

Edited by Christopher Chippindale and Paul S. C. Tacon



The Archaeology of
Rock-Art

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Contents

<i>List of figures</i>	page xi		
<i>List of tables</i>	xv		
<i>List of contributors</i>	xvi		
<i>Note on dates</i>	xvii		
<i>Acknowledgements</i>	xviii		
<i>The speared bighorn sheep</i>	xviii		
1 An archaeology of rock-art through informed methods and formal methods	1		
Paul S. C. Taçon and Christopher Chippindale			
Rock-art	1		
The archaeology of rock-art	1		
Dating	6		
Informed methods	6		
Formal methods	7		
Analogy	8		
The studies in this book, and the book's structure	8		
Celebrating rock-art, learning from rock-art	9		
2 Finding rain in the desert: landscape, gender and far western North American rock-art	11		
David S. Whitley			
Art on the natural landscape	11		
Far western North American rock-art	11		
Chronology of Californian and Great Basin Traditions rock-art	13		
Symbolism and meaning in the art	14		
Symbolism of the rock-art site	16		
Gender and rock-art sites	18		
Landscape, gender and rock-art site locations	21		
Finding rain in the desert			23
Rock-art, landscape symbolism and the supernatural			25
3 Towards a mindscape of landscape: rock-art as expression of world-understanding			30
Sven Ouzman			
Rock-art, visual imagery and signification			30
Forager cognitive systems			31
Shamanism			33
Forager landscape perception			34
Rock-art and the forager landscape			39
4 Icon and narrative in transition: contact-period rock-art at Writing-On-Stone, southern Alberta, Canada			42
Michael A. Klassen			
Writing-On-Stone and its rock-art			42
Icon and narrative			44
Continuity in iconic depiction			46
The rise of narrativity in the post-contact era			54
Narrativity and history			65
Rock-art in a sacred landscape			68
5 Rain in Bushman belief, politics and history: the rock-art of rain-making in the south-eastern mountains, southern Africa			73
Thomas A. Dowson			
Southern African rock-art: approaches and expectations			73

Antiquity of rain-making in southern Africa	74	The Côa valley petroglyphs	122
Rain-making and rain-creatures	75	Learning from the 'Three Cs'	125
Paintings of rain-creatures	77		
Paintings of rain-snakes	79	8 Daggers drawn: depictions of Bronze Age weapons in Atlantic Europe	130
Idiosyncrasy as a resource	80	Richard Bradley	
Rain-creatures as a political resource	85	Atlantic Europe and its rock-art	130
		Rock-art of north-west Spain: chronology and cultural context	130
6 The many ways of dating Arnhem Land rock-art, north Australia	90	The contexts of the weapon carvings	132
Christopher Chippindale and Paul S. C. Taçon		Methods of analysing the weapon carvings of Galicia	134
Arnhem Land and its rock-art	90	Object, subject, context and the Galician petroglyphs	143
Approaches to Arnhem Land art	92		
'Chains' and 'cables' in the dating of Arnhem Land art	92	9 Symbols in a changing world: rock-art and the transition from hunting to farming in mid Norway	146
Approaches to the dating of Arnhem Land rock-art	93	Kalle Sogndes	
Aboriginal knowledge of the antiquity of Arnhem Land paintings	94	Mid Norway and its archaeology	146
Dating by reference to historical knowledge	94	Rock-art in mid Norway	147
Dating by reference to lack of historical knowledge	98	Rock-art in time: approaches to dating	149
Stratigraphic sequences on the painted surfaces	99	Pictures of boats and their attributes: a chronology for the Southern Tradition	149
Bridging to dated palaeoecological and archaeological evidence	100	Stylistic dating and sea-level: a chronology for the Northern Tradition	152
Principles of continuity	102	Rock-art in place: approaches to location	154
Direct dating by radiocarbon	102	Northern and Southern in mid Norway	160
Weathering	103		
Direct dating of skins and other natural features in stratigraphic relation to art	104	10 Pacific rock-art and cultural genesis: a multivariate exploration	163
Diversity in dating Arnhem Land rock-art	104	Meredith Wilson	
		Pacific rock-art and its study	163
7 The 'Three Cs': fresh avenues towards European Palaeolithic art	112	Models and issues in the archaeology of Pacific colonisation	164
Jean Clottes		The multivariate analysis	166
Dating Palaeolithic art	112	Correspondence analysis for anthropomorphs	169
The 'Three Cs': Cosquer, Chauvet, Côa	113	Correspondence analysis for geometrics	173
La Grotte Cosquer	114		
La Grotte Chauvet	117		

Patterns in Pacific rock-art	174	A formal analysis of Pecos River Style art	232
Pacific rock-art and Pacific prehistory	181	Ethnographic analogy and Pecos River Style art	233
11 Spatial behaviour and learning in the prehistoric environment of the Colorado River drainage (south-eastern Utah), western North America	185	Botany of peyote	234
Ralph Hartley and Anne M. Wolley Vawser		Origins of peyotism	234
Symbols, rock-art and location in landscape	185	Huichol peyotism	236
The study area	185	The 'White Shaman' site: an interpretation by analogy	237
The placing of rock-art and human use of the landscape	189	Patterns in art and ethnography	239
Assumptions and approach of the study	190	Environmental explanations and archaeological evidence	240
Spatial orientation	190	Interpretation by analogy in relation to archaeological and environmental evidence	244
Spatial friction and the positioning of storage facilities	192	14 Modelling change in the contact art of the south-eastern San, southern Africa	247
Methods of analysis	195	Pieter Jolly	
Measuring information in the rock-art assemblage	195	San painters and black farmers	247
GIS measures of human mobility, accessibility and visibility in the landscape	197	Black farmers in the art	247
Site location and site association	199	Domestic ungulates in the art	250
Rock-art, resources and signals in the landscape	206	Dating of the rock-art	250
12 The tale of the chameleon and the platypus: limited and likely choices in making pictures	212	Methods in southern African rock-art research	251
Benjamin Smith		Change in San religious ideology and ritual practice	252
The making of a picture	213	The distribution patterns of cattle and snake rock-paintings	263
Normalisms	215	Meaning and form	264
Conventionalities	217	15 Ethnography and method in southern African rock-art research	268
The normal and the conventional	220	Anne Solomon	
13 Pictographic evidence of peyotism in the Lower Pecos, Texas Archaic	229	San rock-art and its context	268
Carolyn E. Boyd		San rock-art and the creation of the shamanistic model	270
The Lower Pecos region and its rock-art	229	The ethnographic method 1: relationships between words and images	272
Approaches to the rock-art	231	The ethnographic method 2: what is a trance metaphor?	273
Pictographs and peyotism	232	Formal analysis: the motif of the 'mythic woman'	276

	Ethnography and beyond in San rock-art studies	281			
16	Changing art in a changing society: the hunters' rock-art of western Norway	285		18 Shelter rock-art in the Sydney Basin – a space–time continuum: exploring different influences on stylistic change	319
	Eva M. Walderhaug			Jo McDonald	
	Rock-carvings in western Norway: material and approaches	285		Rock-art of the Sydney region	319
	The rock-art sites of Hordaland and Sogn og Fjordane	286		Age of Sydney rock-art	319
	Chronology of archaeology and of rock-art in western Norway	288		Informed methods	319
	Archaeological context of the rock-art	291		Formal methods	321
	The Ausevik rock-art site	292		Motif	321
	The place of Ausevik rock-art in society	298		Ethnohistory	323
				Archaeological context	324
17	Central Asian petroglyphs: between Indo-Iranian and shamanistic interpretations	302		How far back into prehistory did the patterns observed in Sydney at contact extend?	326
	Henri-Paul Francfort			Contemporaneity of art and deposit	326
	The petroglyphs and their cultural contexts	302		Diachronic change	327
	Studying the petroglyphs	304		Archaeology, art and society in the Sydney region	330
	A choice in research approaches to the petroglyphs: Indo-European or shamanistic?	305	19	Making sense of obscure pictures from our own history: exotic images from Callan Park, Australia	336
	The Indo-Iranian theory	305		John Clegg	
	The shamanistic theory	311		Notice of the Callan Park engravings, and a historical record	336
	Choosing between the theories	313		Common subjects	337
				Other pictures	342
				Writing: words?	344
				Deducing from the rock-art towards the rock-artist	345
				<i>Index</i>	347

Figures

1.1	Roger Yilarama, <i>Mardayin Dreaming: Water Dreamings of My Father's Country (Mardayin Djang)</i> , bark-painting, 1993	page 2	4.8	Painted Shield Figures	48
1.2	George Chaloupka, <i>Spirits in the Land</i> , oil on canvas, 1972	3	4.9	Incised and juxtaposed Shield Figures	48
1.3	Eric Gill, <i>Crocodile</i> , engraving into brick wall, 1930–1	4	4.10	Incised and juxtaposed Shield Figures	48
1.4	Artist unknown, graffiti piece, c. 1995	5	4.11	Incised and juxtaposed Shield Figures	48
2.1	Far western North America	12	4.12	Incised and isolated Shield Figure	48
2.2	Californian Tradition painted panel	12	4.13	Post-contact Shield Figure and associated gun	50
2.3	Great Basin Tradition engraved panel	13	4.14	Painted gun and associated image	50
2.4	Southwest Painted Variant panel	16	4.15	Incised gun and horse	51
2.5	Rattlesnake shaman emerging from a crack in a panel	17	4.16	Incised and scratched depictions of horses	51
2.6	The Painted Rock site as a feature on the landscape	20	4.17	Three isolated incised horses	53
2.7	Painted panel at the apex of Painted Rock	20	4.18	Incised and scratched Mounted Horses	53
2.8	Rain-shaman human figure from the Coso Range	24	4.19	Mounted Horse motifs with 'War Bridle' bundle	54
3.1	Rock-painting of a hand print, Western Cape Province	32	4.20	Incised Mounted Horse motifs	54
3.2	Locations of Sites 1 and 2, South Africa	35	4.21	Two Shield Figures in combat	55
3.3	Site 1, Eastern Cape Province, South Africa	35	4.22	Two Shield Figures, with decorated shields, in combat	55
3.4	Two rain-animals apparently emerging from water-pool, Site 1	36	4.23	Shield Figures and associated human figures in a battle scene	55
3.5	View of the main hill site, Site 2	37	4.24	Post-contact combat scenes	57
3.6	Non-representational hammer marks, Site 2	38	4.25	Two possible horse raid scenes	57
4.1	Location of Writing-On-Stone on the Northwestern Plains	43	4.26	A juxtaposed scene	58
4.2	View of Writing-On-Stone area	43	4.27	Possible horse raid	58
4.3	Sandstone cliffs at Writing-on-Stone	43	4.28	Horse raid	59
4.4	Location of sites in the Writing-On-Stone area	43	4.29	Combat scenes between mounted and pedestrian figures	60
4.5	'Medicine Robe' hide-painting with primarily iconic imagery	45	4.30	Counting coup on an enemy	61
4.6	'War Record' or 'Biographic' hide-painting with primarily narrative imagery	46	4.31	Battle scene, with multiple perspective	62
4.7	Shield Figures	48	4.32	Battle scene, with pictographic conventions	63
			4.33	Complex battle scene	64
			5.1	South-eastern mountains, southern Africa	73
			5.2	'Bleeding' rain-creature	77
			5.3	Rain-creature	78
			5.4	Rain-snake	79
			5.5	Serpent with antelope head	79
			5.6	Rain-creatures	83

List of figures

5.7	Human figures	84	10.7	New Zealand outlier: engraving from the North Island	171
5.8	Rain-creature	86	10.8	Easter Island: engraved depictions of <i>moai</i> statues	171
5.9	Rain-creature	86	10.9	Easter Island and Tabar, New Ireland: engravings	171
6.1	Western Arnhem Land	91	10.10	Stick figures	171
6.2	Later Arnhem Land rock-art	96	10.11	Location of Hawaiian anthropomorphs with inverted triangular torsos	172
6.3	Later Arnhem Land rock-art	97	10.12	Hawaiian anthropomorphs with inverted triangular torsos	173
6.4	Earlier Arnhem Land rock-art: Dynamic Figure group	98	10.13	Anthropomorphs with solid or outlined torsos	173
7.1	Location of the 'Three Cs'	113	10.14	Anthropomorphs with facial features	173
7.2	Cosquer Cave: black hand stencils	115	10.15	Correspondence between circles	175
7.3	Cosquer Cave: bison	116	10.16	Correspondence between circles	175
7.4	Cosquer Cave: bison	116	10.17	Circle motifs from Polynesia	176
7.5	Chauvet Cave: aurochs, horses and rhinos	117	10.18	Correspondence between all geometrics	177
7.6	Chauvet Cave: lion and three horses	118	10.19	Phenetic relationships	177
7.7	Chauvet Cave: rhinos	118	10.20	Regional phenetic relationships for anthropomorphs	178
7.8	Chauvet Cave: rhino with its ears in the typical Chauvet fashion	120	10.21	Regional phenetic relationships for geometrics	178
7.9	Foz Côa: pecked and engraved animals	123	10.22	'Flexed leg' and 'buttressed junction' anthropomorphs from New Zealand and elsewhere	179
8.1	Regions of Atlantic Europe	131	11.1	The canyon bottoms, south-eastern Utah	186
8.2	Open-air rock-carving and decorated cist slabs	133	11.2	Colorado River drainage and surrounding mountain areas	187
8.3	Liro, Galicia: open-air rock-carving and metal hoard	136	11.3	Above-ground storage structure	193
8.4	Open-air carvings and decorated stones	137	11.4	Cached pot	193
8.5	Weapon and other carvings	138	11.5	Anthropomorphic figures in shelter	194
8.6	Distribution of weapon carvings in Galicia	142	11.6	Twentyfive Mile Canyon: slope, friction surface and final cumulative cost surface	198
9.1	Rock-art distribution in mid Norway	148	11.7	Twentyfive Mile Canyon friction surface and final cumulative cost surface	200
9.2	The Brandskog ship from Uppland, Sweden, and ways of drawing this boat type	150	11.8	Twentyfive Mile Canyon: rock-art sites, storage structures and residential sites	200
9.3	Proposed phase sequences for Northern and Southern rock-art	151	11.9	Cow Canyon: rock-art sites, storage structures and residential sites	202
9.4	Heights of rock-art localities in the Stjørdal area	152	11.10	Twentyfive Mile Canyon LCPs from the hiking function calculation	202
9.5	Heights of rock-art localities in the Stjørdal area and land uplift	153	11.11	Bowns Canyon: rock-art sites, storage structures and residential sites	203
9.6	The Tønsås ridge in Stjørdal	155	11.12	Twentyfive Mile Canyon: storage facilities within the viewshed of residential sites	204
9.7	Distribution of ST rock-art sites in Stjørdal	158	11.13	Head of Cow Canyon: viewsheds for the Watchtower site	205
9.8	Hegre VI	159			
10.1	Pacific islands	164			
10.2	Sequence of Pacific island settlement as described by Kirch	165			
10.3	Structural systems used to explore variation in geometrics	168			
10.4	Geometric primary shapes	169			
10.5	Correspondence between anthropomorphs	170			
10.6	Anthropomorphs: correspondence between variables	170			

11.14	Rock-art at Five Shield site	206	15.6	Panel, Hippo Shelter, Lesotho	
12.1	Daubings at Kampika, Malaŵi	218		Drakensberg	280
12.2	Tracing of !chameleon from Mphunzi Hill, Malaŵi	221	15.7	Panel, Magaditseng, Eastern Cape	
12.3	Photograph of !chameleon	221		Drakensberg	281
12.4	Tracing of !platypus from Ubirr, Australia	224	15.8	Figure, Gxalingenwa Rock 1, KwaZulu-Natal	
12.5	Photograph of !platypus	224		Drakensberg	282
13.1	Lower Pecos River region of south-west Texas	230	16.1	Western Norway and the hunters' rock-art sites	287
13.2	Panther Cave (41VV83): anthropomorphic figures	231	16.2	Upper and lower parts of rock-art site from Vangdal	288
13.3	'White Shaman' (41VV124) rock-art panel	233	16.3	Panel from Ausevik	289
13.4	Peyote (<i>Lophophora williamsii</i>)	235	16.4	Agrarian rock-art	289
13.5	Peyote in North America	235	16.5	Small panel from Ausevik	293
13.6	Peyote buttons from a rock-shelter in the Lower Pecos River region	236	16.6	Animal figures from Ausevik	294
13.7	Figure from 'White Shaman'	239	16.7	Stylistic development of deer figures from Vingen	295
13.8	Huichol yarn painting: the birth of peyote	239	16.8	Panel from Ausevik	297
13.9	Fate Bell Shelter (41VV74): winged antlered anthropomorph	241	17.1	Central Asian region	303
13.10	Panther Cave (41VV83): impaled deer and impaled dots	241	17.2	Ustí-Tuba-III: bovids and 'birth-giving'	307
13.11	Black Cave (41VV76): rock-art panel	242	17.3	Tamgaly-III: complex surface with three 'horned horses' with riders	308
13.12	Black Cave (41VV76): rock-art panel	242	17.4	Radiating 'solar'-headed anthropomorphs of Sajmaly-Tash	309
13.13	Cedar Springs Shelter (41VV696): rock-art panel	243	17.5	Tamgaly-IV: surface with 'solar'-headed and dancing personages	309
14.1	Main study area, south-eastern South Africa	248	17.6	Sajmaly-Tash: chariots with pairs of various animals and drivers plus other animals and signs	309
14.2	Conflict between Sotho and San	249	17.7	Elangash-III: chariot with head-radiating driver	309
14.3	Ox and herder, Ngcengane Cave	249	17.8	Ustí-Tuba-III: moose in the Angara style	311
14.4	Sheep	250	17.9	Mugur-Sargol: masks, 'maskoids', masked anthropomorph	312
14.5	Horse	251	17.10	Ustí-Tuba-II: bears, bovid and moose in a large complex surface	314
14.6	Ox	251	17.11	Tamgaly-III: horned horse	315
14.7	Trance bull/ox, bleeding from nose	254	18.1	Sydney Basin	320
14.8	Painting from Upper Mangolong Cave	255	18.2	Motif preferences	322
14.9	Galleon	256	18.3	Subject preferences	322
14.10	Cattle	257	18.4	Language areas	325
14.11	Possible initiation scene	258	18.5	Four shelter art sites excavated	328
14.12	Painting from Sand Spruit	259	18.6	Dated shelter art sites	329
14.13	Elands	262	18.7	Territorial organisation and interaction	332
14.14	Rain-bull	262	19.1	Figures at north end of Callan Park site	338
14.15	Serpent	263	19.2	Steamboat	339
15.1	Southern Africa	269	19.3	Compass rose and ship with anchor	339
15.2	Panel, Murehwa Cave, Zimbabwe	278	19.4	Three-master on Mushroom Rock	339
15.3	'Mythic woman' figure, Willcox's Shelter, KwaZulu-Natal Drakensberg	279	19.5	Compass rose with Japanese flag	339
15.4	Upturned eland, Willcox's Shelter, KwaZulu-Natal Drakensberg	279			
15.5	Panel, Knoffelspruit, Orange Free State	280			

List of figures

19.6	Compass roses	340	19.11 'Queen Victoria'	342
19.7	Taking a bearing	340	19.12 Fish	343
19.8	Globe on stand	341	19.13 Aboriginal engraving: fish	343
19.9	Head with hat	342	19.14 Horse	343
19.10	Woman	342	19.15 Engraved letters	344

Tables

6.1 Chronology of western Arnhem Land rock-art	<i>page</i> 107
10.1 Rock-art regions	167
10.2 Multiple-choice data	169
10.3 Distribution of anthropomorphs	169
10.4 Frequency distribution of geometrics	173
11.1 Rock-art classification	196
11.2 Rock-art sites	196
16.1 Body outline and internal marking	294
16.2 Seriation of animals	295
18.1 Excavated shelters from Mangrove Creek	330
18.2 AMS dates from shelters in the Sydney Basin	331



1. An archaeology of rock-art through informed methods and formal methods

As the millennium draws to a close, the world is undergoing unparalleled change, affecting virtually every living creature on Earth. Human beings, the primary agents of change, also are intensely affected by it. In particular, over the past few hundred years indigenous peoples of every continent have undergone radical transformations to their ways of life. But with the dawning of the computer and space age so too have individuals from the more dominant cultures. One global response to this intense social, environmental and technological change has been a creative explosion, not only in technology but also in the arts, as contemporary artists draw on cultures the world over for inspiration. The result is an unrivalled fusion of form, aesthetics and subject-matter. Alongside this wondrous burst of creativity, and the embracing of all that is new, has been an increased interest in the past, the remote, the exotic, the 'other'. The western disciplines of archaeology and anthropology were born to chart, to describe and to tabulate the 'old' and 'new' peoples encountered through this exploration and conquering of 'other' lands; museums were established to assemble, curate and display the material culture and products of the peoples that populated those lands.

Rock-art

Nevertheless, there have been many periods of intense change in human history (see, for instance, Allen and O'Connell 1995) and many 'creative explosions' (Pfeiffer 1982). The post-glacial transformation of most of the globe – beginning 10,000 years ago – from the lands of mobile gatherer-hunters into the territories of farmers and kings is another in a

series (but see Sherratt 1997). Evidence of those earlier revolutions may be scant in most places, and for some aspects – like the prehistory of song and music – we have scarcely no evidence. One record is enduring. The accumulations of ancient rock-paintings and engravings are testament to visual art as a medium of mediating, recording, recounting and a new means of more fully experiencing those profound human events and changes which have shaped our histories. Through what we now collectively refer to as 'rock-art', we see how different peoples, at various times of the past, represented or interpreted change *for themselves*. What is remarkable is not so much the particular images of certain regions but rather the widespread and truly global nature of this phenomenon. For at least 40,000 years (Chase and Dibble 1987; Davidson and Noble 1989; Lindly and Clark 1990; Mellars 1989, 1991; Taçon 1994), and perhaps for much longer (Bednarik 1994; Lorblanchet 1993; Fullagar *et al.* 1996; Taçon *et al.* 1997), human beings have increasingly marked landscapes in symbolic ways. A characteristically human trait, this is one of the ways we socialise landscapes. The result is a great and a scattered array of visually striking imagery as time and chance have let it survive to us at sites or within regions over vast periods of time.

The archaeology of rock-art

In this volume we explore some of that imagery. This exploration is not a complete one – there is too much to explore, too many ways to explore it. We do not here explore the inspiration these ancient images give to contemporary artists (Fig. 1.2), or the aesthetics of

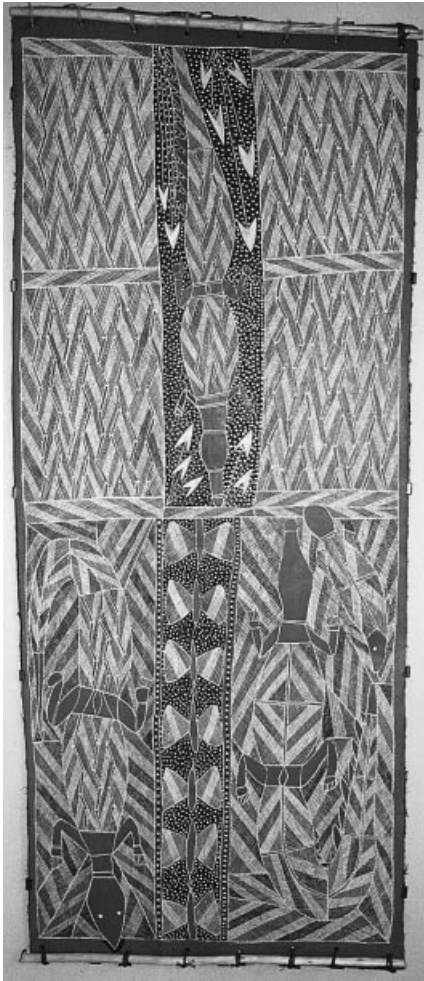


Fig. 1.1.1. Roger Yilarama, *Mardayin Dreaming: Water Dreamings of My Father's Country (Mardayin Djang)*, ochres and clay on stringybark tree bark, 1993.

Where most rock-art traditions – like all those of prehistoric Europe – have perished, a few continue, largely in other media.

In central Australia, the now-celebrated 'dot' paintings of the desert country, generally in acrylic on canvas, derive their iconography from the ancient traditions seen in the region's rock-engravings. The painting of central desert designs and images in synthetic materials on to portable surfaces is not at all ancient; it began at Papunya, about 200 km west of Alice Springs, in 1971 (Caruana 1993: 107).

On the central north coast of Australia, the long tradition of painting seen on the rocks and crags of Arnhem Land is lively today in portable paintings made on the bark of eucalyptus trees (Brody 1985) and, increasingly, on art paper (Dyer 1994), of

the ancient pictures – if those can be discerned from them (see Scarre 1994).

The sole subject of this book – which could have been much larger – is the *archaeology* of rock-art, where archaeology is the systematic study of past human lives as they can be discerned through a knowledge of their material traces. The special merit, and the special attraction, of rock-art as the subject of archaeological enquiry is its directness. These are images from ancient worlds as ancient human minds envisioned them; these are neither stray fragments of ancient garbage nor chance stumps of perished buildings. They are all direct material expressions of human concepts, of human thought. The directness carries a matching special obstacle. While one hopes speedily to deduce from the grubby old stones and bones reasonably secure facts about these ancient objects, the rock-art is a more immediate record, both easier to see and harder to make sense of. So interpretations of its nature and meaning have been famously eccentric: some still are.

A scholarly interest in rock-art is not new. It is often said that Europeans began their fascination with rock-art in 1879, after a young girl and her father investigated a large cave at Altamira, Spain, and were awed by the sight of majestic bulls on the ceiling above them (Grant 1967: 3), but serious study is now recognised to have begun at least by the 1860s (Bahn and Vertut 1988: 19). The study of rock-art in Central Asia, remarks Henri-Paul Francfort in Chapter 17, *Central Asian petroglyphs: between Indo-Iranian and shamanistic interpretations*,

which this is a fine recent example. The ochre and clay pigments are those used on the rocks; the subject and manners of depiction are equally in the same tradition. It is not just an illustration for its own sake, but derives from knowledge of the country, as related by the varied 'inside' and 'outside' stories the images stand for.

We mention these details to illustrate how pertinent modern traditions of depiction and iconography can hint at the real nature of the many traditions of rock-art we approach only by formal means.

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Photograph by Gwil Owen.



Fig. 1.2. George Chaloupka, *Spirits in the Land*, oil on canvas, 1972.

This book is about the archaeology of rock-art, so other aspects to the images are not developed. Here is a picture inspired by rock-art to stand for what is missing.

George Chaloupka, the senior researcher on Australian rock-art, is himself an artist. He painted this image at a time when Arnhem Land was being presented as a desert, which deserved development if that was financially advantageous, and otherwise had no merit. In its subject and its manner of depiction, Chaloupka was inspired by the rock-art images, especially those which had been painted not many years before by Najolbombi, last of the famous rock-painters, in western Arnhem Land. This is one of about twenty paintings that were exhibited in Canberra and largely sold there. The last of those left over from the exhibition, it survived the destruction of Chaloupka's home in Darwin by Cyclone Tracy in 1977. The whereabouts of those sold in 1972 is not known.

We mention these details to illustrate – again, and in another context – how particular can be the reasons for which images are created, and how capricious can be their survival and our access to knowledge of them.

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began in the seventeenth century and has never ceased. The ancient little figures pecked into the ice-smoothed rocks of Valcamonica, in Alpine north Italy, were known to its country people, who had a dialect word for them. And in Arnhem Land, north Australia, Aboriginal people know the old art of the Mimi – the other kind of human being who were in their stone country long long before them and who still live there as frail-bodied spirits, sheltered within the cracks in the ancient rocks (Brandl 1973; Chaloupka 1993; Lewis 1988; Taçon 1989; Taçon and Brockwell 1995; Taçon and Chippindale 1994).

Much of the apparatus with which archaeologists approach rock-art (Whitley 1997) is the usual kit of the archaeologist's trade: the drawing, photographic,

recording and survey gear is standard. So are some of the methods, increasingly science-based, and their technical languages – direct AMS dating, stratigraphic sequence, co-variation, taphonomy. And so are many frames of ideas. Rock-art is seen as structured by distinct, distinctive and distinguishable style, so amenable to stylistic studies (e.g. Francis in press, *contra* Lorblanchet and Bahn 1993). And the images of rock-art lend themselves to contemporary research interest in ancient meanings and their social expression (e.g. Tilley 1991). But rock-art research remains distanced from other special interests within archaeology; and the special circumstances of survival and study mean the methods developed for studying art in other contexts may not transfer across either. Some



Fig. 1.3. Eric Gill, *Crocodile*, carved into exterior brick wall, Mond Laboratory, Free School Lane, Cambridge, 1930–1.

Rock-engravings are rare in the artificial landscapes of the world's contemporary cities. This is in a built surface of brick, fittingly a synthetic rock, as it is in a humanly created city-scape.

The celebrated engraver and illustrator carved the image, about 1.8 metres high, to a subject chosen by the Russian physicist Peter Kapitsa. It is Russian in its symbolism: the crocodile as the 'great unknown' in created things. (There are crocodiles of two types, freshwater and saltwater, in Roger Yilarama's bark-painting, Fig. 1.1: in his Australian country, the two beasts are vital creatures, important in the land and in the stories – not alien curiosities in the zoological garden!) Gill's own comment on his image of the crocodile – refined by visits to London Zoo to see and draw the real creatures – was, 'What should we know of reptiles who only reptiles know?' (MacCarthy 1989: 273).

The Mond Building now houses the Cambridge University collection of air photographs, a unit within the University much concerned with archaeology. Staff there think of their crocodile as a fierce beast that stands guardian at the door to their precious archive.

We mention these details to illustrate – yet again, and in yet another context – how the meanings of images are varied and shifting.

Photograph by Christopher Chippindale.

methods and many frames of ideas translate uncertainly into the different language of pictures on the rocks. Researchers use an eclectic mix of approaches, some of them new (if any approach in twentieth-century research can wholly be called new), some of them borrowed (and adapted in or after the borrowing to the circumstance of studying rock-art).

In Valcamonica – as in other parts of the world – the tradition of marking the rocks tellingly stops as its sheltered communities were overwhelmed by an outside world of commanding people whose culture was a literate one of reading and writing (Anati 1976: 153–6): for those communities, the swallowing power of the growing Roman Empire. In a great many regions, it was the first fleets of the European expansion and their landing passengers who closed down the world in which the rock-art had been made; the regions are not numerous where we have good ethnohistorical accounts of the rock-painters and very few where the painting traditions are still strong (for one, western Arnhem Land, see e.g. Chaloupka 1993; West 1995). The worlds of texts and the world of written words are different in fundamental ways, as Sven Ouzman, *Towards a mind-scape of landscape: rock-art as expression of world-understanding*, shows in Chapter 3. Even the rock-arts of our culture in our own day – among which one should include the inscriptions monumentally engraved into and the graffiti sprayed on to the artificial rock surfaces of buildings in our urban landscapes – often offer words alongside or instead of pictures (Figs. 1.3, 1.4).

Inasmuch as rock-art is rather an archaeological subject apart, so will the methods of its study be set rather apart. Many of them will have novelty. Since no settled or standard approach has emerged – Whitley (in press) will be the first general handbook on the archaeological study of rock-art to be published – this is the time to explore the diversity of fruitful approaches, and to recognise their unities. Rock-art has been a subject-matter of archaeology for centuries, at least in Scandinavia – yet the title of this book, *The archaeology of rock-art*, seems not to have



Fig. 1.4. Artist unknown, graffiti piece, spray-paint on brick bridge abutment, Cambridge (Long Road railway bridge, old Bedford line archway), c. 1995.

Images officially set on walls in the contemporary urban environment are primarily directional signs, in words alone, or in words treated with graphic care, sometimes in pictures alone: 'This is the way out', 'This is the way to the aeroplane.' Distinctive 'rock'-paintings on artificial hard-rock surfaces of our own culture include the spray-painted graffiti, said to have originated in New York in the 1970s (Castleman 1982; Cooper and Chalfant 1984), then seen in cities across the world (Stahl 1990).

Individual graffiti artists declare their identity with small 'tags' contrived from their initials or nicknames. Often they make a 'piece', a large and ambitious composition; the word 'piece' derives from 'masterpiece' and echoes the original meaning of that word, as denoting the grand project with which an apprentice craftsman proves his skill and is thereby made a master.

Imagery in 'pieces' has many forms. Often central, as in this piece, is an elaborated polychrome geometrical form, again a kind of lettering – nicknames, initials, or favoured word – treated with such graphic force that the letters are barely or not recognised. We find it striking, and telling of late twentieth-century values, that spray-graffiti artists – the famous marginals who make a special iconography in our society – nevertheless make their graphics on the model of those words which define the power of the controlling literates against them.

We mention these details to illustrate – yet again, and in yet another context – how varied can be the ways in which images derive from a society, and relate to its values.

Artist unknown, therefore reproduced without permission of the artist. Photograph by Christopher Chippindale.

been used before. Rock-art is old, but this kind of study seems perhaps young.

The diversity is represented by the eighteen remarkable essays that make up this book, by researchers whose academic standing runs from senior professors to graduate students, and whose immediate subject-matter spans the world. The unity is given by a deep structure both to the book and to individual papers. Since doubt surrounds just what best to *do* in studying rock-art, the group emphasises considered and rigorous *methods*. Since methods do not exist in the abstract, they show themselves in application by effective case-studies that begin with the *essentials*:

- what the stuff is;
- what date it is;
- how it is studied with informed methods;
- how it is studied with formal methods;
- how it is studied by analogy.

The group has not attempted a specific definition of 'rock-art'. We hold it to refer to human-made marks on natural, non-portable rocky surfaces; the more common being those which are either applied *upon* the rock and called *pictographs* – including paintings, drawings, daubings, stencils, prints, beeswax motifs – or which are cut *into* the rock and called *petroglyphs* – engravings, incisions, peckings, gouging, symbolic grindings, etchings, and so forth. 'Rock' will do as a term for the surface that bears them, although sometimes the rock is a geological surface as soft as mud (Bednarik 1986; Faulkner 1986). 'Art' is a less happy term, because art has a rather specific meaning in recent western societies, not suited to those many societies where the crafty making of images and pictures was a business centrally integrated with other concerns. In the absence of a better term – 'rock image', 'rock picture', 'rock marking', 'rock trace', 'rock glyph', and so on are also unhappy – we stay with rock-art. (In consequence we have to tolerate the confusion by which the term 'rock-art' also refers to the iconography of rock-and-roll music!) We hyphenate 'rock-art', against common modern habit, in a slight attempt to make this term into a portmanteau.

Dating

Chronology has always been important to rock-art studies, and remains generally difficult.

Carbon is present usually in minute traces only, and it is generally supposed rather than known that the 'carbon event' which will be measured by radiocarbon is actually to be equated reliably with the 'art event', the subject of study for which we would like a date. Accordingly carbon dating of rock-art is a new field of endeavour, made possible only by the AMS radiocarbon method with its scanty sample size, and still at an experimental stage (Nelson 1993). The disputes of 1995–6 over the age of the Foz Côa petroglyphs engravings, for which dates are argued that run from the later Palaeolithic (Zilhão 1995) to the eighteenth century or later of our own era (Bednarik 1995), shows how large the uncertainties can be.

Dating is here addressed by Jean Clottes, *The 'Three Cs': fresh avenues towards European Palaeolithic art*, Chapter 7. The material available from the European Palaeolithic often charcoal safely preserved in deep and still caves, is far more satisfactory for trustworthy carbon-dating than are the materials of such exposed surface imagery as Jo McDonald studies in *Shelter rock-art in the Sydney Basin – a space-time continuum: exploring different influences on change*, Chapter 18. Our own Chapter 6, Christopher Chippindale and Paul S. C. Taçon *The many ways of dating Arnhem Land rock-art, north Australia*, takes dating as its central theme, for a region with exceptional and fortunate opportunities for varied dating methods.

Informed methods

By *informed methods* we mean those that depend on some source of insight passed on directly or indirectly from those who made and used the rock-art – through ethnography, through ethnohistory, through the historical record, or through modern understanding known with good cause to perpetuate ancient knowledge; then, one can hope to explore the pictures from the inside, as it were. In Arnhem Land, for instance, the recent rock-painting tradition continues in fine paintings on bark and paper, full of layered and

intricate meaning (Fig. 1.1); so the image of a crocodile in Thompson Nganjmirra's painting *Crocodile Dreaming* (1992) relates not to a mere beast, but to 'the first Crocodile Ancestor, who was a man before he turned into a crocodile with large jaws and gnawed through the Liverpool Ranges to see what lay beyond' (Dyer 1994: 54). The 'hybrid' creature in another of the same artist's paintings, with snake body and crocodile head, we know to represent the Rainbow Serpent, one of the creator-beings who in the founding days passed through the country, making its water-holes and creeks, filling it with creatures, and peopling it with its several clans, each in its proper place in the land. And we know there is not just one Rainbow Serpent, for in the Dreamtime Yingarna, the Mother Rainbow Serpent, grew two eggs in her body and gave birth to a son, Ngalyod, and a daughter, Ngalkunburriyaymi (Taylor 1990: 330). By their common traits we – both Aboriginal Arnhem Landers and western researchers who have been given that knowledge – can recognise late Rainbow Serpents in the rock-art, and then trace this distinctive subject back in the long dated sequence. In this way, we come to see how the Rainbow Serpent starts as a motif in Arnhem Land rock-art when the rising sea-level of the post-glacial brings the ocean across settled land; and an element in its founding ethnography is a creature of the sea – a pipefish rather than a land snake (Taçon, Wilson and Chippindale 1996).

Importantly, because iconographic meanings seem to be variable and historically idiosyncratic – rather than standardised and accessible by some generalising rules in an anthropology of art – that ethnographic insight into an informed knowledge is essential to that kind of understanding. Without it, one might *suppose* this snaky creature, because of its non-natural combination of limbs and traits, might not be of the everyday, mundane world – but one would not *know* just what it stood for, with just what meaning and just what power. The crocodile as a picture, because natural in its traits, one could think is wholly a subject from the natural world; nothing in the image itself tells the ignorant outsider that it is not only a

beast but Crocodile Ancestor, a man before he turned into a crocodile. The cross-hatching that fills the creatures' bodies one might suppose mere decorative infill, whilst in truth it is *rarrk*, a design that carries strong meaning and is particular to the individual artist's clan. Equally, in the Coso Range of California one would not have immediate cause to suppose, from the pictures of bighorn sheep and of rattlesnakes, that these images of everyday creatures in the Mojave drylands stood for different and deep meanings – as the old ethnohistoric records show (see Whitley's *Finding rain in the desert: landscape, gender and far western North American rock-art*, Chapter 2).

There are practically no rock-art traditions that continue into the present, and precious few of which there is a good ethnographic or ethnohistoric record available. Even the rich records of San knowledge, on which an understanding of South African rock-paintings has been built (e.g. Lewis-Williams 1981 and subsequent work), come from Bushmen who were not themselves painters and whose country was far removed from that region of the Drakensberg where a compelling account of the rock-art has now been made through treating their knowledge as informed about that art's meaning. For some regions, the relevance of potentially informed sources is uncertain: are the rock-engravings of the later prehistoric Alps to be comprehended through seeing in them Indo-European structures of religious knowledge as these have later been discerned (Masson 1995)? Or are those understandings no kind of true knowledge when it comes to the ancient Alpine panels (de Lumley *et al.* 1995)?

Formal methods

For much prehistoric art, beginning with the Palaeolithic art of the deep European caves, we have no basis for informed knowledge. There we must work with *formal methods*, those that depend on no inside knowledge, but which work when one comes to the stuff 'cold', as a prehistorian does. The information available is then restricted to that which is immanent in the images themselves, or which we can discern

from their relations to each other and to the landscape, or by relation to whatever archaeological context is available. This includes inference by location in landscape (Richard Bradley, *Daggers drawn: depictions of Bronze Age weapons in Atlantic Europe*, Chapter 8; Sven Ouzman, *Towards a mindscape of landscape: rock-art as expression of world-understanding*, Chapter 3), the figuring out of what a picture shows by the geometry of its shape (Benjamin Smith, *The tale of the chameleon and the platypus: limited and likely choices in making pictures*, Chapter 12), inference from a mathematical measure of information content and from site location (Ralph Hartley and Anne M. Wolly Vawser, *Spatial behaviour and learning in the prehistoric environment of the Colorado River drainage (south-eastern Utah), western North America*, Chapter 11), and the relationship of similar but widely separated forms through the use of multivariate analyses (Meredith Wilson, *Pacific rock-art and cultural genesis: a multivariate exploration*, Chapter 10) or by other techniques.

Even where there is informed knowledge, the formal methods can be useful, just as one can study the geometry of pictures from any cultural context as an interest separate from their meaning, or as one can usefully find kinds of modern understanding in aspects of paintings in the western tradition which in their own time were not a concern (see, e.g., Carrier 1991).

Analogy

Finally, *analogy* relates to, but does not duplicate, the formal methods: when we cannot observe x but we can y , which is sufficiently like it, we can hope to infer things about x based on observations of y . Aspects are necessarily particular to the distinctive nature of rock-art as a class of archaeological materials, but the issues of method that arise are the difficult and well-known ones that concern archaeological reasoning by analogy in general.

The studies in this book, and the book's structure

Some of this book's authors can say little or nothing

by informed methods: when enigmatic images come from a remote prehistory, we can have no inside knowledge of them; study must proceed by formal methods and/or analogy. Most authors touch upon more than one aspect, and do so with more than one method; a diversity of approaches to studying rock-art is evident. Four chapters primarily approach their subject-matters from informed perspectives: David Whitley, *Finding rain in the desert: landscape, gender and far western North American rock-art*, Sven Ouzman, *Towards a mindscape of landscape: rock-art as expression of world-understanding*, Michael A. Klassen, *Icon and narrative in transition: contact-period rock-art at Writing-On-Stone, southern Alberta, Canada*, Chapter 4, and Thomas A. Dowson, *Rain in Bushman belief, politics and history: the rock-art of rain-making in the south-eastern mountains, southern Africa*, Chapter 5. One concentrates on different strands of dating evidence: Christopher Chippindale and Paul S. C. Taçon, *The many ways of dating Arnhem Land rock-art, north Australia*. Two rely on dating and formal methods: Jean Clottes, *The 'Three Cs': fresh avenues towards European Palaeolithic art* and Richard Bradley, *Daggers drawn: depictions of Bronze Age weapons in Atlantic Europe*. Three focus on the formal: Kalle Sognnes, *Symbols in a changing world: rock-art and the transition from hunting to farming in mid Norway*, Chapter 9, Meredith Wilson, *Pacific rock-art and cultural genesis: a multivariate exploration* and Benjamin Smith, *The tale of the chameleon and the platypus: limited and likely choices in making pictures*. Five use a combination of formal methods and analogy: Carolyn E. Boyd, *Pictographic evidence of peyotism in the Lower Pecos, Texas Archaic*, Chapter 13, Pieter Jolly, *Modelling change in the contact art of the south-eastern San, southern Africa*, Chapter 14, Anne Solomon, *Ethnography and method in southern African rock-art research*, Chapter 15, Eva M. Walderhaug, *Changing art in a changing society: the hunters' rock-art of western Norway*, Chapter 16, and Henri-Paul Francfort, *Central Asian petroglyphs: between Indo-Iranian and shamanistic interpretations*. Then Jo McDonald's *Shelter rock-art in the Sydney Basin (Australia) – a space-time continuum: exploring different influences on*

diachronic change weaves dating, formal methods and analogy. We close with a Chapter 19 that combines aspects of dating, formal methods and analogy with flashes of insight, inspiration and exasperation: John Clegg, *Making sense of obscure pictures from our own history: exotic images from Callan Park, Australia*. His chapter humbles us too, in showing how mysterious figures can be that are from our own culture, and nearly from our own time.

These case-studies explore a wide range of petroglyphs and pictographs from seven key regions of the world: Australia (three-and-a-half chapters), southern Africa (three-and-a-half), North America (three), Scandinavia (two), western Europe (two), continental Asia (one) and the Pacific Islands (one). The chapters are not ordered by geographical location but rather by the primary methods researchers employed, moving from informed towards formal, and then to analogy. Interestingly, five of the chapters – Whitley, Ouzman, Klassen, Boyd, Francfort – focus on aspects of shamanism for interpretation.

Celebrating rock-art, learning from rock-art

Rock-art represents a great and shared legacy: a visual, illustrated history of human endeavour, aggression, co-operation, experience and accomplishment. As Australian Aboriginal colleagues of ours in Kakadu National Park and Arnhem Land are fond of pointing out to us, these sites are history; these are history books that tell of pasts more varied and more diverse than what declares itself in the written record. They give insight into the present – a theme not developed in this book – as well as into the past. Ultimately, the lessons of the past do help to shape our futures: this is one of the reasons human ancestors the world over recorded their experiences on such durable media as stone and rock. They explored, fought over, farmed and marked places with aspects of their cultural, group or individual identities. In so doing, they made statements to themselves and to others about the nature of *place*. They also made statements about themselves, defining landscapes for future use. We continue this process on a

daily basis: in our cities, our parks, our gardens, our homes. We map, mark and immortalise places. We journey; we remember. Already our species has sent contrived objects out of the solar system, and left traces upon the rocks of the moon. The legacy of the first artists will continue in unimagined new ways. But through books such as this one the accomplishments of some of the earliest creators, our original artists, poets and story-tellers, will not be forgotten! Read, reflect, relax and rejoice. Embark with us on a journey through time and space that explores the visually creative essence of early humanity.

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