
Panel A6.....	217
Panel A7.....	227
Panel B1.....	234
Panel B2.....	248
Panel C1.....	259
Panel C2.....	263
Panel C3.....	280
Panel D.....	285
Panel E1.....	307
Panel E2.....	326
Panel E3.....	337
Panel E4.....	342
Panel E5.....	346
Panel F1.....	349
Panel F2.....	373
Panel F3.....	383
Panel F4.....	388
Panel F5.....	398
Panel G.....	401
Panel H.....	406
Panel J1.....	433
Panel J2.....	482
Panel J3.....	485
Panel J4.....	490
Panel J5.....	496
Panel K1.....	500
Panel K2.....	509
Panel K3.....	528
Panel K4.....	537
Panel K5.....	542
Panel K6.....	552
Panel L.....	556
Panel M1.....	573
Panel M2.....	576
Panel M3.....	583
Panel M4.....	589
Panel N.....	598

8. LAYERS OF TIME	603
Group A motif sequences.....	604
Panel A1.....	604
Panel A2.....	604
Panel A3.....	606
Panel A4.....	611
Panel A5.....	613
Panel A6.....	614
Panel A7.....	617
Group B motif sequences.....	618
Panel B1.....	618
Panel B2.....	622
Group C motif sequences.....	625
Panel C1.....	625
Panel C2.....	626
Panel C3.....	631
Group D motif sequences.....	632
Panel D.....	632
Group E motif sequences.....	636
Panel E1.....	636
Panel E2.....	642
Panel E3.....	646
Panel E4.....	647
Panel E5.....	648
Group F motif sequences.....	649
Panel F1.....	649
Panel F2.....	659
Panel F3.....	663
Panel F4.....	665
Panel F5.....	668
Group G motif sequences.....	669
Panel G.....	669
Group H motif sequences.....	672
Panel H.....	672
Group J motif sequences.....	680
Panel J1.....	680
Panel J2.....	693
Panel J3.....	695
Panel J4.....	697
Panel J5.....	698
Group K motif sequences.....	699
Panel K1.....	699
Panel K2.....	700
Panel K3.....	706
Panel K4.....	709
Panel K5.....	710
Panel K6.....	711
Group L motif sequences.....	712
Panel L.....	712
Group M motif sequences.....	716
Panel M1.....	716
Panel M2.....	717
Panel M3.....	718
Panel M4.....	720
Group N motif sequences.....	723
Panel N.....	723
Summary.....	725

9. ART IN TIME AND SPACE.....	727
Motif and Layer associations	727
Motif correlations by Morellian features	727
Chronological correlations by dated beeswax.....	729
Motif correlations by style.....	733
Motif correlations by multiple attributes.....	735
Motif threads and sequences	736
Art Assemblages.....	756
Art Assemblage 1	757
Art Assemblage 2	760
Art Assemblage 3	763
Art Assemblage 4	766
Art Assemblage 5	768
Art Assemblage 6	772
Art Assemblage 7	774
Chronological indicators for the rock art.....	778
Roof fall	778
Dated wasp nests	778
Dated beeswax.....	778
Excavated pigments	778
Horse.....	780
Jabiru	780
Thylacines and dingoes	780
Ethnography.....	784
Sorcery	784
Age and Art Assemblages	784
Art Assemblage 1	784
Art Assemblage 2	786
Art Assemblage 3	786
Art Assemblage 4	786
Art Assemblage 5	786
Art Assemblage 6	787
Art Assemblage 7	787
Changes over time	787
Condition	788
Technique	788
Colour	790
Motif Form	792
Motif Classes.....	793
Motif Types.....	793
Motif Sizes.....	798
Panel J1 polychrome motifs	804
Variations across space.....	805
Distribution of select Motif Types.....	808
Hand stencils	808
Jawoyn Lady motifs	809
Northern X-ray fish.....	810
Macropod motifs.....	810
Individual artists.....	810
Summary	810
10. INTERPRETING JAWOYN ROCK ART	817
Motif interpretations	818
Interpretations of colour.....	825
Interpreting the art at Nawarla Gabarnmang.....	826

11. A STORY OF ART	835
Jawoyn Bim	837
Reasons for change.....	837
Dating the stories	839
Non-figurative motifs	840
Chronological revisions for Arnhem Land rock art	842
A story in art.....	843
Conclusion.....	848
References.....	851
APPENDIX 1: Nawarla Gabarnmang motif list including Panel Art Phase and Site Art Assemblage	871

Note on Figures: Due to the large size of some of the Harris Matrices discussed in Chapter 8 it has been difficult to reproduce them legibly. Therefore the relevant images are also available online at tinyurl.com/9781789690705-onlinecontent

Acknowledgements

My first thanks go to the late senior traditional Owner of Nawarla Gabarnmang, *Margaret Katherine*, without whose full support and co-operation this project would not have been possible. And to my wonderful wife, *Leigh Douglas*, who Margaret calls daughter.

Over the past twenty-nine years, I have been fortunate to have recorded rock art in close collaboration with a number of senior Jawoyn people and others knowledgeable of Jawoyn rock art. This work, primarily for or on behalf of the Jawoyn Association, permitted the identification of a range of specific motifs and also to infer a generalised pattern of Aboriginal interpretation. Of principle assistance with these interpretations were senior Jawoyn elders Peter Jatbula*, Julie Williams, Sandy Barrawei*, Nipper Brown*, Bardayal Nadjamerrek*, Peter Bolgay*, Sarah Flora* and Sybil Ranch*. In addition to Margaret Katherine*, others who contributed were Captain Andrews*, Larry Atkinson*, Ryan Barrawei, Lily Bennet, Queenie Brown*, Nikabini Dalak, Lazarus Ford, Dudley Lawrence, Robert Lee*, Larissa Lee, Peter Manabaru*, Ken Murray, Phillip Runyu and Hitler Wood*, Jimmy Wisen* and Phyllis Wiynjorrotj*, along with the Wardaman elder Bill Harney. [*=now deceased]. Although several of these elders were artists in their own right, Bardayal Nadjamerrek is the only one known to have produced rock paintings (see Munro 2010). In most cases, these people visited art shelters when they were younger, and mostly in the company of their parents. Assistance with interviews with site custodians and knowledgeable elders prior to this study was provided by David Cooper (anthropologist), Ken Mulvaney (archaeologist), Ray Whear (previously Jawoyn Culture and Environment Officer), and Murray Garde (linguist). Other assistance with my time with the Jawoyn was given by Chris Morgan (pilot), Emma Clewlow (previously Jawoyn Association), and the Board of the Jawoyn Association. Kirstin Bär, Grace Kwok, Andrew Hume and Clare Lax also assisted with the JRAHP fieldwork.

For this book in particular, I give my thanks to my dissertation supervisors Associate Professor Bruno David and Professor Ian McNiven at Monash University, Melbourne. Bruno provided many hours of discussion, to refining my thinking and improving my expression ... I hope he succeeded to some extent. Others at Monash who were invaluable in getting me through the maze of post-graduation were Dr Carolyn James, Professor David Garrioch, Katie Lee, Sascha Burnside and Daniel James. In addition, my thanks go to Professor Jean-Jacques Delannoy and Dr Emilie Chalmin (Université Savoie, Mont Blanc) and Professor Jean-Michel Geneste (Ministry of Culture, France) for their valuable personal and professional support throughout.

Others who have tried to answer my many troublesome queries include Professor Jaynie Anderson and Dr Susan Lowish (Art History and Art Curatorship, University of Melbourne) Jon Harman (DStretch developer), Dr Edward Harris (Developer of the Harris Matrix, Bermuda), Klaus Löcker (Ludwig Boltzmann Institute, Vienna), Cliff Ogleby (Geomatics, University of Melbourne), Andrew Thorn (Artcare), Dr Robert Wray (Geomorphology, University of Wollongong) and Drs Ann and Bob Young (geomorphologists).

For general comments on my chapters and improvements on my expression I am profoundly grateful to Leigh Douglas, Kate Sullivan and Ken Mulvaney for their patience and critical support.

I also acknowledge with special and particular appreciation the influence of John Clegg (Sydney University) as my friend and rock art mentor (or overseer!) of over 30 years ... and I am so sorry that he did not live long enough to see this book in print ...

... and to *Ken Mulvaney* (now with Rio Tinto), a mate and colleague; so often out bush together celebrating our rock art way of life.

Fieldwork was undertaken through grants from the Federal Government's Indigenous Heritage Investment Initiatives Program and the Federal Department of Sustainability, Environment, Water, Population and Communities, Canberra with additional input from the Jawoyn Association. Post-fieldwork support for aspects of the research and publication was provided by Monash Indigenous Studies Centre, Monash University, and the Australian Research Council Centre of Excellence for Australian Biodiversity and Heritage, Canberra.

Thanks also go to Chris Chippindale and Bruno David for encouraging me to produce the book, and to David Davison and Ben Heaney from Archaeopress for putting it together.

Additional Credits

The photograph of Margaret and the accompanying quote at the beginning of Chapters 1 and 6 are from the documentary 'First Footprints' (Contact Films 2013; Martin Butler and Bentley Dean, directors and producers) used with permission. Those with myself in consultation on p.959 were taken by Ray Whear. Other quotes from Margaret at the beginning of Chapters 1, 7 and 8 taken from an ABC Stateline interview recorded by Emma Masters and broadcast on the 2nd October 2009;

<http://www.abc.net.au/stateline/nt/content/2006/s2703655.htm>

Robert Lee's comment at the beginning of Chapter 2 is taken from *Jawoyn plants and animals* (Wijnjorrotj et al. 2005: 7).



They [archaeologists] are magic people to look through the stone and the dirt but, to me, my grandparents they are here.

Margaret Katherine 2012

(Photograph: First Footprints 2013)



1. INTRODUCTION



I call out to the spirit of my grandfather and nanna.
I know that their spirits are here and they protect the painting.
Margaret Katherine 2009

For those who get keenly involved, recording rock art is a passion. It is also a privilege to work with and learn, first hand, about the art and places of another culture; another way of seeing the world. For the past 40 years, as a freelance consultant, I have been following my passion: the documenting and management of rock art sites across Australia. The majority of these sites were recorded purely as archaeological features, although I have also been fortunate to visit many sites in the company of Aboriginal men and women who hold knowledge of the sites and their functions within traditional Aboriginal society. Very few of these people have produced rock art themselves, but most having either witnessed relatives doing so or learnt the cultural context of the art and the sites from their elders. Some of the art sites we visited are breath-takingly spectacular, others just small alcoves with one or two faded motifs. Irrespective of their size and content, all of these sites hold significance to the local elders, often primarily as a record of a way of life that they see as passing. In some areas, the Traditional Owner groups are now using their rock art as an artefact of their past, to develop a revitalised culture. Archaeologists are generally seen as allies in this process who promote the value of cultural places, but in some cases, they are seen as adversaries who come from a dominant and absorbing colonial culture, not really understanding or appreciating Aboriginal ways of life. For most Australian Aboriginal groups today, the position of rock art is changing, being caught between several sometimes competing issues. These can be summarized as:

- a need for traditional measures for the protection of cultural sites (often requiring the total exclusion of outsiders);
- the application of Western methods of site protection, incorporating the assistance of archaeologists, conservators and other related professionals; and
- the development of community-run economic tourism ventures.

In 2005, within this melee of expectations, I was invited by the Jawoyn Association Aboriginal Corporation to undertake an assessment of the rock art on their extensive 50,000 km² lands in south-western Arnhem Land (Gunn and Whear

2007). The Jawoyn Association, based at Katherine in the Northern Territory, is a representative body that assists the management of a number of small residential communities within what are now known as the Jawoyn Lands (see www.jawoyn.org). One of the important findings of this 2005 assessment was how little of the Jawoyn Lands had actually been surveyed for rock art and/or other Aboriginal sites (Gunn 2005a). Periodically over the next seven years, as part of the Jawoyn Rock Art and Cultural Heritage Programme (JRAHP; see Chapter 3) with the assistance of knowledgeable Aboriginal elders, Leigh Douglas (my wife and assistant photographer) and I undertook systematic site recording across the Jawoyn Lands (Figure 1.1). It was during one these surveys of the central Arnhem Land plateau that the large and spectacularly decorated site of Nawarla Gabarnmang was located and its initial recording undertaken (see Chapter 6). As a consequence of this find, Leigh and I began to work more closely with the late Margaret Katherine, the then senior Traditional Owner of Nawarla Gabarnmang. Margaret was a Jawoyn elder and respected storyteller within the community, and she enthusiastically encouraged our continued work at sites within her traditional Buyhmi clan estate (Figure 1.2; see Chapter 3).

Nawarla Gabarnmang is one of more than a thousand rock art sites Leigh and I recorded during the JRAHP surveys. It is by far the most impressive rock art site we visited, because of both its exceptional physical formation and its outstandingly dense concentration of superimposed motifs. During the initial site recording in 2006, the standardised JRAHP recording methods that I had devised and was being used at the time, failed to do justice to the complexity and quality of this outstanding gallery of Jawoyn heritage.

The site had been assessed as of great social and spiritual significance by Jawoyn elders soon after its rediscovery in 2006. Within four years, its high archaeological value was acknowledged by rock art authorities and professional archaeologists from both Australia and France, who began excavations there in 2010. My work with the Jawoyn Association led, in 2012, to the opportunity of undertaking a PhD with Monash University to develop an appropriate recording method for the artwork of Nawarla



Figure 1.1: Location of Nawarla Gabarnmang and Jawoyn Lands



Figure 1.2: My initial meeting with Margaret Katherine, Barunga, March 2005
 From left to right: Peter Bolgay (Mayali elder), Ray Whear (Jawoyn Association), Nikabini Dalak (Jawoyn elder) and Margaret Katherine (Jawoyn elder and Traditional Owner of Nawarla Gabarnmang).

Gabarnmang. This research was undertaken as part of the joint Monash University-Jawoyn Association ‘Connecting Country’ project, whose aims were to study the archaeology of Nawarla Gabarnmang and other nearby sites on Jawoyn Lands (e.g. David et al. 2011).

Aim

To adequately record the complexity of the rock art at Nawarla Gabarnmang, a new method of recording was developed that allowed all of the motifs visible within the site to be more precisely defined and their

temporal relationships more fully determined than is the current practice in Australia. This method requires that a graphic record be produced to permit systematic interpretations of each and every individual motif (cf. Gunn et al. 2011). Examining the ceiling artwork at the large and complex art site of Nawarla Gabarnmang, state of the art techniques were used to map temporal changes in the art repertoire. Many motif types not represented in the existing typologies and chronologies of Arnhem Land rock art were identified and analysed to formulate a more encompassing and accurate motif sequence. The results then provided a better understanding of rock art history for the broader western Arnhem Land region.

Rock art documentation

The rock art of indigenous peoples across the world has intrigued Western researchers and the public alike for well over a century. Initially seen as curiosities by visiting travellers, the earliest known recording of rock art anywhere in the world was by Han Fei in China around 300 BC, with the earliest in Europe being in AD 1458, and in Australia in AD 1788 (Bahn 1998: 1-29). An interest in the history of rock art grew exponentially following the academic recognition in 1902 of the great antiquity and high artistic merit of European cave art (Breuil 1952: 15; Lawson 2012: 50-53).

Systematic rock art recording began in the early 19th Century with the work of Carl Brunius, but his was an example that few followed at that time (Bahn 1998:54-55). Although amateur archaeologists had reported several instances of what they believed to be Palaeolithic rock art in European caves during the latter part of the 1800s, these were rejected as forgeries by the academic community, as at the time it was considered that Palaeolithic people did not have the mental capacity to produce work of high artistic standards (Lawson 2012:49-62). With mounting irrefutable evidence, the Palaeolithic origin of these artworks was eventually acknowledged at the turn of the 20th century, prompting a surge in cave exploration and the recording of further rock art sites. Along with this flowering of rock art recording there was also a desire to interpret the art. Why had the art been produced, and how old was it? European Palaeolithic cave art had no living ethnography; however, archaeologists sought answers from cultures that retained knowledge of the role of rock art within their own cultures (Layton 2000). Geographically distant places and cultures far from Europe, particularly that of Australian Aboriginal peoples, were seen as archetypes of Europe's own deep antiquity. For many Western researchers then, the ethnography of indigenous peoples who continued to make rock art was seen as contributing to an understanding of European cave art. The ethnography of rock art, and the rock art itself, were not studied to understand indigenous histories in their own right. The

little anthropology of rock art done in Australia at that time, particularly Spencer and Gillen's pioneering work with the Arrernte of central Australia in the 1890s, was therefore one of the important resources contributing to the understanding of European Palaeolithic cave art (Pfeiffer 1982; Sieveking 1979; Ucko and Rosenfeld 1967).

Within Australia, following Spencer and Gillen's revelatory *The Native Tribes of Central Australia* (1899), the academic documentation of Aboriginal peoples' interpretations of their own rock art continued spasmodically although, for the most part, it was tangential to the study of other anthropological issues. Amongst these studies, however, there were some notable anthropological exceptions (e.g. Arndt 1962a, 1962b; Crawford 1968; Elkin 1930, 1952; Love 1930; Maddock 1970; Mountford 1937, 1965, 1968). From the 1960s onwards, archaeology began drawing heavily on ethnoarchaeological studies to interpret stone artefacts and settlement patterns (e.g. Binford 1972; Gould 1980; Hayden 1979; Meehan and Jones 1988). In contrast, specific rock art studies, which until the 1970s had largely been undertaken by individuals documenting regional rock art areas (particularly, Davidson 1936; McCarthy 1941-56, 1959, 1960, 1976, 1983; Trezise 1971; Wright 1968), began moving towards a more rigorous application of analytical methods, studying rock art images as artefacts (e.g. Clegg 1977, 1979a; Maynard 1976; Officer 1984, 1991a; Smith 1983). Another major influence on the understanding of rock art at this time was Nancy Munn's studies of the Walbiri graphic system. She highlighted the multivalence of many of the symbols: an image could have more than one meaning, with the meaning differing according to the social context in which it was being used (e.g. Munn 1962, 1973).

Internationally, the 1970s saw scholars successfully combine both anthropological and ethnographic approaches within their archaeological studies to reveal a greater depth of interpretation and appreciation (e.g. Vinnicombe 1976 and Lewis-Williams 1981 in South Africa). While studies using both ethnographic and quantitative methods have continued in Australia (e.g. Brady and Bradley 2014; David et al. 1994; Frost et al. 1992; Gunn 1987a, 2004, 2011a; Harney et al. 2009; Merlan 1989; Morwood and Hobbs 1992; Mulvaney 1996; Smith 1994; Taçon 1989a; Tasire and Davidson 2015), following the first Australian conference on Archaeometry in 1982 (Ambrose and Duerden 1982) the depth of archaeological analysis of rock art has greatly increased through the application of Archaeometric methods (the physical or chemical measurement and quantification of archaeologically derived material; Jones 1982; and see later examples related to rock art in Bednarik 2007; Cole and Watchman 1992; Delannoy et al. 2013; Goodall et al. 2009; Huntley 2015; Roberts et al. 2015; Watchman 1990; Watchman et al. 1995).

The 1960s and 1970s saw favourable changes in the Australian public and political climate towards Aboriginal people, with amendments to the Commonwealth Electoral Act 1962 granting them the rights to enrol to vote, the recognition of rights to traditional lands through the *Aboriginal Land Rights (Northern Territory) Act 1976*, and acknowledgement of the significance of sacred sites through *The Aboriginal lands and Sacred Sites Bill (NT) 1977* and the later *Northern Territory Aboriginal Sacred Sites Act 1989* (see Aboriginal Areas Protection Authority n.d.). With these changes, Aboriginal people became increasingly vocal regarding the direction of academic research into their own cultures (Ah Kit 1995; Langford 1983; Wallace and Wallace 1977: see Chapter 5). Today, rock art is acknowledged by academics and Aboriginal peoples and in many places by governments, as being of special significance to Aboriginal people, while also being an irreplaceable resource for enquiry into and education about Australia's heritage (e.g. May 2008). Consequently, the approval and/or involvement of the respective Aboriginal people in research into Aboriginal culture has become an integral part of an ethical approach required of members of the Australian archaeological and rock art associations, and most Australian universities. Aboriginal rock art has now progressed from that of a curio to being acknowledged as an integral part of a living culture.

Making a record

Most rock art researchers today begin their recordings with a pro-forma site form (often electronic, in a tick-box or simple descriptor format). These are primarily a database and management tool documenting: site location shelter or rock panel size and orientation; presence or absence of potential archaeological deposit and artefacts; a listing of images by style, technique or other particular regional attributes; and a note on their general condition and any management issues. The range of attributes of the artworks recorded will largely depend on the orientation of the research or management interests of the person or body that created the form, while the degree of accuracy in completing the form is largely dependent on the interest, expertise and experience of the recorder (Flood et al. 1989; Gunn 1995a, 1995b). These site recording forms are largely supported, to a greater or lesser degree, by photographic coverage. Such summary recordings, however, are not of concern here, as the main focus of my work was with detailed archaeological recording of rock art: its documentation, interpretation and analysis.

More detailed recordings of rock art were initially done painstakingly by freehand drawing onto paper or canvas, or as tracing onto semi-transparent rice-paper, which was then redrawn for publication.

These records, usually produced under less than ideal conditions, often incorporated omissions, distortions, or purely subjective readings that were then replicated in subsequent studies and publications (Bahn and Vertut 1988: 44; Bednarik 2007: 55-56). One of the first, finest and most influential of the recorders documenting and publishing European cave art was Henri Breuil (1877-1961). Using pencil and pastels he quickly set a particularly high standard for freehand copying, although these tended to be 'in the spirit of the original' (Lawson 2012: 65) and disregarded what he considered to be insignificant fragments (Daubisse et al. n.d.: 8). Freehand copying is still a common practice, being an invaluable preliminary method for objectively seeing the artwork. However, the ready availability of transparent plastics and permanent-marker felt-nibbed pens in the 1970s made tracing the preferred technique for archival purposes (Clegg 1983: 102-104). In a variation of this technique, in which felt pens allowed only a limited number of standard colours to be used, archaeologist and artist Patricia Vinnicombe used polythene and watercolour tempera mixed with detergent as a fixative (SARADA 2015a). Due to the potential damaging impacts on the underlying artwork, laying sheets of any sort over artwork for tracing or rubbing is no longer an approved recording method due to the potential impacts on the underlying artwork. Exceptions are made by some experienced researchers; for instance, for petroglyphs (engravings, peckings, etc.) on rock that is known to be particularly stable (Bednarik 2007: 57; IFRAO 2000). Another once common practice, the chalking/painting of petroglyphs to highlight them for tracing and/or photography, is now also condemned due to the adverse reaction of the chalk/paint with the bedrock (Bednarik 2007: 57). Similarly, despite over a century of practice (Lawson 2012: 56-59), the production of plaster, latex, or other form of cast of petroglyphs is no longer condoned (note Anon. 1980: 16) and with the advent of 3D photogrammetry, laser scanning and digital modelling (see below), is no longer necessary.

In Europe, photography was used to record cave wall markings well before the marks were accepted by academia as Palaeolithic rock art. For example, in 1875 archaeologist Emile Riviere recruited the professional photographer Charles Durand, who with 150 candles and a six hour exposure, photographed Palaeolithic engravings at La Mouthe, France (Lawson 2012: 53-59). Anthropologists were also quick to adopt photography to record ceremonies, people, domestic activities, places and artefacts, including rock art (e.g. Spencer and Gillen 1899; Figure 1.3). In addition to their ethnographic information, these early photographs now provide an invaluable record with which to assess the deterioration of the sites and their artwork over time.

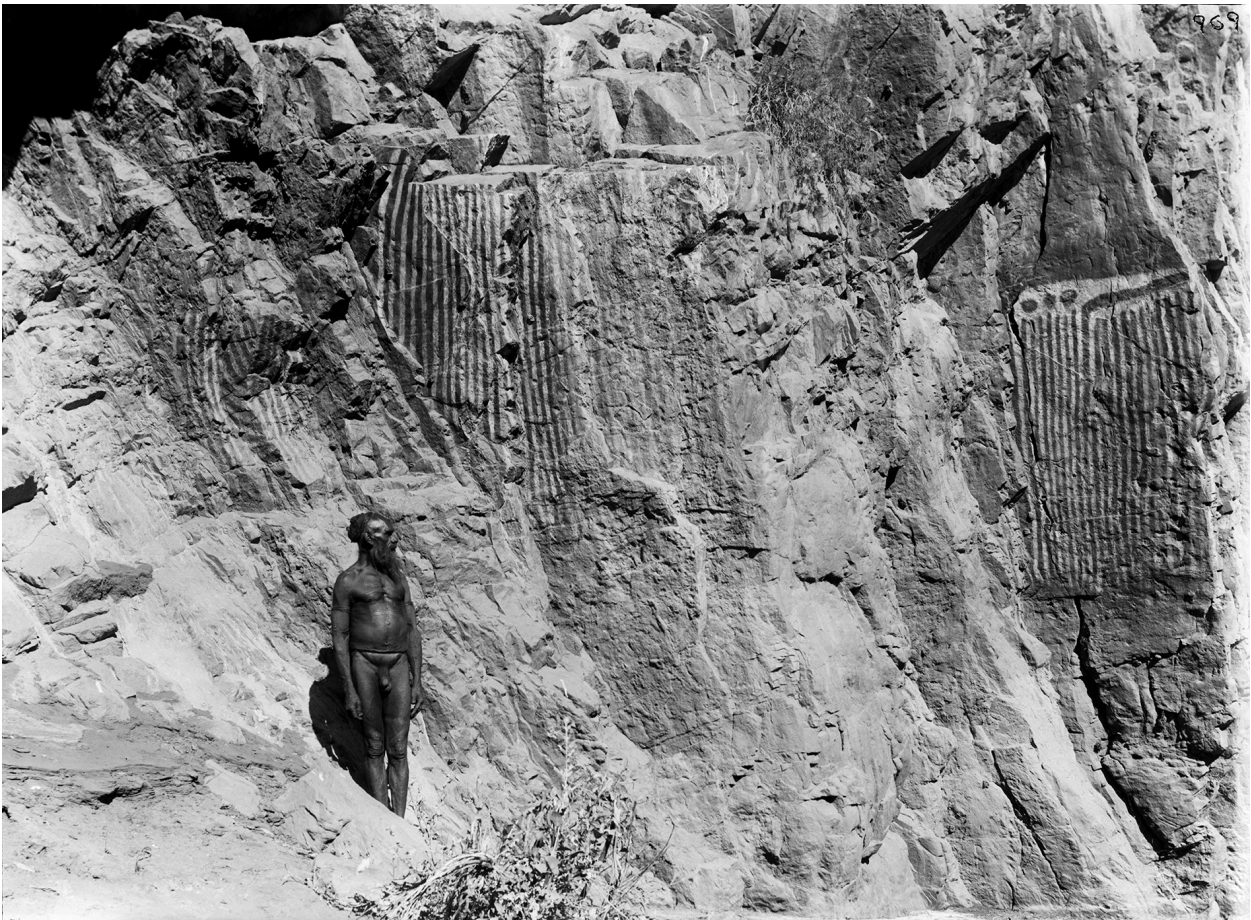


Figure 1.3: Drawing of Utnerrengatye caterpillar on rocks at Emily Gap, Northern Territory, Australia, 1896.
Photographer: Sir Walter Baldwin Spencer. Courtesy of Museum Victoria

For rockart researchers today, photography has replaced manual tracing as a preferred method of recording, as it can be done both faster and without involving any direct contact with the art (Loendorf 2001; McCarthy 1972). Photography also has the advantage of allowing for the use of different types of filters, varying lighting sources (e.g. flash, infra-red, and ultra-violet) or lighting angles (e.g. raking light: Edwards 1972; Webster 1966). The development of digital cameras allows a greater number of photographs to be taken and viewed rapidly, while eliminating the cost and transport of sensitive film and bulky equipment. Digital cameras have the added capability of including various camera-loaded colourspace filters that allow the enhanced images to be viewed in the field (see Chapter 5).

While photographs have long been incorporated directly into books, papers or reports, they can also be used as a base for tracing. Photo-tracing has been undertaken in a number of ways over the past 50 years (e.g. Brandl 1973: 71), but most is now done on computers using digital photographs and various graphics programmes that permit a far greater degree of close observation and tracing accuracy (Gunn et al. 2010, 2014; Le Quellec et al. 2015). Being produced

away from the site, however, these tracings should be subsequently verified in the field wherever possible.

One recorder, artist and designer, Harald Pager (see Pager 1971), combined tracing and photography in a unique manner:

Using 6 × 6cm or 6 × 9cm black and white film, he photographed the rock surface in sections of approximately one square metre. Then life-size black and white prints were made. He took these back to Ndedema Gorge and, working on an easel propped up in front of the paintings, he coloured in the images with oil paints. Some of the faintest paintings had to be outlined in pencil first. In most instances it was necessary to heighten the colour of the originals. Care was taken to record all flakes and damage to the paintings; the rate of deterioration can thus be estimated. The second stage was to assemble the photographs. Wherever possible, Pager cut the photographs along natural cracks and steps in the rock face and then glued pieces together to form a life size mosaic. The presentation of the actual rock is one of the invaluable features of the collection (SARADA 2015b).



Figure 1.4: Lorblanchet's recording of the art at Pech Merle, France
A: Photograph of the panel B: Tracing (1978) C: Photogrammetric plot (1985)
Images courtesy of Michel Lorblanchet

Other innovations have been the use of stereophotography to allow three dimensional viewing of the art and its rock surface support (Clegg 1979b), and plots of the art on contoured plans of the three dimensional surface through either theodolite readings or photogrammetry (Figure 1.4) (Chandler et al. 2005; Clouten 1974; Lorblanchet 1981, 2010: 64-65). More recently, digital laser scanning has been employed as a basis to create either virtual or full-scale reproductions of panels, or replicas of whole sites, with the artwork positioned in its correct three-dimensional space and context (Brown et al. 2001; Delannoy et al. 2017; Gonzalez-Aguilera 2011; Gunn et al. 2011; Lerma et al. 2014; Mark and Billo 2011; Ogleby 1995; Robinson et al. 2015).

In Australia, little use has been made of film (celluloid, video or digital) as a tool in the recording of rock art, although Herzog's full-length film 'Cave of Forgotten Dreams' on the cave and art at Chauvet Cave, France, shows the potential of the medium (Herzog 2010). Recently, the rock art of Nawarla Gabarnmang featured in a four-part documentary series on Australian Aboriginal archaeology, 'First Footprints', produced by the ABC and aired in 2013. Otherwise, film footage has been used in television news items to highlight unusual discoveries or problems in Australian rock art, such as the campaign to stop industrial development on the Burrup Peninsula, Western Australia (see Bednarik 2006).

In Europe, individual cave and shelter sites have been continually or repeatedly studied and re-recorded by generations of researchers using new methods as they became available (Figure 1.4; and see Bahn and Vertut 1988: 43-52). Of the estimated 125,000 rock art sites in

Australia (Taçon et al. 2008: 195), probably only 300 or so (c.0.2%) have been graphically recorded to today's highest standards, and possibly only a half a dozen or so of these 300 sites have been professionally re-recorded as methods have improved (e.g. Roberts et al. 2014). Further, fewer still have been adequately published, with most detailed recordings being restricted to the pages of theses (e.g. Morwood 1979), or public and private 'grey' reports that have limited access (e.g. Navin Officer 2006). In this context, one exceptional site is the large art shelter of Billimina (previously Glenisla shelter) in the Grampians, Western Victoria, which was one of the first Australian rock art sites to be extensively studied (Coutts and Lorblanchet 1982). The first account of the site was published in 1897 and it was periodically studied or reviewed for the next hundred years (Table 1.1).

Lorblanchet's tracing of the Billimina art panel in southern Australia (Figure 1.5) in 1974 brought a new standard of recording to Australia, and twenty-five years after its publication it was still considered by Clark et al. (1999: 29) to be 'one of the most definitive recordings in Australian rock art'. This evaluation still stands today, even though Lorblanchet's published account presents only black and white photographs and illustrations. Six earlier published art site recordings, however, stand out for their quality: McCarthy's recording of a large gallery in the Hawkesbury region, eastern NSW (McCarthy 1961a; but see Harper 2016), a petroglyph site near Port Hedland (McCarthy 1962), and his later recording of the major sites in the Cobar region of central NSW (McCarthy 1976); Mountford's recording of the art at Uluru that used transparent overlays to depict superimposition (Mountford 1965);

Table 1.1: Summary of rock art studies of the Billimina shelter

Date	Summary	Reference
1866	Site located	Adam 1950
1894	Description with freehand drawing of select motifs	Kenyon 1912
1896	Description with freehand drawing of the art panel	Mathew 1897
1929	Partial tracing	Barret 1929
1929	Painted clay model of the shelter	Blake 1968
1950	Colour photographs, partial copying, assessment of Mathew's published illustration, and floor excavation	Adam 1950
1967	Detailed tracing	Tugby and Tugby 1980
1968	Assessment of Mathew's published illustration	Clarke et al. 1999
1973	Assessment of Mathew's published illustration	Clarke et al. 1999
1974	Conservation assessment including select photographs of the art	Lorblanchet 1975
1975-77	Detailed tracing and major floor excavation	Coutts and Lorblanchet 1982
1980	Freehand recording; assessment of Lorblanchet's tracing	Gunn 1981
1998	Assessment of Lorblanchet's recording	Clarke et al. 1999
1998	Digital 3D model of the shelter	Clarke et al. 1999



Figure 1.5: Section of Lorblanchet's 1975 detailed recording of the Billimina art panel, Victoria
Image courtesy of Michel Lorblanchet

Sim's recording of a shelter in the MacDonal River catchment near Sydney (Sim 1969); and the tracing of select sites in the Laura region of Queensland (Trezise 1971). Although admirable for their time, none of these have the same degree of detail presented in Lorblanchet's 1974 recording; however, both Trezise 1971 and McCarthy 1976 were published as well-illustrated monographs.

Projects that combined excavation with detailed rock art recording also occurred in Central Queensland

(Morwood 1979, 1980, 1981; Rosenfeld et al. 1981), Northern Territory (e.g. David et al. 1990, 1994, 1995; Flood and David 1994) and later in the Sydney region (e.g. McDonald 2008), although those artworks were not published in the same detail as that provided by Lorblanchet at Billimina (Coutts and Lorblanchet 1982).

Most rock art publications in Australia since the 1980s have continued to focus on regional surveys that highlight select sites (e.g. Chaloupka 1982, 1993; Coles and Hunter 2010; Mulvaney 2015; Walsh 1981, 2000)

rather than focusing on the select sites in detail. A notable exception to this trend was the recording of three sites in the Sydney Basin by Clegg (1971), used in a study of motivation and meaning (rather than as records in their own right).

In contrast, detailed site recordings have generally been the province of the grey literature of management and consulting, the contents of which are generally unknown and often of restricted access (e.g. Gunn 2009; Officer 1991b, 2000). This paucity of published comprehensive recordings contrasts with the situation in Europe, where major sites have been the subject of entire monographs that provide detailed recordings, analyses and discussions of the site and its art (e.g. Aujoulat 2005; Bégouën 2009; Clottes 2003). While the vastly greater number of art sites in Australia may explain this situation, the detailed recording and publication of major sites remains an ongoing concern.

Many rock art recordings within Australia have been, and continue to be, aimed at management concerns: where the site is, what condition it is in, what conservation or management measures are required (Gillespie 1983a; Gunn 1999; Long 1999; Navin Officer 2006; Sullivan 1984; Ward and Ward 1995;). Nevertheless, the purpose of detailed rock art recording in any region, site complex or site in Australia falls into one or more categories:

- to document the artwork as completely and objectively as possible, for either research or archival purposes;
- learn and communicate something of the persons, societies or cultures that produced the art, and to facilitate an appreciation of the art today. To do this, the rock art must, to a greater or lesser degree, be interpreted by or for the viewer; or
- enable appropriate and on-going management of the site, its conservation and interpretation.

The first of these three categories is a formal archival (archaeological) process, and it can be, or include, an ongoing interactive social practice with the Traditional Owners. This record can range from the minimal requirements for management, to the specific requirements of a particular research project (e.g. Gunn 1995a, 1995b; Loendorf 2001). It is essential to understand from the outset that there is no such thing as *the* 'complete' recording of an art site (Bahn and Vertut 1988: 52; Rosenfeld 1977). Recording techniques will continue to improve over time and the objectives and requirements of recording will also change as different research questions are addressed. Furthermore, in Australia it is essential that:

- permission to undertake recording is received from the Traditional Owners or the responsible Aboriginal or Torres Strait Islander group(s) (custodians);

- Custodians are fully informed of the implications of the recording work and its proposed outcomes, prior to giving consent for the works; and
- Custodians (or their representatives) are invited to be actively involved in the fieldwork wherever possible.

The second category, interpretation of rock art, might use a range of suitable theoretical approaches that assist in answering questions posed. Ethnographic records or direct enquiry from custodians may be essential for understanding interpretations, either from the ethnographic past or from contemporary meanings or uses. An understanding of what and how an image is portrayed, along with its broader cultural context, can be expected to enrich the viewer with a greater appreciation of the rock art, both as a cultural product and an aesthetic work. The viewer can learn to *read* the visual images they are engaged with (cf. D'Alleva 2005:39). In addition, better recordings enable better interpretation of the site and its art. This is a task that is always on-going.

Finally, a record of the site and its art provides a baseline from which any changes in the fabric of the site and of the art can be monitored: through on-going cultural (insider) use, outsider visitor impacts, or natural deterioration. Clearly, the better the record, the more reliable the monitoring can be and the more appropriate the management strategy that can be implemented.

Rock art appreciation

Rock art, in addition to being an archaeological artefact, is an *art form* in the sense that it is a visual product conveying cultural meanings to an audience. As with other artworks, it can be seen to have three intertwined themes of appreciation: *sensuous*, *expressive*, and *technical* (Copland 2009: 7-15). It cannot be assumed, however, that all viewers will experience the same appreciation when viewing the same artwork.

The first theme of appreciation, *sensuality*, involves a direct appeal to the senses (visual, oral, tactile, etc.) proffered by the work. This requires a measure of thoughtfulness and perseverance from the viewer or listener, absorbing the work through the senses. In rock art this includes such aspects as how the colour, through contrast or harmony, is used within the work and its surroundings, and how the pigment interacts with the texture and three dimensional form of the rock surface to leave a visual impression of its texture or consistency. While good documentation can highlight sensuous aspects, a full appreciation of these characteristics can only be achieved when viewing the artwork *in situ*.

The *expressive* theme of appreciation, the most abstract of the themes, involves recognising the sensation(s) the artwork generates in the viewer. Talking specifically about

music, but with wider applicability to all forms of art, composer and conductor Aaron Copland believed that all music contains meanings behind the notes, but meanings that cannot be adequately expressed in words (Copland 2009: 9). This view contrasts with that of Stravinsky who claimed that music was an object with no meaning other than its musical existence; it has no referent other than itself, art for art's sake, a view that applies to much 19th and 20th Century visual fine art (Burnham 1973: 176-182;

Lucie-Smith 1969; Meyer 1972). As Morphy (1998) and others have shown, the notion of art for art's sake for the most part does not apply to traditional Australian Aboriginal art, as the art is produced in reference to a range of external meanings (referents) beyond the existence of the image itself. This is one of the dilemmas of viewing Aboriginal art: knowing the meaning(s) behind an image provides a base from which we can define our reaction to it (cf. Copland 2009: 10).



Figure 1.6: Two different forms of visual expression in Jawoyn rock art
 A: Polychrome macropod with X-ray features (Jawoyn site A058-01)
 B: Monochrome Dynamic style figures (Jawoyn site A082-L)

Within Aboriginal society, art images often contain layers of meaning (multivalence), which are revealed successively, according to a person's social standing (Stanner 1989: 100-101; Taylor 1996: 224-241). Consequently, any information (story) given by an inducted Aboriginal person to outsiders (whether researchers or tour operators from a different culture) will depend on the Aboriginal person's perceptions of the inquirer's integrity and trustworthiness, the context and place in which the question is asked, and the knowledge of the Aboriginal person speaking. The full range of meanings of any Aboriginal rock art image, therefore, can never be appreciated by an outsider, a person who is not a part of the community and culture from which the artist came, and/or who is not of the same social standing. Even given a social and ethnographic context (for example such as provided by Taylor 1996 and Morphy 1998 for bark painting; Layton 1992 and Blundell and Woolagoodja 2005 for rock art), to outsiders, the emotional significance of a work of art cannot be *felt* in the same way as it can to an insider. This is not to dismiss the sensations felt by an outsider, but to stress that the experience is different, coming from within a different mindset, to that of an insider. Every work of art generates an emotional impact in each and every spectator, whether positive or negative. By its wide appeal to the general public, rock art can be seen to generate an emotional impact on contemporary viewers, although the reasons and preferences may vary greatly between individuals. For example, in the wide suite of Jawoyn rock art, the visual impact of a large complex polychrome 'X-ray' macropod is of a different order to that generated

by small linear monochrome 'Dynamic' figures, regardless of the viewer's culture, purely because the visual complexities of the styles will be read differently (Figure 1.6).

The *technical* theme of appreciation (what Copland terms the *musical plane*) is the manner in which the art motif is presented and developed (Copland 2009: 14). In rock art, this is the context in which the motif occurs, such as singly or in association; in a discrete nook or open wall; within a communal living shelter or a restricted place connected to a religious ritual. In order to explore the technical theme then, it is necessary to view rock art from a purely 'objective' (scientific, historical or social) perspective.

While remaining cognisant of the first two themes, this study focused on an exploration of the technical theme: an archaeological appreciation of the rock art of Nawarla Gabarnmang. As Jawoyn rock art is essentially figurative and sometimes even approaches naturalism in its representations, it has a ready referential basis for the outsider to access. That is, it contains the recognisable shapes of animals and anthropomorphic figures (regardless of the motivations of the artist at the time of creation). The technical theme involves the identification of repeated threads (such as colours, motifs or compositions) running through time and across the various art panels at Nawarla Gabarnmang. In the final chapters, a small number of examples will illustrate the relationships between specific images and Jawoyn mythology as mentioned by contemporary members of the Jawoyn community.