

ART ON THE ROCKS
Engaging the Public and
Professionals to Network
for Rock Art Conservation



Abstracts from the
Colloquium
Namibia, 22–30 April 2017



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The Getty Conservation Institute

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Edited by

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THE GETTY CONSERVATION INSTITUTE
LOS ANGELES

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The Getty Conservation Institute (GCI) works internationally to advance conservation practice in the visual arts—broadly interpreted to include objects, collections, architecture, and sites. The Institute serves the conservation community through scientific research, education and training, field projects, and the dissemination of information. In all its endeavors, the GCI creates and delivers knowledge that contributes to the conservation of the world’s cultural heritage.

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Cover images, clockwise from top: The Brandberg massif is the site of the Brandberg (Dâureb) National Monument. Photo: Noel Hidalgo Tan. The “Dancing Kudu” panel is found within Twyfelfontein (IUi-IIAis), inscribed as a UNESCO World Heritage Site in 2007. Photo: Tom McClintock. In Brandberg (Dâureb) National Monument, the painting of the “White Lady,” seen to the left, was misattributed in 1947 as the work of a Mediterranean people. It has since been correctly identified as a San male in hunting regalia, and is accompanied by a figure to the right known as “the sorcerer.” Photo: Tom McClintock. Over 2000 petroglyphs have been recorded at Twyfelfontein (IUi-IIAis). Photo: Nicholas Hall.

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Preface

Neville Agnew

The rock art of Africa makes up one of the oldest and most extensive records on earth of human thought. It shows the very emergence of the human imagination. It is a priceless treasure.... Africa's rock art is the common heritage of all Africans, and of all people.... Perhaps the greatest threat (to this heritage) is neglect. A lack of resources, combined with a lack of official interest, has left too many rock art sites unguarded against vandals and thieves. It is time for Africa's leaders to take a new and more active role. We must save this cultural heritage before it is too late.

—Kofi Annan, Secretary General of the United Nations (2005)

The words of former UN secretary general Kofi Annan are a resounding reminder of the importance of the world's rock art. Yet relatively few sites around the world are well protected, successfully managed, or utilized in sustainable ways for the benefit, enjoyment, and education of their local communities and the broader public.

A select few sites are treasured—those that are recognized as extraordinary manifestations of the human creative spirit are managed sustainably for research and community benefit. The Palaeolithic caves of France and Spain, for example, have all the attributes that continue to draw visitors and attract media attention: deep, mysterious limestone caverns, astonishingly beautiful and dramatic art dating from the very earliest times of human artistic expression, proximity to areas of high population density, and educated and interested visitors. Their remarkable paintings, the fragility of the sites, and their susceptibility to adverse environmental conditions have kept them at the forefront of public attention. They continue to garner support and finance from government and the public and are rightly regarded as national and world heritage treasures.

Unfortunately, these “supersites” are a mere handful, and represent a minuscule fraction of the vast body of rock art found in every corner of the globe and in every climate—art that has survived though exposed to the elements. No doubt much of the cultural and archaeological record that rock art represents has been lost completely, succumbing to natural processes of weathering and attrition over the eons. An exposed painting, for example, will seldom last long in an unprotected environment, though petroglyphs are more durable when created on certain types of resistant rock. Even so, what remains is a diminishing repository.

It is a strange phenomenon that rock art, indubitably part of the archaeological record, embedded in a cultural landscape, often presented with artistic beauty and imbued with meaning for their source cultures, or those who identify with it, has been largely overlooked and neglected both by scholars and by the public. For a long period it has been viewed as an academic niche by the former and as a mere curiosity by the latter. More than any other rock art sites, the Palaeolithic sites of southern Europe began to change this view. Through

the latter half of the twentieth century in Australia there was as well a resurgence of interest among Indigenous people of the need to protect the art's cultural significance. Elsewhere in the world, these positive attitudes have likewise become more mainstream in academic and public circles. With this greater interest in rock art attendant threats have arisen: vandalism, theft, graffiti, and uncontrolled tourism. These impacts are enormously difficult to control, and the counteracting forces of education and awareness among the public of the historic and aesthetic values of art on natural surfaces—for it is not only on rock faces that two-dimensional rock art is created, as for example the Nasca lines of Peru and the moai of Easter Island—have been slow to develop. Today, our challenges are not only the natural and environmental forces of attrition but also the new social threats and impacts. We live in a world where modernity is pervasive, and rock art will never arise again as the means of expression of cultures that had not yet developed writing, and who communicated through depictions on and in natural surfaces. Every image and site that is lost is wiped out forever, and our book of the past is diminished irretrievably.

What is to be done? Reaching the public, decision makers, scholars, and professionals concerned with saving this immense category of heritage in order to inculcate awareness and knowledge of the wonders, the ubiquity and antiquity, not to mention the artistic values that speak beyond the ages, is essential. This awareness, of the art and those who made it, affords us the only chance for preserving sites for the future. Only when this valuing has achieved a critical mass can better resources be expected from governments and society. Throughout this Namibia colloquium, *Art on the Rocks*, our purpose, as an amalgam of individuals and persons with disparate backgrounds, united in an interest in saving rock art, was to explore ways to develop momentum among the public and society at large for greater awareness and knowledge of the art and sites.

The vast majority of rock art sites in the world are relatively inaccessible, and thus do not attract substantial numbers of visitors. They are too small, the art is seemingly insignificant, and custodial resources are too meager for adequate site protection and interpretation. Yet they may be important archaeologically and may hold particular significance for local people. If, as has sometimes happened, such sites receive funding for tourism and infrastructure development, it is often squandered because they are unlikely to receive continuing support, and the enterprise ends in discouraging failure. This cautions us to take a cold, hard look early on at the practicability of development when the site is first mooted for visitation. In other words, a sensible business plan is needed, not unrealistic expectations, as may be the case when, for example, a community has few other resources and opportunities for generating income. Sites that do not measure up when it comes to their capacity to create income through tourism must then rely on local sources of income, usually inadequate, or be backed by some sort of official support or welfare, and this situation is seldom long-lasting before other priorities overtake theirs. Realistically, they should only hope to benefit from wider acknowledgment of the values within the power structures of policy and decision-making bodies and seek protection of their heritage while forgoing notions of income based on a steady flow of visitors.

At all scales and in all contexts, those responsible for rock art sites share one thing in common. They all seek and appreciate sharing stories, knowledge, and experiences from others who also face challenges looking after sites; for example, as published in the *Salt Lake Tribune* in April 2018, the rock art activists who spent the Easter weekend engaged in a sit-in at a petroglyph site in Utah to prevent it being used for rifle target practice! In many cases, however, people feel they are alone in what they are attempting to do, and when a marginal site is involved they may not feel supported and lose heart. Or, a failure

to be able to deliver sustainable solutions may be attributed to a lack of expertise, advice, or guidance from successful site management models. Creating and better coordinating a network or consortium of linked sites dedicated to offering help, advice, information, and support is one of the key ideas considered in the Namibia colloquium. How can we provide a forum for mentoring of other sites and site managers at the personal level through individual contacts or via accessible information? Helping people to help themselves through peer-to-peer learning should be a fundamental part of our efforts to improve practice, develop real-life networks, and keep efforts focused on dynamic responses to practical needs and contemporary issues.

The *Art on the Rocks* colloquium, held in Namibia in April 2017 at the sites of the Brandberg and Twyfelfontein (fig. 1), with discussions held in the capital city of Windhoek, was a significant opportunity for a diverse group of individuals to meet, share stories about contemporary practice, and think creatively about how to work together in order to generate professional and public momentum through global and local initiatives for the future of rock art (fig. 2).

Venues

Participants traveled to the following locations during the course of the colloquium:

FIGURE 1.



Program

FIGURE 2.

Day	Location and activity
22 April	At Arebbusch Travel Lodge in Windhoek, welcome and introductory discussions. Presentations and discussion regarding Pillar I: Public and political awareness
23 April	Travel by road to Brandberg White Lady Lodge (240 miles) outside the town of Uis
24 April	At the Brandberg White Lady Lodge, presentations and discussion regarding Pillar IV: Community involvement and benefit
25 April	Visit Brandberg (Dâureb) National Monument rock art sites, including the infamous "White Lady" panel
26 April	At the Brandberg White Lady Lodge, presentations by participants regarding Pillar II: Effective management systems
27 April	Travel by road to Twyfelfontein Country Lodge (75 miles)
28 April	Visit Twyfelfontein (IUi-IlAis) World Heritage Area At the Doro !Nawas Conservancy, presentations and discussion regarding Pillar III: Physical and cultural conservation practice
29 April	Travel by road back to Windhoek (270 miles)
30 April	At Arebbusch Travel Lodge in Windhoek, final presentations, concluding discussions, and declaration of action plans

Introduction and Background to the Colloquium *Art on the Rocks: Engaging the Public and Professionals to Network for Rock Art Conservation*

Neville Agnew

For over thirty years the Getty Conservation Institute (GCI) has been engaged in the conservation and management of rock art through training courses, conferences, and projects in the USA, Australia, Mexico, and southern Africa. Over this period the emphasis has shifted progressively to finding more effective ways to bring to the attention of a wide audience of professionals, decision makers, and the public the dire condition of rock art sites around the world and the apparent indifference of society as to their fate through neglect, vandalism, looting, and, increasingly, the effects of tourism. This evolution has led to the realization that for beneficial change to occur there must be a greater engagement of the public in the protection and valuing of the vast body of rock art that spans the entire globe and stretches back to the dawn of humanity. No greater cultural treasure of humankind exists than rock art, for it affords a continuous record of preliterate communication, great innate artistic expression, and archaeological information.

This shift of the GCI toward exploring effective means of communicating the significance and values of rock art has progressed increasingly from training courses to seeking linkages and networking between professionals and across a wide range of interest groups and individuals. The strategy, entirely commensurate with the GCI's approach to collaborative work with partners, started with exchange workshops with Australian colleagues at Kakadu National Park in West Arnhem Land in the Northern Territory, and in South Africa with visits to sites at Clanwilliam in the Cederberg (fig. 1) and Mapungubwe (fig. 2) in the north of the country, among others. From 2005 to 2011 these workshops were organized under the banner of the Southern African Rock Art Project (SARAP). But after evaluation of the training efforts, the approach was changed. Southern African–Australian exchange workshops were held between 2012 and 2014 (fig. 3). The 2014 event, held at Kakadu, comprised a major forum and resulted in the report *Rock Art: A Cultural Treasure at Risk: How We Can Protect the Valuable and Vulnerable Heritage of Rock Art*, authored by Neville Agnew, Janette Deacon, Nicholas Hall, Terry Little, Sharon Sullivan, and Paul Taçon and published by the GCI in 2015.



FIGURE 1.
Site visit as part of a rock art tourist guiding course for the GCI Southern African Rock Art Project (SARAP) at Warmhoek near Clanwilliam in 2005. © J. Paul Getty Trust

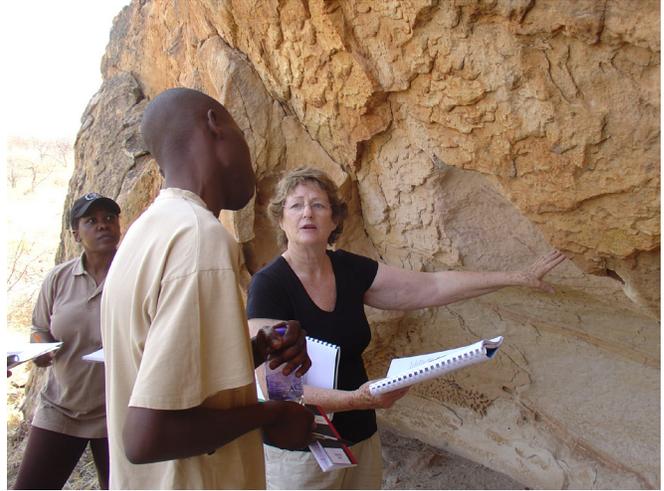


FIGURE 2.
Janette Deacon discussing the weathering process in a rock shelter in the Mapungubwe Cultural Landscape World Heritage Site with participants in a GCI SARAP workshop on rock art site management in 2006. © J. Paul Getty Trust. Photo: David Myers

FIGURE 3.
Kakadu forum participants learning about Indigenous perspectives on the significance and protection of rock art from Ronald Lamilami at Malarrak in the Wellington Ranges, Arnhem Land, Northern Australia. Ronald Lamilami, a senior traditional owner of the area, is a passionate advocate about the need to protect rock art and see it used for education for people from around the world. © J. Paul Getty Trust. Photo: Scott Welsh



The document is available for download at:
http://www.getty.edu/conservation/publications_resources/pdf_publications/rock_art_cultural.html

This report sets out eight foundation principles for rock art conservation and four pillars of conservation policy and practice. The document has provided the foundation for further development of the work undertaken by the GCI and other organizations and professionals to reach a wider international audience. Important, for purposes of the development of the thinking that led to the Namibia colloquium, was the realization that as cultural heritage is a common concern, so too should be its conservation. Thus, we sought contributors to the

colloquium from all disciplines and fields of endeavor who are linked by a common interest in rock art, as much for its own values and historic importance as for what it can offer contemporary society; for example, as an inspiration for creative artistic work by practicing artists today.

The 2017 Namibia colloquium was conceived as a meeting point for influential thinkers from different perspectives who could address the pillars of priorities and issues identified in the 2014 Kakadu forum. Of these four pillars, two were highlighted throughout the colloquium as being of particular importance: namely, public and political awareness, and community involvement and benefits. The colloquium took the form of a ten-day program of invited presentations by some twenty-four international leaders covering a wide range of topics. Visits to rock art sites served as a stimulus to the discussions and as an opportunity to network and develop ideas in the relaxed yet stimulating environment of extraordinary rock art of World Heritage significance. The list of participants demonstrates the range and depth of skills and experience represented.

Specifically, the strategy of the colloquium was to reach outward, beyond professional rock art researchers and conservation specialists, by seeking input from creative thinkers who use rock art in a variety of ways, such as communicating values to the public through film, deriving artistic inspiration from rock art, management by Traditional Owners, sustainable tourism, developing and managing volunteer groups, fundraising for rock art, building partnerships between individuals and site managers and custodians, citizen participation in rock art protection, use of media and the web for reaching the widest audiences, and influencing policy makers. Though conservation and the need for professional conservators to deal with the ubiquitous graffiti—the bane of rock art—and the interpretation for the public were the concerns of everyone, the focus remained resolutely on the two major identified issues. What became clear from the beginning of the event was how much the artists and filmmakers enjoyed conversing with professional researchers, and site custodians gained from learning ways of building effective volunteer rock art groups. This juxtapositioning of different backgrounds injected vitality into the discussions, and what soon emerged was a distinct sense of benefit from mutual support experienced by site managers through such consortiums.

The most immediate and significant development from the Namibia event was the establishment of a working relationship between the GCI and the Bradshaw Foundation, an organization based in the UK dedicated to online dissemination of content related to rock art to a general audience. This relationship is meant to leverage the technical expertise and experience of the GCI with the Bradshaw Foundation's media know-how, videos, information, images, and news relating to rock art:

<http://www.bradshawfoundation.com/>

This bottom-up approach to building relationships and networking promises to be more effective than top-down, contractual, or legalistic agreements. Bearing in mind that the ultimate objective of the Namibia colloquium was to find more effective and creative ways of raising public and political awareness of the value of rock art by forming networks or alliances in an inclusive and mutually supportive manner, the meeting has met these expectations and laid a basis for further productive developments. At the conclusion of the colloquium, participants were asked to commit to specific undertakings of their own choice and to report on them through direct interaction with one another as appropriate and through the Bradshaw Foundation and the GCI. By this means, the strength of the network could be kept healthy and productive.

This document of the proceedings of the 2017 Namibia colloquium is presented as a record of the papers and perspectives brought to bear on the issues identified, as well as

the outcomes from the concluding discussions. The document comprises abstracts of the presentations, not fully developed papers, though length varies considerably. It was thought unnecessary to edit all presentations to a strict word-and-image count. Finally, the document should be seen as part of an ongoing process aimed at building an alliance or network of rock art experts, site managers, local communities and communicators, artists, and the interested and dedicated layperson. Community interest endeavors as widely disparate as amateur astronomy and bird-watching enjoy enormous vogue and make important contributions to their fields. Though rock art, too, has interested and active community groups, the protection and recording of sites has much scope for growth in society. No doubt time will tell if our approach is useful and sustainable.



FIGURE 4.

The 2017 Namibia Colloquium featured participants from across the professional rock art spectrum, including scholars, site managers, conservators and contemporary artists and filmmakers, seen here at a site within the Brandberg (Dâureb) National Monument. © Nicholas Hall

Overview of the 2015 Kakadu Report *Rock Art: A Cultural Treasure at Risk— How We Can Protect the Valuable and Vulnerable Heritage of Rock Art*

Neville Agnew and Nicholas Hall

Background

In 2014 a forum was held at Kakadu National Park involving participants in the Southern African Rock Art Project (SARAP) and the southern African–Australian exchange workshops of previous years. *Rock Art: A Cultural Treasure at Risk* is the result of the deliberations from this forum, including strong input from Traditional Owners of rock art sites and the participation of the Trust for African Rock Art. The sum of experience of the work in Africa and Australia and the knowledge of those who participated in activities widely across both continents is reflected in the report.

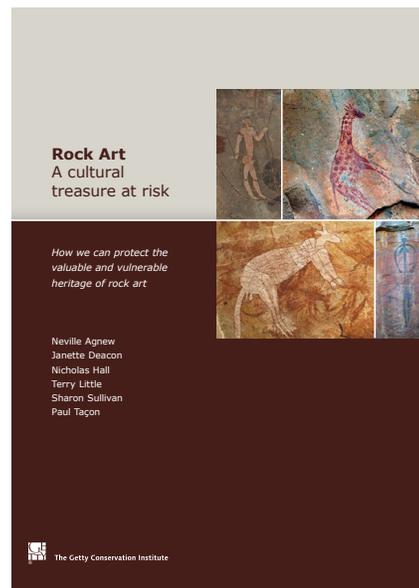


FIGURE 1.
Cover of the 2015 Kakadu Report.

Focusing on experiences and examples from Africa and Australia, out of this document comes a wider vision for improving rock art conservation policy and practice at an international level. The tenets of the document are based on internationally recognized and well-founded conservation management principles.

The report sets out the following:

- A vision for the future of rock art
- The value of rock art
- The risks faced by rock art
- Foundation principles for protecting and preserving rock art
- The four pillars of rock art conservation policy and practice
- The way forward: Suggestions for key actions and initiatives

Since its publication in 2015, the document has been used as a touchstone for setting a new standard of practice at other meetings and rock art programs internationally. Feedback has indicated that it has been widely welcomed and that the principles and pillars have provided an accessible and logical structure for discussions and consideration of future activities and programs.

The key components of *Rock Art: A Cultural Treasure at Risk* are presented below in an abbreviated form. A complete copy of the comprehensively illustrated document with examples of best practice can be downloaded at:

http://www.getty.edu/conservation/publications_resources/pdf_publications/rock_art_cultural.html



FIGURE 2.

The Brandberg massif is a granite intrusion that includes Namibia's highest mountain. The Damara name for the mountain is Dâureb, which, like Brandberg, means 'burning mountain', while the Herero name, Omukuruvaro means 'mountain of the Gods.'

© Nicholas Hall

A Vision for the Future of Rock Art

Rock art is a highly valuable but equally vulnerable heritage of humankind. We need to cherish and protect this cultural gift from our ancestors by ensuring:

- The values of rock art sites are recognized and celebrated locally, regionally, nationally, and internationally;
- Traditional Owners, local communities, and custodians of rock art sites are able to proudly and confidently carry out the responsibilities of site guardianship and stewardship; and
- Indigenous peoples, local communities, governments, researchers, heritage professionals, and the broader community work closely together to create more effective ways to conserve, manage, and benefit from rock art.

Rock Art: A Valuable Heritage

Rock art sites contain some of the world's greatest works of art, aesthetically powerful and spiritually charged imagery embedded in cultural landscapes. Rock art consists of paintings, drawings, engravings, stencils, prints, bas-relief carvings, and figures in rock shelters and caves, on boulders and platforms. A reflection of humankind's rich spiritual and cultural heritage, rock art has great significance to its creators and their descendants. It also has great significance to humanity in general. Its beauty, symbolism, and rich narrative means that it is widely appreciated and treasured internationally, regionally, and locally. Its continued existence is important to help global communities recognize and learn about diverse cultural traditions, their ancient origins, and their relationships to their inhabited landscapes.

A Vulnerable Heritage: The Risks Faced by Rock Art

Rock art is in peril because of development pressures, graffiti/vandalism, poor tourist management, and natural impacts. In recent times, growth, development, and globalization writ large are having significant effects on the culture of Traditional Owners, site custodians, and local communities whose ancestors created much of the world's rock art, and part of whose living culture it remains. The need for rock art conservation and management attracts little recognition and inadequate funding and support. Standards of practice are often poor and inconsistent.

Foundation Principles for Rock Art Conservation

The most important principles that set a foundation for rock art conservation are as follows:

- Principle 1** Work actively to promote rock art as a valuable heritage for everyone, and allocate sufficient resources specifically to its future care
- Principle 2** Manage to protect all values
- Principle 3** Preserve and manage rock art as an inherent part of the landscape
- Principle 4** Safeguard cultural rights and practices
- Principle 5** Involve and empower Indigenous owners and local communities in decisions about rock art management and conservation
- Principle 6** Use recognized ethics, protocols, and standards for documentation, conservation, and interpretation as the basis for management practice
- Principle 7** Give priority to preventive and protective conservation
- Principle 8** Make effective communication and collaboration a central part of management



FIGURE 3. Experiencing the inherent relationship of rock art to the landscape is a quality that makes visiting sites unique, although to see firsthand the flora and fauna of the surroundings reflected on the stone makes it all the more special. Photos: Tom McClintock



The Four Pillars of Rock Art Conservation Policy and Practice

The foundation principles lead to the four pillars, which make for strong rock art conservation policy and practice:

Rock art and valued and cared for			
I	II	III	IV
Public and political awareness	Effective management systems	Physical and cultural conservation practice	Community involvement and benefits

Pillar I: Public and Political Awareness

There is a need to raise awareness about rock art, the range and severity of threats to it, and the need for effective responses to these threats. Public and political awareness of rock art is vital for successful planning and budgeting for conservation and management.

Vision for Pillar I

The vision for public and political awareness is that rock art is:

- Widely valued and celebrated as a unique cultural treasure, acknowledged as an integral part of people's cultural identities and a unifying global inheritance that links humanity to our environment;
- Recognized and understood by decision makers to be a diminishing and threatened treasure that requires ongoing commitment to protect and maintain it; and
- Understood and valued by an engaged and involved community.

Issues for Public and Political Awareness

Key issues and concerns affecting the awareness of rock art and its protection needs are as follows:

- Although rock art is an immensely valuable cultural asset, it is often not understood, respected, or valued by the general public.
- In most cases, there is a poor level of support for the recognition, conservation, protection, and celebration of rock art from governments and decision makers.
- Damage to sites and lack of recognition and appreciation of them are often the result of ignorance and, in some cases, racism.
- The essential integration of rock art with the landscape is not always appreciated and articulated in conservation.
- Attempts to reach a wider public through museums, exhibitions, books, tourism products, and online media have not yet succeeded in changing this situation.

Principles for Practice: Public and Political Awareness

- Build respect by encouraging understanding of rock art and its cultural significance
- Build awareness, especially in the younger generation and in decision makers
- Ensure that all the values of rock art are understood, and emphasize that rock art can only exist authentically in its landscape setting
- Involve cultural custodians, Traditional Owners, and local communities at every step
- Seek partners, collaborators, and enablers, including the private sector
- Ensure representation with integrity—promote agreed standards for ethical practices, intellectual copyright, and protocols for best practice in rock art presentation and marketing

Pillar II: Effective Management Systems

Systems are required to manage rock art sites and groups of rock art sites in their landscapes. This includes identifying the significance of sites, their management needs, and the development of strategies for their long-term conservation. Critical to the development of such systems is the active involvement of all key stakeholders, especially Traditional Owners, site custodians, and local communities and the allocation of the capable human resources required to look after rock art sites.

FIGURE 4.

The 'lion panel' at Twyfelfontein (IUi-IIAis) World Heritage Site in Namibia, is visited by more than 70,000 visitors a year. © J Paul Getty Trust. Photo: Tom McClintock



Vision for Pillar II

The vision for effective management systems is to have:

- Support for traditional methods of managing rock art to ensure ongoing cultural practices and protocols are recognized, respected, and maintained;
- Management authorities recognize rock art as a valuable cultural asset, and to support conservation management programs;
- Development and implementation of sustainable rock art management programs, including monitoring and maintenance of sites, and ongoing survey and recording programs to locate, identify, and document rock art sites, their cultural significance, and their management needs;
- Identification and involvement of Traditional Owners and local communities in all rock art management;
- Conservation management plans in place for all major rock art sites and complexes prior to decisions being made about development, intervention, or public display;
- Training programs for Traditional Owners, local communities, and site managers to enable best-practice conservation and management approaches to be implemented; and
- Communication between different people and groups involved in site management that is ongoing, respectful, and effective in resolving issues and finding solutions.

Issues for Effective Management Systems

A range of issues and concerns currently impede the development of effective rock art management systems:

- Much rock art around the world remains unknown, unrecorded, or very poorly recorded.

FIGURE 5.

Participants in the 2017 colloquium in Namibia listen to the guide before proceeding in small groups to the 'White Lady' rock shelter in the Brandberg (Dâureb).

Photo: Janette Deacon



- Traditional management systems that see rock art as an integral aspect of culture are under threat, and there is often a lack of integration between traditional management practices and western management systems, causing misunderstanding and damage both to communities and to rock art. Traditional Owners and local communities are sometimes excluded from heritage management planning and decision making relating to their sites and traditions.
- Rock art sites in reserves and protected areas are often undervalued, and their management needs are often not adequately represented. Many areas containing rock art lie outside reserves and protected areas, and there may be no management agency responsible for their care.
- Documentation and data storage systems for information about rock art sites are often ad hoc, insecure, and of poor quality. There is a lack of benchmark methods and standards for management programs and of research programs aimed at improving practice in rock art management, and rock art managers are often isolated and have to operate without access to advice, support, and mentoring.
- There is a lack of national and international organizations that champion the need for rock art management and conservation, or provide training to support the development of skilled practitioners to assist Traditional Owners, local communities, and management agencies.

Principles for Practice: Effective Management Systems

The following principles should be used to guide the development of management systems and programs for rock art sites:

- Manage to protect all values
- Recognize and respect traditional management methods

- Manage sites in their landscape setting
- Ensure that the necessary range of skills and associated research is part of the management process
- Recognize relationships of people to places
- Document sites according to recognized standards and protocols
- Document management programs in the form of a management plan
- Record management actions as part of a site's history
- Monitor for changes in site conditions
- Provide publicly accessible sites with a heightened level of management attention
- Practice regular maintenance, including traditional cultural activities to keep sites healthy

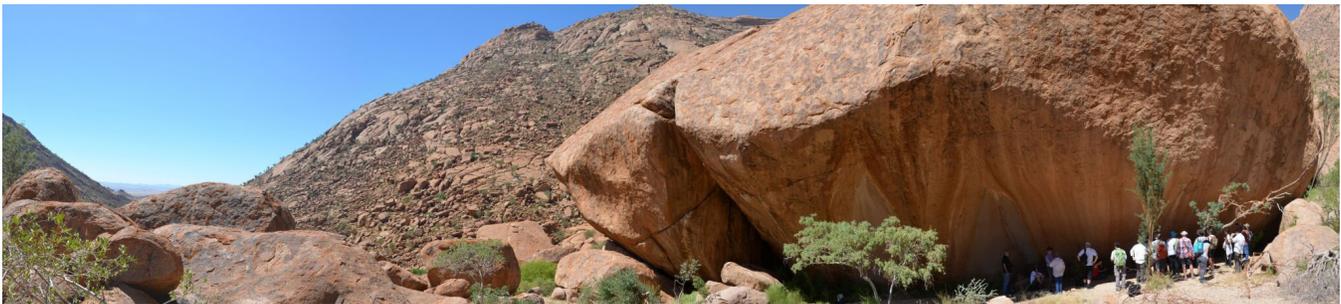


FIGURE 6. Participants in the colloquium tour inspecting rock art sites within the Brandberg (Dâureb) National Monument in the Brandberg.

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Pillar III: Physical and Cultural Conservation Practice

Careful guidance is needed for the work of physically protecting and, if necessary, undertaking conservation work on rock art sites. The same applies to the cultural practices that secure the physical and spiritual integrity of rock art sites. Physical conservation and cultural conservation need to be considered, planned, and undertaken in dialogue with each other. In each case, it is important that people with suitable expertise are available, that expert knowledge is respected, and that informed decisions are made regarding the physical and cultural benefits and impacts of actions.

Vision for Pillar III

The vision for physical and cultural conservation practice is to have:

- Rock art conservation protocols and practices that support the custodial roles of Traditional Owners, local communities, and responsible management agencies to look after rock art sites;
- People suitably trained in technical aspects of rock art conservation who have a knowledge of international standards and practices;
- A system whereby technical advice and support can be effectively accessed by those responsible for sites;
- The capacity to enable quick and effective response to urgent conservation threats, vandalism, and natural disasters; and
- Ongoing research into rock art conservation issues and techniques that can inform future practice.



FIGURE 7.

An exceptional panel of pictographs is featured just outside the Twyfelfontein Country Lodge.

© Nicholas Hall

Issues for Physical and Cultural Conservation Practice

A range of issues and concerns is impeding the conservation practice that applies to rock art:

- In the past there has been a focus on simple or “quick fix” methods for protecting rock art; however, practice has shown that highly invasive measures can lead to greater impact on sites than if the sites had been left alone. Not enough attention has been given to preventative conservation measures and the careful consideration and analysis of options prior to decisions being made on conservation actions that may make a permanent change at sites.
- There is a lack of formal training in rock art conservation and of trained conservators with experience in rock art conservation to assist Traditional Owners, local communities, and management agencies. Mentoring and apprentice arrangements are not as available as they are in other areas of materials conservation; this has sometimes led to poor practice, which affects the integrity and research potential of rock art sites.
- There are few opportunities for people with training and experience in technical aspects of rock art conservation around the world to meet and develop stronger networks to help develop and promote better practice.
- There is a lack of clear documentation protocols and standards and of peer-review processes for rock art conservation proposals and treatment programs, which would allow treatments to be monitored over time and the evaluation of long-term effects of conservation actions.
- Research into rock art conservation methods remains sporadic and lacks a long-term strategic focus to assist rock art conservation practice to advance in a logical, constructive progression.
- There is a lack of clear procedures to assist in the protection of rock art sites under threat in emergency situations, including flooding, fire, earthquake, and war.

- In some cases, the economic or cultural practices of local communities can cause impacts on rock art sites. These impacts may result from a lack of awareness about the effects they are having on the condition of rock art. Dialogue about conservation is needed to help resolve complicated issues of local custom.
- In general, there is a lack of peer-review processes for rock art conservation proposals and treatment programs. This is in part due to lack of structures for networking, lack of communication between professional conservation professionals, and lack of suitably qualified rock art conservators.

FIGURE 8.

The visitor center at Twyfelfontein (IUi-IIAis) was constructed in 2004 – 2005 as part of a major conservation and management project initiated by the National Heritage Council of Namibia in partnership with the Namibian Tourism Development Program and funded by the European Community. The project aimed to establish international-standard site protection measures which included using the ICOMOS Australia Burra Charter as a guide for planning and carrying out work with the least possible impact on the rock art and its surroundings. The architect Nina Maritz was recognized by the Global Awards for Sustainable Architecture in 2018 for this structure. © Nicholas Hall



Principles for Practice: Physical and Cultural Conservation Practice

The following principles should be used to guide conservation practice at rock art sites:

- Respect cultural practices
- Utilize all knowledge available
- Involve custodians
- Recognize the necessity for expertise
- Recognize that different levels of complexity need different levels of practice
- Ensure skilled and sufficient human resources are available
- Recognize the appropriate conservation context that rock art is part of the landscape
- Begin with a condition assessment and analysis
- When in doubt, leave it alone
- Ensure documentation and archiving
- Make monitoring a rule

**FIGURE 9.**

Construction of the visitor center employed innovative design and building methods that maximized the benefit for the local community and minimized building costs and energy use. This included using locally-sourced recycled steel drums for roofing and signage and hand-packed wire gabions with material from demolished structures. The building was designed to be 'reversible', capable of being removed if necessary with minimal impact on the environment.

Photos: Nicholas Hall.

Pillar IV: Community Involvement and Benefits

An important way of conserving and celebrating rock art is through appropriate and well-managed economic, social, and cultural development initiatives by and for Indigenous people and local and regional communities. Genuine community involvement can result in greater awareness of rock art, increased economic opportunities, and higher-quality display and interpretation for visitors.

FIGURE 10.

Trained guides accompany visitors through their walk up the Tsiseb Ravine, Brandberg, providing interpretation of the natural and cultural values of the area and the important perspective of the significance of the area to local communities.

© Nicholas Hall



Vision for Pillar IV

The vision for community involvement and benefits is to have:

- Economic, social, and cultural initiatives that use rock art heritage run by or in partnership with Traditional Owners or local communities and returning a fair benefit to them;
- Tourism to rock art sites that is fairly negotiated, carefully planned, and undertaken in partnership with Traditional Owners and local communities;

- Traditional Owners and local communities who benefit from rock art and realize the value of the sites in a contemporary world and who, in turn, become stronger protectors of their rock art heritage; and
- Recognition of the cultural and economic value of rock art sites considered prior to decisions being made about economic development that might impact the capacity of Indigenous people and local communities to benefit from rock art sites.

Issues for Community Involvement and Benefits

A range of issues and concerns currently prevents Traditional Owners and local communities from making better use of the cultural and economic asset of rock art sites:

- The value of rock art sites as cultural assets underpinning contemporary cultural identity and expression, in addition to their value as economic assets, is poorly recognized.
- Rock art sites continue to be destroyed or threatened by economic activity (such as mining, agriculture, and infrastructure development) before the economic contribution and social values of rock art are fully considered.
- Rock art sites make captivating attractions for visitors and are sought out by the tourism industry for its own benefit. This interest brings much pressure on both rock art sites and communities, resulting in impacts from visitors and in all-too-frequent incidences of graffiti, vandalism, and theft.
- Access to rock art sites for visitors and the tourism industry has not always been negotiated properly with Traditional Owners and local communities. Sites may be visited by people when it is not culturally or environmentally appropriate and where there is inadequate recognition of and benefit for Traditional Owners and local communities.
- Indigenous intellectual property rights are often not adequately recognized when rock art images are copied, transmitted, and used by people for commercial gain, and Traditional Owners lack the capacity to manage their intellectual property in relation to complex contemporary social, legal, and global communications issues.
- Where Traditional Owners and local communities actively aspire to create benefit by developing tourism to rock art sites, there is a lack of advice and assistance on how best to do this in a sustainable way.
- Many unrealistic expectations can emerge in the communities as to the economic or other benefits that they hope will flow from tourism.
- Many Traditional Owners and local communities lack the skills and expertise to translate the cultural and economic value of rock art for use within current market systems.

Principles for Practice: Community Involvement and Benefits

The following principles should be used to guide community development initiatives and business at rock art sites:

- Recognition of the values and benefits of conserved rock art
- Community engagement in development initiatives and opportunities
- Fair trade for rock art
- Realistic expectations for tourism



FIGURE 11.

Participants in the tour listening to the guide's interpretation of a rock art panel at Twyfelfontein (IUi-IIAis).

© Nicholas Hall

- Training and development of skills and experience
- Ensuring that tourism benefits community and conservation

The Way Forward: Suggestions for Key Actions and Initiatives

A number of actions and initiatives were identified in the document that can assist in improving practice and making a substantial difference to help protect the valuable and vulnerable heritage of rock art. Details were provided in the document of what might be included in these initiatives, but in summary they are as follows:

- Improve access to information and advice
- Develop community outreach and awareness programs
- Demonstrate best practice
- Coordinate training curriculum
- Develop international approaches to improve effectiveness of digital databases for rock art
- Support local community rock art tourism projects
- Initiate special projects that support professional communication and improve practice in areas of special need

Review of Pillars from the 2015 Kakadu Report *Rock Art: A Cultural Treasure at Risk*

Over the course of the Namibia colloquium, those involved in the drafting of the 2015 Kakadu report presented overviews of each of that document's pillars, the foundational components upon which sustainable management and preservation of rock art sites are built. During the colloquium, these presentations, punctuated by real-world examples from the authors' wide breadth of experiences, were given as a means of framing each session's discussions and considerations. Each overview was followed by a group of papers related to that pillar.

The pillar overviews are provided here as an introduction to the main body of presentation abstracts.

Overview of Pillar I: Public and Political Awareness *Challenges in Generating Political and Community Awareness of Rock Art*

Sharon Sullivan
Private heritage consultant, Australia

The overall aim of this paper is to provide a framework for consideration of the group of papers to be presented in this symposium that are relevant to this topic.

This overview will briefly examine the vision for effective public and political awareness, the issues related to this, and some proposed principles and actions as they were perceived by the group creating the document *Rock Art: A Cultural Treasure at Risk*, which resulted from the workshop held at Kakadu National Park in 2014.

Rock Art: A Cultural Treasure at Risk proposes that the essential prerequisite for the effective appreciation, management, and conservation of rock art is the raising (and in some cases the creating) of public and political awareness about its significance, the range and severity of threats to it, and the need for effective responses to these threats. The centrality of raising public and political awareness, in our quest for the long-term conservation of rock art, is the reason why the practitioners, academics, and Indigenous participants in the Kakadu workshop decided unanimously that Pillar I should be placed first in the resulting document.

Pillar I: Vision

The vision for Pillar I is that rock art will be

- Widely valued and celebrated as a unique cultural treasure, acknowledged as an integral part of people's cultural identities and as a unifying global inheritance that links humanity to our environment;
- Recognized and understood by decision makers to be a diminishing and threatened treasure that requires ongoing commitment to protect and maintain it; and
- Understood and valued by an engaged and involved community.

Pillar I: Issues

- Rock art is often not appreciated by the general public. There is a poor level of support for its recognition, conservation, protection, and celebration from government decision makers and the general community, compared with the support for other types of cultural and natural heritage.
- Damage to rock art sites and lack of respect for and appreciation of them is often the result of ignorance and in some cases racism.
- Rock art has numerous and diverse cultural values and is an integral part of the landscape in which it exists. The variety of values and the essential integration

with the landscape are often not appreciated or clearly expressed in conservation and interpretation strategies.

- Attempts to reach the wider public about rock art through museums, exhibitions, books, products, media activities, and education have not yet significantly raised public awareness.

Discussion

For the present colloquium audience, all these issues are well known. To date, changing this situation has proved complex and difficult. The key question that needs to be addressed is why rock art—a priceless human treasure—is, with some exceptions, unknown, neglected, not appreciated or understood, or is given a very low priority by decision makers and thus is at risk.

Why is rock art often not valued and cherished in the same way as other forms of high art and cultural heritage of the past?

In general terms, compared with many other forms of cultural heritage, rock art is low on the scale of aesthetic and artistic appreciation and recognition. One readily brings to mind the higher status accorded great architectural monuments and artistic creations of many previous civilizations such as those of classical Greece and Rome, as well as Egyptian antiquities and many other cultural icons.

The origins of the study of rock art lie in the developing pursuit of enlightenment in the history of humankind. Rock art was first studied by archaeologists and was used primarily to trace the development of modern “man,” which often has been seen previously as an ascent from the “primitive” to a more developed state of humanity.

Rock art is therefore often regarded and portrayed as relatively primitive and undeveloped, and is used as a marker of progress in hunter-gatherer societies. A great deal of emphasis has been placed on the age of rock art, with the older art being considered more scientifically important. Certainly, rock art and other forms of primitive art have served as an inspiration to modern artistic movements, but often because they appear to be a return to the primitive and primordial. The primary value of rock art, in academic terms, has often been viewed as research data rather than for its artistic or social attributes. This has had implications for the way in which the art has been analyzed, publicized, displayed, and managed. Thus it could be argued that the way in which the study of rock art has developed and the way in which it has been used has in fact meant that it traditionally has a relatively low ranking in our pantheon of culture and has been seen differently from much of our cultural heritage.

Why is rock art much more highly regarded in some areas of the world than in others, and what can we learn from this?

What are the barriers to the understanding and appreciation of rock art and its conservation in different cultures? There are noticeable regional differences throughout the world in the degree to which rock art is appreciated and cherished. European rock art, for instance in France, Spain, Italy, and the Scandinavian countries is, from the perspective of an Australian, comparatively highly valued, well curated, and regarded as an important part of the patrimony of these countries. This is the case in parts of Asia as well (for example

in Korea). There are of course exceptions, but it can generally be said that rock art in Europe and parts of Asia has gained much more public appreciation, recognition, and care in its country of origin than say, for instance, Australian or North American rock art.

Yet it is in these latter areas of the world, which are relatively newly colonized by Western civilization, that rock art has the greatest time depth in the sense of continuity, and a vibrant contemporary significance and meaning. It is not a relic of the Stone Age or the Iron Age and is a vibrant expression of culture today with an unbroken, traceable history of millennia.

There are a number of reasons why rock art appears to be differentially appreciated throughout the world. The rock art of Europe is very often seen as an important part of the patrimony of the people who live in these regions now. On the other hand, rock art in the relatively recently colonized world is seen as “other.” It is not the art of the ancestors of the now dominant culture. It has been seen as valuable as a living relic of a less developed state of humanity (as has that humanity itself).

Its archaeological value has until very recently been given pre-eminence, and the very characteristics that make it such an exciting exhibition of the continuity of human creativity, with its meaning vitally alive today in its creator or descendant communities, have largely been overlooked. It is often seen as hard to understand, esoteric, “other,” and related to artistic traditions and conventions interpretable only by experts. Different legislation protects Indigenous and settler heritage. And the legislation that protects rock art in the “new world” has until very recently protected it solely as an archaeological relic, with no regard for its social and/or spiritual value to its creators or their descendants.

In my own country, rock art has been called pagan and demonic. Where it has achieved an undoubted height of craftsmanship and artistic achievement, it has been often attributed, in common belief, to other, earlier (non-Indigenous) visitors to our continent, rather than being recognized as the rich inheritance and ongoing culture of genuine original inhabitants who are still with us today. In other words, the more spectacular it is, the less chance it is seen as having an association with the present Indigenous inhabitants. This is of course an overgeneralization but one that has more than a grain of truth.

How do issues of scale, landscape, and development pressure affect public appreciation?

In many parts of the world, rock art is difficult to manage and protect because of its astonishingly rich and dense occurrence, for example the rock art surrounding Sydney, New South Wales, and Murujuga (the Burrup Peninsula in Western Australia). This, combined with an ever-growing population and an insatiable thirst for development and natural resource exploitation, has placed unprecedented pressure on the appreciation and conservation of rock art. Often there is a direct and very politically fraught land use conflict between rock art in its environment and the interests of development. These issues of scale, landscape, and development pressure affect public appreciation of rock art and its conservation. (In her presentation abstract in this volume, María Isabel Hernández Llosas eloquently describes the current era—the Anthropocene—and its consequences for the landscape, and for rock art as an inherent part of this rich palimpsest.)

Principles

Pillar I goes on to outline some general principles that could be taken to rectify the situation. In brief, they are as follows:

- Build respect by encouraging understanding of rock art and its cultural significance. This requires high-quality information and proactive work.
- Build awareness, especially in the younger generation and in decision makers
- Ensure that all the values of rock art are understood, and emphasize that rock art can only exist authentically in its landscape setting
- Involve cultural custodians, Traditional Owners, and local communities at every step
- Seek partners, collaborators, and enablers, including those in the private sector
- Ensure representation with integrity—proselytize agreed standards of ethical practices, intellectual copyright, and protocols for best practice in rock art presentation and marketing

Actions

Pillar I concludes with examples of specific actions that could be taken, including targeted education and advocacy programs, more effective communication and collaboration, and ways of developing innovative awareness-raising activities.

Pillar I in its present form reflects only the views of a group of people at a particular time. However, they are a starting point.

We hope to explore further questions such as:

- What are the characteristics of successful examples of public awareness and appreciation at a national or regional level, and what can we learn from them?
- What are the principles and actions that will lead to greater public and political awareness, appreciation, and conservation?

Overview of Pillar II: Effective Management Systems *Recognizing, Appreciating, and Managing Rock Art in the Landscape*

Nicholas Hall
Stepwise Heritage and Tourism Pty. Ltd., Australia

The Need for Research and Development in Rock Art Management Systems

Of the four pillars of the document *Rock Art: A Cultural Treasure at Risk* (Agnew et al. 2015), Pillar II is the one, along with conservation practice, that requires specialist attention from those with some depth of experience in rock art and its protection. We all understand the interest in and concern for the physical deterioration of rock art. We are also well aware that there are no quick fixes and that each corpus of sites presents its own unique set of physical, cultural, social, and political conditions.

While there are many published studies that concentrate on rock art management, the vast majority of these concentrate on formal systems of site recording and documentation. Relatively few concentrate on how this documentation is utilized in rock art protection and management programs. The *Rock Art* document sheds light on this underdeveloped area. In doing so, it also emphasizes the need for recognition of traditional forms of managing rock art sites where these may be in operation.

Pillar II: Principles

An overview of the principles that underpin this pillar are as follows:

- Manage to protect **all values**
- Recognize and respect **traditional management** methods
- Manage sites in their **landscape** setting
- Ensure that the necessary range of **skills** and associated **research** is part of the management process
- Recognize **relationships** of people to place
- Document sites according to recognized **standards** and protocols
- Document management programs in the form of a **management plan**
- Record management actions as part of a **site's history**
- **Monitor** for changes in site conditions
- Provide **public access** sites with a heightened level of management attention
- Practice regular **maintenance**

Approaches to the Management of Rock Art

There is a range of recognized practices that often contribute to rock art management programs.

Management Plans

Management plans, whether for single sites or areas or collectives of sites, are still a fundamental tool; they are the means to implement a management system. They help cultural heritage management needs to be heard and recognized in operational systems. They provide the basis for funding applications and budget bids, and they set strategic future directions.

Field Recording

The methods used to record rock art sites in the field are many and varied and are highly specific to the needs of the site, the skills of the recorder, the time and money available, and the purpose to which it is envisaged records are to be put. Increasingly, digital methods of documenting sites in the field are being used, and this greatly enhances the speed at which data can be collected and collated and can improve the efficiency of standardizing methods. A vast amount of effort has been devoted to the task of recording rock art sites, but the challenge of what happens to recordings and how they are stored, accessed, and used in the future remains a major issue.

Technical Recording

Alongside field recording methods, which place an emphasis on recording locations of sites in the landscape and the key features associated with them, highly detailed recording methods are being used to document sites such as 3D laser scanning. Whereas only a decade ago 3D scanning required expensive equipment and highly skilled operators, today an app on a smartphone can produce a 3D model in minutes on site. Likewise, image enhancement can be done in the field whereas in the past it took a great deal of time and considerable expertise. The increasing sophistication of recording methods provides opportunities for enhanced capacity to manage sites. The risk, however, is that rapidly advancing technology leaves in its wake a trail of experimental documentation and challenges to archival storage and access that make it very difficult to use such recordings for practical management purposes. It is important to concentrate on a range of basic practices for documentation that can form the core of management standards and to use these as a reference to direct and harness the potential of new methods and technologies for the purposes of management.

Database Systems

Increasingly, rock art records are being stored digitally. As large quantities of information are collected in the field, the real challenge is to effectively manage the data, keep it safe, and then make it available to those who need it. Various forms of database systems have been developed to assist in this task. These are not just archival systems; in some cases they are incorporating management functions that enable site information to be used and updated much like an asset management system.

Monitoring

Keeping watch on sites for signs of change has always been seen as a laudable practice, but one that more often than not falls by the wayside or otherwise tends to be done through ad hoc and highly subjective activities. There are relatively few documented examples where monitoring systems have been developed using a range of appropriate methods that have been applied in a sustainable way over an extended period of time. Much more attention needs to be put into structured monitoring methods and processes. Emphasis should still be on simple and reproducible methods and by engaging local communities to play roles as site monitors. Technical analysis of condition factors affecting sites over time can be a complex matter that requires collaboration and peer review to ensure that the right questions are being asked and that the best methods are being employed to address those questions.

Maintenance

Maintenance at sites can take many forms, from traditional practices of maintaining the significance of sites through to regular work on risk reduction, such as reducing vegetation to lower the risk of wildfires to a site.

Training Systems

Management is essentially an activity determined by the capacities of human resources (fig. 1). The skills people use to perform management actions, the social way in which they cooperate to undertake work, and the processes and procedures involved all require intentional training to make the efforts effective. Investing in human capital, not just the physical infrastructure placed on sites, is an essential part of management. Systems need to be put in place to continually train new people and refresh and upskill others.

FIGURE 1. Management systems for rock art make the best use of human resources and prioritize work that needs to be done with limited resources. Rangers and Aboriginal community members collaborate on monitoring rock art sites in Namadji National Park in the Australian Capital Territory.



Information Use

Information that is recorded about rock art sites or that is revealed in the course of managing sites can be culturally and politically sensitive. Protecting the intellectual property rights of knowledge holders, and negotiating and making agreements regarding the use of information, is a fundamental part of management and not an inconvenient by-product.

What Is a Management System?

In *Rock Art: A Cultural Treasure at Risk*, management systems are envisaged as a means to manage rock art sites within their physical setting as part of a landscape. A management system is simply the framework of policies, processes, and procedures used by an organization to ensure that it can fulfill all the tasks required to achieve its objectives.

The International Organization for Standardization (ISO) is the international warehouse for standards on a wide range of topics and collects sector-specific management system standards (MSS). ISO has a management system for environmental management. The core components of a management system require definition of the following:

- The organization responsible
- Stakeholders
- Policies relating to the management system
- Objectives of the management system
- Risk management approaches
- Competence/skills required
- Information to be maintained
- Communication
- Processes involved in the management system
- Performance measures and evaluation
- Monitoring of the management system
- Improvements based on the management system (continuous improvement)

Management systems in the case of ISO accreditation are formally documented. These systems are then expected to perform with reference to the set of associated international standards of practice.

When it comes to rock art sites, management systems have tended to develop organically. At Iringa in Tanzania, a local community group, Kiumaki, was formed to protect the environment, undertake microeconomic projects, and build capacity in the local community. They have taken on a custodial role for the Igeleke Rock Paintings that includes site monitoring, maintenance, and guiding, and they maintain a system of staff training to ensure these roles can continue over time (Kiumaki 2017). This is a form of management system, implemented by a local community. Most often it has been cultural heritage management practices in protected areas that have brought a systematic approach to the task of looking after rock art sites, however. At Petrified Forest National Park in Arizona in the US, rapid condition assessments were undertaken on more than 3,500 sites. This information was used as the basis for identifying and prioritizing future management actions (Cervený et al. 2016).

In the East Alligator River Region of West Arnhem Land in the Northern Territory of Australia, Njanjma Rangers are an Aboriginal group who look after natural and cultural

heritage within their traditional clan estates (Njanjma Rangers and Stepwise Heritage and Tourism 2017). The landscape of sandstone escarpments and outliers contains thousands of rock art sites, some of which are in the World Heritage-listed Kakadu National Park, but many of which lie outside, otherwise lacking the resources that the neighboring protected area receives. Looking after *bim* (rock paintings) is very important to Bininj (local Aboriginal people), and with a small staff, deciding where and how to use precious resources can be difficult. As part of its overall approach to being accountable and develop good business systems, Njanjma Rangers are establishing a rock art management system that is being designed to do the following:

- Provide a practical method of recording sites efficiently in the field
- Develop a means to prioritize management at sites using a combination of heritage significance and identification of risks
- Establish a standardized monitoring method for sites
- Target high-priority sites for additional recording, monitoring, and maintenance attention
- Develop procedures to handle management actions such as weed reduction, fire management, and graffiti response
- Train rangers in the procedures and field methods using a “train-the-trainer” approach
- Manage site data and keep records of management activity that can be used to demonstrate accountability for the “service” that rangers provide in cultural heritage management (fig. 2).

Bininj want to be known as leaders in their work on rock art, and the management system has been set up to make sure their experience is shared with other Aboriginal ranger groups and hopefully with others developing rock art management programs elsewhere. Further information on the work of Njanjma Rangers in protecting rock art can be found at www.njanjmabim.net.

FIGURE 2.

Njanjma Rangers use tablets and an associated database as a business system and tool to deliver their “services” in cultural heritage management.



Key Components of Rock Art Management Systems

What should management systems, as they apply to rock art sites, look like? What are the components that might form the basis for a standard of practice? A starting point would be that a management system for rock art should include the following:

- Operationalize the means by which management and conservation is guided by an understanding of the values of the site(s)
- Recognize, incorporate, and use different forms of knowledge and expertise
- Provide an inclusive process for stakeholders
- Present a plan or management system that integrates and responds to the physical, cultural, and political aspects of management
- Provide clear responsibility and authority for the plan and implementation, monitoring, and reporting mechanisms
- Advocate conservation and management approaches that do as much as necessary, but as little as possible
- Set out a systematic approach to monitoring of sites implemented as part of a plan or management system
- Provide for plans and procedures for risk management, including response to disasters and emergency
- Establish a means for ongoing communication between stakeholders
- Incorporate evaluation, review, and revision of the plan or monitoring system

Questions for Further Consideration

How do we go about developing best-practice frameworks for management systems? Is there value in doing this? If so, how best to achieve this? How would it be championed? How can benchmark standards be set?

How do we demonstrate best practice in management? How can we link and promote demonstration sites that people can look to for inspiration?

Applied areas of research into management methods have not played a prominent part in rock art research. How can we actively promote more research into management practices?

Is a training component needed to help people apply best practice methods and frameworks locally?

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Overview of Pillar III: Physical and Cultural Conservation Practice *Practical Ideas for Establishing Rock Art Conservation as a Priority*

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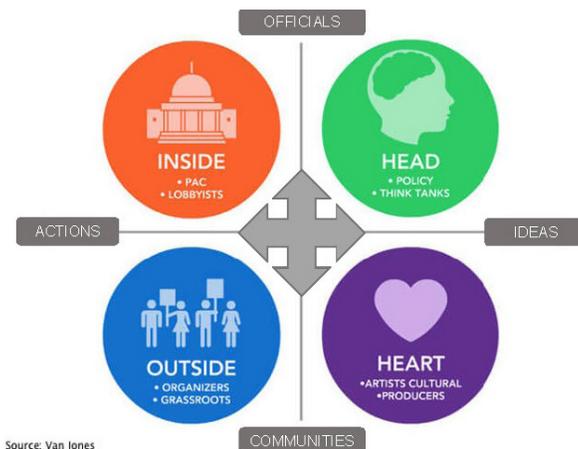
We are all painfully aware that rock art is “a cultural treasure at risk.” These risks pose unique challenges for the protection and preservation of rock art. It is because of this uniqueness that the field of rock art conservation has had to widen its mandate to include both physical and cultural conservation. The vision, issues, and principles are clearly articulated for Pillar III in the Kakadu document (Agnew et al. 2015), which states that science-based protection and conservation on the one hand, and cultural practices on the other, should together ensure both the physical and spiritual integrity and preservation of rock art sites.

The vision for Pillar III is to have:

- Rock art conservation protocols and practices available to support custodial roles of Traditional Owners, local communities, and responsible management agencies to look after rock art sites;
- People suitably trained in technical aspects of rock art conservation who have a knowledge of international standards and practices;
- A system whereby technical advice and support can be effectively accessed by those responsible for sites;
- The capacity to enable quick and effective response to urgent conservation threats, vandalism, and natural disasters; and
- Ongoing research into rock art conservation issues and techniques that can inform future practice.

In 2011 the World Rock Art Archive Working Group published the results of a questionnaire sent to the managers of thirty-five sites that include rock art on the World Heritage and Tentative Lists (Sanz and Keenan 2011). Responses were received from managers of fifteen of the sites, and indicated the following:

FIGURE 1.
Social relations between managers and consumers in the arts as envisaged by Van Jones (Ibrahim 2017).



Source: Van Jones

- Management of rock art sites on the World Heritage List is not as good as it should be.
- Dedicated budgets for rock art conservation to retain the outstanding universal values (OUV) are often lacking but should be at a scale to enable training and employment of staff, regular monitoring and record keeping, purchase of relevant equipment, interventions when necessary, and facilities that will allow for internet access and a digital database with geographic information systems (GIS).
- Focused research programs should identify conservation issues and address them.
- Most of the properties are aware of the need to involve local communities when they live in the vicinity, and nine responses showed that local communities contribute to decisions. More attention should be focused on identifying descendants of the artists to record intangible heritage that may be related to the belief systems that inspired the rock art, and might assist with conservation.

Dialogue is clearly needed on the following issues:

- Conservation requires input from all levels of society.
- What is the role of a rock art conservator?
- Is rock art truly unique?
- What conservation professional organizations exist with which to network and share information?

Interaction between the members of society who draw on science and education and influence government on the inside, and the general public and their preferences on the outside, has been graphically depicted by Van Jones (quoted in Ibrahim 2017). The Heads he refers to in the diagram in figure 1 have the power to create policy (ideas from the head), while the Hearts reflect what society really wants (nurturing and empowering). In situations relevant to rock art conservation, the Heads might insist on policy changes that look good on paper but don't reflect the desires of the constituency. The Hearts, on the other hand, may be intimately involved in the maintenance of the sites and be aware of the needs and interests of the range of visitors to the rock art.

It is the social relations between academic researchers (the Heads) and members of descendant or neighboring communities (the Hearts) that have the power to inspire these groups to take collective responsibility for action to retain the values and significance of rock art in the landscape.

The big question is: How can collective responsibility be fostered?

The challenge is to convince conservation organizations of the need for protocols and procedures, and to encourage rock art site managers and neighboring communities to prioritize conservation and develop the protocols themselves rather than have them written by strangers.

What we aspire to is to develop a social network that includes members of both local communities who are familiar with the rock art sites, and the "medical" specialists who have diagnostic and treatment skills similar to those in a hospital or health care network (Loubser 2006). We believe that at least some of the barriers between Heads and Hearts can be lowered, perhaps even eliminated, by establishing relationships between them through social media. This could happen not only in the instant forums such as Facebook and Twitter but also in more detailed online courses such as MOOCs (massive open online courses) or formal training at tertiary education institutions.

How Can Hearts Meet Heads?

Protocols

Not all protocols and guidelines need to be written by Heads. In Cape Town on 2 March 2017, a Code of Research Ethics was launched by the South African San Council (SASC). Referring to researchers who recently took samples from elderly San for DNA testing without explaining what they would be used for, SASC director Leana Snyders said, “They don’t all respect personal boundaries. They don’t think they need to respect us.” While SASC is not saying there must be an end to research, it is saying it must be on their terms. Before researchers can work among the San, they must agree to embrace the four pillars of the code: respect, honesty, justice and fairness, and care (Gosling 2017). The process for the code was facilitated by TRUST, which is funded by the European Union’s Horizon 2020 Programme (European Commission 2016). Their goal is to catalyze a global collaborative effort to improve adherence to high ethical standards in research around the world, and could be applicable to other Indigenous communities as well.

Rock Art Conservation Training

Parallels can be drawn between the fields of rock art and wall paintings. For example, there is a current lack of formal training opportunities for rock art conservation and access to technical expertise. A similar dearth of trained wall painting conservators was recognized forty years ago. Previously, conservators with specializations in other areas—often, painting conservators with a museum background—worked on wall paintings. This was found to be inadequate given the physical differences between wall and easel paintings and the particular needs and challenges of conserving sites in situ. For rock art, it can be argued that these differences are amplified even further. To fill the gap, a three-year postgraduate course in the conservation of wall paintings was established in 1985 between the Courtauld Institute of Art in London with support from the GCI.

Informal information exchanges that can take place between Heads and Hearts without being overly dependent on the availability of “experts” could include the following:

- Discuss appropriate dos and don’ts to retain the significance of the rock art at community level and develop a social network
- Research and document community conservation methods and make use of them in the management strategy

Formal training programs are still few and far between. This colloquium could provide an opportunity for students at the University of Namibia, for example, to become aware of the wealth of rock art in their country and the growing need for rock art conservators throughout southern Africa. For many, it is not possible to attend full-time classes at tertiary institutions, but several southern African countries have adopted the European Union system of qualification authorities. Experienced practitioners in a field are tasked with identifying what a learner is expected to know at the end of a course. Once the unit standards are published in the *Government Gazette*, it is up to registered educational institutions to employ staff, develop curricula, and offer courses to students at different levels. Unit standards offer credits based on the number of hours spent in formal course work. By accumulating credits, apprentice conservators can earn a qualification that is recognized by employers. Preference can be given to students from communities living near major rock

art sites so that they can return home between courses and share their knowledge. Alternatively, courses can be run at major sites.

MOOCs developed by universities provide helpful, and often free, courses to anyone who is interested as long as they have access to the internet. They are not qualifying courses but make it possible for people from all walks of life to learn about the basics of rock art conservation and management through online lectures and assignments. The rock art network can encourage universities to offer such courses.

Raising Professional Awareness and Sharing with Communities

Alongside the creation of formal training programs, model projects can help to solidify teachings. In the case of wall paintings conservation, site-based fieldwork helped to put into practice a methodological approach to conserving wall paintings based on scientific study and an understanding of the causes of deterioration. These projects were undertaken by the GCI with newly minted wall paintings conservators from the Courtauld Institute of Art at World Heritage Sites with wall paintings in China and Egypt. These multiyear projects became a vehicle to further disseminate conservation principles and approaches to the wider conservation field and could be accomplished through a number of actions:

- Creating working groups, advisory groups, or forums to encourage involvement in the care of rock art through participation in social, professional, and academic meetings and presentations on conservation and management issues
- Spreading the word about national and international organizations that champion the need for rock art management and conservation
- Developing conservation research programs with local communities and sharing knowledge on rock art conservation issues, practices, and techniques
- Studying the motivation for graffiti/defacement/destruction, promoting cross-disciplinary perspectives to address challenges facing rock art conservation practice in social sciences, and always doing so in partnership with local people
- Creating linkages between rock art and wall paintings through the International Council of Museums– Committee for Conservation (ICOM-CC) and within this the ICOM-CC Murals, Stone and Rock Art working group
- Looking toward existing ethics and standards of practice that can be adopted as each area of conservation develops to ensure adherence to accepted protocols, charters and codes

Conclusion

While rock art conservation should develop in full view of international expert organizations with their acceptance, backing, assistance, and buy-in, it has been shown time and again that the initiative is more successful if it comes from local communities. The SASC's Code of Research Ethics and similar documents drawn up in Australia will form the cornerstone of protocols. If there are limited facilities for social media and training institutions to play a leading role, social relations between Heads and Hearts can generate a sense of mutual responsibility that will grow as each generation learns more about best practice.

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Overview of Pillar IV: Community Involvement and Benefits

Recognizing and Supporting Local Community Custodianship and Involvement in Rock Art

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Aspects of Agnew et al.'s (2015) Pillar IV focuses discussion in this presentation: "This pillar of rock art conservation emphasizes the need to encourage appropriate and well-managed economic, social and cultural development initiatives by and for Indigenous, local and regional communities. Genuine community involvement can result in greater awareness of rock art, increased economic opportunities and higher quality display and interpretation for visitors" (48).

The vision for Pillar IV incorporates the following:

- Economic, social, and cultural initiatives that use rock art heritage will be run by or in partnership with Traditional Owners or local communities and will return a fair benefit to them.
- Tourism to rock art sites will be fairly negotiated, carefully planned, and undertaken in partnership with Traditional Owners and local communities.
- Traditional Owners and local communities who benefit from rock art will appreciate the value of the sites in a contemporary world and in turn will become stronger protectors of their rock art heritage.
- The cultural and economic value of rock art sites will be considered prior to decisions being made about economic development that may affect rock art and its custodians.

Pillar IV: Principles

The principles underpinning this pillar are listed below.

- Recognition of the values and benefits of rock art in land use and tourism planning
- Community engagement in the development of initiatives and opportunities in tourism and research from their inception
- Fair trade principles for rock art in tourism and use of rock art and associated imagery
- Realistic expectations for tourism at rock art sites—no overselling of anticipated community benefits
- Training for and development of skills and experience that assist local communities in gaining greater benefit from rock art sites and that minimize impacts and maximize sustainable development
- A reasonable percentage of tourism benefits accruing to community and conservation outcomes

In this presentation, a new case study success story that is congruent with the vision and principles of Pillar IV is summarized along with a larger new program of collaborative research we are undertaking in two major research projects funded by the Australian Research Council (ARC) that began in 2016.

The first project, History Places, involves fieldwork between Traditional Owners and archaeologists to locate and record previously undocumented rock art sites in order to answer varied research questions, to develop a database for conservation and management purposes, and to enhance an emerging sustainable cultural heritage tourism business driven by the Traditional Owners of the Namunidjbuk Estate, Wellington Range, Northwest Arnhem Land, Australia (fig. 1).

Namunidjbuk lies in the center of the Wellington Range and extends from the coastal waters of the Arafura Sea south of South Goulburn Island to the tributaries of the King River farther south. To date, more than three hundred rock art sites have been documented (fig. 2). Senior Aboriginal Traditional Owner Ronald Lamilami not only supports intensive heritage research across the Namunidjbuk Estate but also is in the process of setting up a research and interpretation center with family and clan members at Waminari Bay, where they have established the Wilam campground (*Wilam* means “bark canoe” in the local Maung [Mawng] language). Lamilami refers to rock art sites as “history books” and to big complexes such as Djulirri (with more than three thousand paintings) as “libraries” that record all the experiences and encounters his ancestors had over time.

In the Wellington Range, pigs, termites, vandalism, mining exploration, and future tourism and development are the biggest risks to the rock art. Consequently, the History Places research project was designed to, among other things, develop a conservation and management model for use not only in this part of Arnhem Land but also nationally. A key research objective is to better understand chronological change in Wellington Range rock art and to record the contemporary cultural significance of rock art history places.

FIGURE 1.
Map of the Namunidjbuk Estate.

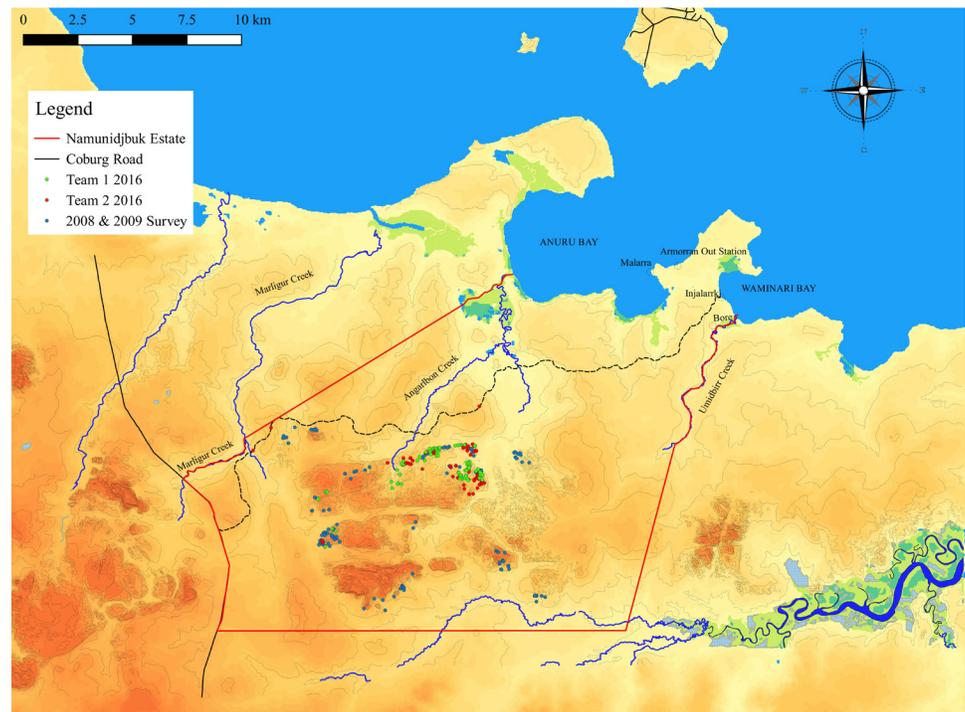
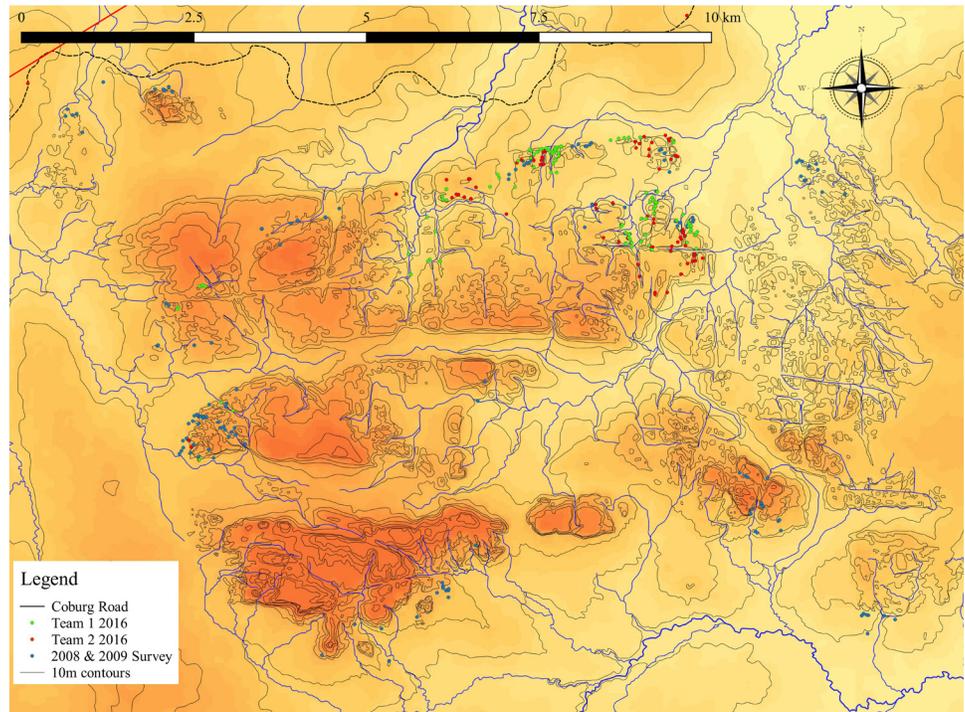


FIGURE 2.
Map showing locations of rock art sites recorded in various levels of detail to date.



Fieldwork undertaken in June and July 2016 is summarized and key issues raised by Indigenous team members are identified. The archaeological team was the first paying client of Lamilami's new sustainable tourism business. Besides participating in fieldwork, Traditional Owners were paid to provide food and to cook for the crew. They practiced their guiding skills on the archaeologists (figs. 3 and 4), and the team rented 4WD vehicles from the fledgling business. Traditional Owners also maintained the campgrounds and asked questions of the rock art researchers in order to add archaeological interpretation to their Indigenous experience so as to better inform future clients. Traditional Owners told us the best way to look after rock art from their perspective is through fire management, feral animal culling, vegetation monitoring, and managing access (fig. 5).



FIGURE 3.
Patrick Lamilami explaining the significance of the rock art for archaeologist team members as he would for visiting tourists.



FIGURE 4.
Rock art researchers mainly worked with Patrick, Tristan, and Leonard Lamilami while surveying for and recording sites in 2016.

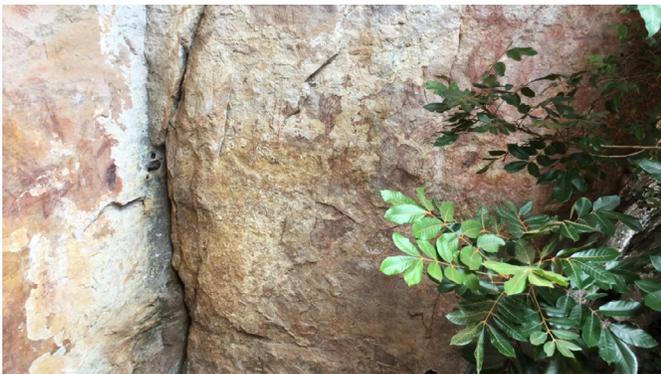


FIGURE 5.

From an Indigenous perspective, ways to look after rock art include fire management, vegetation monitoring, and managing access.

It is concluded that the success and longevity of sustainable tourism businesses involving rock art are dependent on start-up and some form of ongoing funding, a strong multi-skilled manager/coordinator, and scope for traditional cultural practices and obligations, as well as good marketing, communication skills, and commitment. It should also be cautioned that economic opportunity expectations may be unrealistic.

This case study sets the scene for a much larger new ARC Australian Laureate Fellowship project that focuses on rock art history, conservation, and Indigenous well-being. It began in August 2016 and runs over five years. The overall aim of the Laureate research project is to ensure that the most precious aspects of tangible heritage in need of safeguarding according to Indigenous people—in this case, rock art landscapes—are better conserved, appreciated, and understood for the benefit of contemporary communities and future generations.

This project has three key research questions:

1. Why are rock art complexes important for Indigenous people and especially for Indigenous well-being?
2. How can we better conserve and manage rock art landscapes for the benefit of future generations?
3. Why is there currently little rock art conservation concern in Australia compared to many other countries, and why do rock art sites continue to be threatened by economic activity (such as mining, agriculture, and infrastructure development) before their economic contribution and social values are evaluated?

Besides the present author, the Laureate project has a senior research fellow, two postdoctoral fellows, a research assistant, and two PhD students. Project team members are working in collaboration with Indigenous communities in various locations to better protect rock art within its wider cultural landscape, advance rock art conservation science, provide training, and develop sustainable models for cultural tourism and rock art. Already we are working with three Indigenous communities in the Northern Territory, three in Queensland, one in New South Wales, one in Western Australia, and one in Sarawak, Malaysia. We are also advising government archaeologists involved with rock art conservation in Indonesia and co-led a workshop on rock art conservation and management in Yogyakarta, Indonesia, with Indonesian colleagues in March 2017. This workshop was organized around the four-pillar approach of Agnew et al. (2015) and was a successful first international test of the document.

As part of the Laureate project, rock art conservation/management plans will be underpinned by new theoretical perspectives, including reasons why some people vandalize or undervalue heritage. The project will generate new protocols and provide new interfaces between scientific, Indigenous, and public views of rock art, as well as foster and celebrate rock art assets as keystones of national identity.

A major outcome will be the creation of innovative and comprehensive web-based resources in order to assist with education and heritage management, as well as to help increase public and political awareness. Importantly, this will provide online access to important conservation and management resources for Indigenous communities across Australia and overseas. Other substantive outcomes include new national heritage strategies and sustainable conservation approaches that are informed by the unique nature of our rock art and its cultural settings. The project will incorporate Indigenous knowledge into rock art research, in turn creating new ways to engage the public.

Value will be delivered by guiding new government policies, developing new forms of tourism, minimizing risk to heritage when development occurs, and educating the general public about Aboriginal history and culture. Awareness of the importance of rock art among the general public should lead to a decrease in graffiti and vandalism. An informed and engaged public will also be concerned about the protection of sites facing damage from development.

Indigenous peoples will also benefit through capacity building and access to research and popular products that will assist with the development of Indigenous-led sustainable tourism.

Research results will be useful to museums, cultural centers, national parks, heritage organizations, and businesses engaged in cultural tourism and raising awareness about the importance of rock art.

Besides establishing a number of case studies with Indigenous communities, initial research in 2016/2017 has included a desktop study of rock art sites open to the public across Australia, the nature of access, and details of tour operators that take people to rock art sites. Interestingly, the study revealed that 25 percent (nineteen of seventy-six tour operators) are Indigenous owned/operated and others are in development. This research will be followed up with site visits and discussions with tour operators over the course of the project.

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Presentation Abstracts from the 2017 Namibia Colloquium *Art on the Rocks*

This section includes the extended abstracts of presentations given at the colloquium *Art on the Rocks: Engaging the Public and Professionals to Network for Rock Art Conservation*. The following texts are described as abstracts because they are not fully developed papers per se. They are meant to be considered as building blocks of an ongoing initiative and as a record of what participants in the colloquium were sharing as material for discussion. The subjects featured were purposefully wide-ranging, representing many angles from which sustainable preservation can be observed, yet always through the lens of the pillars outlined in the 2015 Kakadu report.

Changing Perceptions about Rock Art by Creating Positive Attitudes through a Landscape Approach

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Rock Art, Landscape, and the Anthropocene

As recently as August 2016, during the Thirty-fifth International Geological Congress in Cape Town, South Africa, within the symposium *Earth Systems in the Anthropocene*, a discussion that started many years ago ended up in the official declaration of the beginning of a new geological era: the Anthropocene (University of Leicester 2016).

The core of this discussion has been about the relationship between humans and environment, involving a long controversy among different theoretical, philosophical, and scientific positions regarding the human place with and within nature. The old culture–nature dichotomy, addressed by many scientific disciplines among which anthropology has a special place, faces the final challenge because critical research demonstrates that earth system changes in the past have been strongly associated with changes in the coupled human–environment system that cannot be considered separate anymore.

The Historical Ecology Research Program has been ahead in this proposal (Balée 1998; Crumley 1994, 2003, 2006; Egan and Howell 2001; Marquardt and Crumley 1987), and several international initiatives are developing global networks of researchers to deal with research of the many facets of the human–environment system, such as IHOPE (Integrated History and Future of People on Earth), based at the Stockholm Resilience Center, Uppsala University, which supports integrating knowledge and resources from the biophysical and the social sciences and humanities to address analytical and interpretive issues associated with coupled human–earth system dynamics over the long term (IHOPE 2017).

Within this framework, the key importance of the “landscape concept,” defined as the spatial manifestation of the human–environment interaction at economic, social, and symbolic levels at different geographic and temporal scales, has been emphasized (Marquardt and Crumley 1987).

Landscape-based approaches have allowed researchers from many disciplines (a cluster of humanities and social, earth, and biological sciences) to collaborate on the study of the complex relations between humans and their environments, the effect of human activities (past decisions and historical events) on the environment, and how previous modifications of particular places affected subsequent inhabitants over long-term history (“*longue durée*” sensu Braudel 1958), pursuing a better understanding about the impact of past events upon present and future. These approaches consider that landscapes retain physical evidence of those natural and human actions that shaped it, giving a record of both intentional and unintentional acts, and reveal both humans’ role in the modification of the global ecosystem and the importance of past natural events in shaping human choices and actions. They also emphasize that this is an ongoing process and that landscapes are in

constant fluctuation, not only physically but also culturally and cognitively (Crumley 2003, 2006).

Landscape, under this definition, is different from environment and much more than a merely physical place, because human societies relate with environment and with one another based on cognitive aspects, expressed in what anthropology defines as “cultures,” charged with social, symbolic, and ideological values. Landscape, then, is considered to be a cultural construct, where different cultural values play crucial roles in shaping diverse conceptions and meanings of different places (smaller spatial scales within bigger ones).

These cultural values of particular human societies give them the possibility to define and recognize social territories, which are intimately related with social memory, group identity, and local and Indigenous knowledge. In the long term, those social territories overlap physically and culturally and create layers that are displayed in the landscape in different ways.

As the physical manifestation of where those superimposed cultures are displayed, landscape becomes a significant reminder of the past and gives to the current inhabitants and visitors a sense of continuity with the present. The material and immaterial traces of the interrelationships between places, events, and people are still there and can be discovered by observing or by talking with the people who cherish it in their oral history as “the memory of the place.” This kind of experience has been described as the potential a landscape has to promote sense of place (Ashmore and Knapp 1999; Bender 1993; Bradley 2000; Criado Boado 1999; among many others).

What do all these have to do with rock art? Everything. Rock art is art in place, art in nature, embedded in the natural environment. If landscape is a cultural construct and without culture is merely natural environment, then the presence of rock art is the most vivid manifestation of cultural narratives about a place, considered social territories (“land”), and those narratives are the ones that create landscape, cultural landscape, and place (fig. 1).

Being art in place, experiencing a landscape through rock art allows the visitors a complete experience involving all the senses: vision (sight), audition (sounds), smell (aroma), tactility (surface), taste (savoring). Sensing the place enriches the experience of observing and understanding the art itself and its artistic, archaeological, historical, and cultural values in the context of a complete approach to the location (physical position, geological surface, and substrate that was selected to create art on), the ecology of the setting (flora, fauna), and the surroundings. All this gives a unique opportunity to have a complete experience about the coupling of human–environment interaction in a particular place through time and in all its aspects (fig. 2).

Western Worldviews and Prejudices against Rock Art

Why then has rock art been disregarded in comparison with other kinds of art? The fact that it is art with no canvas and that the canvas is the earth’s surface itself has been interpreted by Western science and broader audiences as an indication of primitiveness when actually it is one of the most important characteristics that give it the highest value, because it is a sign of a direct, intimate connection between people and land, a way of physically marking their own land, inscribing it with cultural and social meaning (fig. 3). Other considerations

FIGURE 1.
Battle scene ca. 2000 BP (Cueva
del Indio, Jujuy, Argentina).



FIGURE 2.
Zooanthropomorphic face, related
to ancestors' cult, ca. 1500 BP
(Playa Colanzuli, Jujuy, Argentina).



FIGURE 3.
Aboriginal resistance to Spanish
invasion, ca. 500 BP (Sapagua,
Jujuy, Argentina).



based on Western worldviews have lessened the possibility of understanding other values of rock art. For example, rock art is a collective creation opposite to Western individual works of art (valued according with the master who produced them), while in this case the art reflects collective perceptions, feelings, and understandings about place and land tied to collective knowledge, social bonds, memory, and identity (Uluru–Kata Tjuta Board of Management 2010). These examples show prejudice tied with Western worldviews and lack of knowledge and understanding about other peoples' worldviews and values.

These Western worldviews reached a global scale in the last hundred years during the “Third Wave of Western Expansion” (Wallerstein 2011) imposing Western “environmental values and ethic” (*sensu* Kempton, Boster, and Hartley 1995) over others, creating inequities and sociocultural–environmental crisis. The politics of these differences fuels environmental justice movements (Johnston 1994, 1997, 1998, 2001, quoted in Crumley 2006), which are increasing parallel to the intensification of the world economic system (Wallerstein 2011). This has produced on the earth environment the major impact by human actions known until present times, a situation that led to the official declaration of the Anthropocene as a new geological era.

The awareness of the damage caused to the environment precedes the awareness about the damages produced to culture because, as said above, in Western views the idea that nature and culture are separate things prevails. This can clearly be seen in the early ecological and “green” movements during the 1970s with the involvement of multilateral agencies, while the concerns about “culture in danger” can be seen only as recently as the 1990s and in a few institutions, among which UNESCO has played a central role.

If awareness about culture at risk in general has been belated, the situation of rock art has been and still is worse, because, as has been said above, it has been disregarded in many senses and perceived as primitive.

Changing Perceptions about Rock Art

All these prejudices against rock art coined under Western worldviews can be used as opportunities and starting points to turn them into “strengths” (in SWOT analysis terms: Strengths, Weaknesses, Opportunities, Threats).

In doing so, the fact that rock art has no canvas, being the earth's surface itself the base on which the art was produced, is the best example of human–environment intertwining that opens the door to a better explanation of its values and importance in an enormous variety of aspects. The landscape approach gives the best comprehensive framework to tackle that.



FIGURE 4.
Circumferences related with symbols
used during the Resistance war, ca. 500
BP (Pintoscayoel, Jujuy, Argentina).



FIGURE 5.
Scene depicting prisoners walking with
Spanish conqueror on horseback, ca. 500
BP (Pintoscayoel, Jujuy, Argentina).

Other facts about rock art sustain its values and defeat all the prejudices against it:

- Its ubiquity in time and space, tied to anatomically modern humans (*Homo sapiens*) since their beginning up to the present and spread all over the globe
- Its great variety of manifestations related to many different aspects of social life and practices, as diverse as initiation performances, territorial marks within lands under dispute, trail-road marks, and inscriptions executed by hegemonic groups to secure their position and enhance their visibility by the rest of the society, among many others (figs. 4 and 5)
- Its artistic achievements, related to aspects such as technical and aesthetic ones
- Its potential to inform and enlighten past and present ways of human–environment physical and cultural–cognitive interactions

In sum, it is important to emphasize the major role rock art plays within human history on earth as an intimate connection with the land in its social, symbolic, and religious aspects as well as one of the most important manifestations of human artistic creativeness.

Creating Positive Attitudes toward Rock Art through a Communications Strategy

It can be difficult to communicate the many values of rock art to a broad audience in the face of prejudice. To do this, it is necessary to develop a broad communications strategy that aims to change inadequate perceptions about rock art by opening Western points of views to the worldviews of other peoples and cultures.

The communications strategy should be developed in a multimedia format to convey a unified message under different means, such as books, audio-visual, films, documentaries, and the like, and by developing well-conceived site-museums and interpretive paths at different spatial scales, which can give a vivid and direct explained experience of the landscape.

Knowing the hegemonic role of Western culture and how difficult it is to confront it, it is a worthy endeavor. In favor of that is the present situation related with the actual socioen-

vironmental crisis, which is already worrying many social sectors who are seeking new avenues to solve it, or at least to cope with it. In that regard, the message that a comprehensive landscape approach could benefit the society is one to consider.

Rock art, within this approach, could be the starting point to spread information about the long-lasting and intricate relation between people and environment, emphasizing more balanced and better adjusted relations between people and environment, displayed in rock art the world over, based in different non-Western views and values.

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Alliances between Communities and Experts to Raise Awareness, Protect, and Market Endangered Rock Art in Southern and Eastern Africa

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Introduction

Almost all rock art sites are located in rural areas, sometimes very remote but often in proximity to local communities. In most cases, these sites are “discovered” by “experts” without any damage or vandalism to the art. There is a tendency for sites to be vandalized after attention is drawn to them by outsiders, visitors, and/or researchers. Sometimes what is recorded as vandalism may not be perceived in the same way by the experts and the Indigenous community who use the sites (Ndlovu 2011).

In many parts of the world, living traditions that add value to rock art sites are also considered to endanger them. It is almost normal for the opinions, advice, and assistance of experts, especially those from Western countries, to be dismissed with regard to the management of sites under Traditional Owners or where cultural management societal structures exist that may be informed by local cosmologies (Jopela 2011). However, this attitude has not prevented alliances between experts and local communities from being established to raise awareness of, protect, conserve, and market rock art through tourism initiatives that embody community values. At the heart of these initiatives is the question of their sustainability in the midst of increased urbanization and related infrastructure, mining activities, and deforestation that pose a threat to rock art and archaeological sites. Most of the rural communities living around these sites are poor and struggle with the daily demands of meeting their basic needs, such as access to health care, education, clean water, and housing. Getting the balance right between conservation and heritage tourism initiatives and initiatives that meet the day-to-day needs of the local communities is critical for sustainability. I draw on the Rock Art Research Institute’s (RARI) alliance with the Makgabeng community rock art heritage project (MRAHP) in South Africa and the Trust for African Rock Art (TARA) partnership with the Abasuba community in Kenya to draw lessons that are applicable to sites in other regions where traditional communities are in charge. This augurs well for rock art heritage management, marketing, and conservation in Africa.

Makgabeng Community Rock Art Heritage Project

A major component of the MRAHP draws on three plans: a tourism feasibility assessment and development plan; a sustainable management conservation plan; and a heritage tourism plan. A key finding of the feasibility plan was that the Makgabeng area and the local community offer a unique heritage tourism experience. This experience should be anchored by a spectrum of low-impact initiatives that take cognizance of the need to conserve and

protect natural and cultural heritage emphasized in the sustainable management conservation plan. Following years of research in the Makgabeng area by RARI researchers Edward Eastwood, Johnny van Schalkwyk, and others, and by forging strong alliances with the Makgabeng community, a wealth of significant tangible and intangible heritage resources were identified and formed the basis for the plans and the alliances. These alliances encouraged a vision for heritage tourism to be used as a vehicle to address some of the community's socioeconomic needs and expectations.

Alliances such as these thrive on the will of individuals with a passion for their heritage at the community level. In the Makgabeng, the alliance between academic researchers at RARI and the local community was built on elders and/or leaders in the community, such as Elias Raseruthe, Matome Phineas Tlouamma, and Ngoako Jonas Tlouamma, who held no office such as a headman or chief but had authority and held respect within the community. Although Matome Phineas Tlouamma never participated in any of the rock art surveys, he shared his heritage and knowledge with researchers and the community at various gatherings. Elias Raseruthe often led researchers to various rock art sites and shared his knowledge of the history and symbolism of things and places, taking the odd tourist to sites close to his home. He brought his sons and other young boys to translate for him because he did not have a good command of English. One of the local boys, now an adult, was Jonas Tlouamma. Through these experiences, Jonas gained interest and learned much about his heritage. He voluntarily joined various research teams in the Makgabeng and learned about archaeology and the heritage legislation. Jonas is a respected champion of heritage in his community. The Raseruthe and Tlouamma families particularly are among the few living on the Makgabeng plateau who have been at the core of all past and present research in the Makgabeng. These families have been chosen by a succession of traditional leaders to act as gatekeepers to the Makgabeng rock art sites. Apart from these families, other members of the Hananwa community participate in many of the project activities.

Although the Makgabeng community strongly supports research and heritage conservation, members believe that it will be more meaningful if these bring direct benefit. In 2003 Jonas attempted to establish a community tourism association in the Makgabeng as one of the ways to address benefits from heritage, but local politics and bureaucracy intervened and the tourism plan stalled. However, with the promise of financial benefits from visitor fees came the challenge of managing its fair distribution without interference from local leaders hijacking the tourism venture for individual power and authority in the area. This was not resolved and the formation of the association stalled, but Jonas has remained enthusiastic about tourism in the area.

MRAHP drew on these tourism initiatives, and strove to incorporate the cultural values of the community and identify ways to mitigate the power politics by engaging numerous stakeholders at all levels of planning and implementation of the project. MRAHP trained young local men and women, identified through community leaders, to collect oral heritage that consisted of ethnographic interviews and short discussions with knowledgeable community members. The oral heritage collection served two purposes: it allowed the community to articulate their traditional conceptions of what is valued about the past, what is worth protecting, and why; and it enabled the community members who ordinarily may not have been involved in the protection of rock art sites to participate in holistic heritage protection without focusing directly on rock art. The interviewees also were young men and

women from the community, and interviews were sometimes conducted in the presence of even younger members of the community. This encouraged an intergenerational dialogue on culture and enabled the transfer of cultural knowledge, a participatory approach that enabled an informal African education system to occur organically, demonstrating respect for the living, for the ancestors, and for tradition.

In Africa, community-based approaches to heritage tourism are increasingly emphasized as a vehicle for creating awareness and protecting and marketing heritage, especially rock art, in southern and eastern Africa. Such initiatives vary from enhancing traditional or “official” custodianship as a management strategy, to recognizing rock art sites as sacred places fenced with taboos and oral traditions and used for rituals. Traditional management systems help preserve places of cultural significance such as rock art sites. For example, in Mozambique the Chinamapere rock art site has a system of traditional custodianship that adds value to the site (Jopela 2011). Performing rainmaking rituals at the site is not detrimental to the overall conservation and preservation of the rock art because the local community perceives the site to be powerful places to commune with the ancestors. Active community engagement with rock art sites for ritual practice is a common feature in southern Africa at places such as Domboshava and Silozwane in Zimbabwe, Tsodilo Hills in Botswana, and Chongoni in Malawi.

In East Africa, TARA has been actively involved in conservation and protection of rock art through establishing alliances with communities. This engagement with communities derives from their key project working the Abasuba community on Mfangano Island, Victoria Nyanza. The concept of the Abasuba Community Peace Museum (ACPM) was conceived in 2000 by a young man with a passion for his heritage and a vision for his community: Jack Maurice Obonyo. Jack donated some of his ancestral land toward the establishment of a peace museum as a space where the material culture and traditions of his people could be promoted and marketed to visitors in an inclusive manner, and as a platform for touring the wealth of rock art on the islands. ACPM was officially opened in 2008 after partnership intervention from TARA and funding from the European Union through the Kenyan government in 2007.

Jack Obonyo is highly respected in his community. His passion for heritage is captured in the spontaneous, vivid narratives of the rock art that he provides tourists to Mfangano Island. Suba elders, men, women, and youth all participate in project activities under the guidance and management of site committees. Site committees initiate other projects that meet pressing needs of the community such as schools. This spin-off of the ACPM is crucial for sustainability due to funding constraints of partners. Partnerships with the Kenyan government through the National Museums of Kenya, the significant alliances with TARA, and the subsequent collaborations with the British Museum are a big boost to the ACPM and augur well for its sustainability.

Both MRAHP and ACPM are initiatives driven by the passion of individuals from the community. Jonas Tlouamma and Jack Obonyo are respected for their vision and desire to ensure that the heritage of their forefathers is preserved for the next generation. In my opinion, MRAHP demonstrates that feasibility studies and planning tourism initiatives are essential components to creating effective alliances between “experts” and communities. When the “experts” are absent from the landscape, from Makgabeng plateau and Mfangano Island, it is the seed of passion sown by their activities and guided by individuals like Jonas and Jack that result in sustainability of community-based tourism initiatives.

Sustainability

Very often antagonism develops between the implementers of development projects who promise immediate rewards—such as jobs and roads to facilitate economic opportunities—and heritage experts who argue that rewards from heritage tourism will come gradually. For poor communities such as those at Makgabeng, the immediate rewards may outweigh long-term ones, so it is important for rock art conservation strategies to embrace community needs within reason. In 2014 rock art sites and related archaeological resources were threatened by mining activities prospecting for platinum. Between 2014 and 2015 several disagreements emerged between the mining company and various stakeholders around the destruction of rock art and archaeological resources that were “barely visited” over mining that would be beneficial to the whole country and against the need to conserve heritage resources for future generations while gaining through tourism. Fortunately, following persistent engagement with various stakeholders, by 2016 prospecting ceased on the plateau and mining is now concentrated on farms lower down the valley.

The community’s response to the mining episode was a realization of the need for visibility of the heritage tourism project, so members marketed heritage tourism by word of mouth, encouraged schools and community members to visit the rock art sites, and pushed to have the campsite completed. The heritage collectors were also trained as tour guides and have increased their visits to schools in the area to encourage the children, teachers, and parents to visit the sites. In October 2016 the assistant director of tourism for the Makgabeng area (Capricorn district) secured funds to complete the community campsite (installation of pipes for borehole and ablutions). The borehole will also service the community’s water needs, especially during the dry season. In addition, another project partner, Blouberg Municipality, facilitated the participation of one of the heritage collectors in Tourism Buddies, a twelve-month Learnership that equips youth with hospitality skills. MRAHP is working toward getting the guides certificates of accreditation to encourage them to remain in the heritage tourism sector through employment at the Blouberg Municipality Tourism Information Center, where the community oral heritage archive is housed. RARI, working through the Rotary District 9400, secured free shoes (three pairs per child) for children in the schools around the project area as far as Millbank. It is envisaged that these low financial input collaborations, community marketing, and addressing some community needs and training are strategies for sustainability.

A Working Model

There are four ingredients for successful community initiatives: community leadership; enabling relationships and trust; outreach and education; and relevance of the project to the community. Community initiatives such as MRAHP and ACPM are driven by individuals who provide leadership and steer the relevant governance structures. Single-person projects like ACPM, driven by Jack Obonyo, are likely to collapse in his absence, whereas MRAHP hinges on Jonas and is administered by young members of the local community such as Filix Mosebedi.

In many African communities, funerals are very important social events. To help with funeral costs, communities organize themselves in burial societies similar to insurance schemes. Almost every member of the community is a member of such a society and con-

FIGURE 1.
Schoolchildren visiting a rock
art site.



tributes money upon the death of a member. The dignity of the deceased is reflected in the manner of funeral accorded to them. Many poor families afford to give their loved ones decent burials through the contributions and funeral arrangements of these societies. The societies have an organized structure of leadership and management. In the Makgabeng, there are burial societies whose leadership structure consists of a chairperson, secretary, and treasurer. Using the model of burial societies, the Makgabeng community will set up a cooperative position within their structures to manage heritage tourism in the area in an effective, transparent, and accountable manner.

MRAHP leaves a very low footprint in the landscape; hence, developers claimed there was “nothing happening.” To outsiders this might appear to be the case in terms of tourism, but the public/accessible sites draw many school visits from the whole of the Makgabeng-Blouberg region (fig. 1). Although I am not aware of the challenges at Mfangano in Kenya at present, I think that some of the strategies identified here are pertinent there as well.

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Citizen Participation in Rock Art Protection in Namibia: *There Is Scope for Everyone!*

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Introduction

Community participation in rock art protection and presentation in Namibia developed extemporaneously and can be traced back to the last decade of South African colonial administration of the territory (1980s). However, the recognition of the potential benefits of participating in rock art protection and presentation intensified after Namibia attained self-rule in 1990. Major rock art sites in Namibia are mostly found in communal areas (the Brandberg, Twyfelfontein, and Spitzkoppe) while a few, such as the Omandumba and Piet Albert's kopje, are on private land. Thus, it was imperative that local communities were involved in the protection of sites. For this to happen, the values that each stakeholder placed on the art or sites and the prospective benefits that could be derived from each stakeholder's involvement had to be clearly defined. Through a consideration of examples from the Brandberg and Twyfelfontein rock art sites, the benefits and challenges of community involvement in rock art protection are explored in this article.

Twyfelfontein, or IUi-llAis as it is known in the local Khoekhoegowab language, is situated in the Kunene region in northwestern Namibia. It was first declared a national monument in 1972 and then placed on the World Heritage List in 2007. Both the Afrikaans name Twyfelfontein and the Khoekhoegowab name IUi-llAis have significant meaning, as they are drawn from different descriptions of a spring that is found on the slopes of the valley of sandstone. While the name Twyfelfontein (meaning "doubtful fountain") refers to the doubts that the farmer who used the site as a relief farm had about the spring, IUi-llAis ("a place among rocks"), on the other hand, refers to the same spring being found among the rocks. For now, Twyfelfontein is glorified for having the "largest" concentration of rock engravings in the region and for combining both engravings and paintings in the same site. This reputation of having the largest concentration of rock engravings is set to change, as new encounters with rock engravings in the vicinity of rock art will be published soon. The existence of engravings and paintings in the same site has already been proven to be of lesser significance when compared to those from the Dome Gorge of the Dâureb/Brandberg Mountain, where at least six combinations of paintings and engravings ranging from superpositioning to juxtapositioning were recorded (see Gwasira 2011).

Twyfelfontein World Heritage Site was the first to experience some form of local community interest in rock art. This happened in the late 1980s, when a member of the local Damara-speaking community stationed himself at the entrance to the site and provided guarding services for the vehicles and belongings of the visitors to the site. These services progressed to guiding visitors through the sites, starting a refreshment store, and eventually establishing the Aba Huab camping site that was situated approximately 5 km from the rock engravings. As the package expanded, new members from the local community were

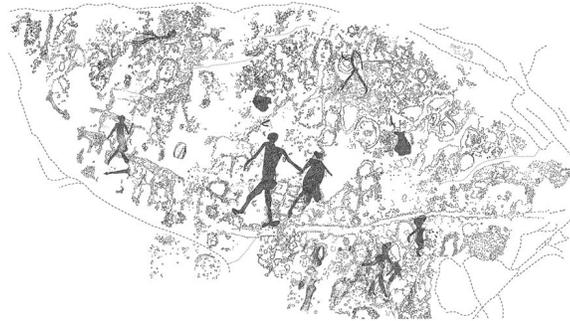
incorporated such that the project developed into a community-based tourism business. The now defunct non-governmental organization (NGO) Namibia Community Based Tourism Association (NACOBTA) was instrumental in assisting local communities at Twyfelfontein in forming tourism associations. The local community formed the Twyfelfontein Guides Association, which gave them more bargaining power, especially when they had to negotiate roles and benefits with national institutions such as the National Heritage Council of Namibia (NHC) at a later stage. It can be argued that the sustenance of the site was ensured by the local community in the form of the Twyfelfontein Guides Association until 2004, when the NHC took over direct control of the site. While the community maintained the site and ensured the conservation of the rock art, they also benefited financially from the entrance fees that they received and from selling their craft work. Even when the NHC took over the daily management of the site, the local community remained a major stakeholder, albeit in an uneasy working relationship.

Citizen participation in the protection and presentation of the rock art of the Dâureb/Brandberg developed in a rather similar way to that of Twyfelfontein. The Dâureb, Namibia's highest mountain, is one of the most extensively documented rock art regions in the world. Up to six volumes on the rock paintings of the upper Dâureb have been published by the Heinrich-Barth-Institute at the University of Cologne. More than nine hundred sites comprising almost fifty thousand individual images were recorded in the Dâureb. While the Dâureb is famed for its rock paintings, particularly the "White Lady," it has, in addition to the rock art, some associated archaeology that can be dated to the last five hundred years and that falls into the Brandberg Culture classification (Breunig 1986). Stone artifacts belonging to the Wilton phase have also been identified in the mountain. Other archaeological remains that are found there include grit-tempered pottery associated with the stone circles (Ouzman 2002; Gwasira 2011), rubbing stones, and a few scatters of ostrich eggshell fragments. The mountain has some rock engravings that are restricted to the lower Dome Gorge (fig. 1). However, the combination of engravings and paintings in this gorge is unique, because in some cases there is superpositioning of paintings over engravings and even of engravings over paintings (Gwasira 2011). Another common material culture that is associated with the engravings in the Dome Gorge are stone structures that are reminiscent of those described from the Hungarob Ravine (Kinahan 1991). Such stone structures, according to Jacobson (1997), are a widespread occurrence in this region and generally date to between 800 and 600 BP. They are thought to be indicative of the presence of small stock herders in the region and particularly represent bases or remains of Damara settlements.

The local community realized the potential economic benefit that could be drawn from rendering guarding services and stationed themselves at the entrance to the Tsiseb Ravine (which leads to the Maack shelter, where the "White Lady" painting is found) where they guarded visitors' vehicles. However, formal local community participation in rock art protection and presentation began in 1993, when an environmental club was formed at the Petrus IGaneb Senior Secondary School in Uis, which is about 30 km from the mountain. Former members of the school's environmental club started offering guided tours soon after completing high school and were facing the reality of unemployment and poverty in a former mining town. They received training in various fields such as accounting, guiding, and rock art interpretation from various institutions such as NACOBTA, University of Cologne, and the Ministry of Environment and Tourism. The former members of the school's club then established the Dâureb Mountain Guides. They have since collaborated with various

FIGURE 1.

Tracing of superposition of paintings on engravings from the Dome Gorge, Brandberg (Dâureb) Mountain. Scale: The complete human figure in the center is 35 cm tall.



archaeologists and other scientists who research in the Brandberg. This has increased the capacity of the guides to such an extent that some of them now offer services as field assistants. Perhaps the question that begs an answer or answers at this juncture is, what benefits did the rural communities derive from this association with rock art at the Brandberg and Twyfelfontein?

There are many benefits that arise for the local communities, but this article addresses only the most prominent ones. First, the two rock art sites under discussion are located in rural areas where unemployment is conspicuous, thus the rock art sites provided an economic opportunity that the communities exploited. In the beginning, the communities earned a living from the gratuity that they received from visitors for guarding cars or for guided tours. As the communities organized themselves into tour guide associations, they set entrance fees from which they drew their wages. The extension of the conservancy policy in 1996 so that it could be applicable to rural communities ushered in a kind of formal working relationship between the tour guide associations and the government of the Republic of Namibia. The Dâureb Mountain Guides, for example, entered into an understanding with the Tsiseb Conservancy, which enabled them to market their services. When the NHC eventually took over the operations at both sites, they maintained a working relationship with both the tour guide associations and the conservancies. This represented the officialization of the relationship between the NHC and the local communities. However, it came with its fair share of challenges, one of which stipulated that the income had to be shared between the NHC, tour guide associations, and conservancies. This led to a decrease in the income for the local communities and feelings of emasculation. There was a need for reorganization of the guides association as some of their members were formally employed by the NHC as guides or guards. Due to the high rate of unemployment in rural areas, the uneasy arrangement whereby 75 percent of the income generated at the sites went to the NHC, 20 percent to the guides association, and 5 percent was paid to the conservancy complicated the working relations from the beginning. In this case, the local communities earned some income from the rock art through being members of either the guides association or the conservancy and were no longer in direct control of the source of income: entrance fees. Another area in which the local community used its participation in rock art programs is in crafts. The community in Uis, for example, has been making artifacts that are inspired by rock art such as refrigerator magnets (fig. 2) and reproduction of rock art motifs on rice paper that are framed and sold to visitors (fig. 3). This appropriation of rock art has earned members of the community some income, and such members participate in advocacy activities that aim at protecting the rock art. However, the benefit of citizen participation in rock art protection is not only financial.



FIGURE 2.
Magnets inspired by rock art of the
Brandberg (Dâureb) Mountain.

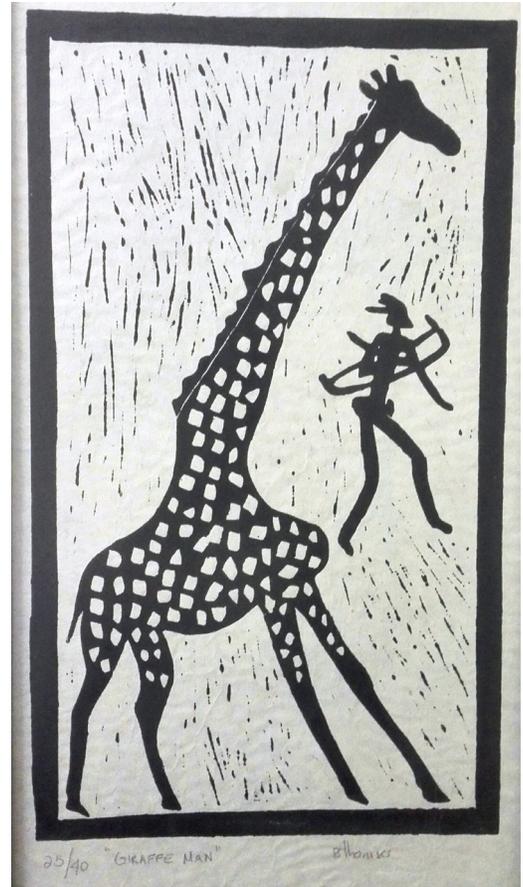


FIGURE 3.
Framed reproduction of rock art
from the Brandberg (Dâureb)
Mountain.

Communities have benefited from improved communication in the form of well-maintained roads and telecommunications infrastructure. At independence, both the Dâureb/Brandberg and Twyfelfontein were inaccessible by telephone, but now communities that reside in the vicinity of both sites can access mobile telecommunications infrastructure.

The attainment of independence in Namibia realized the abolition of the separate development policy that was implemented during the apartheid era. This means that in a post-colonial Namibia, communities are not homogeneous. While there is a predominance of Damara ethnic group members who have resided in the areas surrounding the Brandberg and Twyfelfontein longer than other groups have, there are also ethnic groups from other parts of the country. Citizen participation at rock art sites has fostered unity in diversity. Such communities have been able to work together and identify with the rock art. In this sense, participation in the rock art program plays an inconspicuous but important role in promoting social cohesion and in the nation-building project. In addition, it promotes tolerance among ethnic groups.

Conclusion

Citizen participation in rock art protection and presentation in communal areas in Namibia has been successful due to various factors, including the fact that communities organized themselves first. It was a development that came from within the communities themselves

and was not imposed on them by some authority. The communities realized the potential benefits that they could gain from being involved in the protection of rock art. The formal recognition of community projects such as the guides association by the government through the NHC and the Ministry of Environment and Tourism gave the impetus to this success. Assistance in the form of training from NGOs such as NACOBTA and other institutions such as universities boosted the capacity and confidence of the communities. However, the training has not been properly coordinated such that the guides are faced with various approaches to presenting the rock art to visitors. While this promotes multivocality, the local community members often complain that they are overwhelmed by the information such that it ends up confusing them.

Above all, the success of citizen participation should be attributed to the ability, passion, and commitment of the local communities—after all, they protected the rock art for decades before the NHC came on board. This was despite the fact that both the Dâureb/Brandberg and Twyfelfontein were declared national monuments long before the local communities appropriated them. There were no official personnel on the sites and the communities appropriated the rock art for their own benefit.

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We Need to Talk: Sharing Constructive Solutions to Improve Our Rock Art Relationships through Understanding, Appreciating, and Leveraging the Views of Indigenous Custodians Connected to Rock Art

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Introduction

Baiame Cave is an important rock art site in the Hunter Valley in New South Wales. The site contains a spectacular and artistically skilled rock art composition with the image of Baiame, an ancestral creation figure offering a commanding presence (fig. 1).

Greatly enhancing its importance is the fact that it is a site of living cultural significance to Aboriginal people, with all the richness of association and traditional cultural values that this entails. Many people hold this site in high esteem. They have various relationships and associations, often over many generations and for a variety of purposes. However, until it was heritage listed, this significance was not well articulated from a holistic point of view and certainly the Aboriginal voice was not prominent in the wider understanding of the site. Typically, the site was recognized through the cultural prism of the (usually non-Aboriginal) author or observer, often as art on a wall that is probably quite old and that represents something of the past, in terms of both the people who made it and the culture from which it came. Its cultural relevance was rarely placed in the present. On the other hand, local Aboriginal groups have always recognized its high cultural significance as part of a living and vibrant culture, its importance in understanding the past and how that past is continued

FIGURE 1.
The image of Baiame on the rear wall of the shelter. © Nicholas Hall



into the future as a teaching site, and the connection of the rock art of Baiame Cave to the immediate landscape and to other places across New South Wales.

Baiame, an ancestral creation being, moved across the landscape, leaving evidence of his journey by creating features at places over vast distances throughout southeastern Australia, such as Mount Yengo, Byrock Waterholes, and the Brewarrina Fish Traps, to name a few. As such, the site is part of a larger cultural landscape that interprets and assigns significance to a series of connected “natural” features such as mountains, hills, rivers, valleys, rock formations, trees, and the totemic eagle. Baiame Cave has particular significance within this context as a place where Baiame is visible, and he is depicted here as looking out over all he has made and spreading his outstretched, elongated arms to greet and embrace it.

Heritage Listing

It is important to have sites of such prominent spiritual significance officially recognized by listing and protected under heritage legislation where the Aboriginal perspective to heritage significance is given prominence and public recognition. This gives a voice to Aboriginal concepts of place and culture and allows self-representation of the cultural meanings of places today. It allows for Aboriginal people to be part of the documentation and listing process as authors and participants of the narrative rather than merely the subject of it.

On 31 July 2015 Baiame Cave was listed on the State Heritage Register, which records places of significance to the state of New South Wales. After a rigorous assessment, it was listed for its rarity and for its associational, aesthetic, social, research, and representative values for the community of New South Wales.

The State Heritage Register citation is as follows:

Baiame Cave is of state significance for its association with the main figure depicted in the cave, believed to be Baiame, who is understood by some Aboriginal people across NSW to be the creator, the ‘Father of All’, the most important ancestor and law-maker. The site is also of state significance for its history and associations with the Wonnarua, the Aboriginal people who are understood to be the traditional custodians of the artwork prior to and post colonization. The painting is representative of the traditional heritage of the Aboriginal people of the Hunter Valley and of NSW.

Baiame Cave is also of state significance as a rare and representative Indigenous rock art painting site in NSW. Rock art sites in NSW are more likely to feature smaller-scale engravings of animals or human figures, or painted hand stencils rather than large painted human figures. Although unusual in the NSW context this is one of many regional variations in rock art across NSW, and therefore has State-wide comparative and representative value. It is also of representative state significance as one of a series of sites associated with Baiame across NSW such as the nearby Mount Yengo, the Byrock granite outcrop, the copper deposits at Cobar, the Narran Lake and Baiame’s Ngunnhu (also known as the Brewarrina Fishtraps).

Baiame Cave has state historical associational significance as the subject of the first public talk given by surveyor R.H. Mathews in 1893, heralding the commencement of his distinguished career in Aboriginal anthropology. There is research potential in exploring its aesthetic meanings, its material form and its possible iconographic or

cultural meanings. Analyzing the site may be helpful in providing information both to contemporary Aboriginal people about their history and to the wider world which is increasingly interested in Aboriginal culture and history. This mysterious and evocative male figure overlooking the valley, with wide arms outstretched and large white eyes, is of state aesthetic significance.

On 13 May 2016 the site was listed as an Aboriginal Place under the National Parks and Wildlife Act 1974 as being of special significance to Aboriginal culture and the Aboriginal community.

The Aboriginal Place citation is as follows:

Baiame is a spiritual site depicting the image of the 'Creator' and is an exceptionally rare and unique pigment art representation of Baiame with his arms outstretched over the lands of the Wonnarua people.

Baiame Cave is a unique and excellent example of Aboriginal rock art and is highly respected by the local Wonnarua people, numerous Aboriginal nations throughout south-east Australia and the wider community of the Hunter Valley, including the non-Indigenous community and the landowners who have continued to protect the site for more than 40 years.

The artwork depicting Baiame signifies the site's significance as being an integral part of the history and social and cultural dynamics of Aboriginal culture and heritage within the Wonnarua area and surrounding Aboriginal communities.

Baiame Cave is linked to the Creation story, country and totem (the Eagle) of the Wonnarua people and is interconnected with numerous other Aboriginal cultural and heritage sites and landscapes throughout the Hunter Valley and NSW.

Baiame is directly associated with several significant Dreaming sites and stories throughout south-east Australia, which have previously been declared Aboriginal Places or listed on the SHR. Baiame Cave is the only known and recorded rock shelter with larger-than-life, pigment art depicting the ancestral creator Baiame.

Baiame Cave continues to demonstrate the importance of ancestral beings, creation stories and Dreaming sites throughout Aboriginal communities, providing the Wonnarua people with a place that enables them to maintain traditional practices and customs, share oral histories, creation stories and traditional lore (law). It is a place considered to be of special cultural, social and spiritual significance.

While these two citations share key elements relating to the significance of the site, they vary in emphasis. The State Heritage Register citation acknowledges the importance of the site for a range of values. As well as acknowledging its pre-eminent significance as part of Aboriginal culture, the citation includes aesthetic, historic, and scientific values, adding to its heritage significance for the people of New South Wales. The Aboriginal Place citation places specific emphasis on the significance of the site to Aboriginal culture and the Aboriginal community.

The process of consultation that preceded the two listing processes, apart from achieving listings endorsed by all stakeholders, had a number of other important benefits for the Traditional Owners, for the landowners, for the New South Wales community in general, and for the future of the site.

Community Involvement and Benefits

The site has been well known for many years, is celebrated as a classic Australian rock art site, and has a direct and traditional link with Aboriginal people. Although many Aboriginal people in Australia have cultural connections to specific rock art sites, they do not have the legal authority to determine conservation agendas, funding, or direction when a site is not owned by them.

Additionally, the Wonnarua people (the prime custodians) and other traditional groups are a culture in shock who have undergone, within living memory, massive transformation that is still being felt. Their organizational and legal capacity to actively manage this place without recognition and resources is limited.

The site is located on private property, and the landowners have been very protective of it, managing what they can on an ad hoc basis with varying degrees of official support. The landowners facilitate public access, and a platform and visitor book have been installed (fig. 2). The site is threatened by physical conservation issues, including cracking of parts of the rear wall (fig. 3), dust from a road adjacent to the site, and the various environmental

FIGURE 2.
Visitor infrastructure at Baiame
CAVE. © Nicholas Hall



FIGURE 3.
An area of detached and fragile
stone adjacent to Baiame's head.
© Nicholas Hall



exposure issues common to rock art created in a shallow open shelter in the living rock. Local council planning provisions also threaten the landscape of the site, with resource developments encroaching on the view shed of Baiame and other potential environmental threats posed by the expansion of massive open-cut coal mines in the area.

The Heritage Listing Processes

The state listing processes acted as a catalyst to create united stakeholder determination to resolve these issues and to leverage the views of Aboriginal custodians connected to rock art, and did the following:

- Encouraged the gathering of information from various sources, cultural and academic, written and oral
- Recognized Aboriginal people as the traditional custodians of this site and empowered them to take a key role in defining its significance and determining its future management regime
- Provided a central point of focus for all stakeholders and identified common points of interest and significance
- Created an environment to air grievances and resolve them
- Created a greater profile for the site
- Enabled access to partnership and funding opportunities

Information Gathering

An essential first step in the process was to gather as much relevant and current information as possible about the site and its stakeholders. The information-gathering process accomplished the following:

- Identified key stakeholders and knowledge holders, their concerns and interests
- Encouraged participants to question what they knew and open their eyes to alternative views
- Built capacity for community and cultural competency for government department implementing the processes
- Encouraged the development of new relationships and gave more reason to maintain existing ones

Stakeholder Involvement

Many stakeholders were identified through the listing processes, and it was important that the assessment of heritage values represented within each listing captured the various perspectives. Those involved were given the opportunity to participate to the extent that suited them. Consultation and engagement involved organizations such as native title and Traditional Owner groups, local and state government agencies, statutory authorities and their Aboriginal expert advisory panels and working groups, landowners, Aboriginal representative bodies, and industry representatives from the mining sector.

The process of consultation with these stakeholders led to agreement on listing, on the need for future conservation measures, and on the desirability of raising the site's public profile as an important place. This set the stage for the next piece of work necessary: the development of a conservation management plan.

Conservation Management Plan

A conservation management plan (CMP), an essential tool to guide future management activities, would include the following steps for this site:

- Recognize a strong Aboriginal custodial role
- Provide measures to protect and conserve the site
- Designate appropriate types and level of tourism and provide for the management of visitors and tourism companies and authorities
- Provide for a cultural heritage assessment of other sites on the property and surrounding properties
- Provide the promotion of the historic heritage links to the site such as the convict trails
- Promote links to other cultural rejuvenation programs: language, art, dance, family, and oral history
- Promote links to economic development

Community Response

Feedback given by many of the Aboriginal stakeholders indicates that substantive progress has been made. They feel that the site is safe and protected against future development and impacts. An improved understanding of what the site means to them traditionally, historically, and for the future has encouraged Traditional Owners in their continuing efforts to actively improve the cultural awareness of their country and its significance through both education and tourism. They feel they are leaving a legacy for future generations.

Many of the stakeholders also appreciate that the documentation of the heritage values of the site has provided them with a platform from which they can further explore potential economic opportunities to fund the ongoing management of the site as well as cultural and artistic rejuvenation programs for the Wonnarua people, who have an ongoing alliance with the owners of the property, who, in turn, have been relieved of the burden of sole custodianship of this important site.

Conclusion

The crux of good heritage management is about effective relationships supporting a focused agenda and resourced capability. The heritage listing of a site is not an end unto itself but a starting point from which the whole community can move forward with a shared vision of how best to protect, promote, and conserve a place of high cultural significance. It is interesting to note that while the art aspect of the site is certainly of importance to its meaning, it was by no means the focus of the assessment and conservation agenda. Involving Aboriginal people in the assessment and listing process moved the focus away from the usual discussions of the physical art, pigmentation, style, and so forth and into the space of living cultural expression and what the art represents to the people.

The listing process allows for Aboriginal people to have a positive, proactive heritage experience, which is often not the case for most Aboriginal people. They are able to

participate in an activity where Aboriginal cultural heritage was not a problem to be overcome but rather an opportunity to be explored.

The process provides a tangible outcome and a positive structure in which people can communicate their aspirations and intentions to continue their custodianship of these important places, and allows time and space for various stakeholders to develop and nurture important relationships that provide for the ongoing care and maintenance of sites.

Importantly, the process empowers Aboriginal people to assert their voice positively and constructively and be involved in making and implementing decisions that take into account cultural protocols and obligations. They are explicitly included as part of the assessment and listing process, recognizing the unique Aboriginal perspective and interconnectedness of people, place, and living cultural expression.

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Big-Picture Ideas for Building Partnerships and Support for the Long Haul: Multimedia Campaigns and Strategies of the Bradshaw Foundation

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Evolving Platforms

This presentation provides a brief description of the evolution of the Bradshaw Foundation, its current work in light of multimedia campaigns and strategies relating to rock art, and where we see that heading in the future with various collaborative partnerships. This has been an interesting exercise because, though every step taken has been considered, looking back has revealed an unexpected path; insight from this must be incorporated into our vision for the future.

In its role to discover, document, and preserve rock art around the world, the Bradshaw Foundation has used the materials and platforms available in order to disseminate information.

The Bradshaw Foundation itself is a prime example of evolution: publications, the internet, films, and now social media. The internet itself is evolving; the requirements and expectations are constantly changing, and software and hardware come in and go out of fashion. Twenty-five years ago we had no idea that we would be sharing information—copy, images, and videos—on a smartphone or a tablet. Moreover, on the internet there is no one way of doing something; every task has a large number of operational options.

Being able to anticipate the future direction of the internet, and utilizing effective multimedia campaigns and strategies at a time of rapidly expanding information, is the task ahead.

The Apple iPod: A Breakthrough

In terms of disseminating information, we identified the Apple iPod as a technological breakthrough. The iPod embraced and embodied the digital age of rapidly expanding information, combining it with ruthless clarity. You could now have all the information, anywhere.

This medium was ideal for a short documentary film format: a high-density, fact-driven, visual-audio experience. We produced a series of films known as the iLectures, designed as an introduction to rock art around the world. It was also a format that was not restricted to the lecture hall: the iLectures could be viewed and shared without geographical restriction.

Dataism

Yuval Harari's latest publication, *Homo Deus: A Brief History of Tomorrow* refers to the rapidly expanding information as "dataism," which he cites as "the new religion." Dataism venerates neither gods nor man. It worships data. Dataism expects electronic algorithms to eventually decipher and outperform biochemical algorithms.

The Sharing Economy

Accompanying this dataism, we now have the "sharing economy." This is an economic system in which assets or services are shared between private individuals, either free or for a fee, typically by means of the internet.

Members of the public, of all ages, now expect information on demand, and bandwidth allows this to happen. Traditionally restricted distribution channels have been overturned, and information has become both unscheduled and interactive.

What does this mean for rock art? The Bradshaw Foundation approach for the future is to provide this information for free. The other expectation, or requirement, relates to quality. YouTube actively encourages subscription channels to provide films of higher and higher quality.

Google

The Bradshaw Foundation website was launched at the outset of the internet, and consequently we have been able to establish a prominent web presence. However, a high web ranking requires constant nurturing as well as an understanding of the algorithms employed by Google to rate a page and to evaluate a website. This too is not constant, and a significant proportion of time is designated to the latest requirements. For example, currently Google insists on concise unobstructed paths of navigation—for a robot to follow, not a human. There are many other requirements for a high Google ranking.

Tools at Our Disposal

To share the message that rock art is part of everyone's story, one of our main tools is the Journey of Mankind, a genetic map created in collaboration with its author, Stephen Oppenheimer. This global perspective emphasizes the common legacy of rock art by associating it with the modern human diaspora out of Africa.

The global perspective also stimulates new hypotheses. An example of this appeared with the discovery of rock art in Indonesia, as Paul Taçon pointed out: either the Sulawesi dates show that the making of rock art did not originate in Europe but is more likely a much older behavior brought by the first humans to both Europe and Southeast Asia; or, rock art practices of making hand stencils and skillfully executed depictions of wild animals were independently invented in far-flung parts of the world many tens of thousands of years ago. In other words, the interactive map encourages the debate on the origin of art, the behavioral practices modern humans brought with them when they left Africa more than sixty thousand years ago, and what it is to be human.

Another tool employed by the Bradshaw Foundation is the power of the image and the effect of the “gallery.” While this is only one aspect of the research carried out by rock art researchers, it is without doubt one of the most important in terms of engaging the public. A tweet with a powerful image is much more likely to go viral than one with a weak image. This of course applies to animated GIFs (a number of images or frames in a single file, presented in a specific order to convey animation) and short films. A considerable amount of time is spent by my colleague Ben Dickins in Photoshop on image presentation—not to distort it but to make it “pop” (see Dickins in this volume).

To spread the message and engage the public, one of the most important tools is the education package. To date, this resource is underutilized, and we hope to formalize a package for schools globally at various levels in the future. We see this as a priority.

Personal engagement can be enhanced by promoting guided rock art tours. The rock art tours that we promote in the Sahara are of course subject to security and safety, but there is plenty of rock art in the world that currently poses less risk.

Filming rock art, and filming experts discussing rock art, is one of the main tools at our disposal. As a format, it covers many of the requirements that I have discussed. This remains a priority.

The Latest Tool

Websites, at the end of the day, are passive. No matter how high our Google ranking may be, it cannot tell someone who has never heard of Chauvet or Altamira to come to our website and learn about them. Social media can. Social media is active; an aggressive campaign on Facebook and Twitter is effective simply because its very nature is viral. One of the most common comments we receive on social media is “I had never heard about this—it’s awesome.” Thus we know that social media shares and opens doors. It is a beast you have to feed, but it is the tool for the overwhelming task of keeping up with the research and the rapidly expanding information I have referred to. In association, we aim to employ a relatively new element of social media: the blog. We refer to this as the “Army of Generals” whereby we create a larger team of rock art researchers to share the news; by invitation only to begin with, but eventually providing direct access to the Bradshaw Foundation website and in any language. This mechanism can also foster public custodianship, an important element of which is communication between Indigenous groups and communities, particularly in Australia and Africa. It can also be utilized by a large but unrecognized force: volunteers.

The Future

In terms of future partnerships, all of these processes can be applied through joined-up thinking with any number of organizations and academic institutions on a global basis. The partnership, or alliance, must be approachable. Based on the four pillars encapsulated in the report *Rock Art: A Cultural Treasure at Risk: How We Can Protect the Valuable and Vulnerable Heritage of Rock Art*, published by the GCI, the partnership must connect professionals, connect rock art sites, connect local communities, and above all connect with the public. It must also be multifaceted: some areas of research must be restricted—“restricted knowledge” and rock art sites that are not in the public domain—while other areas must be transparent, reciprocal, and freely available, employing tools such as social

media and film. Social media must be seen as a two-way process: the partnership reaching out to the public, and the public reaching out to the partnership. Here there is another vital role to be played by volunteers; as a group, they should not be restricted to activities on the ground but also should be actively involved in sharing the message through social media. The message is simple: rock art is our global heritage, it belongs to us all, and we should all be involved.

Emerging Consciousness and New Media: The Management of Rock Art in Southeast Asia and New Opportunities for Communicating Its Significance

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Archaeological studies in Southeast Asia began as part of the colonial experience initially oriented toward studying temple architecture and sculpture. In later, postcolonial times, archaeology has become a source of national pride and revenue through tourism. Against this background, rock art has traditionally been under-researched. In the past decade, there has been a marked increase in site discoveries and research publications from both local and international scholars (see overviews by Scott and Tan 2016; Tan 2014b; Taçon and Tan 2012). Rock art is now known in nearly every country in Southeast Asia; most rock art is thought to be from the Late Holocene to the Neolithic, although there is evidence of rock art from the Pleistocene (Aubert et al. 2014; O'Connor et al. 2010) to the more recent colonial period (Tan and Walker-Vadillo 2015; Mokhtar Saidin and Taçon 2011).

Southeast Asia is a diverse region, and as a result, rock art research and its management varies from country to country. In this paper, I will outline some successful rock art management and communication strategies from Southeast Asia. They are divided into two approaches: traditional strategies involving physical site management and co-opting local beliefs into the protection of sites; and new media strategies utilizing the internet and social media to engage people in caring for and monitoring sites. This latter strategy has potential for future development, particularly in the case for managing sites that are open to tourists.

Traditional Strategies

Traditional strategies refer to initiatives led by government or an equivalent authority in protecting rock art through the establishment of protected zones and the management of access. Thailand has the most experience in this regard, having the largest number of known rock art sites in mainland Southeast Asia (Tan 2014b), but similar zones are found in Malaysia, Philippines, Indonesia, and Myanmar (Tan 2010; Bautista 2015; Tan 2015). Many rock art sites have been gazetted under the Fine Arts Department, the government agency overseeing archaeological properties in the country. Additionally, archaeological sites are a major cultural attraction for Thailand's tourism industry; several archaeological sites, such as Ayutthaya, Sukhothai, and Ban Chiang, are on the UNESCO World Heritage List, and in 2015 the Fine Arts Department nominated Phu Phra Bat, a site that incorporates rock art, to the list (The Nation 2015).

The Phu Phra Bat site ("The Mountain of Buddha's Footprints") was established in 1991 as a historical park and is a sandstone ridge located in Udon Thani Province in northeastern Thailand. The site has a number of natural, historical, and cultural features, including

magnificent rock formations—many of which have been converted into Buddhist and animist shrines—architectural ruins from two ancient kingdoms, and some one hundred rock art sites. Taken together, Phu Phra Bat represents a sacred landscape that has been used over a long period of time (Tan and Taçon 2014; Tan 2014a; Munier 1998).

The park is fairly remote (approximately two hours' drive from Udon Thani city) and all the significant sites are spread out over Phu Phra Bat plateau. As it is impossible to monitor all parts of the site, tourist management is facilitated by the creation of walking trails that steer tourists to a selected number of rock art sites. Signs are installed at all points of interest to provide information and to remind visitors not to touch the rock paintings where they are accessible (fig. 1). By and large, these measures have been successful, as no rock art damage has been reported so far; however, damage to the site is mitigated by the relatively low number of visitors. Most visitors are Thai, who are more inclined to respect the site because of its religious association.

Religion, or more specifically Southeast Asian Buddhism, merged with local animistic beliefs, plays an important role in many rock art landscapes throughout mainland Southeast Asia. The belief in nature spirits, both benevolent and malevolent, affects people in everyday life, and the Buddha is seen as the chief or most powerful of these spirits. The spirits dwell in physical locations such as the house and village but also in the river, forest, and cave. Buddhism also has traditional associations with caves and rock shelters, being used by some monks as retreats for meditation (Lester 1973; Sitthisunthōn, Gardner, and Samāt 2006). Unsurprisingly, we see an intersection between sacred sites and rock art in Buddhist Southeast Asia but also an unexpected strategy for protecting the latter.

The Khao Chan Ngam site (“Mountain of the Beautiful Moon”) in Thailand’s Nakhon Ratchasima Province is a large sandstone massif containing rock art scenes of hunter-gatherer lifestyles. At the same time, the rock shelter houses a Buddhist shrine with numerous Buddha images. A number of other signs and posters outlining the history of the temple and stories of prominent monks are laid along the wall of the shrine.

The shrine effectively protects the rock art by preventing access and interference (fig. 2). Both the archaeological and the religious value of the site are acknowledged. The

FIGURE 1.
Phu Phra Bat in Udon Thani Province, Thailand. Various signs and tourist trails are designed to direct tourist behavior.



FIGURE 2.

Khao Chan Ngam in Nakhon Ratchasima Province, Thailand, a rock art site protected by a Buddhist shrine.



shrine is part of a larger temple complex that is maintained by the monastic community, while the Fine Arts Department has placed the rock art on the official register of protected sites and provided signs to inform visitors about the site.

Similar coexistence of rock art sites and Buddhist shrines can be found in Myanmar, Cambodia, and Laos (Tan 2014a; Tan and Taçon 2014) and has been observed elsewhere with other religions in India (Peter Skilling, pers. comm. 2017), Kazakhstan (Lymer 2004), and East Timor (O'Connor, Pannell, and Brockwell 2011). When a site becomes a sacred space, the religious activity protects the rock art from physical damage by preventing access to the rock art; however, religious activities at sites tend to be indifferent to the presence of rock art and may modify the actual site itself. In this regard, local custodians of the site play an important role in understanding the significance of the rock art. By educating them about the importance of the rock art, local custodians also become invested in the long-term preservation and protection of these sacred spaces (fig. 3).

FIGURE 3.

Dr. Goh Hsiao Mei of Universiti Sains Malaysia leading one of the weekend public archaeology workshops at the Gua Tambun rock art site in Ipoh, Malaysia.



New Media Strategies

The protection of a rock art site through association with a sacred space, while fairly common in Southeast Asia, is a regionally specific phenomenon. In addition, protection of the rock art is not the intention of the religious actors at the site but rather a by-product of maintaining a location's sanctity. For a more direct approach to raising public awareness and protecting sites, the internet and social media present new opportunities for connecting people with sites and experts. A prime example is the ongoing Gua Tambun Heritage Awareness Project (GTHAP) in Perak, Malaysia.

GTHAP is an initiative developed by the Centre for Global Archaeological Research at Universiti Sains Malaysia. Gua Tambun is a cliffside rock shelter located outside of Ipoh, the capital of the state of Perak in central peninsular Malaysia. Discovered in 1959, a re-examination of the site in 2009 recorded the presence of more than six hundred paintings, making it the largest rock art site in peninsular Malaysia; from associated finds, the site is dated from the Late Holocene to Early Neolithic period (Matthews 1960; Tan and Chia 2012, 2011, 2010; Tan 2010). In response to the new findings from the 2009 campaign and heightened awareness of the management and conservation issues at the site, GTHAP was launched in 2015.

GTHAP is the first community engagement heritage project in Malaysia and was established to generate opportunities to protect the Gua Tambun rock art site and create long-term collaborations between the local community, NGOs, and heritage professionals (Goh 2016). Funded through crowdsourcing, GTHAP initiatives include training volunteer rangers and organizing a series of weekly public archaeology workshops (fig. 4). The initiative is further supported by a website and social media platforms on Facebook (<https://www.facebook.com/Gua-Tambun-Heritage-Awareness-Project-1436202296688833/>) and Instagram (<https://www.instagram.com/tambunrockart/>) that enhance the community dimension of the project by cultivating interested followers.

The researchers at GTHAP identify a gap in the sense of ownership of Gua Tambun between the researchers and the people who live there now (Goh 2016). Through the

FIGURE 4.
Gua Tambun Heritage Awareness Project community site visits in Perak, Malaysia. Photo: Gua Tambun Heritage Awareness Project



GTHAP workshops, Saw et al. argue that encouraging public interpretation of the rock art also raises social awareness and ownership of the rock art sites. At the time of writing, the public archaeology workshops at Gua Tambun are undergoing a fourth season, lasting from March to December 2017.

A contributing factor to the success of the Gua Tambun Heritage Awareness Project is the role of social media in spreading the word and connecting people across space; the researchers at Universiti Sains Malaysia are based in Penang, two states away, but through their efforts they have facilitated an understanding of the often inaccessible academic literature and increased local-level appreciation of the site.

Social media and the internet also provide new opportunities for researchers to monitor sites remotely. The ubiquity of mobile phones and more advanced digital cameras, combined with the popular trend of sharing images through social media, provides some possibilities to utilize tourists as proxy field researchers. Quick searches of rock art sites on social media such as Facebook and Instagram, as well as image-sharing sites like Flickr or stock photography sites like Shutterstock and Alamy can provide potentially useful images for long-term site monitoring, especially when coupled with a community program like the aforementioned GTHAP.

From personal experience, members of the public—often interested tourists—have reached out to me via my personal website (Tan 2007), Academia.edu, and institutional e-mail to ask about rock art sites they have encountered. In one example, an Austrian tourist who visited Laos in the middle of 2016 saw a rock art site in Luang Prabang Province. Through her internet searches, she found my research and contacted me for more information. As it turns out, the site she visited was known but as yet undocumented (Bouxaythip 2011) and her information led directly to a baseline recording of the site (Tan 2016).

The flow of information shared between the public and researchers works both ways. After reading an article I published about the Karimun Inscription, a petroglyph site in the Riau Islands of Indonesia, near Singapore (Tan 2007), a Buddhist monk was inspired to visit the site and contacted me. I later found out through his blog post that he did visit the site with some of his followers, but unfortunately poured water over the rock engravings and attempted to trace over the carvings (Dhammika 2013). While I could not have foreseen the actions of the monk and his followers, the Karimun Inscription episode is a reminder that obscurity is a great protector of rock art sites. On reflection, social media can play an important role in educating visitors at rock art sites on the proper behavior to promote the preservation of sites.

Utilizing Social Media for Site Management

Underlying the two traditional and new media approaches outlined above is not so much the management of the physical site itself but rather the management of people connected to the rock art sites. The key task for the site manager is engagement with the authorities, local custodians, and visitors. In the case of Southeast Asia, traditional, on-the-ground engagement with local religious and community leaders has an important role to play in the long-term protection of sites; moreover, the cooperation of religious custodians is the single most important protection sites can have from physical interference.

The internet and social media have an equally profound potential for managing visitors, particularly with sites that are already open to tourists. Strategies for use, communicating

FIGURE 5.

Social media can promote community engagement with rock art sites. The use of hashtags tracks activities associated with sites and makes them more discoverable.

The image shows a social media post for an event titled "embracing TAMBUN ROCK ART". The post includes a central image of rock art on a cave wall, with various animal figures drawn in red and black pigments. Above the image, the text reads "embracing TAMBUN ROCK ART" and "A Heritage initiative by GTHAP". To the right of the image is a social media interface showing a post from "incitementipoh" dated "3rd October 2015". The post text says "Embracing Tambun Rock Art : A Heritage Initiative by #GTHAP" and "Get hands-on to unveil the ancient life of Tambun ! smile emoticon With activities such as Rock Art Hunting and Interpretation and learn the history of Tambun Rock Art !! ~ See you there". Below the text are several hashtags: #tambunrockart, #GTHAP, #guatambunheritageawarenessproject, #ipohmali, #guatambun, #incitementipoh, and #ipoh #perak. At the bottom of the post, there are icons for likes, comments, and shares, along with the names of users who liked the post: iameverywoman, annur.hahmad, toyspecialist, theincitement, warrenwwwong, incitementipoh, ipohsecrets, and m.hafeezul. The date "SEPTEMBER 27, 2015" is also visible.

rock art values, and managing sites fall under four broad categories: raising awareness, creating communities, generating calls to action, and site monitoring.

Raising awareness: In the Southeast Asian experience, rock art is generally unknown and hence undervalued. Therefore, social media and the internet play an important part in creating appreciation of undervalued sites and in educating potential visitors on how to visit and appreciate such sites. Caution and judgment must be used, however, in determining if opening a site to public knowledge exposes it to unnecessary risk.

Creating communities: GTHAP is a successful example of mobilizing a local and international community through the creation of a Facebook page and an Instagram account, and developing a follower base around the site. Care should be taken in choosing the right kinds of online community platforms according to the audience patterns. Community members in turn become vested in the long-term welfare of the site, and a channel from which more publicity and awareness are shared.

Generating calls to action: With a large enough follower base, social media can be used to mobilize actions such as clean-up activities, fundraising, and organizing community events. Such events should be designed to generate publicity in order to enlarge the existing community.

Site monitoring: For heavily visited sites, social media can be used to monitor rock art and site degradation through photos shared between community members. Most social media outlets offer some way of tracking the number of followers, but hashtags (#s) should also be propagated and monitored to track specific activities and sites (fig. 5). Watermarking images with hashtags and website addresses are also useful methods of spreading important information.

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Rock Art's Connection with Modern Art

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Often found in inaccessible locations, including caves or deserts, prehistoric rock art became known to a wide audience in cities across Europe and the US in the form of large-scale painted copies. The German anthropologist Leo Frobenius (1873–1938) assembled the world's most prominent collection of almost five thousand such paintings. The variety of painting techniques used and the sometimes experimental attempts at reproducing the structure of the rocky background through color and texture, while the artist was limited by weathered, incomplete motifs, may attest to individual styles and contemporary artistic influences and was usually quite successful in capturing the original.

This paper retraces the eventful history of this early rock art documentation project in European caves, the central Sahara, the savannas of Zimbabwe, and the Australian outback by some two dozen painters, mostly young women. Furthermore, it examines the exhibition history of these never-before-seen images and analyzes their impact on classical modern art.

Documenting Worldwide Rock Art in the Early 20th Century

Frobenius was the most famous German anthropologist of the first half of the twentieth century and an ambiguous figure. An academic outsider who was given a professorship only at the very end of his career, he was extremely prolific, publishing more than fifty books, many written for a larger public and many of them best sellers. Having started his career in ethnographic museums, he became convinced of the necessity of field research and between 1904 and 1933 undertook twelve expeditions to Africa. He was thus among the first trained anthropologists to leave his armchair to do field research in Africa. These trips could last as long as two years and included expeditions to the Congo in 1904–6, to French West Africa in 1907–9, and to Nigeria and the British Cameroons in 1910–12 (fig. 1).

An impulsive, passionate, and charismatic expedition leader who often improvised, Frobenius drew together what is likely a unique documentation of African objects and customs, folktales and myths, as well as portraits and images of everyday life, material culture, and architecture. Visual documentation was always extremely important to him, and he never traveled without artists. An entrepreneur-anthropologist, Frobenius created the Institute for Cultural Morphology, which, in spite of its highly devoted staff, was constantly on the brink of bankruptcy. He was an exceptionally gifted networker and had good connections with the highest social circles, befriending, among others, the German emperor Wilhelm II, who through his contacts helped Frobenius to facilitate and finance a number of expeditions. Frobenius's rock art recording expeditions date back to before World War I. After his travels with ethnographic focus to the Congo and West Africa, his expedition to Algeria in 1913–14 was mainly meant to document the rich rock art tradition found in the Sahara Atlas Mountains.

His aim on this expedition was to prove that the great rock art tradition, which had flowered during the Ice Age in Europe, especially in places such as Spain's Altamira Cave and in southern France, had not entirely vanished. Rather, he believed that this artistic



FIGURE 1.
Frobenius expeditions, 1904–39.

© FROBENIUS-INSTITUT

tradition had persisted first in northern Africa and had then later spread to the rest of the continent. To prove this continuity, he was compelled to thoroughly document North African rock art and thus took four artists to Algeria, where their task was to copy the mostly engraved prehistoric rock art onto paper and canvas (Frobenius and Obermaier 1925) (fig. 2).

This pioneering endeavor produced some 350 painted copies, a number of them life-size and covering almost 7 square meters. After World War I, rock art research became the main focus of the expeditions he organized to Egypt (1926), southern Africa (1928–30), and the Sahara (1932, 1933, 1934–35).

With the expedition to southern Africa, Frobenius began to predominantly employ young women from the upper classes. While the male painters were commonly employed for one or two expeditions and afterward continued pursuing their own artistic careers, the young women proved much more faithful to the Institute for Cultural Morphology and its charismatic director. Many of them were the daughters of wealthy families and had been trained at various art academies (fig. 3).

Their diaries bear witness not only to the magnificent play of light and shadow and the colors and forms of African landscapes but also to the unorthodox and exciting lifestyle they experienced, which was well beyond the narrow constraints of bourgeois society. Working with Frobenius promised not only travel and adventure but also many new opportunities. Alongside their artistic specialization in recording rock art, many became research-

FIGURE 2.
Ruth Assisa Cuno,
Rock art copy from
Wadi In Habeter,
Lybia, 1932. Oil on
canvas, 270 x 204.
© FROBENIUS-INSTITUT

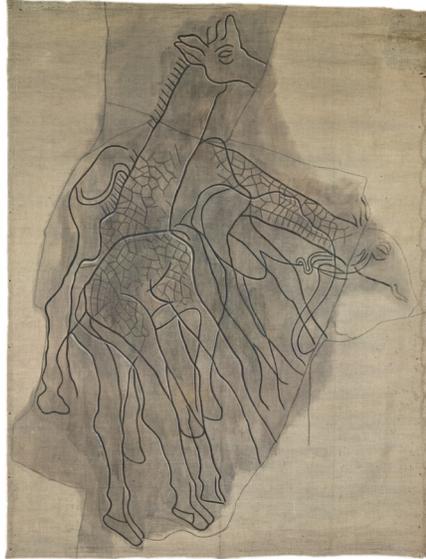


FIGURE 3.
Agnes Schulz copying rock art in the Matopo Hills, Zimbabwe, 1929.
© FROBENIUS-INSTITUT



FIGURE 4.
Elisabeth Pauli and
Katharina Marr copying
rock art in El Richa, Algeria,
1935. © FROBENIUS-INSTITUT

ers in their own right. At the institute, nicknamed “the little Amazons’ state,” they played a substantial role and even led some of the smaller expeditions. For example, the painter Agnes Schulz produced around seven hundred rock art copies on three continents and published several studies focusing particularly on Australian rock art (fig. 4).

An archive of several thousand black-and-white photographs shows expedition life and the process of rock art copying (Frobenius Institute 2017). They also testify to the enormous difficulty of conducting the expeditions, especially those in the Sahara, where Frobenius’s team members were among the first ever to use automobiles.

With their unreliable Ford cars, they traveled as far as Gilf Kebir and Uweinat in the eastern Sahara, hundreds of kilometers away from any human settlement, and spent much time digging the heavy cars out of the sand and repairing broken axles and engines. They were rewarded by the discovery of incredible, hitherto unknown rock art sites, among them, on an expedition together with Ladislaus Almásy, the famous Cave of Swimmers in Wadi Sura.

In the mid-1930s Frobenius’s focus on rock art expanded to well beyond Africa. The institute documented numerous European rock art sites in Spain, in Scandinavia, and in France and Italy. In the late 1930s Frobenius even sent his anthropologists and artists out to western New Guinea and to northwestern Australia (Kuba 2016a). We at the Frobenius

Institute have been approached by Kimberley Aboriginal corporations and intend to start the project “The German ethnographic expeditions to the Kimberley, Northwest Australia. A collaborative assessment of research history, the interpretation of Australian Aboriginal heritage and digital repatriation.”

Not until very recently have there been successful attempts made to reconstruct the almost forgotten but spectacular history of the exhibitions themselves. During the 1930s the European public had developed a fascination for prehistoric art and this was well served by Frobenius’s spectacular discoveries in Africa.

After returning from southern Africa in 1930, the institute’s findings were immediately opened to this public through exhibitions in Berlin, Mannheim, Oslo, Brussels, and Paris. The following year saw exhibitions in Hamburg, Saarbrücken, Cologne, Amsterdam, Frankfurt, Basel, Zurich, and Vienna. This exhibition pace continued throughout the 1930s with the rock art copies traveling through almost all European metropolises, as well as to thirty-two cities in the US, including Honolulu (Kuba 2016b; Ivanoff 2016b).

The most acclaimed and widely publicized exhibitions were shown at the Paris Trocadéro, the Reichstag in Berlin, and the New York Museum of Modern Art (MoMA). In the case of the latter exhibition, titled *Prehistoric Rock Pictures in Europe and Africa*, the largest painted copy on display stretched to over 10 meters long and showed complex scenery with hundreds of human and animal figures from Mutoko, Zimbabwe. MoMA’s press release leaves no doubt as to the quality of the copy: “The facsimiles to be shown reproduce exactly the colors and forms left by prehistoric man.” The MoMA archives hold hundreds of newspaper clippings affirming the enthusiastic reception the exhibition received. The *Brooklyn Eagle* wrote that the Mutoko canvas “covers an entire wall of the museum [...] one might mention Breughel to suggest the quality of this work but that would be inadequate. Breughel knew no such fecundity as this.” The *Washington Post* praised the “pure perfection of outline,” and the *Herald Tribune* deemed it “one of the most exciting exhibitions ever organized at the museum” (figs. 5 and 6).

It was through these exhibitions and the color facsimiles that were published in several large format coffee-table books (Frobenius and Obermaier 1925; Frobenius 1931, 1937) that the paintings, which belong to humankind’s earliest artifacts and had so far been known to only a handful of scientists, became widely known to the public. Central to this was undoubtedly Frobenius’s ability to market his findings and to communicate with the

FIGURE 5.
Joachim Lutz, Rock art copy
from Mutoko, Zimbabwe, 1929.
Watercolor on paper, 283 ×
679 cm. © FROBENIUS-INSTITUT





FIGURE 6.

Prehistoric Rock Pictures in Europe and Africa, exhibition at the Museum of Modern Art, New York, 1937. © MoMA

highest strata of society. Equally crucial was the availability of a huge collection of impressive painted copies. The enormous success of the paintings and the way in which they were received and understood by the larger public had not even been fully anticipated by Frobenius himself. He had intended to settle cultural and historical debates over issues such as the migration of prehistoric styles between the continents through a comparative approach. Designed as documentary science images, the copies nonetheless convey the aesthetic power and aura of the prehistoric originals, and the fact that the copies aesthetically inspired modern artists and art lovers certainly came as a surprise to Frobenius.

In the following, I shall argue that (1) today the aesthetic value of painted copies could well be used to making rock art more widely known, and (2) its intimate yet little known connection with modern art could be a great avenue to bring rock art into the spotlight for a larger art-loving public worldwide.

How to Display Rock Art in Exhibitions

Since the discovery of Altamira in Spain in the nineteenth century, painted copies were the documentation method of choice. Photographs did not yet produce colored images, nor could they feasibly reconstruct the size of the original. However, with the spread of color photography in the 1950s and 1960s, painted copies became the first of many technological impasses in the scientific documentation of prehistoric rock art because of the inevitable artistic freedom of the copyists. The complexities of translating a three-dimensional original to a two-dimensional copy, coupled with artistic idealization and dramatization of motifs, meant that painted rock art copies were soon discredited as a method of thorough scientific documentation. While painted copies might not always meet the standards of scientific images, the aesthetic value of painted copies for representing rock art in exhibitions should not be under-rated. First, there is no technological break in the method of documentation, as there is with photographic representations. Furthermore, photographic copies are also subject to translation problems of their own and the faithfulness and accuracy of this method may be exaggerated. Indeed, Frobenius himself stated that “the vain belief in the unailing

accuracy of photography makes people forget that a spirited emerging drawing is in many ways more 'substantial' than mechanical photography" (Frobenius 1937, 21).

Whoever has personally studied rock art on site knows that upon returning to the site after just a few minutes, it is possible to discover new details previously overlooked. This is what Frobenius referred to as "more substantial." It is the eye of the beholder, the interpreter, and finally the one who, with pencil and brush, subjectively translates and merges the details of a rock art picture into a painted copy. This process cannot be supplanted by the lens of a camera that produces images that differ between the morning and the evening or that may change depending on the season. It could rather be equated to the process of translating literature where the translator is a congenial coauthor, or to the interpretation of a musical piece where faithfulness to the original score is paramount but can never be fully achieved. Certainly, the quality of copies may vary greatly according to artistic ability, and more than a century of rock art recording has produced a great number of examples of very diverse copy quality. However, among the artists employed by Frobenius were probably some who had looked at rock art longer and more intensively than many modern researchers. These artists participated in several expeditions and spent many hours, days, and months sitting in front of prehistoric paintings or engravings in the Brandberg or Drakensberg, in Gilf Kebir or the Tassili, in Valcamonica or La Pasiega. What they produced painstakingly under very difficult circumstances are often beautiful examples of scrupulous documentation coupled with real artistic talent.

However, in spite of all the effort made, a copy can never transport the overall impression of a rock art ensemble in situ. One may readily agree with Frobenius's enthusiastic tone when he writes that "it is impossible to be as much moved by merely looking at pictures as by the infinite splendour of the dignity that distinguishes these pieces of art as a living essence inscribed into the desert" (Frobenius 1937, 21). Certainly, the aura of the original, the rough rock, the effects of composition, the light and environment are missing in a copy. However, there are a number of copies that, when unrolled, contradict their *spiritus rector* Frobenius with surprising aesthetic power.

The question remains as to whether it is the inaccessibility of most prehistoric rock art sites that is to be blamed for the fact that this unique art form has only faintly penetrated the minds of an art world greedy for originals, and thus largely remains the passion of a few hard-boiled travelers, enthusiasts, and researchers. While copies are hardly valued in the art world, worshipping the "aura" of the original, the historical painted copies of the Frobenius Institute increasingly and unwittingly became a unique art form in its own right, and the leading light of a bygone science era in which art and science were combined more naturally into a kind of scientific expressionism, helping to make scientific results more accessible to a general public.

In recent years, art and media theory have greatly elaborated on what copies and reproductions add to the perception of the singularity of an original (Bredenkamp 2013; Tietenberg 2015). Reproductions and facsimiles add to the exceptional status of an original and are actually crucial in forming the original's aura. In the case of rock art, impossible to translocate and often located off the beaten tourist track, copies may be the only way to make sure the originals are valued.

These arguments make a case for reintroducing painted copies into our rock art exhibitions. A spectacular aesthetic experience is often more important than alleged scientific exactness. Even the "neo caves" of Lascaux, Altamira, and Chauvet rely largely on painters for their three-dimensional copies, and where we have only two-dimensional surfaces we should keep in mind that the culturally transmitted conventional viewing habits in the west

expect “art” to be mostly painted on canvases hanging in a rectangular shape on a wall. And just like eighty years ago, painted copies are aesthetically much more appealing to an art-loving public than photographs of rock art.

Rock Art and Modern Art

From January to May 2016 the Frobenius Institute had some 120 historical rock art copies on display in the Martin-Gropius-Bau in Berlin, one of the leading exhibition venues in the German capital (https://www.berlinerfestspiele.de/en/aktuell/festivals/gropiusbau/programm_mgb/veranstaltungsdetail_mgb_ausstellungen_137493.php). The exhibition was the largest display of copies from Frobenius’s expeditions since the 1930s. It drew around thirty-five thousand visitors, the catalogue was reprinted three times, and the media reviews were very positive. The exhibition was shown in a slightly different form from July to October 2017 in the Museo de Antropología Nacional in Mexico City, and a smaller section focusing on African rock art was shown in Dakar, Senegal, in early 2017 involving modern artists of the vibrant Dakar art scene (Kuba, Ivanoff, and Kassé 2017).

One of the topics of the Berlin exhibition was rock art’s connection to modern art, and, initially, we wanted to combine our canvases with works by Joan Miró, Paul Klee, and Jackson Pollock. The plan was quickly aborted for financial reasons, but in final consideration this did not harm the exhibition concept at all, as the icons of classical modernity were present anyway—in the visitor’s imagination. Walking through the exhibition and listening to visitors’ conversations, one could frequently hear comments such as “This looks like a Giacometti” or “Picasso couldn’t have done it better.”

Modern art museums are the most successful museums in the Western world. At auctions the prices for modern classic artworks attain sums beyond belief, reinforcing the value of this art. Our main objective therefore should be to exhibit rock art in a museum of modern art. This would not be out of place because the connections between prehistoric art and modern art are actually numerous and striking.

In our exhibition *Art of Prehistoric Times: Rock Paintings from the Frobenius Collection*, we attempted to focus, among other things, on the history of the public and media reception of our collection. Indeed, in addition to an interest in the art of the primitives (the term used for Indigenous peoples at the time) and the naives (children and the mentally ill), the quest for original, “unspoiled” forms of expression in the 1920s and 1930s gave rise to a third, often neglected source of inspiration for the development of modern art: prehistoric art, and particularly the oldest human art tradition, rock art. It is for this reason that the famous Alfred Barr, founding director of MoMA, wrote in 1937: “the art of the 20th century has already come under the influence of the great tradition of prehistoric mural art” (Barr 1937, 9). At that time, he was showing a selection of 150 copies from the Frobenius collection. He displayed the works as art: in the famous “white cube,” many paintings filled entire walls, frameless and with almost no contextual information. What influence did these hitherto unseen images from distant African deserts and hidden caves have on contemporary artists when shown in color and in original size to a large metropolitan public for the first time?

There is still plenty of research to be done in this respect. The specific treatment of the rock paintings with regard to perspective and dynamics, space and surface is, however, an essential clue (Labrusse 2016; Meyer 2013; Seibert 2014). It seems that Jackson Pollock had visited the New York exhibition and shortly afterward started to produce his own all-over paintings. Likewise, we know of many other protagonists of modern painting

who visited the rock art exhibitions and had a prominent place for Frobenius's illustrated books on their bookshelves (Ivanoff 2016a; Hildebrand-Schat 2016).

Prehistoric rock art caught the attention of European and North American artists at a time when they were relinquishing traditional academic forms of painting, renouncing figurative motifs, and beginning to create collages and large murals. This is why Joan Miró could announce in 1928 that “since the age of cave painting, art has done nothing but degenerate” (Miró 1995, 197) and why Alberto Giacometti could say that “there and only there movement has succeeded” (Leiris and Dupin 1990, 188) In the late 1940s and early 1950s there were still exhibitions such as *40,000 Years of Modern Art* in London and Paris or book titles such as *Modern Art 5,000 Years Ago* (Brun 2016; Stavrinaki 2016; Museum of Modern Art 1947). But after this, prehistoric art more or less vanished from art circles for decades only to survive, gathering dust, in specialist circles. Now is the time when art historians and curators seem to have rediscovered prehistoric art and its surprising connection to modern art. In 2013 the British Museum showed *Ice Age Art: Arrival of the Modern Mind*, an exhibition combining prehistoric art with some classic modernist works, such as Henry Moore sculptures and works by Matisse or Brassai (The British Museum 2013). The Centre Pompidou in Paris is planning a huge exhibition of prehistoric art where rock art will be displayed alongside modern artworks. Germany's most prominent art historian, Horst Bredekamp, thinks that from a *longue durée* perspective of human artistic creativity there are reasons to see the classical European art periods from the Greeks to the end of the nineteenth century as a mere exception in human art history and a mere parenthesis within a much longer history predominated by more abstract aesthetics such as in modern and prehistoric art forms (Bredekamp 2013).

This all means that rock art should be taken seriously as art. To the dismay of specialists, it may undergo a process similar to that of ethnographic objects. Displayed within an ethnographic context, those fantastic objects from Asia, Africa, and elsewhere seem to bore, and many traditional ethnographic museums are hard hit by the public's indifference. But once these ethnographic objects are staged as art in, for example, the Pavillon des Sessions in the Paris Louvre or in the Metropolitan Museum of Art in New York, they can attract a large public well beyond the usual aficionados.

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The Relationship between Ice Age Art and Contemporary Art: How an Artistic Understanding of the Former Can Help Engage a Modern Audience

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A Shared Human Experience: The Shadow World of Archaeology, of Rock Art, and of Art

As we know, there is a shared human experience between the past and the present. An archaeologist uses his or her own experience of being human to unlock an understanding of what it is to be one of our ancestors. Excavating a hearth is not just a mechanical process but an emotional one; we imagine the thoughts of the original occupants of that hearth. In other words, the shared human experience brings the situation to life.

In my experience, this applies to the study of rock art; walking into a deep cave to come upon a cave painting will always summon the ancestors. Or, to put it more accurately, summon the original artists. As with excavation, studying rock art is not just a mechanical process but an emotional one as well. I am speaking as an artist, not as an archaeologist.

Vein of Art: Inspiration versus Reaction

By considering the connection between prehistoric art and contemporary art, I want to introduce the concept of the vein of art.

Historically, artists have tended to be inspired by a preceding vein of art or movement; art is a reaction to what has gone before, either building on it, developing it, or sometimes dismissing it completely.

But for the prehistoric artist, there were no precedents, no vein of art to follow. Yes, there were artistic traditions—long ones—but what was the source of initial inspiration? This is the first aspect of the relationship between prehistoric art and contemporary art that I believe we should consider.

Route: Neuroscience versus Instinct

One way to approach this difficult area is to consider the artistic route taken.

With a lack of artistic precedents, Palaeolithic art offers the first visible sign of modern human consciousness, of self-awareness, with the use of metaphor and symbol as well as a sense of beauty.

Is this human instinct, or is it a matter for neuroscientists who analyze recurrent geometric motifs in rock art in relation to the anatomical and neurophysiological characteristics

of the human visual cortex, displaying the universality hypothesis and the concept of neuroaesthetics?

Another way of looking at it; the author Yuval Harari asks whether it is “algorithms or soul music”? According to the life sciences, art is not the product of enchanted spirit or metaphysical soul, but rather of organic algorithms recognizing mathematical patterns.

But the main point here is that this human artistic experience, whichever way you want to look at it, makes us begin to think about the purpose of rock art. This is the second aspect that deserves attention. The purpose is being revealed by the fact that, somehow, the prehistoric artist was able to visualize the result of work in advance and to possess an outstanding sense of aesthetic perception. Whichever the route taken, the same human experience is being applied to art today. It appears that it is something as a species we cannot escape from.

A Liminal Experience: Lions, Ladies, and Back to Lions

What do I mean by that? I am told that this phenomenon, this connection that leaps across a chasm of time is a liminal experience. “Liminal” is defined as occupying a position at, or on both sides of, a boundary or threshold. Earlier I referred to the shadow world of the archaeologist; I believe a contemporary artist uses his or her own experience of being a human and an artist to gain an understanding of art in a Palaeolithic world.

Another adjective that may help explain the point I’m trying to make is “atavistic.” This is a term often used by archaeologists, anthropologists, and geneticists, among others, that is defined as “relating to or characterized by reversion to something ancient or ancestral; relating to an inherited trait that reappears in an individual after being absent from a strain of organism for several generations.” In artistic terms, this simply means there is a direct connection.

It is hard to quantify, and I am basing my observations on personal experience, but it has revealed to me artistic connections that offer an understanding of or empathy with my creative ancestors.

My first experience of this phenomenon was with a commission to carve a sculpture based on the Lions of Soleb, or the Prudhoe Lions, in the British Museum, dated 1370 BC (fig. 1). On close observation, I realized that the lines of the sculpture were in fact identical to those of my own work. Much of the Nubian granite lion had been damaged over time—it had belonged to Amenhotep III and Tutankhamun—but with a stylistic consistency, I was able to return to what I believed was the original sculptural state sought by the original artist (fig. 2).

This was confirmed for me by a painting I saw, having completed my sculpture, by Sir John Edward Poynter titled *Israel in Egypt*, painted in 1867 (fig. 3); we had both reached the same point. Three artists were now connected.

What does this have to do with rock art? I will endeavor to explain by sharing my second liminal experience with my own figurine sculptures. My style is expressionist, and this vein of art was initiated long before my involvement with the Bradshaw Foundation. But now I see the link with the Ice Age figurines, for several reasons. My sculptures attempt to capture the feminine spirit. The sculptures correspond to a classical style, but the clear loosening-up and reduction to essentials represents my quest to seek the “origin” (fig. 4).

The emotional pitch is produced by the omissions, distortions, and exaggerations. The subject is intensified by the inner attributes at the expense of its outer attributes, and by employing the sensually suggestive capacities of line (fig. 5).



FIGURE 1.
One of the Prudhoe Lions, also known as the Lion of Soleb (1370 BC), from the collection of the British Museum. © Creative Commons



FIGURE 2.
Life-size sculpture carved in granite by the author, based on the Lion of Soleb.



FIGURE 3.
Edward Poynter, Israel in Egypt, 1867. Oil on Canvas, 54 x 125 inches. © Wikimedia Commons

FIGURE 4.
The author's sculptures of the female figure correspond to a certain classicism, although they represent a quest for the form's "origin." Seen here, Odalisque.





FIGURE 5.
The inner subject is intensified by the omission, distortion, and exaggeration of its outer attributes. Seen here, Gaea



FIGURE 6.
A luxuriant whole is achieved despite distortion of the parts, a quality reflected in Ice Age sculpture. Seen here, Atlantic.

The whole is resolved in a harmony that belies the distortion of the parts. The effect, I hope, is absoluteness—the sculpture does not speak beyond herself. She is self-contained, luxuriant (fig. 6). I could be speaking about any one of the Ice Age figurines.

My third experience of the liminal phenomenon came with a commission from the British Museum and Jill Cook's exhibition *Ice Age Art: Arrival of the Modern Mind*; I was commissioned to create sculpture maquettes that celebrated Ice Age art. At the time, I considered this to be commercial art, not fine art. I chose three pieces from the exhibition: the Lion Man, the Lespugue figurine, and the Vogelherd horse (fig. 7).

FIGURE 7.
Sculptures featured in the British Museum's exhibition *Ice Age Art: Arrival of the Modern Mind*. From left: the Lion Man, the Vogelherd horse, and the Lespugue figurine.



FIGURE 8.

An intense form of artistic communication can be found in Ice Age art. Seen here, the Lespugue figurine by the author based on the original sculpture.



Once I got to work in the studio, I realized this was not commercial art but fine art. In fact, it was a rare privilege to be working on these pieces, allowing an intense form of artistic communication (fig. 8).

I came away with two things: an understanding of “how,” and a realization of “process, not product.” I would like to think that I also came away with an understanding of “why.” The Lion Man celebrated the stature and courage of an individual, the Lespugue figurine was made by a woman for a woman (“when this happens to your body, amazing things will take place”), the Brassempouy head was one of the earliest self-portraits, and the Vogelherd horse honored the grace, beauty, and spirit of the equine creature. But this would be mere speculation.

The Process

I work by profile. A sculptural form is made up of countless profiles, each one leading to the next, with the final profile eventually meeting the first profile. By working this way, I was able to understand how the original artist had achieved the three-dimensional form. For example,

with the Lespugue figurine, I was able to understand how that curve works its way into that crevice and how the original artist had connected an intricate series of geometric volumes, with convex shelves disappearing into concave ravines—all of this while emphasizing the meaningful aspects of the woman's body in a beautiful form and reflecting on the origins and nourishment of life.

My second reaction was the realization that the element of process, not product, certainly may have been part of the Palaeolithic artist's act of creation. Just as a Buddhist sand painting mandala is painstakingly completed, then finally destroyed and ceremonially returned to the river, were the Ice Age sculptures that appear to have been deliberately broken and buried reflecting the process, not just the product? Do the palimpsests and the overpainting in rock art support this? Personally, I find working on the sculpture far more satisfying than the end product.

What about other artists? I have had long conversations with Wulf Hein, who carved the Lion Man using flint tools and a material that was a facsimile of mammoth ivory. Did he get into the original artist's head? His first response was that he was simply a copyist; he didn't invent the Lion Man, he copied it. He was interested only in the technical aspects. However, he then went on to say how the work influenced his way of thinking and his way of dreaming; the sound of the tools scraping the material was in his dreams. Finally, Wulf conceded that the experience provided "a sense of the personal" in relation to the original artist acting some forty thousand years ago. This insider's perspective led him to believe that all of the objects made from ivory could have been produced neither rapidly nor as a sideline, and an ancient craftsman would have spent up to half a year creating something as large and as complex as the Lion Man.

Engaging a Modern Audience

I attended a lecture given in 2014 by Sir Martin Rees, the Astronomer Royal, former head of the Royal Society, Master of Trinity College and emeritus professor of cosmology and astrophysics at the University of Cambridge, a former trustee of London's British Museum and the Science Museum, and a member of the House of Lords. His highly engaging talk on future research ended on the need to focus on what is important and what is relevant; "Dinosaurs are irrelevant—there are none." Rock art is relevant—it exists, it has wonder and mystery, it requires protection, and it deserves attention.

There is life in rock art yet; I believe the connection between rock art and contemporary art proves it. Rock art must not be seen as anachronistic and irrelevant. To convey this, we should employ all of the tools at our disposal. Bringing rock art into our lives and homes can be achieved by sharing this human experience through owning a sculpture inspired by Palaeolithic portable art, visiting rock art sites, visiting rock art site replicas, visiting exhibitions, immersing oneself in a virtual cave, and maintaining awareness through contemporary art. In doing so, rock art not only will be preserved but also will engage.

Rock art is everywhere, and it is a part of everyone's story. It has often been said that rock art has been neglected by archaeologists and art historians; it has not been neglected by artists. Contemporary art is one way of keeping the relevance alive and getting the message out.

Altamira and the New Technology for Public Access

Pilar Fatás Monforte

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Since its discovery, the cave of Altamira has suffered many natural and artificial transformations that have led to it being in a very fragile state, a characteristic already intrinsic to any site with rock art. From the beginning of the twentieth century, the cave has been under special care and attention regarding its conservation, but many of these actions, even though they were considered the most appropriate at the time, started an irreversible process of deterioration of the rock art.

In the first half of the twentieth century, many arrangements were made inside the cave in order to avoid rock collapse and to prepare it for a comfortable tourist visit. The result was the irreversible transformation of the natural cavern into an easily visited monument for tourists (we may say that the cave was “urbanized”). Later, the high touristic exploitation during the 1960s and 1970s resulted in instability of its inner microclimate, which is one of the main factors affecting the conservation of the rock art in deep caves. Thus, the current conservation status is the result of these past actions.

Since the end of the 1970s, when the awareness of the necessity of conserving monuments grew in Spain, visits to the cave were restricted and openings and closures to the public were revised. At that time, the National Museum and Research Center of Altamira was created, and the management system of the cave changed. For the first time, it began to be integrally managed, being the institution responsible for conservation, scientific research, dissemination, and outreach.

But the demand to visit Altamira was great, and therefore different solutions were sought. It is necessary to point out that Altamira always had the precedent of what happened in Lascaux and its decisions on conservation, visitation regime, and even the decision to replace visits to the original cave with a replica. There were also antecedents of the reproduction of the cave of Altamira itself: at the Deutsches Museum of Munich, Dr. Erich Pietsch had reproduced 44 square meters of the polychrome ceiling; a copy of this was installed in the gardens of the National Archaeological Museum of Madrid; and in the 1990s Japan commissioned a project of partial reproduction of the cave for the Shima Villa, a theme park.

With all this precedent, finally a multidisciplinary plan for Altamira was developed by the Ministry of Culture, the owner and manager of the National Museum and Research Center and the cave of Altamira. The difference, and the key aspect of this project (if we compare it with previous proposals or projects), was to devise the reproduction as part of a broader museological project focused on conservation, research, and dissemination of the cave. Once the project was approved, a consortium of all the stakeholders and policy makers involved in Altamira was created in order to manage the investments and to oversee the development of the project.

The most visible result of the plan was the new Museum of Altamira, opened in 2001, which offers a new way of experiencing Altamira through an absolutely accurate replica. Using the results of the geological and archaeological research, the three-dimensional replica of Altamira re-creates the original cavern space as it was during Palaeolithic habita-

tion rather than as it is today: that is, natural rock falls, and changes made in modern times, have been suppressed. The Neocave is a kind of conceptual restoration, impossible to make in the original cave. That is why we call it the Neocave, because it presents Altamira as it was fifteen thousand years ago, when it was inhabited and the bison were painted. The idea of the Neocave is not to be a substitute for the original cave but to be a means of transmitting the rock art values, a vehicle of knowledge, an open book to know Altamira; the aim is to provide the visitor a full experience and knowledge of Altamira as an exceptional site of rock art and as an originally inhabited place (fig. 1).

The key to the project is that the aim of the reproduction, and of the permanent exhibition as a whole, is not only entertainment but also education. For that, it is based on the rigor in its conceptualization and execution: the Neocave is the result of the archaeological and geological research, and its execution was made possible by a team of specialists in topography that created original technological procedures, without a scanning system, when this technology was not as developed as it is today. Finally, artists' hands made art with a subtle color restoration to facilitate its reading. The rock was reproduced with millimeter accuracy and with an emphasis on chemistry: 80 percent of the material of the replica is limestone powder, and to reproduce the paintings, the artists used the original materials of charcoal, ochre, and water.

So, in the reproduction of the art, two aspects would be fundamental: the exact reproduction of the rock support, essential in the original creation, and the use of original pigments. Finally, it is the reproduction of not only the famous bison but also the entire ceiling and everything that is painted or engraved there, even what the eye can hardly see (figs. 2 and 3).

However, it is also helpful to see some negative points in its conceptualization. Some decisions have not been well received by visitors. For example, some believe the modern catwalk through the Neocave subtracts from the emotions and feelings of the visit. It was a desired result in order not to create a pastiche; it was also very helpful to include the lighting, the informative elements, and the installations, but acceptance was not unanimous.

FIGURE 1.
Aerial view of the National Museum
and Research Center of Altamira.
© Museo de Altamira





FIGURE 2.
The Neocave. Reproduction of an archaeological excavation.
© Museo de Altamira. Photo: P. Saura

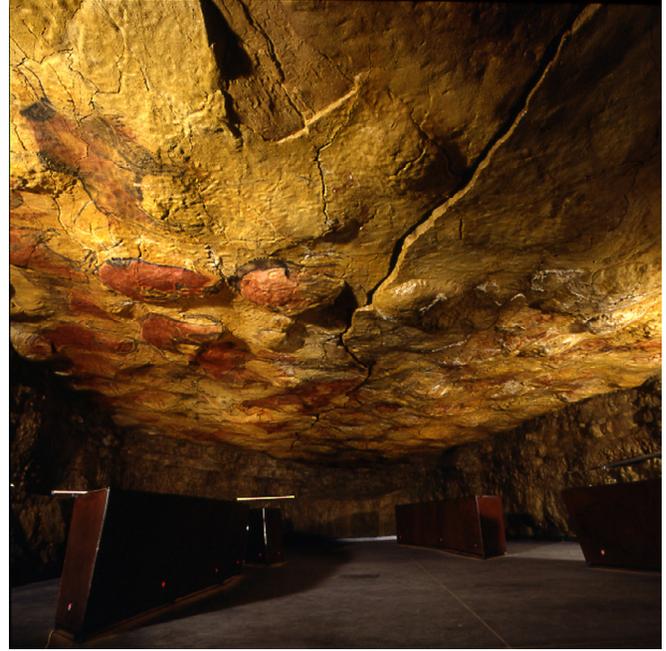


FIGURE 3.
The Neocave. Polychrome ceiling. © Museo de Altamira. Photo: P. Saura

The Neocave is part of a Museum of Altamira permanent exhibition on the Palaeolithic called “The Times of Altamira,” devoted to put into context the art. It is intended to provide answers to frequently asked questions such as “Who were the people that painted Altamira? When and how did they live? What was the landscape like then, and how did they use it? Which techniques were used in Altamira, and what was its use?” (fig. 4).

FIGURE 4.
The Times of Altamira, a permanent exhibition. © Museo de Altamira



The proposal that visitors have a better knowledge of the cave, and of rock art in general, is also complemented with cultural activities that include guided tours (more than thirty a day), workshops on prehistory and art, temporary exhibitions not only on prehistoric subjects but also on new perspectives linking, for example, rock art with contemporary art.

It is also important to note the mediating role made by the museum guides. They facilitate the connection with the heritage, the knowledge, and the global experience, and they are the key to the fulfillment of the visitors' expectations.

Activities are another of the strong points related to experiencing the museum. They are designed so that participants can observe, touch, manipulate, and experiment with the shapes and materials of Palaeolithic objects, check their effectiveness, and practice the tasks for which these objects were created. These activities are always collaborative workshops, implying the participation of the group not as mere spectators, observers, or listeners but as active participants in the activity, so as to provide a meaningful experience (fig. 5).

About the contextualization of the replica, it is located on the main building of the museum, near the site, surrounded by a landscape that includes the same vegetal species that were there during Palaeolithic times: a park of meadows and forests scattered with species such as birch, hazel, oak, wild pine, and chestnut. The Education Department develops different activities to value this landscape, included in a program in which sustainability values are presented.

Temporary exhibitions present the heritage and its values in different ways, even more innovative than through the permanent exhibition. In the past few years, a new line of exhibitions was implemented through which connections between contemporary art and Palaeolithic art are sought. At present, museum curators work with contemporary artists to create these new exhibitions (fig. 6).

The results of the new Museum of Altamira are highly satisfactory. The museum receives more than 250,000 visitors per year (285,000 in 2016), 80 percent are Spanish nationals, and it has become a model of visitation for other fragile heritage sites. Many other alternatives to experience rock art sites have been developed in recent years, such as the Ekain and Santimamiñe Caves, also in the north of Spain, or Lascaux and Chauvet,

FIGURE 5.
An art workshop for families.
© Museo de Altamira



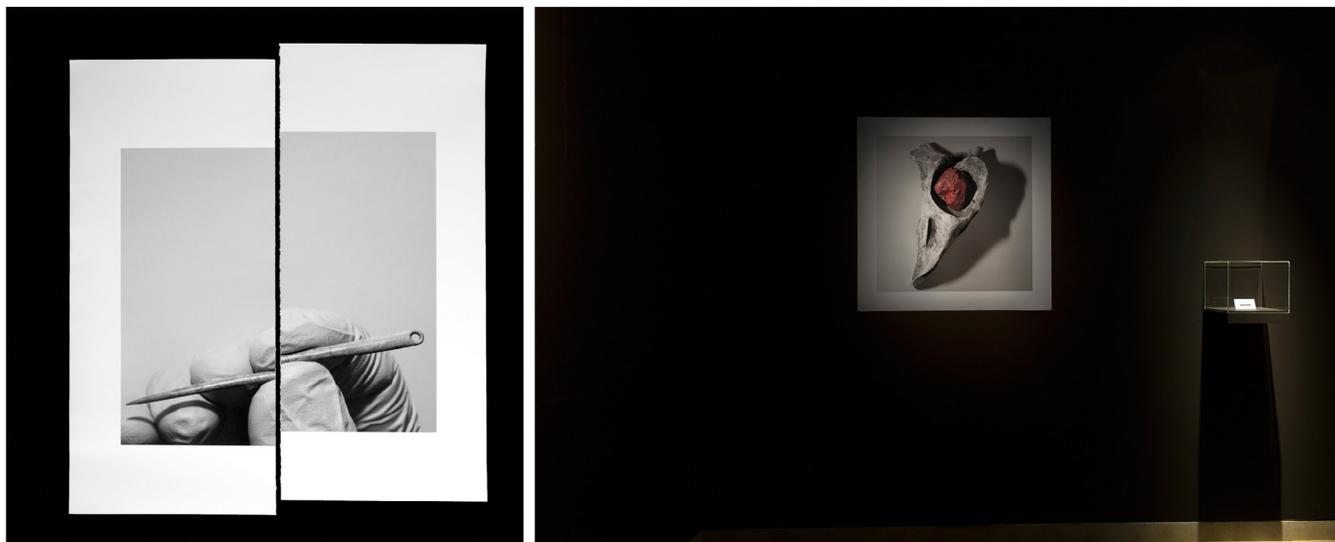


FIGURE 6.
¿Acaso me nombras? Teresa
Correa temporary exhibition.

© Museo de Altamira

both in France. But it is not only a matter of the number of visitors. The last museum visitors study on the Museum of Altamira concludes that the visit to the Neocave obtained a mark of 5.91 out of 7 and the museum as a whole, 5.88 out of 7. There are other interesting data, such as the fact that people agree to the need to limit visits to the cave to ensure its preservation for the future.

It is also important to note that the museum is managed as a cultural institution but also in the service of the tourism sector. Cantabria is an important tourist destination in which nature and heritage are the two main strengths. The new Altamira museum is a quality resource for the leisure and tourism industry and has become a product that brings new tourists, helps to prolong their stay, and evens out variation in seasonality.

By way of conclusion, the reproduction of the cave of Altamira in the permanent exhibition of the Museum of Altamira has contributed to a better understanding of Altamira by presenting more reliable scientific information and the transmission of all its values. It has also helped to reach a wider audience, both in numbers and in profile. Due to conservation reasons, at this moment only 250 people per year can visit the cave of Altamira. By explaining the reasons why Altamira cannot be visited en masse, we contribute to the awareness of people about the fragility of rock art and the need to involve our society in heritage preservation. This way, serious and rigorous alternatives will be accepted. The challenge is to excite though knowledge.

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From the Chauvet Cave to the Caverne du Pont d’Arc: *Methods and Strategies for a Replica to Preserve the Heritage of a Decorated Cave That Cannot Be Made Accessible to the Public*

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Making the Chauvet Cave Heritage Accessible to the Public

The discovery of the Chauvet-Pont d’Arc Cave in 1994 instantly represented a considerable media event for the department of Ardèche and the Rhône-Alpes region of France, as well as on a national and international scale, given how this category of cultural asset, now inscribed on UNESCO’s World Heritage List, thoroughly fascinates people throughout the world.

The splendor and sophistication of these spectacular cave paintings, dating back more than thirty-six thousand years, caused a veritable upheaval in specialists’ understanding of the time period (Quiles et al. 2016). However, as early as 1995, only a few months following its discovery, this exceptionally well-preserved and unique archaeological site proved to be far too fragile to be opened to the public. A satisfactory solution needed to be found to allow for touristic development while sharing this singular piece of human history with the general public.

In 2008 the architects Fabre & Speller, associated with Atelier 3A, were chosen by SMERGC (the Joint Association for the Caverne du Pont d’Arc), which acted as principal, joining the forces of the General Council of Ardèche and the Regional Council of Rhône-Alpes with support from the French government and the European Union.

“The site for the replica of the Chauvet Cave” [our translation] was a monumental project comprising five buildings spread out across a limestone plateau overhanging the small town of Vallon-Pont d’Arc. Now known as the “Caverne du Pont d’Arc,” the replica site is less than 2 km (11 miles) away as the crow flies from the original cave, which is hidden in the cliff-face of the Ardèche gorge.

This exceptional construction was completed within a very short time frame (thirty months of construction work) calling upon the skills of about 550 professionals who collaborated on the project, which would be unique were it just for its scope alone. The meticulous attention given to detail in the underground landscape and atmosphere, the signs of human and animal activity, and the carefully replicated prehistoric artists’ gestures have combined to make a whole that is staggeringly original.

From the Ongoing Study of a Cave by an Interdisciplinary Team to the Replica Project

Observations and findings compiled by a team of scientists over several research expeditions in the Chauvet Cave from 1995 to 2015 have played an essential role in the transfer of knowledge, starting with the decision makers, architects, and scenic designers, and

subsequently also contributed to the artistic vision brought to life by the workshops and by the companies that built the replica. More so than its actual size (3000 m²/32,300 ft²), it is the very spirit in which the replica was created that needs to be highlighted: the sheer will to share the various symbolic dimensions of the site, whether they were aesthetical, perspectival, or cultural, through these parietal oeuvres, thanks to an authentic replica that is as scrupulously complete as possible.

Thus, it became obvious that each of the site's components, rich and fragile, had to be considered as being an inseparable, indeed integral part of the whole, with all the complexity that this implied. This overarching approach, which governed the scientific team's work, was also decisive in imposing the principle that the replica had to be an accurate reflection of the scientific knowledge of the cave. This desire for consistency was shared by everyone involved, and above all by the international scientific council that accompanied the project from conception to completion.

The Choice of an Anamorphosis as Opposed to an Exact Replica

Faced with the impossibility of entirely reproducing the cave—given its length (over 500 meters/1,600 feet), its ground surface area (8,400 m²/90,416 ft²), its large volumes (44,000 m³/1,553,845 ft³), and the complexity of its underground landscapes (fig. 1)—it became obvious that technical and cultural choices had to be made. The parietal artwork and its

FIGURE 1.

The sheer size of Chauvet Cave, half a kilometer long with a total of volume of 44,000 cubic meters, precluded replication in its entirety.

Source: Clottes, Jean & Jean-Michel Geneste. 2012. Twelve Years of Research in Chauvet Cave: Methodology and Main Results. In *A Companion to Rock Art*, edited by Jo McDonald and Peter Veth, 583-604. Oxford: Blackwell.

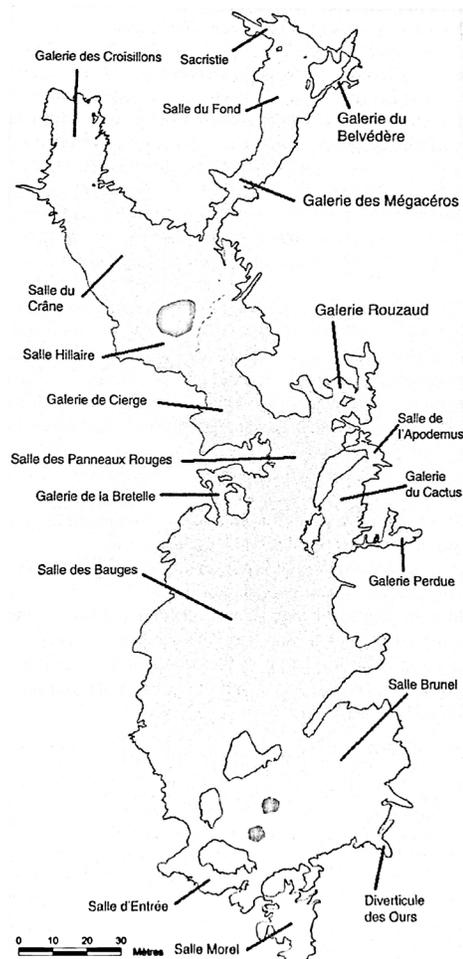
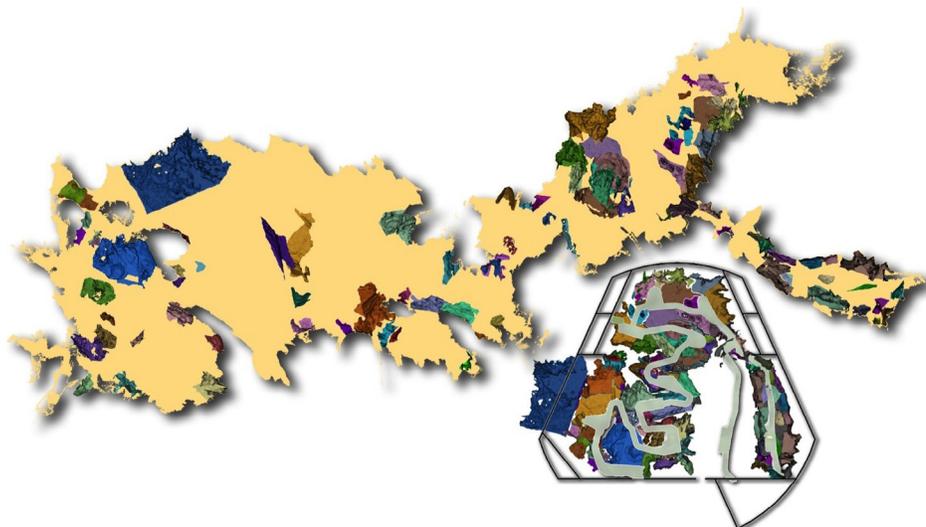


FIGURE 2.

The colored sections of this map represent panels selected for replica. Their reorganized configuration appears in the inset.



immediate environment were the first priority: twenty-two decorated panels comprising more than three hundred figurative representations were chosen to convey the richness and diversity of the 450 parietal oeuvres (fig. 2). It was therefore essential that the drawings be reproduced in their geographical and geological context. All of the choices were submitted to and approved by a scientific committee of fifteen or so international experts chaired by Jean Clottes, which actively participated in the supervision of the reconstitution of the decorated panels and their subterranean context as well as other paleontological remains.

Among the array of techniques used for both the research and the replica, 3D modeling based on surveying and mapping with a 3D laser scanner was the clear choice. 3D presented the advantage of being able to process, measure, and visualize the cave's actual areas and volumes in order to rearrange them into various configurations of the replica without any loss of precision or quality.

In 2006 all agreed upon the importance of developing a high-resolution 3D model of the decorated zones. The 3D mapping of the cave done using a laser scanner was accompanied by photographic coverage allowing for the "draping" of high-resolution images on the 3D model. The goal was to obtain 3D visual data precisely illustrating the drawings' nature and matter as well as the various conditions and textures of both the decorated and natural walls of the cave.

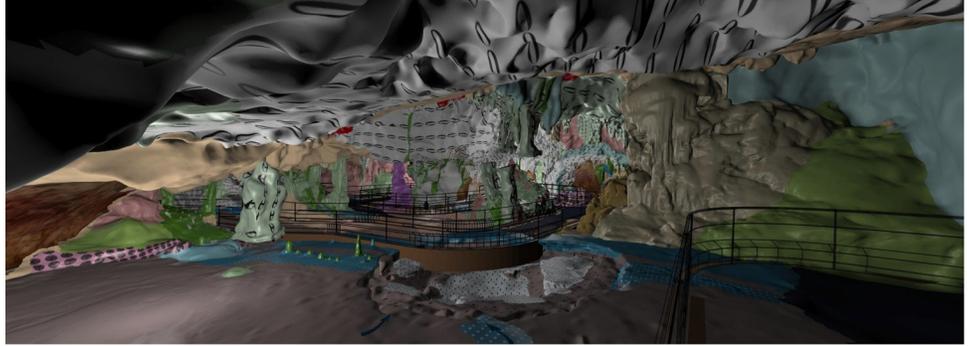
The 3D model of the cave was a decisive benchmark when designing the replica's different architectures and structures compacted and condensed into an anamorphic version of the Chauvet Cave. The Caverne du Pont d'Arc is a snugly fit jigsaw puzzle of essential segments neatly contracted into a 3,000-square-meter (32,300 ft²) space (fig. 3).

Reproducing Prehistoric Works of Art While Doing Justice to the Originals

One of the key principles for the replica was to duplicate on a full scale the ten decorated areas chosen for reproduction from the simplest isolated image to the monumental compositions of the most remote chambers (1 m² to 66 m²/10.7 ft² to 710.4 ft²). This is the reason why particular attention was paid to re-creating a geological cohesion, one stratum at a time, over the entire 3D model in replica (Fig. 4). The next stage was to establish a specific "structural logic" for the intended reproduction in order for it to mirror as faithfully

FIGURE 3.

The Caverne du Pont d'Arc is a snugly fit jigsaw puzzle of essential segments neatly contracted into a 3,000-square-meter space.



as possible the Chauvet Cave's geography and its social and cultural dimensions (fig. 5). Specifically, the attention dedicated to the cave's physical elements involved close interaction with the scientific team, incorporating their findings, which established that Palaeolithic humans had thoroughly exploited the geological makeup of the cavern's walls, integrating

FIGURE 4.

Particular attention was paid to recreating a geological cohesion, one stratum at a time, over the entire 3D model in replica.

**FIGURE 5.**

A specific "structural logic" was established to mirror as faithfully as possible the Chauvet Cave's geographic, as well as its social and cultural, dimensions.



FIGURE 6.

The rich archive of essential information found on the cave's floors benefited from the same attention to detail in its reproduction.



their respective aspects into the design and composition of the artwork and in the techniques they employed. The same attention to detail was given to the cave's floors, which formed rich archives of essential information: traces of hearths, anthropic activity (displaced and assembled blocks, excavated chunks of clay), prints and tracks, remains and bones, and so forth (fig. 6).

Copyist Workshops: Finding the Colors, Materials, and Gestures

The guiding principle, from the start, was that the replicated drawings should above all faithfully translate the spirit of the originals so as to re-create the gripping atmosphere rather than strive for millimetric accuracy. In order to convey the extent to which the original artwork is awe inspiring and emotionally stirring, the creation of the decorated panels was entrusted to various artists and professionals specializing in the reproduction of prehistoric drawings.

Based on the 3D files of the actual panels, a digitally carved model provided the initial outline and reliefs of the cave walls in the form of blocks sculpted out of high-density foam. These blocks were then molded to make resin shells whose geometry faithfully duplicates the cave's actual topology (fig. 7).

The prehistoric drawings were replicated with colors and materials analogous to those used by prehistoric artists. In the same vein, charcoal made from Scots pine was used to reproduce both the fragility and vigor of the curves, which constitute the animals drawn using spindle-tree charcoal and stump (fig. 8).

A Technological Success That Validates an Alternative Approach to Sharing Cultural Assets

Judging by the numbers, the success of this immense technological prowess has also been confirmed by public acclaim, with more than six hundred thousand visitors in the opening

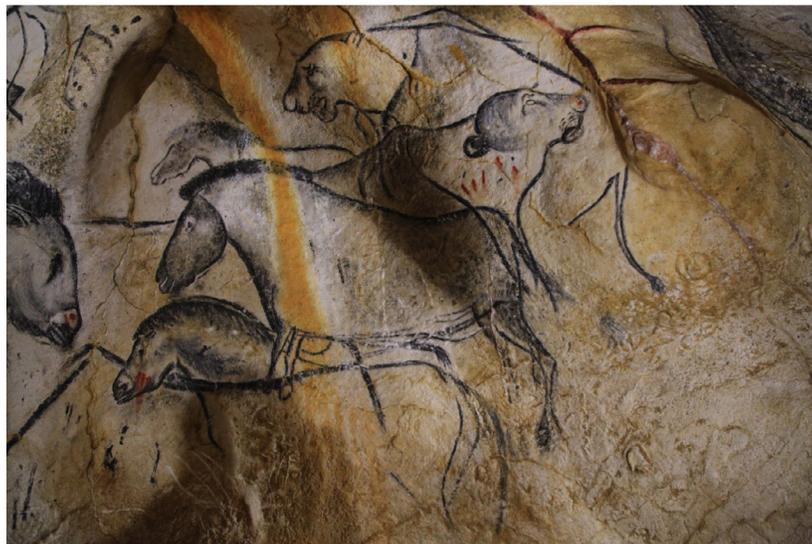
FIGURE 7.

The replica's walls are made of resin, cast in molds taken from digitally carved high-density foam.



FIGURE 8.

The prehistoric drawings were replicated with colors and materials analogous to those used by prehistoric artists.



season (2015–16) of the site, which welcomed its millionth visitor in February 2017. The Caverne du Pont d'Arc has also allowed scientists to approach the original Chauvet site from a fresh perspective, as attested to by the wealth of additional knowledge that resulted from the constant and open exchange between the archaeological research work and replication work.

This new generation of decorated cave replicas, reproducing vast swaths of cavities in their entirety, allows the public to be immersed in a world that is so close that, like the original site, it sparks an array of intellectual sensations and emotions that were previously difficult to convey.

This new type of replica also takes on an authenticity and sheer monumentality that is far beyond former partial attempts at reproduction. Lascaux IV, the complete replica of the Lascaux Cave, inaugurated in December 2016 in Montignac (Dordogne, France), was the first to use the same techniques and work with identical principles.

Henceforth, scientific and cultural mediation over cave artwork has found a new language as well as conceptual means, reaching an unequaled level of authenticity that is

moreover immersive and multisensory. The replica has come into its own as a valid and specific approach wherein one freely embarks on the discovery of a precious heritage site at one's own pace, immersed in a completely personal experience.

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The Final Passage: A 3D Proof of Concept Examining the Prospects of an Immersive Experience of Rock Art on a Grand Scale and in Public Spaces

Martin Marquet

Independent film producer and publicist, France and United States

The Final Passage is the first of a series of short 3D films that will be available for public showing. Offering an uninterrupted journey through the Chauvet-Pont d'Arc Cave in the form of a 28-minute uncut single-sequence, the film is proof that rock art can be represented and experienced theatrically and in museums in ways that were not possible a few years ago. Now, new technologies are able to reproduce and represent the magnitude of those paintings and engravings. The film uses high-definition LIDAR scan models and more than six thousand photography shots in an 8K resolution of the rock art panels.

Considered by many scientific and cultural institutions and museums as well as by audiences as a powerful and transcending cinematic experience, *The Final Passage* does not fit into any pre-established category of documentary films because of its originally conceived aesthetic and technical characteristics. This presentation will look into how certain features of the film pushed the limits of visual and virtual reproduction in the archaeological field. The contents produced for the series offer the opportunity to give global audiences access to the scope and cultural significance of rock art in today's society through original interactive experiences.

Evidence suggests that humans of all ages and from all cultures create their identity in some kind of narrative form. From cave paintings to cinema, we are inveterate storytellers. But where in our secular and fragmented world do we offer communality of experience? If cinema has proven to be the twentieth century's most influential art form, then the idea of representing rock art in various cinematic forms seems to be an efficient, creative opportunity to address the real appetite people have for inspiration, education, and social engagement.

More than a 3D film, *The Final Passage* serves as the "mascot" of an audacious cultural initiative to create an active and compelling level of discovery of rock art through the design, building, and operation of a mobile museum fully dedicated to international rock art. This ambitious project, currently titled Adventure of Rock Art, will feature archaeological masterpieces from around the world in the form of a curated exhibition narrative revealing the graphic and inspirational beauty of rock art as humankind's earliest form of communication.

The inflating challenge to distract the younger and self-absorbed who are too often given infinite choices results in many who can hardly identify their way to meaningful experience. This is an unfortunate personal condition and a sad social reality, one I have always considered as I continue to shape my ideas of what the exhibition program will have to offer a world continuously unmediated by our own furious consumerism.

Adventure of Rock Art's social virtue, if we were to define one beyond the singleness of an artful and emotionally charged occurrence, is to bring to life more than forty thousand years of living history through shared and universal perspectives of art, science, and technology. Focusing exclusively on a curated collection of six to eight spectacular UNESCO

World Heritage rock art sites, the purpose of the exhibition's design and immersive experiential form will evoke the relevance of rock art in contemporary society and secure its place as one of the most universal elements of our human identity.

Indeed, the artistic concept of using our environment (either a rocky surface or an urban wall) as the canvas is quite possibly humanity's most noble and ingenious thinking, which thousands of years later is still remarkably valid and dynamic in modern creativity. Rock art or street art, it's the link that these arts share with their environments that leads to unique perspectives of the world. By correlating rock art with street art as a common cultural thread between all of us, the exhibition will become a bridge to another realm of existence, illustrating the power and beauty of image making driven by an insatiable urge to draw and communicate that transcends time itself.

The Adventure of Rock Art is a transportable exhibition space with a completely modular structure that can be fully deployed in big cities, in smaller towns, and in more isolated regions of the world. It is a mobile museum, a project driven by artistic and technological solutions that addresses the ultimate and irremediable issue of the general public's accessibility to the powerful experience and the inspiring knowledge rock art has and can produce. Rather than relying on full-scale physical props and re-creations, the visitor's experience will be as varied as the environments of the sites themselves. The exhibition will indeed stage multiple physical atmospheres, allowing each visitor to share in a sensorial experience of being transported to these exceptional destinations. In this virtual world, visitors will be plunged into the darkness of a cave, elevated beneath the shadow of a rock shelter, and released out into the light of day, at the foot of a cliff.

While many venues are properly equipped with 3D projection technology and are able to accommodate large-scale exhibition content (such as the Getty Center and its wonderful conservation and exhibition work on the Cave Temples of Dunhuang), my purpose as an independent producer is to significantly enhance the opportunities we can provide to audiences around the world. Adventure of Rock Art provides an affordable, immersive, and meaningful experience of archaeology by operating an international exhibition relying on important cultural, educational, and democratic principles.

In our seventh year of development, the project includes a multidisciplinary team of 3D engineers, architects, interactive designers, scientific advisers, archaeologists, and operators preparing to launch the first event, in late 2019.

As a supplement to this presentation exploring a decade of artistic and cultural experimentations and applications, we will also look into the financial challenges that are inevitable given the general scarcity of financial resources available to scientific and cultural arenas. We will examine how a combination of private and public funding has proven to be a perfectly viable alternative to address monetary concerns in the early stages of project development.

We will also discuss one of the most important ethical considerations built into my practice as an independent producer: tackling the creative and financial obstacles of digital production while carefully managing a production process marrying archeological conservation principles with environmentally friendly 3D and photographic recording techniques.

From an archaeological dig to the screen of the Getty Center's auditorium, what are the ideas, objectives, innovative techniques, and chains of action that permit the experimental and experiential dimensions of contemporary narrative art to act as a civic service to the archaeological community, while empowering audiences with the knowledge and everlasting emotion of rock art?

Potential for Educational Films to Increase Public Interest in Rock Art: Challenges of Focus, Content, and Distribution

*Ben Dickins
Bradshaw Foundation, United Kingdom*

Focus of Our Filmmaking

The main perspective for the Bradshaw Foundation films is to approach archaeology from a nonarchaeological perspective.

The principal aim of the films is to involve and engage the public and, in doing so, provide cultural enrichment. Another essential aspect is to make these films culturally and intellectually accessible to the public. There should be no opportunity for a member of the public to think that rock art is too “niche.” Rock art relates to everyone and everything; it is a part of the zeitgeist. This has been reinforced by both the British Museum exhibition *Ice Age Art: Arrival of the Modern Mind* and by Stephen Oppenheimer’s genetic map *Journey of Mankind*. The nonarchaeological perspective will also prevent closed thinking by presenting the material in color. Academic research can tend to be dry, which is a prerequisite for science but can make it inaccessible.

A final element of our perspective is to ensure that we address the questions of the public—simple questions that can be overlooked. The questions themselves can be found by outreach on social media. Finding a balance between the questions of the public and the research of archaeologists will hopefully lead to an engaging film. With all of this, the importance of preplanning in the filmmaking process is paramount.

Content

Having stated the general approach to our filmmaking, it is equally important to honor the subject matter. A fresh, nonarchaeological stance must not compromise the research or the rock art itself.

Having maintained the integrity of the subject matter, the aim then is to create the look; this has to reflect the art, the site, the region, and the culture as a distinct entity. While there are numerous common elements in rock art, the individuality must come through. This approach is also reflected in the web content that supports the film.

Techniques Available

The main aim of our filmmaking is to employ techniques related to mainstream cinema and apply them to rock art and archaeology. This in itself makes the material more accessible to the public and achieves maximum impact.

One of the major elements of cinema is emotional effect. Making the audience feel something will generate emotional engagement. Again, where perceptions of academia

relating to rock art and archaeology for some members of the public (as well as government bodies) may be unemotional, a balance between emotional engagement and academic accuracy must be maintained.

We believe the latest cinematic techniques of filmmaking should be applied to rock art. This involves a style of filming using a series of high-resolution still images that go toward making the film itself. The difference here with traditional filmmaking is that the still images are unadulterated. Traditional filmmaking, which is projected at twenty-four frames per second—how the human eye sees movement in the natural world—produces film in which all of the frames are baked into one file. The latest filmmaking techniques maintain the individual frames. This is important because the best results are achieved by maintaining the quality of the film as it passes along the chain of production, or codecs.

There are three types of codecs: acquisition, editing, and finishing/distribution. Each codec requires accurate and appropriate transcoding. Acquisition demands the least compression and the highest quality. Editing demands a nonlinear sequence in order to avoid straining the original material. Finishing/distribution demands compression, for the internet or DVD, to occur only at this stage. Working effectively with the codecs will help create the drama of the film. This is referred to as grading. Grading enables much more flexibility in postproduction to achieve this drama. Again, the caveat is to avoid any distortion of the data for the sake of drama. The cinematic feel and drama is always enhanced by sound-scape. The use of soundscapes, no matter how subtle, will help control and enhance the emotion.

As a bonus, by shooting in Raw, the footage, compiled of a series of still images, will act as an invaluable resource for archive purposes. Indeed, given the process employed, it represents a future-proof method of recording rock art.

Our approach is to find a balance between resolution and dynamic range. Film captured at high resolution often creates a low emotional level, whereas film captured at a high dynamic range—the lightest and darkest elements of what the camera can see—creates a high emotional level.

Marketing and Distributing the Films

The principal role of the Bradshaw Foundation is to promote rock art to the widest possible audience. For this we employ two models; a passive model—the website and the search engines—and an active model, social media. The purpose of the platform provided by the foundation is to disseminate information on behalf of rock art researchers and avoid the scenario where researchers return from a project and share the research only with other rock art researchers.

In general, members of the public, especially the younger age groups, now expect high-quality data and footage on demand. Bandwidth allows this to happen. YouTube is fueling the other public expectation, quality. YouTube actively encourages subscriber channels to provide films at higher and higher quality.

The second expectation is free material. For the films to have the greatest reach, there must be as few hurdles as possible. The payment mechanism may not be a hurdle for people interested in rock art and archaeology, but for those who are unaware of it, it is. The whole point of social media is to attract members of the public who know absolutely nothing about rock art; providing a free film at broadcast quality with emotional engagement does exactly that.

While the distribution of films will continue via DVD format (in classrooms, for instance), the download format is likely to become far more prevalent. For example, Apple no longer provides the hardware or software for the production of DVDs. Moreover, 50 percent of the films viewed on YouTube are watched on smartphones and tablets.

Traditionally, restricted distribution channels have been overturned and information has become both unscheduled and interactive; the Bradshaw Foundation now has a film section on its website as well as a YouTube channel. It is the YouTube channel that we predict will become the most popular with our viewers.

The Bradshaw Foundation's approach to reaching out to the public involves a simple model achieved with complicated processes. Regarding the further distribution of educational films on rock art, the strategy employed by the Bradshaw Foundation, based on our experience, involves four basic requirements.

First, the nature of the website: the website must have a distinctive presence. It must combine design and function. For the function, this requires a working knowledge of the web and coding for 100 percent control. For example, the website must be rigged up to the social media platforms (which all provide code) to allow Facebook and Twitter to talk to one's website. It is this that enables control—what is seen, what is said, and where people are sent.

Second, the style of the films: developing a consistent and engaging style requires a working knowledge of codecs, which are film production, postproduction, and delivery.

Third, the "crowd": the importance of building up audience numbers on social media platforms. In other words, utilizing the viral nature of social media to attract members of the public hitherto unaware of rock art and its cultural legacy.

Finally, the commitment: our model is based on long-term commitment due to competition on the internet as well as the constantly changing internet landscape.

Influencing Policy Makers: Developing Government Policy to Augment Rock Art Recognition and Protection

Peter Veth
University of Western Australia

Rock art covers vast areas of Australia, perhaps over one and a half million square kilometers, or approximately 20 percent of the continent (fig. 1). Much of the mapping has been carried out for national parks, conservation estates, native title claims, or cultural heritage impact and management. An accurate and audited national database and mapping system does not exist due to complex land tenure regimes (figs. 2 and 3). State and territory heritage authorities, land councils, local area land councils, and other Indigenous corporations often keep accurate records for their jurisdictions. However, data sharing is limited by both real and perceived threats to confidentiality agreements concerning social (ethnographic) significance and inevitable tensions between the Crown, communities, and land users.

In theory, rock art is protected across conservation parks and reserves, native title lands, Indigenous Protected Areas, mining leases, and unallocated Crown land, and within areas of freehold title such as cities and port facilities. State heritage legislation, such as the Western Australia Aboriginal Heritage Act of 1972–80, protects Aboriginal heritage essentially at the level of state significance. Federal legislation, such as the Environmental Protection Biodiversity Conservation Act of 1999, offers protection at the National Heritage

FIGURE 1.
Major rock art provinces of
Australia.



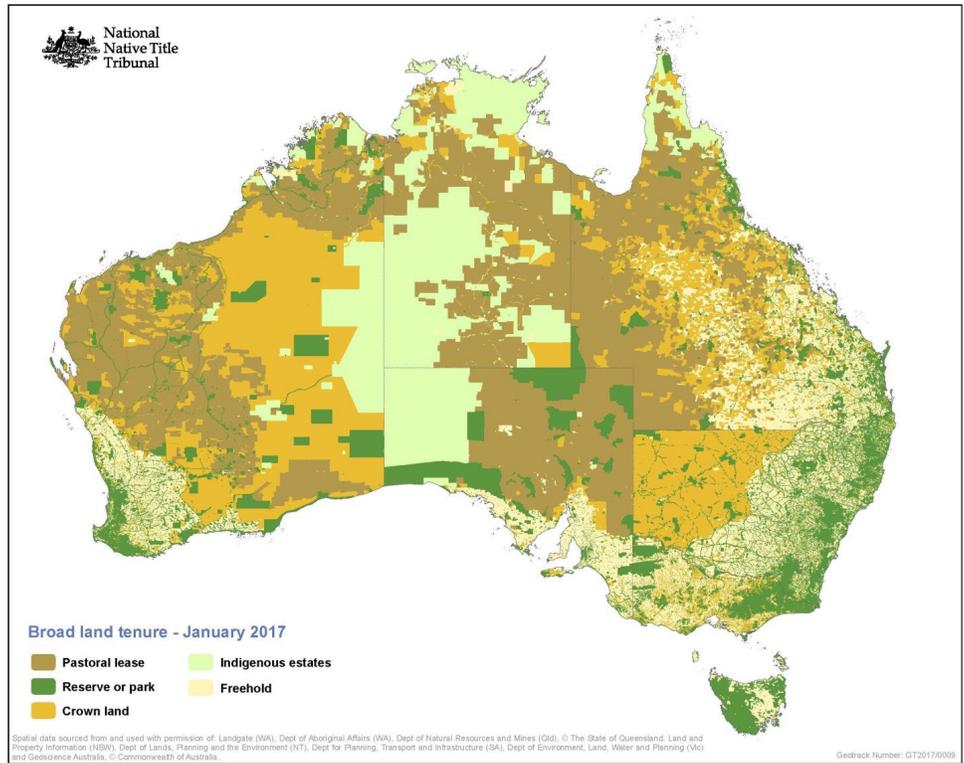


FIGURE 2.
Map detailing Australian land tenure.

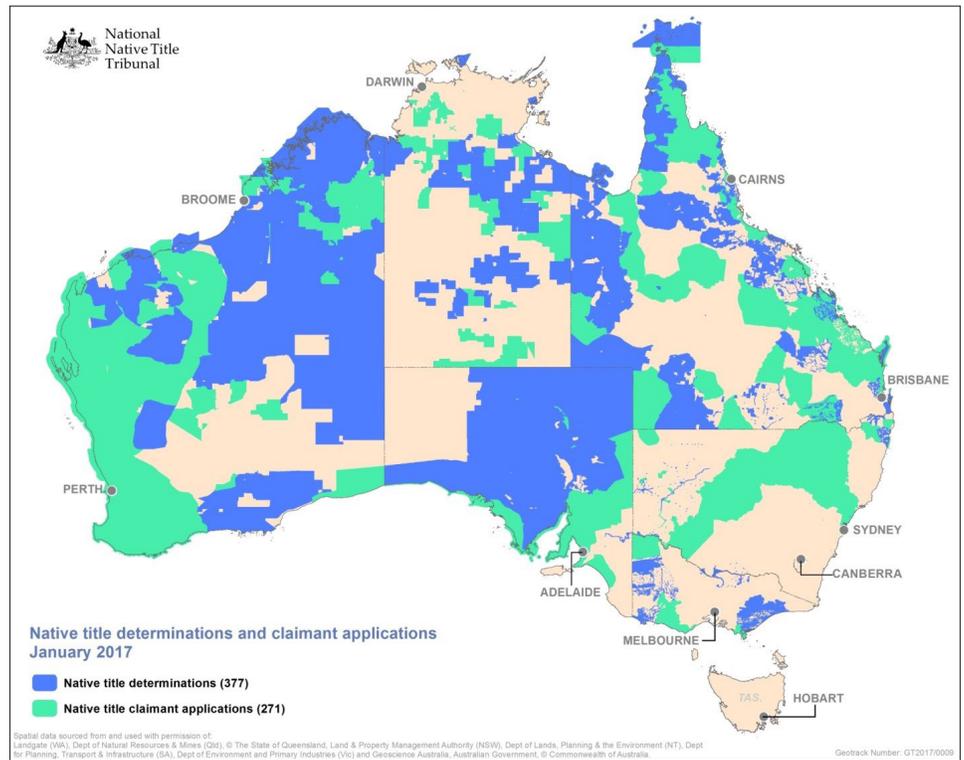


FIGURE 3.
Map detailing native title determinations and claimant applications.

level, and obviously World Heritage listing can take these considerations beyond national frameworks. While rock art often receives privileged treatment compared to that of occupation sites and even monumental works, this will often be positioned around Western aesthetic considerations and information content.

The development of a holistic and strategic approach to managing the values of these estates for the various communities of interest requires an all-of-government approach that ideally responds to, rather than dominates, the practical curators and owners of the rock art. It also requires increasingly sophisticated Indigenous governance structures to (a) represent collective community legal and Indigenous people interests; and (b) coordinate research and heritage survey data as a community asset (fig. 4). The three tiers of heritage laws, which operate at federal, state/territory, and local government levels, intersect with native title corporations (under another federal law), Indigenous land councils, community councils, and of course individual Traditional Owners and custodians who speak for places and sites. Given this complex web of protection regimes and responsibilities, how do rock

Pan Indigenous Reference Group (PIRG) and Canning Stock Route Research Management Committee Relationship

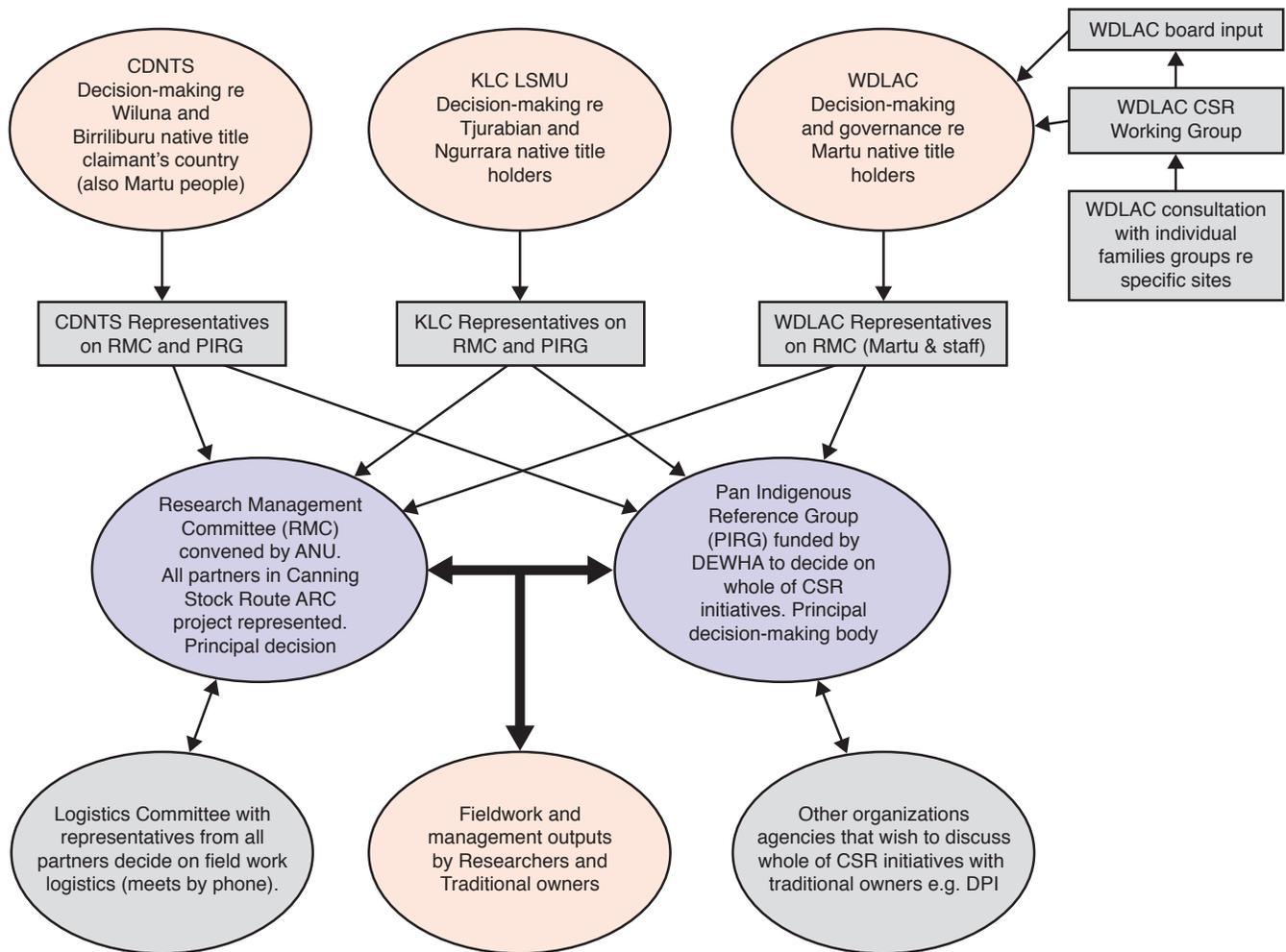


FIGURE 4. Indigenous and research governance structures of the Canning Stock Route Project.

art researchers and owners successfully influence policy makers toward better outcomes for rock art recognition and protection?

In this presentation, I will profile three major studies of extensive rock art estates covering different land tenure regimes where government policy has been influenced. These comprise (a) the Canning Stock Route Project, (b) Murujuga: Dynamics of the Dreamings, and (c) Kimberley Visions: Rock Art of the Northern Kimberley (Western Desert, Pilbara, and Kimberley rock art regions; see fig. 1). All three studies have secured Australian Research Council (ARC) Linkage Grants to conduct collaborative studies on the values and management needs of the rock art in collaboration with Indigenous, government, and industry partners. These studies have helped facilitate new heritage governance structures that direct a greater focus on the values, threats, and resourcing needs of the rock art and associated cultural sites. I will illustrate how they are products of regional alliances, unique research histories, and different Aboriginal aspirations for new social economies (fig. 5).

Canning Stock Route Project

The 1,800-km linear transect of the Canning Stock Route is now effectively under native title and overseen by four native title corporations. Exclusive possession allows control of tourism access to some areas and sites and opportunities for ranger programs. In addition to the native title corporations, the Kanyirninpa Jukurrpa (KJ) Martu Cultural Knowledge Program hosts vast archives of historic, ethnohistoric, ecological, and site knowledge, of which rock art is an important component. The ARC Canning Stock Route Project surveyed the entire stock route as well as arterial tracks, documented hundreds of major rock art complexes and associated living sites, and created a database now hosted by University of Western Australia and KJ. Dating of occupation sites and art complexes and mapping of cultural values at these places are now used by KJ in its extensive ranger program.

FIGURE 5.
Rock art in chronological context.



Murujuga (Rock Art of the Dampier Archipelago)

The Burrup and forty-one other islands of the Dampier Archipelago host some one million engravings. Despite industry impacts in the former, over 95 percent of the now National Heritage listed area retains high integrity. In 2011 the Outstanding Universal Report by McDonald and Veth (2009) found that three criteria for World Heritage listing were met. The Heritage Council found that values existed but recommended that more information about the absolute age of the rock art (and associated sites) and contemporary connections was desirable for listing. The Murujuga ARC grant focuses on addressing these two issues. Intensive survey and targeted excavation of old occupation contexts on the islands are addressing the gaps in chronology. Collaborative values mapping with rangers and Traditional Owners from Murujuga Aboriginal Corporation (MAC) is documenting social significance values. MAC is a non-native title body representing five language groups now involved in co-management of the Murujuga National Park within the National Estate. It has significant infrastructure, offshore vessels, and support staff. The CRARM Pilbara rock art database hosts thousands of site complexes from Murujuga and adjacent areas and these data are shared through the project.

Kimberley Visions: Rock Art of the Northern Kimberley

This ARC project is a five-year collaboration between researchers, Balanggarra Aboriginal Corporation (BAC, the native title body), and Parks and Wildlife with significant industry support from the philanthropic and pastoral sector. This large area of the northeastern Kimberley represents a significant and under-researched transition zone in Kimberley rock art styles and culture across the border into the Keep River, Victoria River District, and West Arnhem Land. An intensive program of style analysis, excavation at art sites and dating using new techniques examines fundamental issues around the emergence of regionalism and identity. BAC has a detailed Healthy Country Plan in which cultural sites and rock art are prioritized for visitation, management, and protection (and appropriate interpretation). As a recently determined native title corporation, BAC is still in the early stages of hosting data and developing its governance. It has an active ranger unit.

The three case studies represent different histories of gazettal and management, in which recent research projects have addressed important questions and filled gaps and in documenting the cultural asset. In reviewing these study areas, I conclude that heritage statutes have had limited use in their management and protection, let alone as heritage planning frameworks. In contrast, new frameworks have been developed for each study area, and these provide “live” planning tools for researchers and community members. For example, the Canning Stock Route is now effectively a co-managed conservation estate with federal and state departments and the Kanyirninpa Jukurrpa Indigenous Archive. Murujuga is covered by National (and soon World) Heritage listing with bilateral arrangements providing a structure for management (e.g., with Western Australia Parks and Wildlife). Balanggarra is an Indigenous Protected Area under the Federal Department of Environment and with the Kimberley Land Council. These new arrangements represent flexible solutions and models in response to vast heritage estates, complex land tenure arrangements, and new economies around cultural and natural heritage. These solutions are now feeding into policy reforms in Indigenous governance structures, research agree-

ments, and heritage reform agendas. In the presentation, I examine the flow-on effects to policy reform in each of these areas.

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Step by Step: The Power of Participatory Planning with Local Communities for Rock Art Management and Tourism

Nicholas Hall

Stepwise Heritage and Tourism Pty. Ltd., Australia

Refreshing the Toolbox for Managing Rock Art Sites

The management of rock art sites in so many locations around the globe struggles with lack of resources, new development pressures, disengagement of and between stakeholders, absence of sustainable mechanisms to deliver management programs, and lack of access to expertise in understanding social, cultural, and technical issues. In these contexts, with which we are all so familiar, what is the way forward? How can the management of rock art sites improve, particularly in relation to the human dimensions that are so often at the heart of many management issues?

The answer lies in upgrading the toolbox we utilize to address these problems. First, good planning is required and, second, there needs to be a sustainable management mechanism that utilizes planning and tackles the ongoing challenges of evolving circumstances. A management mechanism needs to be sustainable over a period of time, be responsive, be adaptive to changing personnel, and have good external connections and access to support and resources.

The document *Rock Art: A Cultural Treasure at Risk* (Agnew et al. 2015) sets out four pillars of rock art conservation policy and practice, of which effective management systems and community involvement are two. This paper addresses both of these pillars, calling for more attention to participatory planning that addresses the fundamental involvement of local communities and Traditional Owners.

The need for different management paradigms requires us to look at different models, experiment with the constitution of different structures, and investigate how sustainability can be better supported. To address these issues, we can perhaps learn from developments in Australia where Aboriginal ranger groups are playing an increasingly important role in managing landscapes that contain significant quantities of rock art sites. From the outset, this arrangement sets up different contexts: it is a broadacre landscape approach to rock art conservation; local Indigenous people take a primary role; there is a need for stronger and more natural integration of cultural and western knowledges; and there is a need for planning resourcing and works on a sustainable basis.

Experience around the world has demonstrated that unless Indigenous and local communities have the capacity to engage in the decision-making process that affects them, their voice and interests risk being undervalued and sidelined and at worst remaining invisible and ignored. Some of the most powerful and effective means of inserting Indigenous knowledge into the political, administrative, and resourcing arenas are through rendering knowledge in maps (Pedrick 2016), mobilizing Indigenous knowledge assets for economic purposes such as tourism (Cole 2006), and generally asserting Indigenous knowledge within planning processes (Walker, Jojola, and Natcher 2013).

Participatory planning is not new, but the means to implement it more frequently and effectively requires increasing focus on the role of facilitation, building capacity at the local

level, and embedding participatory planning processes and outcomes into the structures of land and heritage management. In the case of economic development, such as cultural tourism, participatory planning is a means to develop a tourism “product” in a way that is consistent with cultural, environmental, and tourism industry requirements. Participatory planning is an important tool to help mediate the complex issues of cultural politics, potential impacts, and potential benefits, and to see more creative cultural tourism products developed. It must be a part of the toolbox we can use to manage rock art sites effectively.

Aboriginal Ranger Programs and Indigenous Protected Areas in Australia

In Australia, vast bodies of rock art fall within the areas managed by Aboriginal Ranger Programs and within Indigenous Protected Areas (IPAs) (fig. 1). Aboriginal ranger programs may be funded through various sources: the Australian government funds the Working on Country (WoC) program, which provides wage costs, training, and operational expenses for rangers. This program started in 2007 and in 2016 funded over 770 rangers over 109 ranger groups. Aboriginal ranger groups are also supported through State and Territory funds, with direct income to these groups (40 percent of these programs undertake fee-for-service commercial activities) coming from Native Title Agreements with resource companies and others.

The IPA program enables Indigenous owners of land to enter a voluntary agreement with the Commonwealth government to protect biodiversity—the animals, plants, and other species that call the IPA home—and to conserve the area’s cultural resources, like sacred sites and rock art. Since the first IPA was declared in 1998, IPAs have grown to become a key part of Australia’s National Reserve System, now consisting of over 40 percent of the total area of land in the system.

Both the IPA and WoC programs have gained considerable momentum over the last two decades through clear evidence of their effectiveness and ongoing support from the Australian government and increasingly through private sector and philanthropic contributions. In 2015 a lobbying campaign was formed to argue for the positive impacts of the program in the face of political uncertainty of ongoing financial support. The campaign was very effectively organized and delivered through its online platform (<http://www.countryneedspeople.org.au/>).

In Aboriginal ranger programs across the country, natural resource management is the dominant influencing paradigm and the majority of funded activity is directed at the management of natural environmental values. The Australian government supported the import of a planning system, Conservation Action Planning (CAP), developed in the US by the Nature Conservancy, which focused on identifying threats and setting targets. Over time a much stronger cultural emphasis has emerged in the plans developed underpinning the ranger program activities and IPAs. In many cases, these management plans have come to be referred to as “Healthy Country” plans, reflecting an interest from many groups not only in environmental health but also in linking community cultural and social health to the programs as well. This aligns better with Indigenous worldviews and the government’s policies to improve Indigenous health, education, and well-being.

Raising the profile of rock art and cultural heritage management in these largely natural heritage-dominated programs needs a structured input into Healthy Country plans, funded program deliverables, and annual budget processes. This requires a sound planning

approach and conversion into achievable and fundable program goals based on the conservation and social values identified.

In many areas of Australia containing large quantities of rock art sites, Aboriginal ranger programs provide the platform and opportunity to make significant differences in the way that rock art sites are protected and managed. This can be achieved in a broadacre landscape setting in which the social connections between people and places can be better recognized, important landscape-scale threats can be addressed, and systems can be put in place to better allocate resources based on priority management needs.

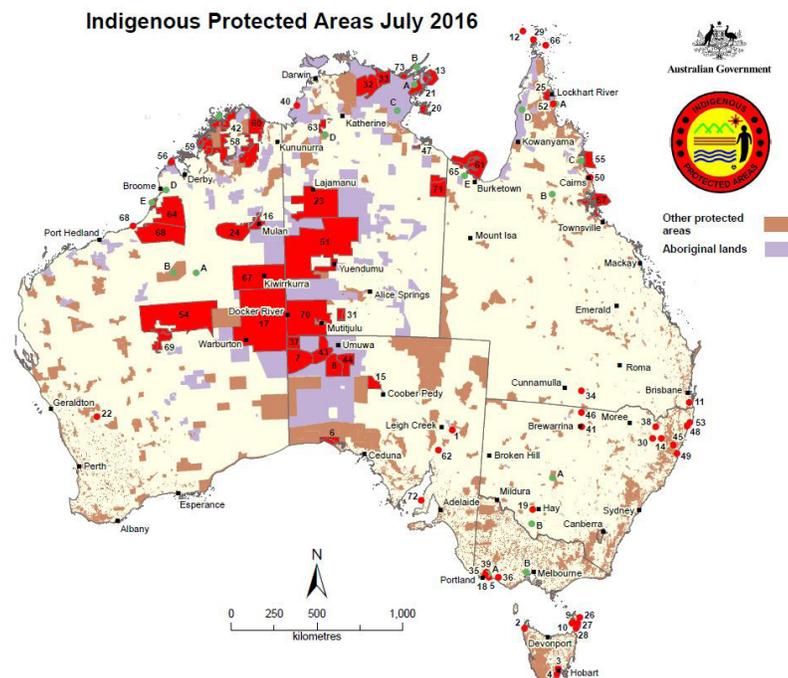
A Participatory Planning Method: Stepping Stones

Stepping Stones is a participatory planning tool that has two forms: Stepping Stones for Heritage, used for planning for values-based management in natural and cultural heritage management, and Stepping Stones for Tourism, used to ensure that heritage values are protected in developing tourism proposals and projects. The two tools are mutually reinforcing and can be used in conjunction or sequentially.

There are five key underpinnings of the Stepping Stones approach:

1. Creating space – for discussions and to allow Indigenous worldviews to be integrated
2. Shared points of communication – to enable exchange and use of different forms of knowledge
3. Informed decision making – for people to be informed about decisions that affect them
4. Learning by doing – to enable capacity building based on real-life experiences
5. Creating action pathways – manageable step-by-step tracks that value and encourage self-reliant community action

FIGURE 1.
Aboriginal lands and IPAs in
Australia.



The Stepping Stones approach utilizes the metaphor of feet to represent the ten main steps in the heritage management process (fig. 2). The footprint is a culturally universal human symbol, calling strongly for meaning-making and able to be imbued with considerable significance. The line of footprints is a metaphor suitable to cultural translation in any context that represents movement, a journey, a step-by-step process, all important elements of the planning narrative.

The Stepping Stones process is a form of values-based management that follows the tenets of the Burra Charter approach (Australia ICOMOS 2013) in placing the identification of values in a primary position and then using an understanding of values to guide management policies and programs. There is a convergence and synergy here of the heritage methodology with the methods proposed for more inclusive planning with local and Indigenous communities that emphasize an attention to culturally appropriate processes (Marika et al. 2009) and means of forging stronger governance arrangements and partnerships (Davies et al. 2013) and improved recognition of the cultural contexts and worldviews of local communities. Others looking to reclaim agency for Indigenous people in planning have called for a values-based approach to be used where there is a greater focus on values in Indigenous terms as the foundation for the transfer of meaning (Walker et al. 2013, 468).

Importantly, Stepping Stones is a facilitated activity that can be used in a range of different contexts to assist in the preparation of plans where a high level of stakeholder and local community ownership or engagement is required. It can be used to develop plans for individual heritage sites, groups of sites, and protected areas, as well as plans for the development of enterprise activity, such as tourism product development plans or business plans. For rock art sites, there are examples of the application of Stepping Stones in each of these contexts.

Training and capacity building is usually intimately connected to Stepping Stones activities. In many cases, it is included within the main facilitated activities or immediately following them. As a facilitated activity, the role of the facilitator is crucial in having skilled individuals who can adapt to the planning process and alter their personal position fluidly between that of facilitator, collaborator, analyst, independent expert, and trainer. In this case, the role is not that of a purist content-free facilitator but ideally that of an individual who has content or expert knowledge to contribute. Facilitators are, most important, the protectors of the process with a primary responsibility to ensure its integrity and where necessary to steer group energies to productive ends in relation to it. They are also there to support decision makers and informed consent at all levels.

FIGURE 2.

The ten main steps of the Stepping Stones process.



Finding suitable people with the background, skills, and aptitude to take on this task is not easy, but encouraging greater use of participatory planning and encouraging young professionals to gain more diverse skills and experience in facilitating activities, projects, and planning in varied cultural contexts is an important start.

While there is a tendency in tertiary studies to promote deep disciplinary specialization, we also need to ensure the heritage management process continues to be foregrounded in professional practice training. For Australian rock art at this point in time, we certainly need more skilled people who can work in the space of supporting Aboriginal ranger groups in their work, providing well-informed advice, and facilitating sustainable partnerships and programs.

How to deliver better support services for Aboriginal ranger programs is the next immediate need and challenge in Australia. Part of this will be creating new mechanisms for longer-term sustainability in management partnerships and programs that benefit from research collaboration as well as ongoing access to expert advice and support. Within the Australian context, we need several networked locales where this potential is demonstrated to other ranger groups. In the international arena, these demonstration locales could offer education to others interested in establishing forms of community-based management systems.

Planning for an Aboriginal Ranger Program: Njanjma Rangers

One of the groups that seeks to take a lead in demonstrating a community-based management system with a high priority on the management of rock art is Njanjma Rangers. Njanjma Rangers are located in the West Arnhem Land area of the Northern Territory. The group was formed to provide care for country associated with five main traditional clan groups. The country covers part of Kakadu National Park and outside the park over large areas that are not included in a protected area but are on land covered by Aboriginal land trusts. Importantly then, the ranger group is defined not by a prescribed boundary of land tenure or management status but by traditional clan estates. From the outset, this provides a basis to continue traditional cultural governance mechanisms.

Commencing operations in 2014 through an interim plan that was enough to convince the Australian government to provide WoC-funded ranger positions, the first major task of the new ranger group was to develop a full plan for their operations over a four-year funding period (2015–18). This planning was undertaken using the Stepping Stones approach via participatory planning sessions on country and other sessions over a six-month period. From the outset, clan members have wanted a strong component, if not the lead component, to be the work on rock art sites. This includes high-priority protection work, ensuring that the value of rock art within the community is maintained and enhanced and that the story of their country and its rock art is shared widely. Njanjma Rangers chose a term for their rock art work: *Kunwardde bim karridurrkimirri*; literally, working “for” rock art (fig. 3).

The planning activities moved through the ten Stepping Stones steps, a strong vision was collectively written, and time was spent discussing and clarifying the important value that the rangers’ task was to protect. Participants chose to reflect the values within the shape of a long-neck turtle, an image that also appears in the local rock art (fig. 4). Facilitated sessions also focused on identifying issues and threats to values and on priority activities within each area. Documentation of each of the steps in the process was then prepared and presented as the Njanjma Rangers Healthy Country plan, which was used

FIGURE 3.

The areas of value around which the Njanjma Rangers program is based, depicted in the shape of the long-neck turtle.

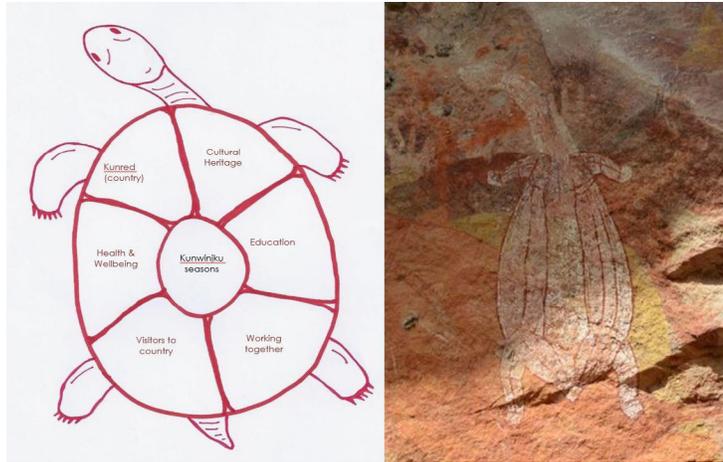
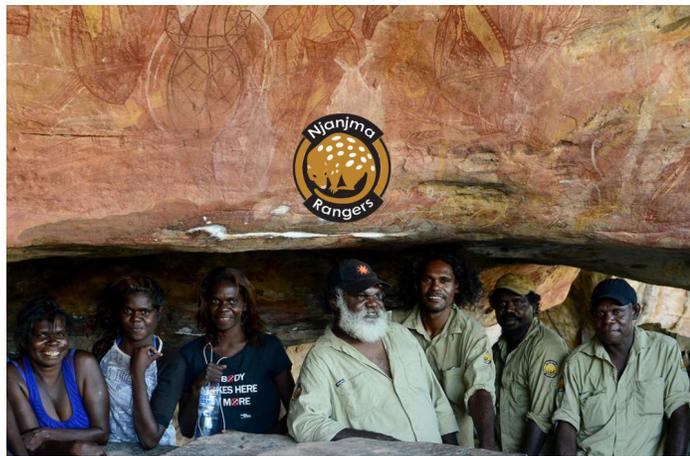


FIGURE 4.

Njanjma Rangers, “Working ‘for’ rock art.”



as the basis for funded activities for the agreements with the Australian government for the WoC ranger positions.

In terms of the rock art components of Njanjma activities, emphasis has been placed on coordinating the various activities associated with immediate threats of fire and the impact of dust from the road in Red Lily Lagoon and of coordinating efforts of the various researchers working on rock art in the region. Funding was sourced to develop a data management system to coordinating legacy data and new data collected by rangers. Additional funding was secured to develop and test a specialist rock art management system, work that is currently still under way. The components of the Njanjma rock art management program and the suite of partners that support the work have been presented on a website (www.njanjmabim.net) to ensure that the many intersecting areas of activity are brought to people’s attention and to use as the basis for sharing with others about rock art management. The link to the Getty document *Rock Art: A Cultural Treasure at Risk* is made explicit as a key resource for informing the Njanjma program and improving rock art management programs in general.

Very soon the next participatory planning cycle will re-engage to check priorities and focus the activities of the rangers in the period post-2018 to ensure there is continuity of WoC funding as well as other sources of funding and support.

Planning for Tourism: Katiti-Petermann Indigenous Protected Area

The Katiti-Petermann IPA in Central Australia provides an example of the Stepping Stones process applied to tourism issues. In this case, the Traditional Owners of the IPA (collectively known as Anangu) had a number of agendas relating to tourism: they needed to manage existing tourism issues, they needed to provide some controls on and processes around tourism development on the IPA, and they were very interested in examining opportunities for their own involvement in new tourism products. Each of these had different planning requirements and tasks involved. We commenced with an on-country session with Traditional Owner families, raising awareness about the tourism issues and listening to their ideas and perspectives (fig. 5). We introduced them to the Stepping Stones for Tourism process, with translation into the local language, Pitjantjatjara. There was a very strong, positive response, almost relief, that there was a pathway to follow and a way to move forward, step by step.

From here, key principles for tourism management and development and high-priority activities were identified. One of the high-priority projects identified by Traditional Owners was tours that included visits to prominent Tjukurpa (Anangu law) places, one of which contains rock art associated with the activities of the *tjala* (honey ant) ancestor. The rangers and Traditional Owners were engaged initially to do a conservation management plan (CMP) for this site with the help of a facilitator (rather than a consultant or expert). This was done using the Stepping Stones for Heritage. A plan was prepared covering five main areas for the rangers to focus on (fig. 6).

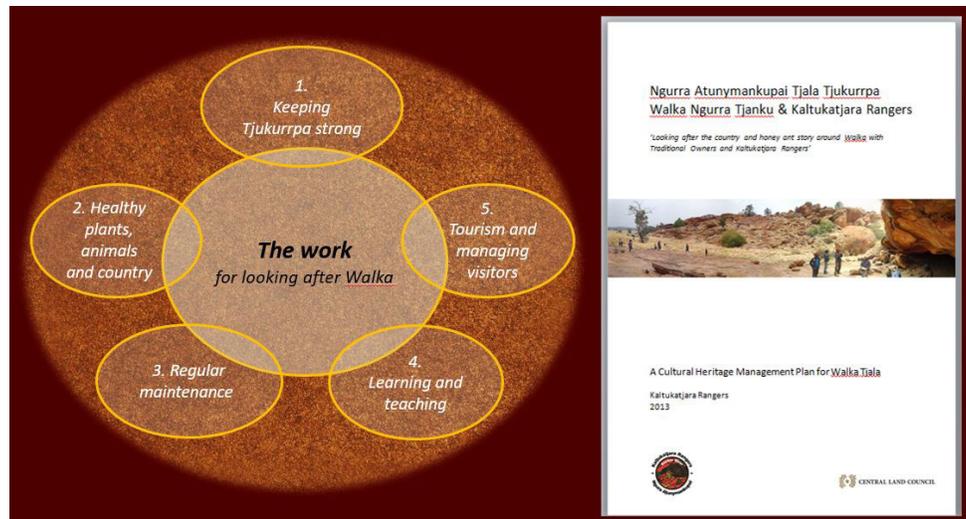
Following the management plan exercise, and utilizing much of the learnings from it, Traditional Owners undertook a more detailed program using the Stepping Stones for Tourism to develop their proposals for tourism to this site, determine what stories and

FIGURE 5.

The first tourism workshop held on the Katiti-Petermann IPA.



FIGURE 6.
Management plan for the Walka site, covering five areas of focus for the rangers.



knowledge are involved, define their requirements for access, and develop a product concept in more detail and how they will work with partners.

These various activities, guided by the use of the participatory planning method, provided a stronger and more informed input to the plan of management that was finalized for the IPA (Central Land Council 2015).

This case study illustrates a number of important aspects about the potential of achieving better outcomes for rock art management working through Aboriginal ranger groups. First, using the participatory process over a period of time in many activities enabled Anangu to be more informed and make more considered and strategic decisions. The responsibility for the process is not externalized to outside experts and emphasizes and helps resource a local sustainable management arrangement. The processes reflected cultural modes of operation, Anangu ways of thinking, and appropriate ways of reflecting highly significant information. Overall the process seeks to build the conditions for greater local agency and responsibility while linking this to external information and connections that will help.

Conclusion

The experience of Aboriginal ranger programs and IPAs in Australia provides important demonstration cases for different forms of rock art management where the locus of operation of custodianship moves toward supporting sustainable local activity that is less dependent on, but orchestrated in synergy with, external agency and expert activity.

The success of the movement for Indigenous and local community management of landscapes and heritage sites that has occurred in Australia (and other locations such as Canada) could be applied more broadly. Where there is recognition of traditional forms of land title for Indigenous communities, forms of supported land management roles are always possible. In places where there are much more complex historical layers of cultural flux, greater emphasis can be put on developing suitable contemporary custodial arrangements. For communities involved in either case, the outcomes of pride in being recognized as responsible for caring for heritage and the life and work skills that derive from this role cannot be underestimated in value. The link between rock art and the broader cultural

health and well-being of groups provides a benefit for communities beyond that of the physical protection of rock art.

How we provide support to programs such as Aboriginal ranger groups will be a key test for the future. Looking ahead, we should encourage and support greater use of basic heritage methodology and participatory methods as a fundamental part of the toolbox for managing rock art. Using methods that encourage stakeholders to walk “hand in hand” and take it “step by step” will lead the way to more sustainable structures for collaboration between local communities, experts, researchers, and agencies that help achieve better outcomes for rock art.

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Balancing Hard and Soft Skills: A Personal View of Facilitating Skill-Set Development for Effective Management

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Introduction

An essential component of developing effective management systems is training the next generation of rock art conservators, managers, and advocates. These emerging professionals will absorb the knowledge of those who came before, build on their successes and their setbacks, and be the ones forging the systems and relationships representing the future of site and cultural preservation. Outlined in *Rock Art: A Cultural Treasure at Risk* (Agnew et al. 2015), recurring elements in the vision for effective management systems (Pillar II) include mutual respect and understanding between Western and non-Western management systems, the importance of program consistency and continuity, and the importance of demonstrating the value of rock art preservation to management authorities and the public.

Drawing on my own experiences working with an Indigenous ranger program in West Arnhem Land, Australia, I describe how collaborative internships between training programs and organizations responsible for site management successfully accomplish these visions for management systems.

My interest in rock art developed early in my conservation training. When I encountered my first rock art site, after working for several years in various fields of fine art conservation, I was immediately compelled by its precarious state of preservation. As an avid outdoors person and someone who had focused primarily on modern and contemporary art, I was struck by the unique combination of the material's relationship to the landscape and the powerful graphic nature of the images themselves. As I learned more about the worldwide corpus of rock art, some of the oldest and most widespread evidence of our collective humanity's creative impulses, I became even more determined to make it a professional focus.

UCLA, my alma mater, offers a master's program in the conservation of archaeological and ethnographic materials with training in technical skills most suitable for rock art conservation. Although the focus of the program is primarily objects, courses covering stone conservation, wall paintings, and open-air sites featured elements relevant to rock art preservation. Additionally, the conservation community is increasingly aware that engaging with Indigenous communities is an essential component of working with materials produced by their cultures. While its importance is easily introduced in an academic context, exercising this engagement is a process that cannot be taught but must be learned through experience. For this reason, emerging professionals dedicated to the preservation of rock art must be given the opportunity to work closely with the communities whose sacred cultural materials they are interested in helping to preserve.

Internship with Njanjma Rangers

In the UCLA program, the final year of each student's graduate studies is devoted to internships, where students are expected to exercise the skills developed during their academic training. A typical internship involves working in a museum's conservation department or, for some UCLA graduate students, on archaeological excavations.

Absent from many available internships is an opportunity to engage with contemporary stakeholder communities. Stakeholder inclusion is now widely accepted as an important factor in the development of management strategies for rock art sites, although it is not always effectively practiced, due in part to the difficulty in incorporating this skill into training programs. Not recognizing Traditional Owners and local communities as essential partners in this process can cause miscommunication and undermine preservation efforts.

I was fortunate, through the professional connections of my academic adviser at UCLA, to secure an internship where I would spend roughly five months working with a recently formed Indigenous ranger program under the supervision of Nicholas Hall of Stepwise Heritage and Tourism.

Njanjma Rangers, based in Gunbalanya, West Arnhem Land, Australia, is an organization devoted primarily to the management of natural and cultural resources, which includes an incredible density of rock art within their traditional cultural property. During the initial community consultation meetings in 2015, known as Healthy Country Planning (HCP), a number of potential projects were identified, including characterization of the impact of dust on sites in the proximity of the unsealed access road and condition assessment and documentation of significant rock art shelters.

Although these deliverables would demand exercising so-called hard skills for which my graduate studies had provided the requisite training, accomplishing them effectively, with the engagement and support of the community, necessitated the development of another skill set entirely. The process of engaging rangers and community members would become a second education, no less important than the first, a complementary repertoire of "soft skills" (fig. 1).

FIGURE 1.

Engaging rangers and community members is an essential component of fieldwork in this context. Without such consultation, there is an increased risk in miscommunicating one's values and objectives or, worse, engendering resentment or suspicion.



Exercising Hard Skills

The vision for effective management systems outlined in *Rock Art: A cultural treasure at risk* emphasizes the incorporation of traditional methods for management and communication between various parties. Working on the projects identified during the HCP would have been difficult, even counterproductive, without the help and support of the Gunbalanya community. Beyond exercising the technical skills developed during my graduate education, effective communication of the goals and processes of technical study and site documentation was required to generate goodwill and maintain community support for my work.

On a daily basis, I tried to frame my projects around training rangers in various hard skills. Condition assessment of priority rock art sites became an opportunity to teach basic photography skills, to organize and sketch site plans, and to discuss various mechanisms of weathering and deterioration and the natural sciences. Examining the impact of dust from the Gunbalanya Road was a chance to demonstrate the development and implementation of a research program (fig. 2). Basic skills that we take for granted, for instance, how to read a compass or use a field microscope, were often novel concepts. In the process of accomplishing my own work, teaching these skills became an exceptionally important personal measure of success. It was also a good way to identify and foster the interests of particular rangers. For example, Manbiyarra Nayinggul had an interest in drawing and was eager to practice sketching and labeling the panels of rock art shelters (fig. 3). Another ranger, Elliot, was good with the camera, and so was interested in practicing documentation photography.



FIGURE 2.

The primary objective of the research project was to identify the source of the dust impacting local painted sites. Of equal importance was demonstrating to rangers methods of developing such a research program, as well as training in the skill set necessary for implementation.

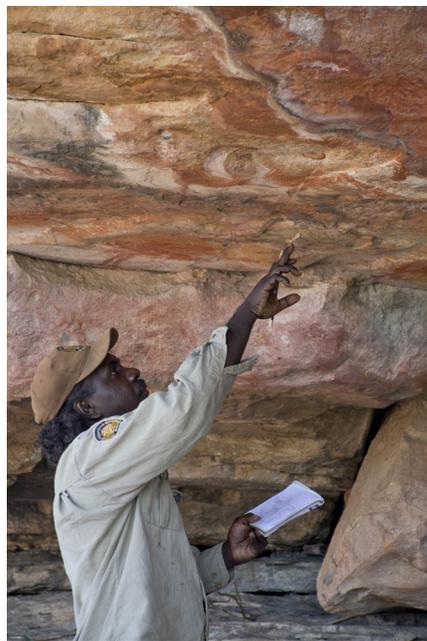


FIGURE 3.

Particular rangers demonstrated aptitude or interest in particular elements of site management. Here, Manbiyarra Nayinggul practices sketching and labeling a rock art site's panels.

Developing Soft Skills for Management

For a variety of reasons, the reality of working in Gunbalanya did not always allow me to focus directly on projects identified during the HCP. Although after several months I had permission from senior Traditional Owners to work on country alone, I rarely felt comfortable without the accompaniment of a ranger or community member. This was due in part to the remote location and extreme conditions of the hot, dry season before the first rains, but also because I felt I was missing an opportunity to engage.

To maintain productivity when fieldwork was not possible, I explored other conservation needs of the community. Below are several examples of projects and opportunities that would become the most memorable experiences of my stay in Gunbalanya, which may prove equally impactful to preservation efforts.

Language Recording and Exploration

One of the primary threats to cultural preservation in this region is the lack of knowledge transfer from elders to the younger generation. Each time a senior community member passes away, an enormous wealth of information about the landscape, rock art sites, and traditional cultural practices is lost. The continuity of the community's engagement with rock art depends greatly on the preservation of this knowledge.

During conversations with rangers, I became aware that the system of site organization in use did not incorporate many of the names Bininj (the Aboriginal people of West Arnhem Land) use for their country. For example, sites in the vicinity of Red Lily Lagoon are categorized by an identification number preceded by *RLL*. One ranger mentioned that, in fact, he didn't consider the site we were working as part of Red Lily Lagoon, and so the recording system seemed to misidentify the place-name. When I started inquiring of rangers and senior Traditional Owners, it was clear there were an incredible number of other place-names that, to my knowledge, had not been categorically recorded. Recognizing also that there seemed to be disagreement among rangers about specific names, I determined that it was important to be asking the right people to get definitive answers.

Over the course of many hours of conservation with senior Traditional Owners Alfred Nayinggul, Kenneth Mangiru, Anita Nayinggul, and Katie Nayinggul, we were able to record and refine place names for more than sixty regions and landscape features throughout the territory overseen by Njanjma Rangers. Beyond ensuring that this information is preserved, the results of this initial recording process are now being incorporated into the official management system. This has the potential to build ranger engagement with an otherwise abstract recording system, and encourage the use of traditional knowledge and language.

Recording traditional language acts as an important means of transferring knowledge, although in another example I found that it was equally important to encourage Bininj to explore Kunwinjku for ways to define unfamiliar topics. I was especially interested in communicating issues of condition assessment and materials' degradation. For many Bininj, English may be the last of six or seven languages they have learned, and I felt the relatively abstract nature of many of these concepts would be better understood by finding similar terminology in Kunwinjku.

What began as informal conversations with rangers, finding translations for words such as *painting, red, black, old, big, salt, and stone* gradually became an exploration of

definitions for technical processes such as exfoliation, surface spalling, bedding cracks, and efflorescence. A breakthrough came when I was describing the nature of flaking paint, and the ranger Elliot mentioned it sounded similar to flaking skin. If *bim* is the word for painting, and *njarrakme* describes flaking skin, we could define flaking paint as *bim njarrakme*, or exfoliation as *warde njarrakme* (stone flaking). Difficulty arose when we started to explore definitions for the myriad different types of stone degradation. What term in Kunwinjku can describe bedding cracks, which can appear either horizontally or vertically, when the deposition of bedding layers in sandstone formation is an unfamiliar process?

These conversations initiated an interest in developing a bilingual visual glossary, in English and Kunwinjku, of rock art and technical terminology. A tool to facilitate training of Njanjma Rangers' condition assessments could also encourage outsiders like myself to communicate in the rangers' own language, representing an effort to balance knowledge between outside researchers and community members. Although we made significant progress toward this goal, the completion of such a glossary will demand continual refinement to improve and discover new definitions (fig. 4).

FIGURE 4.

Time was spent on site with senior Traditional Owners to discuss Kunwinjku translations for terminology related to rock art and its preservation. These translations were collected and organized for use by outside researchers to facilitate better communication with Traditional Owners in their language of choice.



Sensitive Documentation

Building relationships with rangers, community members, and Traditional Owners was the most consequential element of my internship. Without the support and goodwill of all these people, much of the work would not have been possible. Building trust was also a door to other unforeseen opportunities, such as when Alfred Nayinggul requested my assistance in documenting a painting related to an important sacred story, *djanj*, regarding the formation of the local landscape.

This particular image, known as *birriwilk*, is believed by Bininj to repaint herself periodically through the years. Indeed, the painting was amazingly vivid at the time of our visit. Alfred, however, was concerned for its survival. Alfred's father, the previous senior

Traditional Owner, had always been adamant that photographs should not be taken of *birriwilk* because it would be dangerous. It was Alfred's opinion, however, that the time had come to make a record of her condition in case the painting began to suffer.

After spending several months working with Njanjma Rangers, Alfred took me to *birriwilk*, where he introduced me to her and told her about what I was doing. He felt it was safe to take photographs, and he trusted me sufficiently to be a good caretaker of this process. Without spending time building relationships with community members, and building their confidence in my trustworthiness and capabilities, the opportunity to document and digitally preserve this amazing painting may not have arisen (fig. 5).

FIGURE 5.

Engaging community members builds trust and opens opportunities. Alfred Nayinggul, senior Traditional Owner, requested that an exceptionally important djanj, or sacred, painting be documented. Alfred was increasingly concerned about the well-being of the painting and wanted a record of its condition, despite a previous mandate against photographing such a sensitive painting. Alfred is pictured here with the hand stencil of his father, Nakodjok.



A New Painting

There are few subjects in global rock art more compelling and romanticized than contemporary Aboriginal rock painting. What is a legitimately fascinating subject—the continual practice of painting on rock over tens of thousands of years—despite all the disruptions and cultural genocides that have accompanied globalization, has been occasionally exploited by unscrupulous cultural heritage managers as a draw for tourism and frowned upon by some Aboriginal art historians who are interested in preserving the more ancient paintings. Either way, it is clear that those in positions of authority should be supporting the preservation of traditional practices, not exploiting or hindering them.

It was with this history in mind that I experienced an event that was equally exciting and morally confronting, when a Traditional Owner, Anita Nayinggul, decided to put a hand stencil on the rock face at a significant site on the escarpment above Red Lily Lagoon, which was to my knowledge the first painting on rock in many years.

It occurred on a day when a professional photographer, who would be taking photographs for Njanjma Rangers' website, had requested us to gather as many rangers and family members as possible. We traveled to what is known as Mountford's Site, a collection

of shelters with hundreds of paintings in numerous styles and of great age and significance. This was also one of the sites that had been identified by senior Traditional Owners as being in need of an intensive documentation and condition assessment, which I had been performing with the help of various rangers for several weeks.

While discussing the condition of a collection of hand stencils with Anita and her brother Samuel, Anita became excited and stepped away. I thought nothing of it until someone came to tell me that Anita was grinding up ochre and that she wanted to paint a hand stencil! I rushed over and asked Anita if I could film her grinding up ochre, a process I had never seen in person, which she said was fine. When she was finished grinding the ochre and mixing it with water, she bent over and took a big mouthful of the mixture. It was immediately clear to me that she hadn't yet decided exactly where she wanted to place her mark.

It was at this point, I am rather ashamed to admit, that I began to feel nervous. Anita first approached one of the main panels of Mountford's central shelter, and all I could think was that in some way I would be responsible for its alteration. I was equally self-conscious of the fact that this was occurring in the presence of a professional photographer and that perhaps it would not be happening in the absence of an audience.

My anxious inner dialogue was spared when another ranger suggested she put her hand on a small blank panel immediately adjacent to the main shelter, which she did (fig. 6). It was truly an electric moment. When I later asked Anita about this event, she said that she felt it was the right moment, that she had a number of children and grandchildren present, and by painting her hand stencil she was declaring in front of them and for anyone who would see the painting later that, in so many words, "this is my country."

I have mixed feelings about this moment. I feel fortunate to have witnessed it, but I am sensitive to whether I played a role as instigator, and what the role of a conservator should be in this context. These questions are not resolved, but without this moment I would not have had the opportunity to be challenged in such a way.

FIGURE 6.

Anita Nayinggul puts a hand stencil on the rock. This event was an educational one, where my conception of "preservation" shifted from one purely concerned with a site's physical fabric to a broader and more nuanced concern for preservation of cultural practice.



Conclusions and Perspectives

Participating in an extended internship with Njanjma Rangers catalyzed my own education in the importance of stakeholder engagement and was a productive exercise in striking the necessary balance between utilizing technical training in heritage preservation and developing the soft skills that are necessary for communication and management. There were numerous positive results, including implementation of a successful research program devoted to the impact of dust, conducted with the assistance and engagement of rangers, recording language and place-names to facilitate knowledge transfer and assessment of sites, training rangers, and, perhaps most important, continuing to develop goodwill between community members and outside researchers.

The projects and events described here represent only a small selection of those that had a profound impact on my understanding of preservation. A linguist who was working in the region told me that equally important as preserving the tangible and material elements of rock art was preserving the ability of the community members to engage with their country. What this meant to me was that there is a human component to heritage preservation that can be under-represented in the science-heavy field of materials conservation. By experiencing how local communities engage with their heritage, and the impact its preservation has on their lives, we, who are responsible for advising on and developing management and conservation systems, are better equipped to serve our mission.

Fostering relationships between training programs and groups responsible for site management has the potential to complement emerging professionals' technical training with cultural competency. I had the great fortune to be given this opportunity, working in a rich landscape in a supportive community. I don't believe such an education would have been possible otherwise. I believe there are numerous young rock art professionals who, given the opportunity, would similarly thrive to the benefit of their professional development.

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Volunteers for Rock Art: Tapping the Potential and an Example from Little Lake, California

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The UCLA Rock Art Archive (RAA) has thrived through its affiliation with the Cotsen Institute of Archaeology and the leadership of professional archaeologists but, nonetheless, with only minimal institutional funding. The secret of our success is a program of dedicated volunteerism. Prior to 1995 the RAA, which was founded in 1977, had relatively sporadic individual and small-scale participation. After 1995 it evolved into a larger and more integrated research-productive field and lab experience.

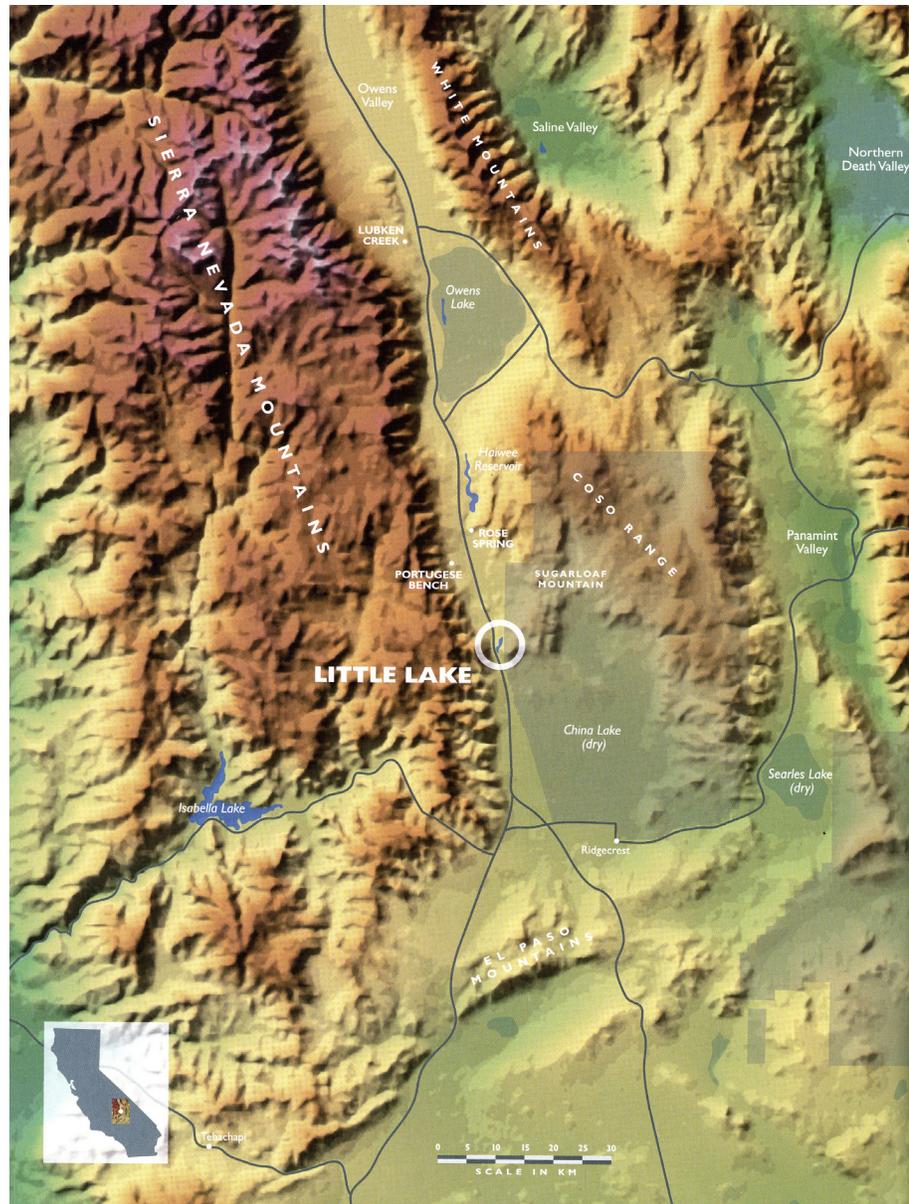
This paper reviews the productive history of volunteerism at the RAA. It offers as a case study the Little Lake Ranch Research Project (fig. 1), a program with unique professional credentials that culminated in a major rock art database and research publication. The project was staffed by a cadre of rock art students and program participants who worked together in the venerable tradition of the “citizen scientist.” This paper further points out the role of volunteerism as a social undertaking and acknowledges the advantage gained within a highly sophisticated learning environment such as that provided by UCLA. It offers some suggested guidelines for replicating this successful research-driven volunteer program elsewhere and in other contexts.

Volunteerism: Recognizing the Issues and Goals

Historically, California rock art is marginalized in mainstream archaeology. The late Robert F. Heizer (University of California, Berkeley), founder and head in 1948 of the California archaeological survey, recognized that rock art was a legitimate line of academic inquiry and championed it. However, few of his archaeological colleagues shared his interest in rock art. As a direct consequence, he depended upon vocational and amateur field-workers, many of whom became the vital backbone of early California rock art research and site conservation. Heizer’s rock art papers were deposited in the RAA by one of his students, Dr. C. William Clewlow Jr., cofounder of the archive with Dr. Clement W. Meighan, UCLA Department of Anthropology.

Meighan established a management strategy in which a professional archaeologist supervised a volunteer archivist. Carrying on Heizer’s tradition of recruiting volunteers through teaching, Meighan created a rock art recording class and taught it in the UCLA Extension Division. Jo Anne Van Tilburg was appointed RAA director in 1997 and dependence upon a single archivist was abandoned. She recognized that a larger volunteer staff with varied expertise was needed to move forward in the digital age. The objectives were to establish a visual database of rock art resources and, following Meighan’s program, to expand the volunteer base through adult education.

FIGURE 1.
Topography of Little Lake Ranch,
Rose Valley, California, and sur-
rounding area. © UCLA Rock Art Archive



Creating Volunteerism: Integrating Field and Lab

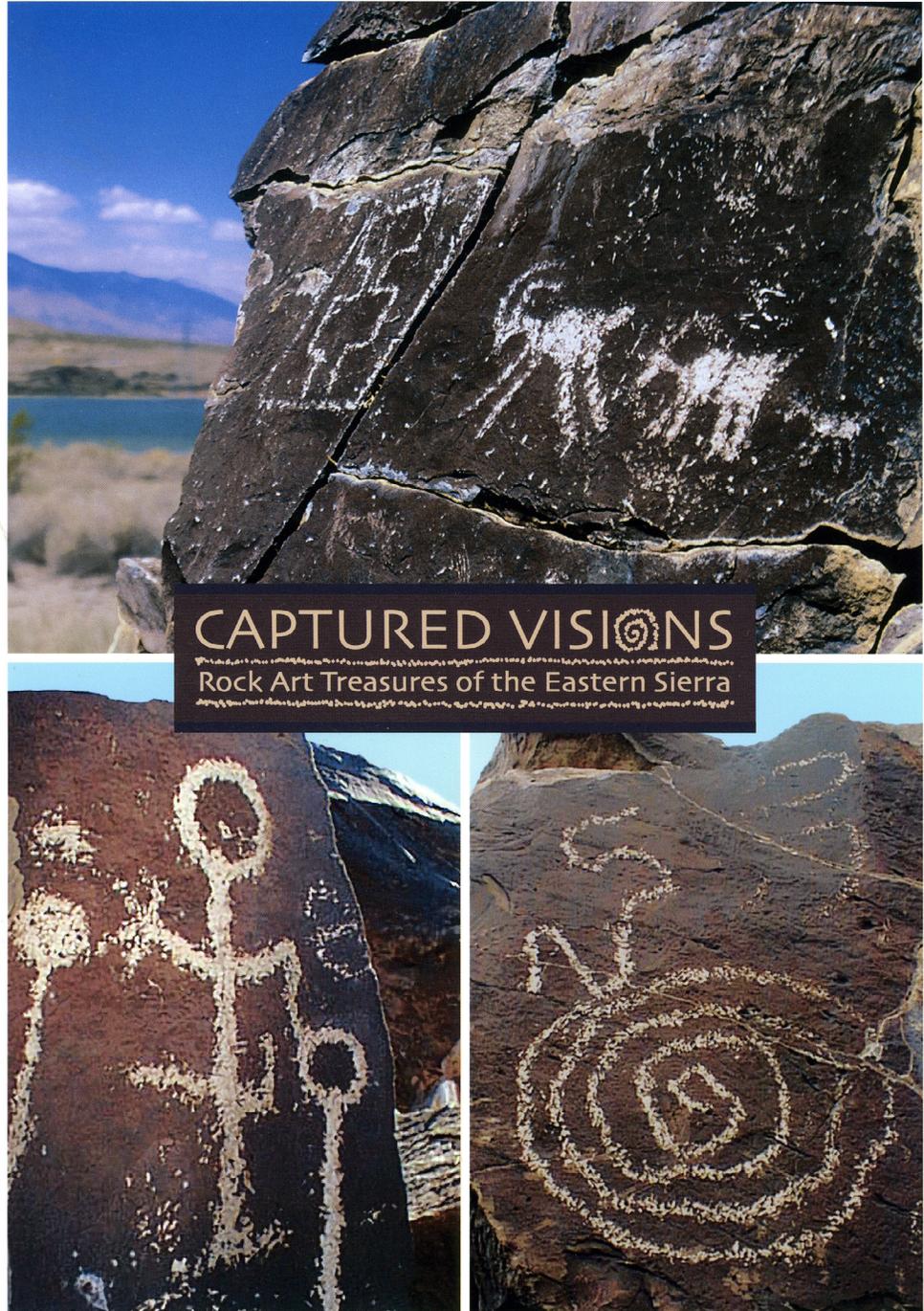
Van Tilburg converted the UCLA Extension Division's rock art field methods class into two coherent projects: the Riverside County Rock Art Survey and the Little Lake Research Group. She and the RAA volunteer staff, headed then by Gordon Hull, conceptualized a new role for the archive: it would serve as a digital teaching lab. In short, the idea was that field teams would collect visual data while learning recording methods and then process their own data in the archive while learning database management. The archive would gain data; the database would see positive use, editing, and revision; and student participants would experience the results of good field recording transformed into a research tool for others.

Teamwork and collaboration were two of the fundamental values stressed in the UCLA Extension class. Through the many positive learning and social experiences achieved during fieldwork, the class coalesced into a lab group with shared interests and a desire to build upon their experiences. A bimonthly series of meetings at the archive addressed and discussed some of these questions and interests but also kept the group involved. Eventually the group dubbed itself the “Captured Visions Research Group” (fig. 2), a name that refers to one of our most basic field recording tasks—the digital capture of rock art imagery—but also alludes to the revelatory experience that is the genesis of some, but not all, Little Lake Ranch rock art.

FIGURE 2.

Promotional postcard created by Rock Art Archive volunteers for public outreach information, advertising, and marketing for our Captured Visions project.

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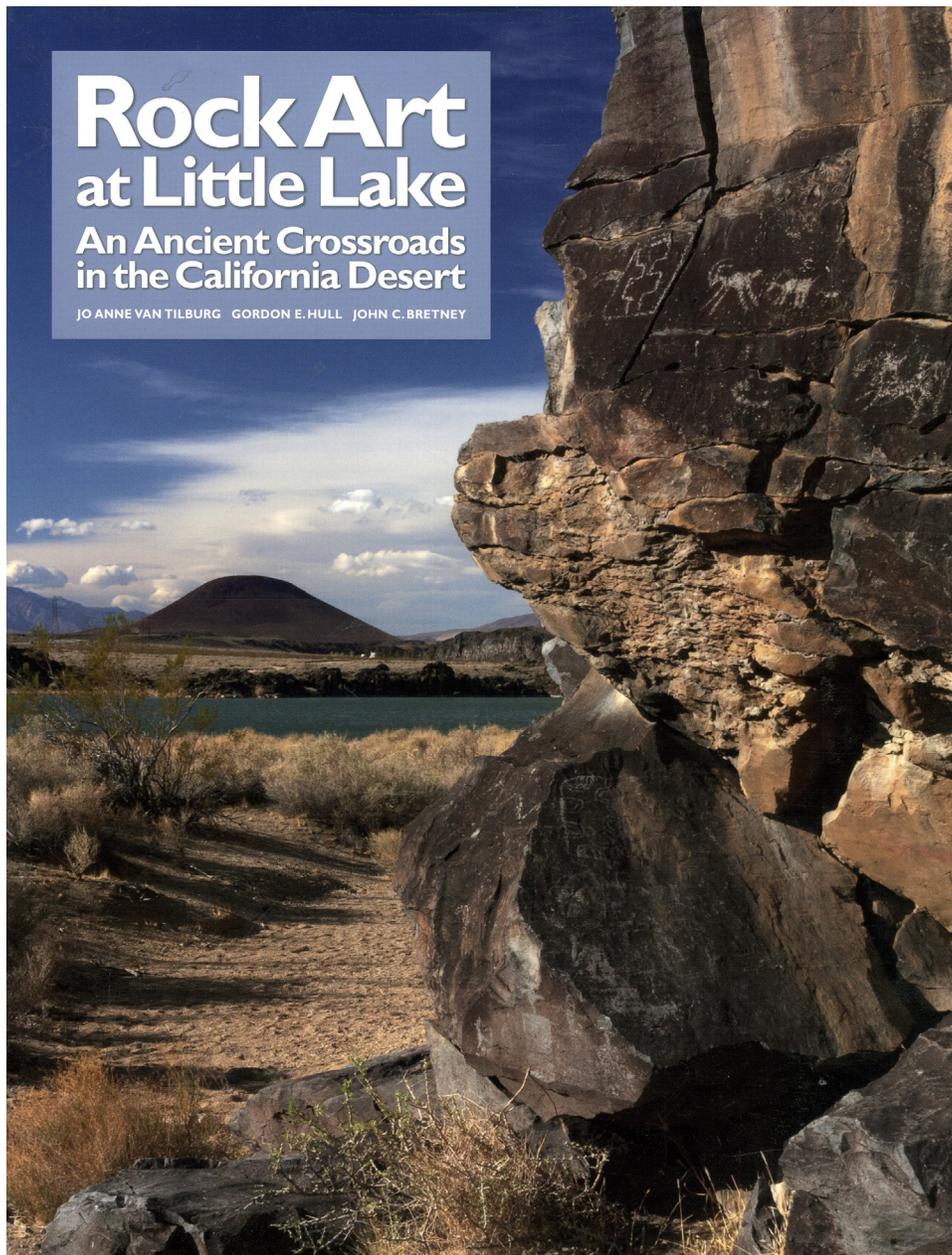
Nurturing Volunteerism: Legacy

Our large visual database produced two major outcomes. The first is our contribution to site conservation. Our data demonstrated how some rock art panels were missing or moved due to seismic activity or flooding. This important aspect of our work earned the Captured Visions team and the RAA the Governor's Historic Preservation Award, sponsored by the California Office of Historic Preservation and California State Parks. The Captured Visions Research Group then transformed itself into the Little Lake Writing Group. Our legacy of cooperation resulted in solid research and a coauthored volume (Cotsen Institute of Archaeology Press), *Rock Art at Little Lake: An Ancient Crossroads in the California Desert* (fig. 3).

FIGURE 3.

Rock Art at Little Lake, published by the UCLA Rock Art Archive and its volunteer staff, directed by Dr. Jo Anne Van Tilburg, Cotsen Institute of Archeology, UCLA.

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Lessons Learned

All volunteer experiences are not equal. Some programs unfold naturally or surprisingly, while others demand detailed planning. Not all areas have the same quality of educational resources or the same number of self-motivated people. But rock art, and its ability to enrich the human experience, possesses a powerful magnetism for many, and building upon that is a key part of developing volunteer participation. The following lessons learned may be helpful in developing other volunteer programs:

- Group dynamics differ from one day to the next.
- Public outreach programs should welcome professionals, aspiring field-workers, and the interested public.
- Basic field and lab techniques should be taught to the highest possible standards.
- Heritage and communal ownership are important preservation motivations.
- Promoting the “citizen scientist” concept is important; elevate volunteers to valued colleagues but honor only legitimate expertise.
- Teamwork is to be encouraged; appreciate differing skills and contributions.
- Volunteers are a resource, not a work force.
- Mutual respect encourages involvement.
- Mutually beneficial experiences reward all.

Fundraising for Rock Art by Promoting Its Values

Terry Little

Trust for African Rock Art, Nairobi, Kenya

Rock art has struggled to get the same kind of robust public support common to other fields such as natural heritage. Even the growing presence of rock art sites on the prestigious UNESCO World Heritage List does not seem to have had a significant impact on increasing the funding available for their management and conservation. A higher level of public and political awareness of the importance and values of rock art is needed in order to leverage the resources required to ensure the recording, management, conservation, and use of sites. This includes providing opportunities to local communities for training and education, enabling and empowering them to value, care for, and benefit from their cultural heritage over the long term.

Looking at the experiences of the Trust for African Rock Art (TARA), this paper aims to identify the socioeconomic and cultural exchanges that must be offered to private foundations, individuals, and national and international bodies, corporations, and governments in order to effectively conserve and use rock art.

What Motivates Funding Support?

Funding for heritage preservation—of which rock art is generally the poor second cousin of natural and built heritage—is always going to be a smaller slice of the funding pie compared with health, education, and security. Most of TARA's successful appeals for funding can be attributed to the link we have been able to demonstrate between heritage and the social and economic well-being of a community or to the eminent threats facing iconic rock art sites. One of the principles of fundraising is that it is a marketing process. That means that there must be some sort of exchange taking place: matching a product or service with a person who wants to purchase it or participate in it. You must be able to identify the market need or desire. If there is no need or desire, there is no interest.

Commodity and Amenity Values of Rock Art

What are rock art bodies offering in exchange for the support they are seeking? If organizations such as TARA want to market the values of rock art, what are those values and how can they be exchanged? One approach is to identify ways that rock art heritage can generate material benefits through commodities (themed merchandise) or through amenities such as tourism. The development of responsible tourism has been an attractive hook for TARA, especially through support from national development agencies whose aims often include strengthening of economic sectors, including tourism (and therefore employment, entrepreneurship, community development, etc.). The results of these efforts have been mixed but mostly discouraging. Despite strong community engagement and enthusiasm in projects that TARA launched in Kenya, Malawi, Niger, Tanzania, and Uganda, which included goals of activating or promoting tourism, it must be accepted that difficult access

and scarce infrastructure constitute major obstacles toward creating realistic tourism potential in most of Africa. At the same time, managing community expectations when exploring the potential is important because the reality is that there will be little or no funding or generation of income, yet the rock art sites need to be protected.

Slow Destruction Is Still Destruction

Another approach in attempting to “sell” rock art conservation and valorization depends on an emotional angle, rooted in the language of urgency and disaster. The problem is that the biggest threats to rock art are not the sudden and dramatic annihilation of the heritage. The biggest threats are the slow, progressive destruction caused by the creation of infrastructure and other human activities. However, this does not generate the same kind of public reaction as the swift and shocking nature of human conflicts and natural calamities, yet the result is the same: the disappearance of irreplaceable connections to humanity’s past (fig. 1). It is a real challenge to get people to appreciate the slow destruction processes, but the final result is the same: the heritage vanishes. This is where foundations such as the Prince Claus Fund, specifically dedicated to cultural emergency response, can come to the rescue. Individuals can also be called to action as TARA was in 2015, when it succeeded in raising around \$25,000 through a crowd-funding effort focused on the threats facing heritage sites throughout the Sahel region. The slow effects of human activity eventually took their toll in Kisii, Kenya, where an engraved site disappeared over the course of four to five years (fig. 2). Despite an awareness campaign and funding of a guardian, the soapstone upon which the symbolic engravings were created was mined for industrial use. The University of Kisii offered to host the large boulder with some of the more compelling engravings if it could have been moved to the campus, but, even if this action of last resort had been agreed upon, there was simply a lack of time and expertise to mobilize the resources.

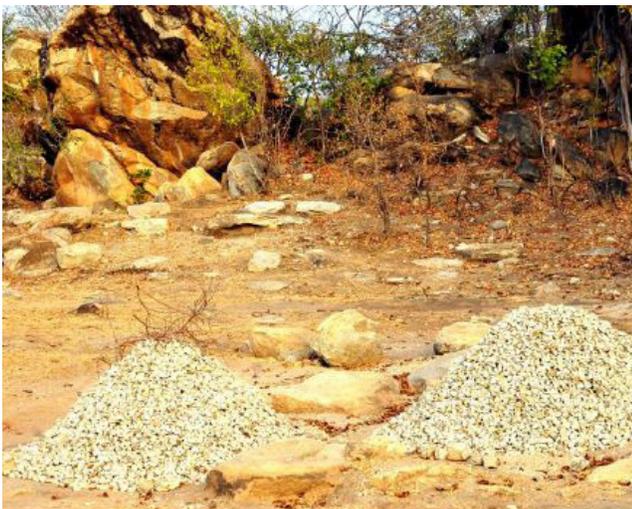


FIGURE 1.
Slow destruction is still destruction. Small-scale quarrying, Kondo, Tanzania.



FIGURE 2.
A funeral-like atmosphere at this rock engraving site in Kisii, Kenya, which over the course of four to five years was quarried for its soapstone.

Industry as Partner or Foe?

The demand for minerals, water, and energy—and their consequent extraction and management—is the source of many conservation threats. The situation is familiar and predictable: something of untold historical value is being threatened by industrialization. The players are the usual suspects: gigantic companies with unconstrained treasure at their disposal to oppose, influence, still, and mollify resistance efforts; central government that is opportunistic concerning its resources; and communities of local people for whom this heritage may or may not have social or cultural value. Once upon a time, mining companies were unequivocally the enemy; it may be time to consider whether they are willing and in a position to provide what governments have failed to: a way up and out of the debilitating social problems plaguing many communities. The quest to protect heritage does not necessarily need to be in contradiction to people's aspirations to generate income or enhance their living conditions. As much as I may be jolted by the appearance, or even the notion, of industrial activities in or near rock art sites, it is unreasonable for me to have a particular animus toward these activities per se when I myself drive a Nissan and use a mobile phone and a host of other gadgets. In today's world, industries act according to their imperative: generating as much profit as possible to expand or survive. While our institutions may not have much influence on industrial policy or activities, it is our task to find industries that choose to cultivate a concerned and accountable public profile to partner with. This is happening to some extent in Australia, where Rio Tinto and BHP Billiton collaborate in rock art research.

Rock Art Conservation as Diplomacy

Several of TARA's recent grants have come through soft diplomacy grants through the US Ambassadors Fund for Cultural Preservation in Chad, Kenya, Malawi, Nigeria, Tanzania, and Uganda, support that aims to burnish the reputation of the funder as a responsible body whose interests in a country are not merely mercenary (fig. 3). The 2018 US budget proposal currently on the table aims to slash State Department diplomacy and aid funding. It is not obvious that private foundations and individuals will increase their funding support to counter these trends.

Convergence and Success Stories

How often is there harmony between the different axes of economic benefit, development, tourism, and conservation? Not very often, though there are a few examples of TARA successes in Kenya and Niger. Taking fundraising and marketing forward, volunteerism and community involvement will be needed to help fill the gap and to leverage funding partnerships. Like fundraising, volunteerism is a marketing process. There is always some sort of exchange taking place, whether it is funds or efforts for recognition. Engagement of local and Indigenous communities should be considered in this context. Their in-kind investments of knowledge, experience, and energy must be considered and acknowledged in any strategy (fig. 4). It is also important that rock art professionals and well-wishers make efforts to create steady, effective noise regarding heritage under threat. Based on my experience and observations, the chances of self-sustenance in funding, management, and conservation of rock art in Africa (and elsewhere) are scant, and outside funding will continue to be

FIGURE 3.

Rock art conservation as diplomacy. The US ambassador to Niger, visiting a site that received a conservation grant from the US Ambassadors Fund for Cultural Preservation.

**FIGURE 4.**

Rock art conservation center in Tamghilt Zerzem site in Morocco, one of a dozen such centers in the country and a rare example of steady government support for rock art in Africa.



required to support conservation and valorization efforts (fig. 5). This kind of dependency on outside funding is far from ideal, but the options are not obvious. Taking advantage of funding opportunities should be seen as a way to build new partnerships and as a channel for funding agencies and individuals to demonstrate their interest in and commitment to preserving and valorizing evidence of humankind's earliest spiritual and creative efforts.

FIGURE 5.

Amenity values of rock art. Despite the infrastructure and security challenges of getting to Dabous, Niger, this iconic giraffe engraving has attracted funding from a number of sources for both its conservation and valorization.



Analysis of the Status of Tourism to Rock Art Sites in South Africa

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As is well known, tourism is a thriving global industry, and Africa holds great potential to reap the benefits of sustainable growth in this sector. Tourism has been positioned as a panacea—especially in emerging economies—that will enable job creation, boost inclusive economic development, and help to reduce poverty. Africa is considered by the United Nations World Tourism Organization (UNWTO) to be one of the fastest-growing regions for the travel and tourism sector globally, ranking behind only Southeast Asia (World Travel and Tourism Council 2017, 6). Sub-Saharan Africa has the capacity to expand its tourism products in categories such as nature/adventure, travel for wellness, health and retirement, and cultural heritage tourism (Christie, Iain et al. 2013). Cultural tourism in particular can be a catalyst for travel, with an estimated 40 percent of all global leisure travel having a heritage component (Timothy and Boyd 2003). Heritage professionals have long recognized the potential for tourism to play a role in the protection of rock art sites, including some participants at this Namibia colloquium who have researched this topic and presented case studies from around the world that illustrate successes and failures. However, in post-apartheid South Africa, rock art sites—despite numerous government initiatives supporting cultural heritage tourism including marketing campaigns, the promotion of rock art as part of the origin story of South Africa, and concerted efforts to target a niche tourist market—have proven that tourism can be fickle and largely unsustainable, with lower than anticipated visitor appeal.

The reasons for this “failure” are complex and multifold. The purpose of this abstract is not to reiterate these challenges but rather to look at available tourism data in an attempt to understand what role global events and macroeconomic trends, as well as visitor motivation and behavior, may have played in explaining why tourism at rock art sites has not taken hold. Unfortunately, data on rock art visitation are generally poor and untargeted. The aim is to encourage improved detailed collection of tourism data at cultural heritage sites, specifically for rock art, as well as more systematic analysis of existing data to pinpoint which factors may have negatively impacted overall visitation numbers. The end goal is to use this information to understand the viability of cultural heritage tourism with current visitation patterns and to suggest what changes would need to occur to enable key stakeholders to take advantage of the economic potential in order to help define a specific and realistic role for rock art in the broader context of the tourism industry.

Tourism data for Africa have been, on the whole, relatively scant in comparison to other regions that possess a more mature tourism industry. Data have also been inconsistent and the rigor of collection methods variable. However, this is changing with growing opportunities for tourism-related investments encouraging more reliable data gathering. Data for this paper—which only begins to graze the surface—have been obtained from the UNWTO, the World Travel and Tourism Council (WTTC), the World Bank Group, the World Economic Forum, and the Africa Tourism Monitor and Africa Tourism Data Portal by the African Development Bank (AfDB) with New York University-Africa House and the Africa Travel Association (ATA). Data are only broadly subdivided into North Africa and Sub-Saharan

Africa, though some of these organizations also produce more regional (e.g., South African Development Corporation) and country-specific data, and individual countries generate their own reports, such as *Tourism and Migration*, issued by Statistics South Africa (STATS SA), South African Tourism, and the Tourism Business Council of South Africa. Numerous research firms, such as Business Monitor International, Ltd. (BMI) and Euromonitor International, also provide macroeconomic, industry, and financial market analyses that include tourism reports. In all of the reports reviewed, “cultural tourism” was used as a catchall term to encompass sites of historical significance. Data were rarely collected at a level of detail that allowed for product segment analysis of the leisure market. Rock art was not mentioned in any of the reports.

Tourism currently ranks third as a worldwide export category. However, in the developing world, tourism is often the primary export sector and plays an important role in export diversification in commodity and oil exporting countries. Worldwide tourism receipts totaled \$1.5 trillion in 2015, accounting for 10 percent of worldwide GDP and responsible for one in eleven jobs (fig. 1) (UNWTO 2016, 3). This includes direct spending (e.g., transport, accommodation, food and drink, entertainment, and retail), indirect from government spending on tourism (e.g., infrastructure) and induced income. In 2015 international tourism receipts reached \$33.1 billion in Africa, which represents only 2.2 percent of the overall market.

What does all this mean for Africa? The year 2016 marked the seventh straight year of continuous growth in the tourism sector, with 1,235 million total international arrivals. However, of these, only 58.2 million international tourists visited the African continent, which accounts for 4.7 percent of the market share (fig. 2). This is an 8.1 percent increase over 2015, when arrivals fell by 3.3 percent due to a significant reduction in arrivals to North Africa, with an 11.7 percent drop, and only a 1.6 percent increase in arrivals to Sub-Saharan Africa, due to slowing economic growth in oil-dependent countries (i.e., Nigeria, Angola) and the impact of the Ebola virus in West Africa. Tourism growth in Africa therefore has economic potential but is also volatile.

At the country level, South Africa has the most developed tourism industry in sub-Saharan Africa, ranking third in overall visitor numbers in all of Africa, behind Morocco and Egypt with 8.9 million international arrivals. Growth of South African international arrivals



FIGURE 1. Tourism key figures for 2016 that illustrate why tourism matters (UNWTO Tourism Highlights, 2016 Edition, 3).

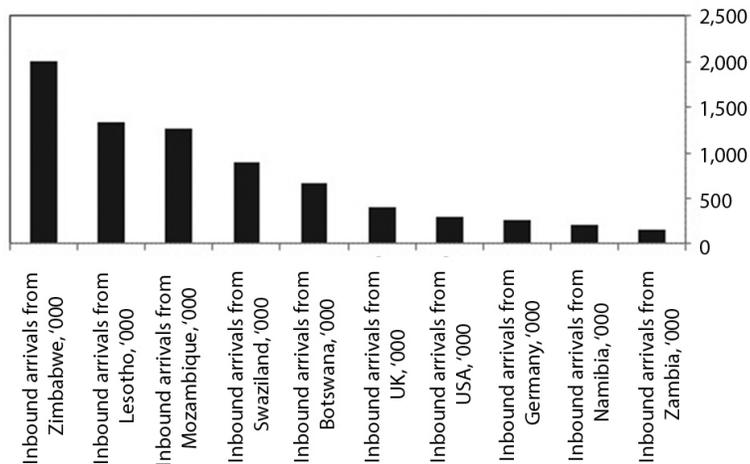
FIGURE 2.
World map showing international tourist arrivals for 2016 (copyright: World Tourism Organization (UNWTO) January, 2017).



decreased in 2015 (from 9.5 million in 2014) mainly attributed to stringent immigration restrictions, which caused arrivals to fall by 6.8 percent (Tshabalala 2015).

Visitor behavior and trends are important data points to gauge the actual number of potential visitors to cultural heritage sites. International visitors come to South Africa for three main reasons, including business, leisure, and events, or, according to other surveys, to visit relatives and friends, spend holidays, conduct business, or “other” reasons. Globally, four out of five arrivals visit destinations within their own region (UNWTO 2016, 12). Regional travel to South Africa comes from Zimbabwe, Lesotho, and Mozambique, which constitute the top three countries of arrivals (fig. 3). This is significant because a large

FIGURE 3.
Inbound tourism to South Africa in 2017 is dominated by neighboring countries, including Zimbabwe, Lesotho and Mozambique (BMI Ltd. 2017, 13).



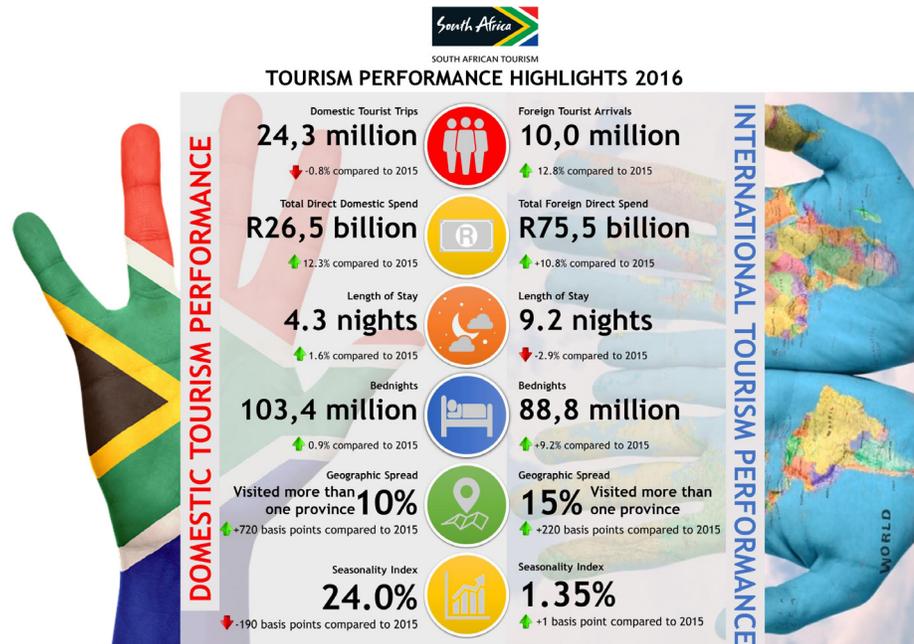


FIGURE 4.

Comparison of domestic tourism performance vs. international tourism performance (South African Tourism, 2016 Tourism Performance Highlights).

number of the arrivals from Africa are traveling for business, which accounts for 33.8 percent of spending versus 66.2 percent for leisure. In addition, international visitors spend 46.1 percent versus 53.9 percent from domestic tourists. Domestic tourism is important to maintaining a healthy tourism industry in South Africa, but large numbers of low-income households find travel too expensive or are not accustomed to traveling for leisure, despite continuing government efforts to boost domestic tourism (fig. 4). Also, Africa, compared to other regions with emerging economies, is not experiencing the rapid rise of a middle class to fuel strong growth.

In 2015 China topped the list of spenders in global outbound travel with 127.9 million international departures and \$292.2 billion in tourism expenditure. The US followed with 73 million travelers and \$113 billion in spending; Germany spent \$77.5 billion, followed by the UK with \$63 billion. South African tourism is focusing its efforts on key target countries that can deliver both value and volume, which include China, the UK, the US, and India. The goal is to increase the length of stay, overall spending, and geographic spread. Forecast growth for 2017 is expected to increase but only at a relatively flat rate (0.5 percent), and the South African Department of Tourism anticipates a downturn in overseas arrivals from Europe due to UK's Brexit. Longer-range forecasts by UNWTO's project Tourism Towards 2030 are more optimistic, with international arrivals to Africa estimated to grow by 4.6 percent in 2020–30, but growth will be more concentrated in West, Central, and East Africa.

Of the foreign visitors who come primarily for leisure and holiday, the main draw to South Africa has long been its natural heritage. South Africa has wanted to diversify away from natural/wildlife, since a greater range of activities increases the length of stay and the likelihood of repeat visitors. Government initiatives such as the National Heritage and Culture Tourism Strategy have been trying to encourage cultural tourism since the mid-

1990s, believing that “there is significant room for improvement in protecting, valuing and communicating cultural richness” (World Economic Forum 2017, xiii). This includes tourism at World Heritage Sites in Africa with a cultural component; for example, the Cradle of Humankind, Mapungubwe cultural landscape, Richtersveld cultural and botanical landscape, Maloti-Drakensberg Park, and Robben Island. Data collection in this area is improving, with South African Tourism’s data including a “Cultural, historical and heritage” category, which showed a decrease in activities in 2013–15 (fig. 5). A Euromonitor International tourism report names “Art, Culture and Heritage,” which is the smallest of the listed attractions by spending and showed volatility in 2010–15 and is forecast to decrease in 2015–20. Though still extremely broad, these data give some indication of current visitor interest in cultural sites.

Rock art that can be found at the World Heritage Sites of Mapungubwe and uKhahlamba Drakensberg as well as at other smaller attractions has remained a niche market at best in South Africa. Rock art has had limited appeal vis-à-vis other attractions such as game watching, scenic tours, and culinary and wine excursions. With steep competition for a visitor’s attention and time, it has been suggested that rock art tourism can prosper only if sites are strategically and conveniently located and linked to other tourist attractions (i.e., as part of a travel package or bundled with other sites) and with improved and cost-effective transport infrastructure and services.

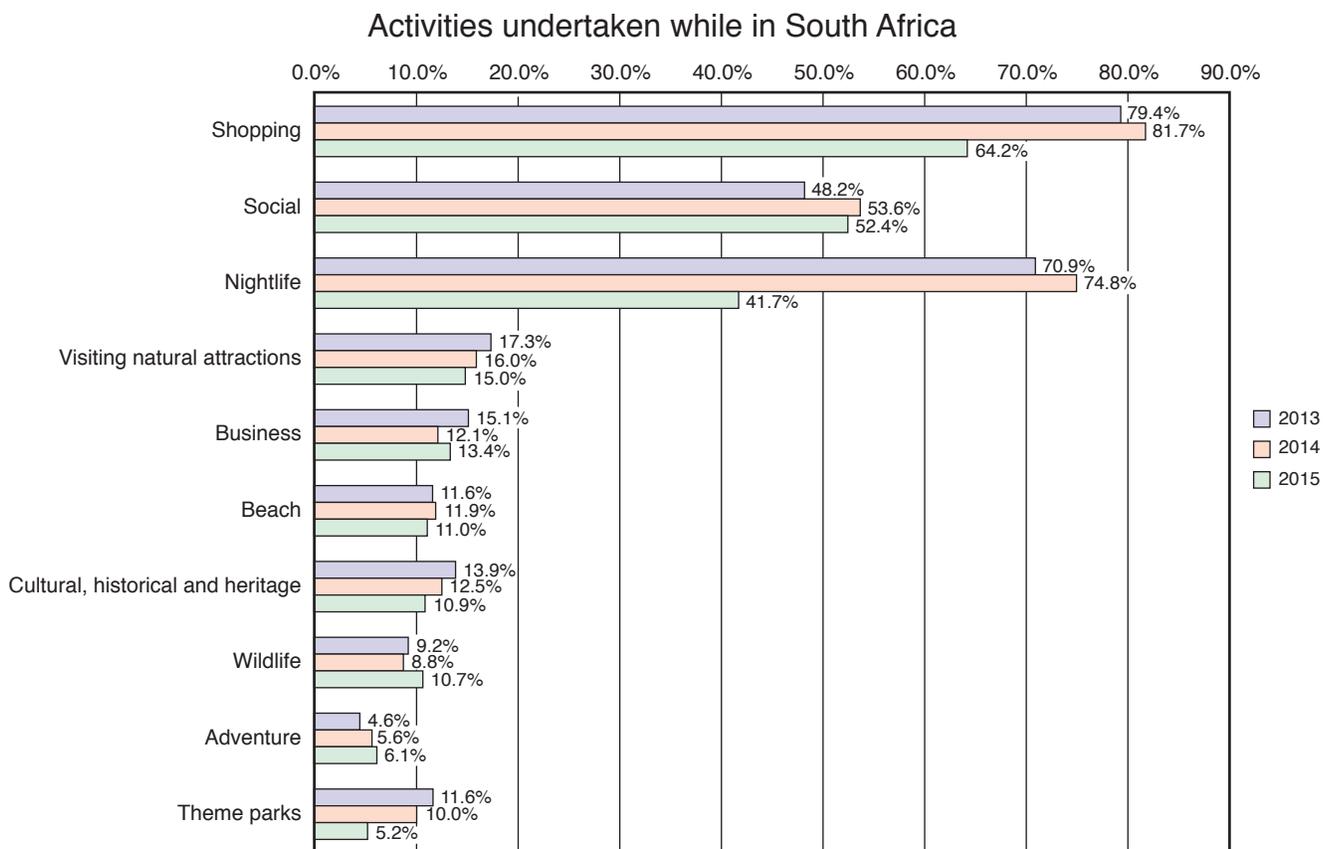


FIGURE 5.

“Cultural, historical and heritage” is listed as one of the activities undertaken by tourists in South Africa and shows a drop from 13.9 to 10.9 percent from 2013 to 2015 (South African Tourism–Strategic Research Unit, 2015 Annual Tourism Report, 33).

In the 1980s the idea of an “archaeological route” was promoted to include the rock art engraving site of Wildebeest Kuil, located near Kimberley. Government officials saw the economic benefit of routing tourists off the Johannesburg to Cape Town road to Kimberley’s tourist sites, which would help to spread economic benefit to smaller towns. Rock art was added to the school curricula to better inform the public and create awareness of Africa’s past. A visitor center was constructed and the site opened in 2001. However, visitor numbers fell far short of forecast estimates and called into question the role of archaeological sites in economic development (Morris 2014, 187). Wildebeest Kuil was never imagined as a site for mass tourism but rather for niche tourism or special interest tourism (SIT). Data show that only 13 percent of international arrivals visit more than one province; Gauteng and the Western Cape account for 75 percent of overnight stays, while the Northern Cape, in which Kimberley is located, is one of the least visited provinces, with the most common length of stay being only one or two nights. In contrast to this is the World Heritage Site of Twyfelfontein in Namibia, which gets fifty thousand to sixty thousand visitors per year—more than Wildebeest Kuil and the Drakensberg sites combined. Twyfelfontein is conveniently located between the main tourist destinations of Swakopmund and Etosha (Duval and Smith 2013, 148).

Key factors such as access, infrastructure, security, political stability, and governmental support act as indicators that can influence whether tourism in general and cultural heritage tourism in particular, being only a small market, will succeed or not. These factors impact visitor motivation to travel. A change in South Africa’s visa process in 2015 led to a 6.8 percent drop in foreign arrivals. In South Africa, security and political stability are perceived as important by foreign visitors. In the past eighteen years, Africa has had more US State Department travel advisories than any other continent, based on Skiff’s research since 1996. Out of the eighty countries with travel warnings, thirty of them are in Africa, and four of the top five are in Africa: Algeria, Congo, Burundi, and Chad. Though South Africa is not one of these countries, many still think of Africa as a country rather than as a continent. For example, the Ebola crisis hit Sierra Leone, Liberia, and Guinea yet impacted travel to East Africa, 8,000 km away. Travel to South Africa also suffered.

The World Economic Forum produces a Travel and Tourism Competitiveness Index (TTCI), which ranks 136 countries based on sustainable growth. South Africa is ranked fifty-third, having slipped five places due to safety and security (no. 120 in the rankings) and environmental sustainability (no. 117) and reduced government support.

Even before we begin to think about tourism at rock art sites and how to engage visitors, we need to first understand visitor motivation and behavior related to travel and tourism patterns. Rock art already faces tough competition from natural sites in South Africa and the strong brand of the “Big Five” game animals; the concentration of travel around Cape Town and Johannesburg; and fairly flat estimated growth in tourist arrivals in the near future. This indicates that tourism at sites like Wildebeest Kuil, the Drakensberg, and Mapungubwe will not see growth without broader changes to the tourism industry. Improved data collection that targets cultural tourism in particular is necessary to understand and identify the factors that are keeping visitors away.

In our quest to better care for rock art and with responsible tourism seen as one way to achieve this, we now need to address why people visit cultural heritage sites and rock art sites in particular. This includes visitor surveys, marketing studies, and in-depth analysis on who the potential “customers” are, why they visit rock art, and what they want to see and experience.

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Encouraging Rock Art Site Visitation and Value While Ensuring Protection: Current Challenges and Future Solutions

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How can we encourage awareness, value, and visitation/enjoyment of rock art heritage while ensuring protection? Why do this? When sites are publicly valued, resources (funding, staff, and support) for sustaining sites increase. Public support and resources are foundational to long-term rock art protection and preservation. This paper identifies an array of current problems and future strategies for successful visitor management techniques that achieve three interconnected goals: providing visitors a good experience at rock art sites; inspiring and educating visitors about sites/rock art; and raising lasting awareness of protection and conservation issues. Aspiration toward these inter-related goals is essential for the long-term conservation, enjoyment, and celebration of rock art (Agnew et al. 2015).

The tenets of rock art site visitation management and control remain foundational to protecting sites and raising public awareness and resources. Concise, comprehensive rock art documentation is essential, as are clear, up-to-date, and feasible management plans that involve and benefit stakeholders/communities and help site custodians understand and mitigate change. Clear signage featuring quality information establishes visitor etiquette and guides interpretation. Pathways, signage, stations, and barriers guide human traffic, limiting touch and trash at sites. They signal the site is cared for and help manage human impacts. Studying visitor books and understanding visitor demographics helps establish guidelines for rock art site protection and interpretation. Four decades of research show visitor books are an affordable, cost-effective means to count visitors; generate suggestions and feedback; gain insights into visitor motivation, expectations, and impressions; identify and respond to successes and failures; and deter site damage and graffiti by showing sites that are looked after (Franklin 2011, 263).

Absent these, poor or misguided efforts to educate visitors at rock art sites adversely affect visitor experiences as well as public perceptions of rock art's value. Relevant, inspiring information, images, and spaces define and improve visitor experiences and rally public support for rock art sites. It bears repeating that clear site signage featuring quality information is essential. Additional solutions focus on disseminating quality archaeological information to the public and raising the profile of rock art as a priceless archaeological resource. I suggest that charitable partnerships with businesses (e.g., airlines, tour companies) and government officials in high-tourist areas can promote rock art heritage and responsible tourism. Videos shown on planes and advertising space in airline magazines could showcase rock art as priceless cultural heritage and educate people about visitor etiquette. Rock art could also feature as part of a temporary or permanent exhibition in renovated or newly developed city spaces. Providing visitors with a selection of site tourism options (e.g., specialized tours for school groups, do-it-yourself tours for nonexperts, personalized and private tours that earn revenue) is another potential solution. A carefully crafted online presence for rock art sites serves as a tool to disseminate information, engage the public, and raise funds. Creating Facebook, Twitter, and Instagram accounts for rock art sites are

low-cost, influential ways to spread information and awareness. Inviting the public to help shape the future of visitor experience at rock art sites is another option. Contests that raise awareness and engage the public are very popular in Hawaii. Rock art site public engagement contests could include children's coloring contests, rock art photography competitions, rock art caption contests, and site conservation/management ideas. Increasing the availability of quality videos and virtual tours makes rock art sites more accessible while educating and increasing awareness. These programs can be as large-scale as the Google Art Project Initiative or National Geographic, Australia Geographic, and Discovery Channel specials on rock art. On the other end of the spectrum, in many of the communities in which we live and work, radio, newspaper, and print advertisements are still effective ways to reach people and should not be overlooked.

Understaffing at rock art sites is a consistent problem that detracts from visitor experience and public perception. Interns and volunteers can be mobilized to address the issue through strategic partnerships with universities, museums, and volunteer groups. Visitors could also be involved with site research and maintenance.

Rock art vandalism and endangerment are huge problems. A variety of causes lead to site defacement, abuse, and neglect. The solutions proposed here redefine rock art sites and signal they are cared for, living spaces. Clear signage featuring quality information establishes visitor etiquette and guides interpretation. First, it should be easy for visitors and monitors to report rock art site damage and graffiti. Re-creating sites at museums, establishing interpretive centers, and making high-quality virtual tours available online provide alternative ways to experience the sites and mitigate site visitation and impact (e.g., the Lascaux and Chauvet Caves; <http://archeologie.culture.fr/chauvet/en>, "Australian Rock Art"). On-site monitors (volunteers, community members, guides) communicate site meaning, champion the site as a space important to past and present people, provide information and guidance on visitor etiquette, and enforce site rules and protection. Children's art displays about site protection and preservation could be installed at sites as a way to combat vandalism. Vandalism, litter, and damage to public buildings and spaces are a consistent problem at Hawaii's public beaches; in response, placards displaying children's hand-drawn requests to recycle, keep the beaches clean, and save the oceans reduced overall damage to public beaches. Theater and music programs at rock art sites could raise funds and further transform public perception. Rock art site visitor etiquette should be established and promoted in promotional pamphlets, in videos, and at the site. Site management and conservation plan evaluation guidelines should be established and made available to site custodians. Finally, long-term research studying change through time at rock art sites is badly needed, as are studies that offer a sustained examination of human and environmental factors endangering sites.

Too often it is challenging for site custodians and community members to find and access quality information regarding rock art sites. Establishing a global rock art research and conservation network—an online forum where communities, site custodians, and government officials can retrieve quality information about rock art, access academic information, and connect with one another, volunteers, specialists, and experts—is one remedy to the problem. It would begin with a listserv connecting rock art site researchers, volunteers, communities, and custodians. The listserv could eventually be accompanied by a quality, high-definition, well-managed website that is a reservoir of information and resources as well as a way for communities and the public to access information on rock art research, conservation, and management.

Underfunding is a chronic problem. Increasing governmental/state funding for the care of sites through advocacy and partnerships with other heritage groups is a possibility. Pilot grant programs can assess the feasibility and generate momentum and proof of results for larger, funded projects. Mutually beneficial arrangements could be negotiated with researchers for information/site improvements. Rock art site admission by donation is another option. Special events and meetings could be held at rock art spaces for a small fee. Partnerships with other community programs could pool funding. Donation making should also be made as convenient as possible.

The solutions proposed here for enhancing visitor experiences and public perceptions of rock art are best executed as multipronged initiatives. Under the auspices of a long-term vision for ideal results, they hinge on providing positive, informational site visitation experiences that leave a lasting impression while advocating on all fronts (at sites, on social media, in high-tourist areas, through government channels) for the celebration, protection, and conservation of rock art.

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Rebuilding Māori Knowledge of Rock Art in New Zealand

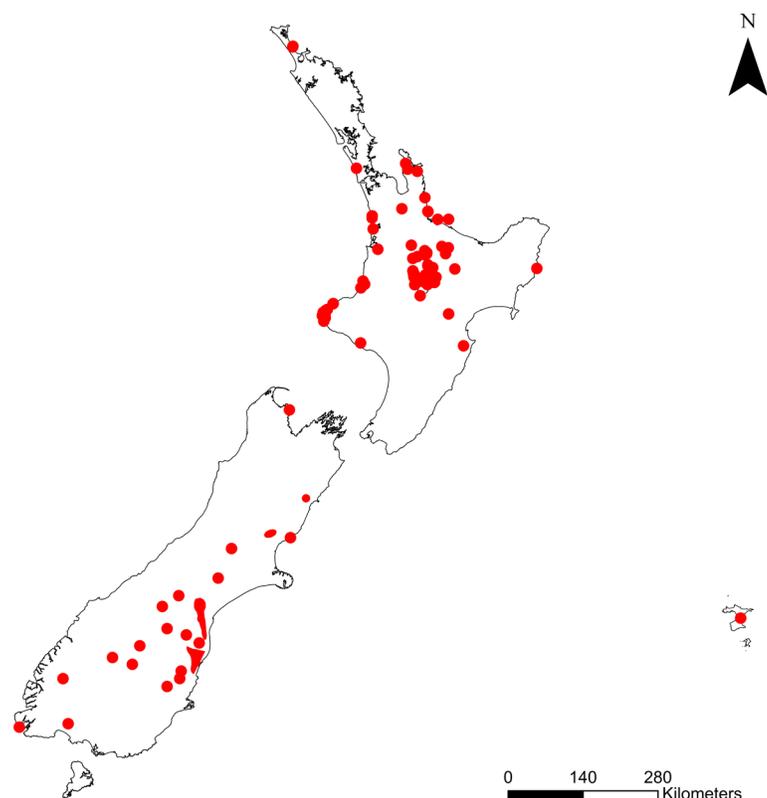
Gerard O'Regan

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With more than seven hundred sites containing thousands of figures, New Zealand has one of the largest bodies of rock art in Polynesia, but the knowledge and management of rock art heritage differs dramatically between the North and South Islands. These factors constrain community awareness and protection of Māori rock art. Practical steps that have been learned through South Island tribal experience will help envisage a path for addressing the limited attention so far afforded North Island rock art (fig. 1).

About six hundred sites are recorded on the South Island. The majority are in the eastern regions with limestone outcrops that have been well surveyed since the 1950s. Recent finds of rock art on schist indicate that more inland areas merit investigation and that the current map of sites may partly reflect a survey bias in favor of recognizing figures on limestone. Historically, it was argued that rock art in South Island shelters was associated with early period (1250–1450 CE) Māori forest-bird hunting; however, new research questions the evidence for limiting it to that. In contrast, it was suggested that North Island rock art was associated with late period (after 1550 CE) Māori settlements. There are only about 120 sites recorded on the North Island, but there has not been much systematic survey

FIGURE 1.
New Zealand rock art distribution.



except for around Lake Taupō in the center of the Island and Taranaki on the western coast. There are no grounds to think that the North Island site distribution data are at all complete, nor is there yet a robust demonstration of its age for figures other than those showing post-European content.

With a few exceptions, there is little traditional knowledge passed down in Māori oral histories regarding either rock art as a practice or its presence in particular sites. As a result, most of the existing information has been compiled by scholars of ethnology and archaeology. Even though Europeans first recorded Māori rock art 150 years ago, it has received little substantive scholastic attention. In comparison to other aspects of Māori material culture, ambiguity of age and purpose has rendered rock art of little use for addressing wider questions about settlement patterns, economies, cultural traits, and Pacific connections that have dominated interest in New Zealand archaeology. Between the 1950s and 1980s generalizations were made about the age and motives behind rock art of the South Island. However, the written record for North Island rock art is a more piecemeal accumulation of discussions about individual or local groups of sites. Scholastic interpretations have swung between characterizing Māori rock art as either ritually symbolic or as a pleasurable pastime, in some cases casual “doodling.” An ethnological perspective considered it was outside the repertoire of arts traditionally prized by North Island Māori such as fine weaving, tattooing, and wood carving. Compared with other aspects of Māori art heritage, there is not the accumulated research and learning about places with rock art that leads to their active protection, nor is rock art being strongly advocated for and prioritized within the national heritage sector.

Until recently, community understanding of Māori rock art has depended on a few small books published in the 1970s and 1980s, in addition to occasional magazine articles and exhibitions. The rock art is perhaps as well known from its graphic reuse. South Island Māori have used it for cultural group uniforms, in tribal logos, and in contemporary artworks, some incorporated into modern meeting houses. The wider public may be more familiar with various reproductions in arts and crafts, or tourist and marketing paraphernalia produced from the 1950s onward. However, a focus on the graphic aspect of the art gives no awareness about the location and condition of the original petroglyphs and pictographs, which are crucial for their preservation.

Over recent decades there has been a growing national recognition of Māori rights to direct matters relating to their cultural property and tribal heritage, including the latest Heritage New Zealand Pouhere Taonga Act of 2014 that further strengthened the voice of Māori on archaeological matters. Such recognition of Māori guardianship of their heritage places demands the active engagement of appropriate tribal communities in rock art initiatives that seek to address the knowledge gaps and support strong advocacy for its prioritization within the public and national heritage sector. This has happened on the South Island, where rock art has a prominent place among Ngāi Tahu’s heritage, resulting in rebuilding an understanding of the treasures for more than twenty-five years.

Up until the 1990s most rock art initiatives on the South Island were driven by people in museums and local branches of the Historic Places Trust. A Ngāi Tahu archaeologist, Atholl Anderson, and his colleague Brian Allingham recognized that systematic scholastic investigation was hindered by the lack of a comprehensive catalogue. They initiated a pilot survey that showed existing site records were insufficient to address research questions or direct conservation prioritizations. Seeing the results, the Ngāi Tahu tribal council committed to a comprehensive survey to secure a photographic record before more of the rock art disappeared. Different people have been involved in the survey over the years, and

changing GPS and photographic technology requires further updating of the record. Regardless, Ngāi Tahu now has by far the best archaeological information available.

Timing was important. The national electricity corporation, which had major hydro-generation assets on the South Island, saw sponsoring the rock art survey as a positive way to cement its relationship with the tribe. That sponsorship was used to leverage community funding and secure almost a decade of resourcing for the survey. Since Ngāi Tahu's 1998 land claim settlement, the survey has been largely funded by the tribe's own resources. Those involved also initiated site visits for different groups in the tribal community, published articles in tribal media, and established the Ngāi Tahu Māori Rock Art Trust as a mechanism to manage rock art projects.

Following governmental reform, a new power company has maintained community obligations, in part by sponsoring a rock art curator who has continued to provide the Ngāi Tahu Māori Rock Art Trust a resource base for other initiatives. As well as directly managing some notable sites, in 2010 the trust opened a rock art visitor center that promotes awareness, conducts tours, and provides education. These activities support an appreciation of rock art within both the public and the Ngāi Tahu community, as well as maintaining rock art's profile among the myriad of competing cultural, heritage, and social calls on tribal and public resources.

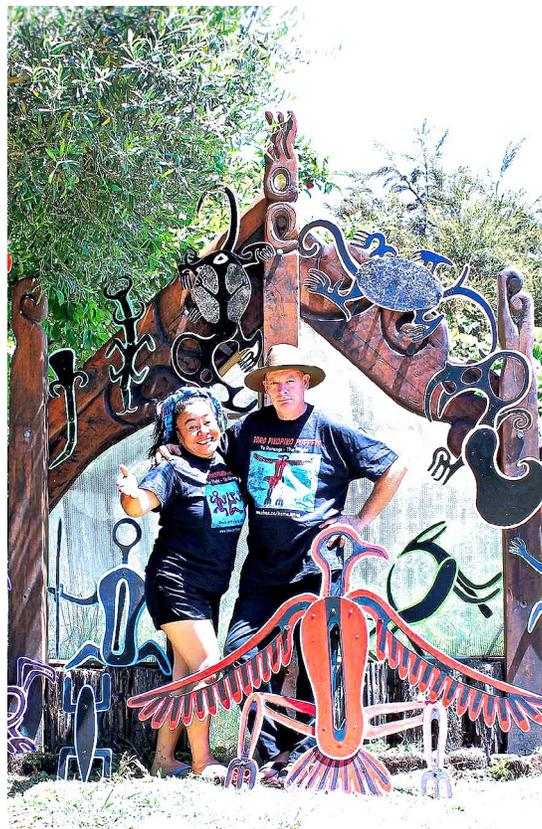
Ngāi Tahu is now widely recognized as leading the management of their rock art heritage from both tribal and archaeological perspectives (figs. 2 and 3). Important to this are the following: that local Māori communities are recognized as the lead authorities for rock art in their area; that the Ngāi Tahu Māori Rock Art Trust provides a mechanism to foster and maintain subject matter expertise within the tribe; and that the tribe has the most



FIGURES 2 AND 3.

The Ngāi Tahu tribe now leads southern rock art heritage management from site recording and tribal cultural programs, to public visits and supporting theatre that is educating New Zealand's next generation of decision makers.

Photos: Ngāi Tahu Māori Rock Art Trust & Toro Pikopiko Puppets



up-to-date archaeological survey information, which can be used with authority when advocating for their rock art places. In part, mobilizing the tribal interest has been achievable because of tribal demography. Ngāi Tahu's tribal territory extends over most of the South Island, where the known pictograph sites are. Of the six *marae* (Māori community centers) that have rock art in their local areas, three have hundreds of sites representing the majority of New Zealand's known art.

In contrast on the North Island, where there are over forty Māori tribes, the approximately 120 known rock art sites are distributed across several tribal areas and do not feature prominently in the heritage inventories of any one of the hundreds of *marae*. Tribal interests tend to focus on local rock art sites as they relate to the general heritage of the areas, with only a few registered as historic places of significance. Overlapping tribal boundaries and the government's recognition of different layers of history also add complexity to the relationships necessary for broad research to fill rock art information gaps (fig. 4).

As a result, and combined with dated archaeological overviews, there is not a collective appreciation of North Island rock art, nor of its broader preservation requirements. Aside from protective caging provided at a few shelters, it is almost entirely unmanaged. Historically, a major recognized threat to North Island rock art sites was hydroelectric dam development, with at least three sites on the Waikato River irrevocably damaged by flooding. Today sea-level rise threatens rock art on coastal boulders. Storm surges have cut away some well-known West Coast treasures, and moss growth in shady regenerating forest obscures and destabilizes fragile rock surfaces. However, working out the appropriate conservation priorities and interventions is constrained by the lack of an up-to-date understanding of what survives and where. Recent surveys on the central North Island have increased the number of recorded sites, dramatically showing that rigorous surveys of areas known and likely to have rock art are needed. These should also look beyond the petroglyphs and pictographs at the different contexts. Environmental changes in land use from forestry, farming, urban development, and climatic change impact understandings of the ecological context and are the drivers of physical threat. The tribal histories and current cultural connections to places shape the social context. Understanding these is required for robust heritage management decisions. First, though, the social conditions for such work needs to be established.

Māori participation in archaeological heritage management tends to focus attention on very localized tribal interests rather than on developing regional or island-wide strategies.

FIGURE 4.

At one of the few actively managed rock art sites on the North Island, there is an ongoing battle to limit moss damage to the famous canoe petroglyphs. Photo: Ngāti Manawa



Stretched agency resources are directed to working with Māori on cultural resource management issues that address “active” change in land use. This leaves little scope for proactive conservation against “passive” loss, such as erosion by natural forces. When resources do allow, agencies focus their proactive efforts on sites that tribes see as heritage priorities, which are most often places that embody *whakapapa* (genealogical) connections.

With terraces cut into hilltops that are often visible from afar, *pā* (fortifications) are the most monumental and iconic Māori archaeological sites. There are thousands of *pā* in the North Island that, along with meeting houses and burials, are anchor points in the landscape for tribal genealogy, an idea now supported in legislation by recognition of *wāhi tupuna* (places of ancestral significance) as an official heritage place category. Rock art images cannot be experienced from afar, and the few traditions that mention ochre markings focus on the people historically associated with the places rather than on specifics of the paintings. With the details of that historical connection to the rock art having faded, it has not yet featured much on the agenda that North Island tribes have promoted to government agencies. Yet, to put public resourcing of that heritage on the agendas of agencies, local government, researchers, and landowners, the strongest and most effective advocacy will be from tribal bases (fig. 5).

Advocacy for setting North Island rock art conservation priorities and interventions is constrained by the lack of an up-to-date understanding of what and where art survives and of the threats to it. Following the South Island experience, addressing this knowledge gap requires developing current archaeological inventories for the North Island sites. Further, the process of survey and data compilation provides an opportunity to rekindle local awareness and management capacity for rock art in the *marae* communities where custodial decisions are made, and where an inherited sense of responsibility supports ongoing intergenerational *kaitiakitanga* (traditional guardianship). This could reduce the reliance of rock art initiatives on the passing interests of enthusiastic individuals or changeable institutional priorities.

FIGURE 5.

Detailed histories have survived for a hilltop *pā* fortification but not an ancestral face carved into a shelter wall below it. Having become aware of rock art preservation issues, the Māori landowners are actively addressing site management challenges. Photo: Jean Clottes and Te Kohera Kakaho Trust



However, growing and sustaining collective rock art knowledge and subject matter expertise would be helpful for ongoing conservation site monitoring and heritage advocacy. Given the dispersed tribal interests in North Island rock art heritage, this may be best achieved by working in a networked way that links the learning and awareness from different projects across North Island Māori communities. This would strengthen tribal decision making on local conservation work as well as provide an evidence-based platform should the collective tribal owners wish to advocate for proper regional and national resourcing of the widespread rock art places.

There are established intertribal forums for knowledge exchange, collaborative developments, and collective advocacy. Examples in recent years include intertribal strategic developments in fishing interests, treaty rights, and social policy. There are also Māori professional groups in the archive, library, and museum sectors, and other special interest groups looking at Māori GIS mapping and Māori astronomical knowledge. For rock art issues, emulating the South Island Ngāi Tahu experience by fostering a shared knowledge across North Island Māori communities with tribal guardianship responsibilities may be a useful first building block. Without such a collective view and the pooling of intellectual resources, the management of North Island rock art is at risk of continuing to be limited to ad hoc localized efforts. If so, the greater part of it will remain vulnerable and little understood, and its potential to contribute to understanding of Māori and wider Polynesian heritage will continue to be unrealized.

Benefits of Collaboration between Countries with Different Kinds of Rock Art and Audiences with Different Interests

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The distribution of rock art is global and connects with a variety of cultures, rock surfaces, and surrounding environments. As such, no rock art panels with petroglyphs and paintings are identical. These two major kinds of rock art—petroglyphs and paintings—are found in most countries, with the differences between them existing in motif, form, style, morphology, content, technique, location, and changes through time and space. Together, there is an enormous variation of cultures, identities, and meanings. Furthermore, in some regions rock art connects to myths and narratives in systems of beliefs among Indigenous populations and has an active role in ceremonies, rituals, and daily life. In such cases, the Indigenous populations are the owners and understand the meanings connected with the figures and their contexts. This knowledge is an important contribution for understanding rock art where direct links to Indigenous ownership and use are absent, even though historical, cultural, and environmental contexts are significantly different. As such, collaboration between individuals and institutions oriented toward rock art that is owned with others where such a trajectory has long ceased can expand the perspective of understanding rock art for all partners. Custodians or caretakers are normally connected with public state-controlled systems of cultural management. In addition, within all countries there are public institutions of education and research/universities to promote understanding of the many meanings and functions rock art has or once had. Significantly, understanding meanings and context of rock art is important for good management in terms of how and what to conserve and present. It is obvious that cooperation between colleagues in different countries is mutually beneficial simply because of expanding perspectives due to shared and different problems, settings, and solutions.

In the following paper, I will focus on collaboration in documentation, conservation, protection, and sustainable presentation of rock carvings/petroglyphs in northwestern Russia (1997–2008), Uzbekistan (2002–10), and Azerbaijan (2004–10) (fig. 1). The major-

FIGURE 1.
Location map. Photo: Google Earth.
Image © 2015 Digital Globe



ity of the work was financed through the Norwegian Directorate for Cultural Heritage, and I must credit the leading role of Anne-Sophie Hygen at the directorate and, later, Østfold County administration in the Central Asian projects. Working with colleagues in and from different countries is both rewarding and challenging; rewarding because there is much to learn and understand, and challenging because of misunderstandings, language barriers, and bureaucratic “barriers” and slow progress. The audiences vary from academics to schoolchildren, farmers, and high-ranking administrators. In Russia and Central Asia, my role changed from a manager who basically proposed and selected solutions to problems to an adviser who recommended steps to be taken. Advisers are catalysts, and the local responsible managers decide what and how to solve problems. It is a matter of building and increasing competence to the benefit of all participants.

Progress and success depended much on the interest of local and national administrators in addition to the involved archaeologists. Local governments are more concerned with problems such as roads, water, and sanitation than with prehistoric rock art. As such, involvement varied according to willingness to understand and invest within short- and long-term perspectives; the priorities of politicians, local administrators, and archaeologists; available resources; and experienced managers and management systems. With one exception, all projects needed much time, stamina, and patience.

One of the conglomerates of sites in this presentation, Gobustan in Azerbaijan, was included on the World Heritage List in 2007, while Sarmishsay in Uzbekistan is on the national Tentative List as a natural and cultural heritage site (fig. 2). The conglomerates of sites on the east side of Lake Onega and near the outlet of the river Vyg in Russian Karelia are of national and international significance, and an application for inclusion on the World Heritage List is now in the making. None of the sites connect directly to present Indigenous populations.

The ultimate goal of the collaborations is to create an atmosphere of interest and respect through recognition and public awareness in order to stop vandalism in general and emphasize assets of local, national, and international importance. An obvious way to

FIGURE 2.
Sarmishsay in Uzbekistan.
Examples of petroglyphs panels,
walkways, refuse pits, steps, and
warning signs.



succeed is to receive visitors through an information center and to provide publications of high quality to create respect and make the public recognize the significance of the rock art involved. Professional archaeological engagement and research, as well as visitors and international media, was and is needed to catch the interest of the local and national administrators. Much water ran into the ocean before most locals understood that in their own backyard there were prehistoric monuments of international significance.

In case of the above complexes, the following steps were taken to increase and secure future control and development.

Ownership and Access

In all projects, presenting the rock art to the public required control of the associated land area. In Gobustan, a presidential decree gave the needed control of the area and a buffer zone. In the case of Sarmishsay, control was through the local government and the Novoi mining company, and a buffer zone was established (fig. 3). The Karelian sites were located on public land and new a road and parking lot were constructed. With the exception of Onega, all sites were accessible from the main road system, and parking areas to accommodate visitors were built. The Onega sites were accessible by boat or by four-wheel drive (fig. 4).

The Anchor

Management plans were anchored in the public system that financed the maintenance and presentation of the sites. Such an anchor ensures continuity because the income from visitation alone is insufficient to cover all expenses to maintain the needed infrastructure. Income is important for all complexes but needs to be measured in relation to what visitors spend in general in both local and regional perspectives. This income has proven difficult



FIGURE 3.
Sarmishsay in Uzbekistan.
Interviewing local people about
their relationship to the petroglyphs,
and making local handicrafts.



FIGURE 4.

Lake Onega in Karelia. Most of the petroglyphs are located on the surfaces close to the water level.



to measure, but it might make it easier to defend future investments in the management of the rock art, establishing an economic basis for developing sites and continuing collaborative projects.

Documentation and Conservation

As all sites had been known for some time, documentation existed and continued according to current practice combined with the suggestions brought forth in the projects. In the case of Karelia, documentation of vegetation damage, especially lichen, was added as a new dimension. In the case of Central Asia, scientists from Central Asia, Russia, Caucasus, and Norway cooperated on sites to solve conservation problems such as stopping erosion (human and natural) and removing and masking graffiti (paint and scratching, especially at Sarmishsay) (Bjelland and Helberg 2007; Reutova 2009). A second aim was to create a common network for rock art documentation, Central Asian Rock Art Database (CARAD), to make all data within the region available for research and management (Hygen 2011). Furthermore, in connection with UNESCO, plans were laid to join sites in Central Asia for a World Heritage Serial Nomination: Central Asian Petroglyph Sites (Rogozhinskii 2011). I am currently unaware of the status of the project but believe it to be of utmost significance for the recognition and public awareness of the rock art in the entire region.

The discussions between partners went well. However, when the project ended, the CARAD did not have sufficient finances to be maintained beyond contacts between dedicated archaeologists and curators.

Control of Visitors and the Rock Art

To accommodate and control and inform the public, new museums were constructed in Gobustan in 2011 with exhibitions and staff to accommodate and control visitation to the

sites (figs. 5 and 6). There were sixty-eight staff members, including one senior archaeologist and three PhD students; the rest were technical staff, guides, and heads of departments.

At Sarmishsay there is a local museum in the nearby city of Navoi and a small information center at the site itself. All visitation is organized by the museum.

In Karelia a log cabin was built at the site of Zalavruga to receive visitors and accommodate guides, while at Onega the constructions to accommodate visitors and campers were dismantled and stolen (Helskog, Lobanova, and Hygen 2008).

In other words, there was a clear difference between sites that were easily accessible and under continuous control and those that had a more peripheral location. However, awareness and respect for the rock art was present and there was little vandalism directly on the rock art.

With the exception of Onega, walkways were laid out or constructed to direct visitors from panel to panel and reduce the wear on the surrounding environment (fig. 7). The solutions followed the principle of minimum intervention, and they are made to last given routine maintenance (Helskog, Lobanova, and Hygen 2008).

All the projects intended to educate visitors through posters, literature, and guides and exhibits. Such is the case at all the site complexes. Particularly important in this respect

FIGURE 5.
Gobustan in Azerbaijan. The new museum and parts of the exhibition.



FIGURE 6.
Gobustan in Azerbaijan. Left: toilet facilities. Right: part of the walkway system.



FIGURE 7.

Zalavruga, Republic of Karelia, Russia, before and after the construction of walkways to control visitation.



are programs catering to schoolchildren to create future understanding, recognition, respect, and awareness. All cooperations increased competence in management and, to some extent, research.

The Future

Each of the complexes has developed after the end of the projects and continues to do so. The Norwegian advisers contributed to the Gobustan application for World Heritage status, and to points in the presidential decree that ultimately led to develop and manage the sites and create a first-rate rock art museum. Direct ministerial support was central, the development was extremely fast, and the future is bright for Gobustan. The site stands strong in the national mind and identity.

Progress in Sarmishsay was slow, partly due to some disagreement regarding management and logistics, and partly because the involved archaeologist and botanist had many other engagements. The work continued after the collaboration ceased and the sites are a part of a touristic route. Sarmishsay is still on the National World Heritage Tentative List as a mixed natural-cultural heritage.

The work on the Karelian sites was intense and produced databases and good documentation of damage due to vegetation and mechanical erosion. The political understanding and support improved over the years, and sites in both Vyg and Onega are on touristic routes. The petroglyphs are well known and regarded as a part of the identity and history of the region, which might explain the relatively little vandalism. An application for World Heritage status is in the making.

Strategies

In my mind, collaboration has improved competence on presentation, documentation, conservation, protection, and awareness of the carvings in all regions involved. The projects were asymmetric in the sense that most fieldwork was in Russia and Central Asia, although field trips to Norway were included to present various solutions to site management and presentation. The strategies to increase public recognition and awareness were straightforward, namely quality investments in on-site presentation, documentation, conservation, publications, and research, points that were repeatedly emphasized during the years of collaboration. To attract attention, the sites or complex of sites chosen should be magnificent in themselves. Magnificence lends support for the special treatment needed, although quick results are still rare. Furthermore, attention and respect gained for some sites indirectly protected others and helped to generate needed political support for financial backing and control of sites and areas. Political support was also gained by presenting the material in multiple media—popular as well as strictly academic—to authenticate the significance of the rock art.

A continuation of successful management after the collaboration ended depended much on educating and recruiting researchers and managers, besides political support. The efforts to recruit students were hardly successful for Sarmishsay, Vyg, and Onega, while the situation in Gobustan is improving and well managed. Recruitment was and is obviously a problem in some regions and requires long-term investment and creation of networks, national as well as international, to actively create, promote, and maintain academic and public interest. No doubt international attention has an effect on priorities, political as well as educational and research. The strategy toward the authorities in charge was persistent and involved long-term investment and patience, and I believe the collaborations in the Republics of Karelia, Uzbekistan, and Azerbaijan made a positive difference.

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Colloquium Outcomes

A Model for the Future: International Cooperation for Rock Art Management and Conservation

Neville Agnew and Nicholas Hall

The 2017 Namibia colloquium concluded with a session that focused on strategic issues for moving forward with targeted international activities to advance rock art awareness, management, and conservation. That facilitated session covered how progress had been made since the publication of the 2015 Kakadu report *Rock Art: A Cultural Treasure at Risk*, and what is demanded by the international community of rock art managers to achieve this. This is detailed below, starting with the broad discussion points resulting from the final session, followed by the responsibilities and scope of a rock art network and who will participate, and, finally, how site partnerships will facilitate the exchange of information and expertise.

Key Messages from the Colloquium

Key messages emerged from the colloquium about the priorities and mechanisms for international collaboration:

- The four pillars described in *Rock Art: A Cultural Treasure at Risk* provide a strong framework for moving forward.
- There is demand for an international network, formed by and for a broad coalition of sites, institutions, individual professionals, and communities, which will synergistically benefit through a free exchange of information and expertise.
- A high priority should be placed on promotion of awareness and appreciation of rock art, demonstrating effective public engagement and outreach and building awareness about the management and conservation needs of rock art.
- The use of innovative online methods and social media should be encouraged to reach new audiences locally, nationally, and internationally.
- There is a need to demonstrate good practice. This could be effectively done through a select consortium of sites to realize practical collaborations.

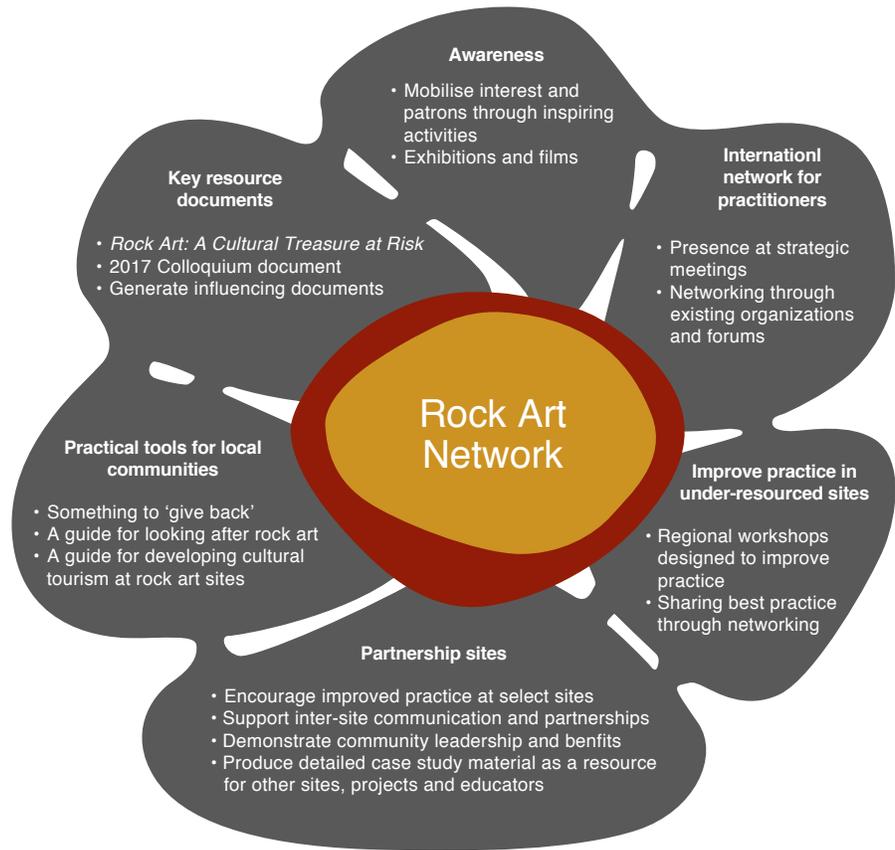
- Participation of communities and site managers should be through an opt-in, bottom-up approach, with clear understanding between partners, offering practical tools to help.
- High-profile, inspiring activities linked to the alliance should be developed and promoted to further awareness, advocate for improved practice, and convert the public into patrons.

Scope and Activities for International Rock Art Cooperation

Colloquium participants identified the following as important focus areas of the alliance:

- Building **awareness**
- Supporting an **international network for practitioners**
- Encouraging **improved practice in under-resourced regions**
- Encouraging and demonstrating practice through **partnership sites**
- Making available **practical tools for local communities**
- Promoting improved practice through developing and disseminating **key resource documents**

A graphic of the activities associated with these focus areas was created in the last sessions of the colloquium:



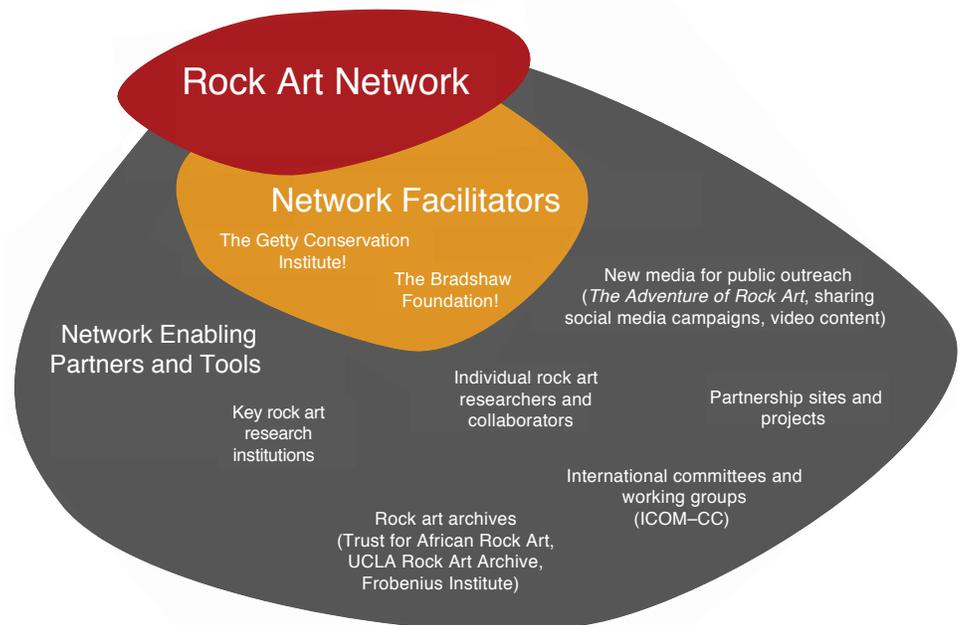
An International Rock Art Network

The idea of an informal international network to further the issues and priorities arising out of the significant work supported by the GCI to date was suggested during the colloquium.

An international network is conceived as a pragmatic collaboration involving a range of enabling partners. These enabling partners would be named and their roles clearly identified, and each would be responsible for advancing different aspects of the network within their mandates and capacities. This would require a facilitating organization as a key catalyst and coordination mechanism in order to be successful. Colloquium participants agreed that the GCI is an excellent, neutral international facilitator for the network. The GCI has played an important role in furthering rock art management and conservation internationally to date, has considerable respect for this role, and is in a unique position to influence through its reputation as a global leader in heritage conservation practice.

Subsequent to the colloquium, the GCI and the Bradshaw Foundation agreed to cooperate to further the mutual goals of each organization, leveraging the Bradshaw Foundation's robust online presence and ability to generate and disseminate content with the GCI's ability to act as a conduit between the network's many partners.

The following graphic illustrates the organization of the proposed network:



Partnership Sites: A Foundation Component of International Rock Art Cooperation

An international network or consortium of rock art sites, located in different regions of the globe, is considered to be a foundation component of for international cooperation. Partnership sites would focus efforts on practical needs for rock art management and conservation and provide a key avenue for raising awareness and achieving public outreach goals.

- The partnership sites would do the following:
- Provide a practical focus from its outset
- Seek to demonstrate successful rock art management and conservation practice in a range of contexts
- Provide the means to stimulate international dialogue about practice using case study material for peer-to-peer networking, for international discussion forums, and as resources for teaching
- Provide content for inspirational communication and awareness-raising activities
- Be built on partnership sites to generate materials and activities that demonstrate the concept of international networking
- Provide benefits to partnership sites through information sharing, exchange opportunities, workshops, and activities that address means to improve rock art management and conservation practice at partnership sites
- Extend the benefits of the cooperative between sites over time through an opt-in process where local communities and site managers participate through agreement and information-sharing arrangements
- Develop practical tools and activities that support community initiatives and encourage peer-to-peer learning through collaborations with local communities, custodians and Traditional Owners of rock art
- Identify demonstration sites where the benefits of improved practice can be documented, displayed, and reviewed (either individually or collectively) at a future point in time, the results of which are disseminated to reflect on these improvements

Concluding Remarks

Neville Agnew

The Namibia colloquium, building on the Kakadu forum, generated enthusiasm for networking within a broader base of potential supporters for rock art, one that is inclusive rather than elitist and restricted to researchers, professional conservationists and practitioners, and institutional overseers only. This inclusive approach is envisaged, notably through the realization that Traditional Owners of sites have much to offer in down-to-earth practical management experience and expertise. In many places, these custodians are the direct beneficiaries of well-managed sites and have vested interests in maintaining them. A gentle guiding hand is needed, not an aloof, regulatory official one. Colloquium participants saw this firsthand at the Brandberg and Twyfelfontein, where excellent guides performed their work with skill and good humor.

Where help is most urgently needed, the network hopes to establish direct links between sites for mutual support. Better-resourced and established sites can help those elsewhere and again, arising out of the Namibia event, a site near Sydney represented by Tanya Koeneman and one in South Africa represented by Catherine Namono are working together. Learning from each other is critical to success in this context.

Nor should the public be excluded. In the end, it is public awareness and support that will carry the day for rock art preservation. Volunteer groups can muster enormous energy, wide-ranging skills, and even financial support for the benefit of sites. The model of the UCLA Rock Art Archive here is inspirational. True, poor and remote regions are at a great disadvantage, but in such cases as well, by linking with established sites an international network in such adversely situated places can leverage meager resources.

The media is another key component in the fight for rock art's survival. People are fascinated by the past and by the beauty of the art when steered toward an understanding of its immense significance. Through the Bradshaw Foundation–GCI collaboration, a rich and dynamic flow of exciting and visually stimulating information will be freely accessible to the public and all who might have an interest in preservation. Content must be generated by the participants of past and future colloquia—such has been the promise and undertaking of the group that attended the meetings and contributed to discussions.

Tourism is the steamroller that advances upon heritage sites that are “liked.” If rock art is to survive, we can no longer ignore the overwhelming impact of mass tourism. Fortunately, we have the inspirational models of sites such as Chauvet and Altamira that, through wise practice and having learned from mistakes elsewhere, have successfully managed this type of attention.

In wrap-up discussions in Namibia, the tone of the message changed from “should” to “will”: “I will undertake to do this” rather than the universal cry at meetings that broadly identifies needs but rarely undertakes remedies. Maintaining this momentum may not be

easy. Other models exist to serve as guides in our endeavors, such as the realm of nature conservation. However, having planted the seed of an embracing model, we expect that the future will be one of hope and not one of hand-wringing. It is with excitement that we look forward to building a movement, a piece of the puzzle, to save this great heritage of the past that is art upon rocks, not art on the rocks!



FIGURE 1.

Photo: Noel Hidalgo Tan

Acknowledgments

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Nicholas Hall and Sharon Sullivan deserve great thanks for compiling the initial draft of this report. At the GCI, Valerie Greathouse, research associate, Collections and Information Center, checked and standardized references with her usual thoroughness; Cynthia Godlewski, senior project manager, Dissemination and Communications Department, undertook the management of the contracts; and senior project coordinator Adrienne Himel helped greatly with logistical assistance for publication. Consultant editor Dianne Woo copy edited the manuscript and consultant Gary Hespenheide designed the report. Many thanks are due to these helpful and efficient colleagues. Finally, we acknowledge the teamwork of all participants who contributed so much to the fine spirit of camaraderie that made the colloquium such a memorable event.

Biographies of Contributors

Neville Agnew

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Neville Agnew spent his early years in South Africa and studied at the University of Natal. There he earned degrees in chemistry and geology, followed by two years in London working on his PhD. He taught chemistry for ten years at Rhodes University, but in the mid-1970s, dismayed by the strife engendered by South Africa's apartheid system, he relocated to Australia, taking a research position at the University of Queensland and later in the newly formed conservation department of the Queensland Museum. Dr. Agnew joined the GCI in 1988. He has participated in many of the GCI's research and international field projects, including the initiative on the Mogao and Yungang Buddhist grottoes in China, which he has led since 1989; the historic city center of Quito, Ecuador; and the Laetoli hominid trackway in Tanzania and at Chaco Canyon, New Mexico.

Dr. Agnew has had professional experience in the conservation of rock art, dinosaur fossil footprints, shipwrecks, and adobe structures. His association with conservation in China has resulted in a number of awards. Dr. Agnew organized the conservation theme at the Fifth World Archaeological Congress (WAC-5) and coedited the subsequent publication.

Currently, he is working on the collaboration with Egypt's Supreme Council of Antiquities for the Valley of the Queens and Tutankhamen's Tomb projects and leads the Southern African Rock Art Project (SARAP).

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Wendy All is a toy designer, illustrator, linguist, and writer. She holds degrees in linguistics from the University of California, San Diego, and a degree in advertising and illustration from Art Center College of Design, Pasadena, California. Her work in major corporations familiarized her with multinational marketing strategies. She was trained in scientific illustration at Scripps Institution of Oceanography (Geological Research Division), California Institute of Technology, the Carnegie Observatories, and UCLA.

While taking advanced courses in linguistics and archaeology in the 1990s at UCLA, All met Dr. Jo Anne Van Tilburg and was invited to bring her unique combination of skills to the Rock Art Archive, headed by Dr. Van Tilburg, at the Cotsen Institute of Archaeology at UCLA. There, as a volunteer, she contributed to the project *Captured Visions*, a successful endeavor to record rock art by trained volunteers in the California desert, which received the Governor's Historic Preservation Award. She is currently a member of the

Easter Island Statue Project Atlas Editorial Team, also under the direction of Dr. Van Tilburg. In addition, she participates in annual inspections of rock art sites at risk in southern California. She has traveled extensively to rock art and archaeology sites in the southwestern United States and around the world, such as Rapa Nui, Altamira, Pompeii, Teotihuacán, Chichén Itzá, Machu Picchu, and Nasca. She is passionate about designing accessible programs to increase public awareness to protect the legacy of rock art treasures.

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Janette Deacon is a South African archaeologist specializing in heritage management and rock art conservation. She has been involved in archaeological research on the Later Stone Age and rock art in southern Africa since the early 1960s. Dr. Deacon holds a PhD in archaeology from the University of Cape Town. She has taught at the universities of Cape Town and Stellenbosch, has been an honorary professor in the Department of Anthropology and Archaeology at the University of South Africa since 2005, and is an honorary research associate of the Rock Art Research Institute (RARI) in Johannesburg. She was archaeologist and acting head of the Professional Division at the National Monuments Council from 1989 to 1999. Since retiring at the end of 1999, she has served on a number of heritage councils and committees. As coordinator of SARAP since 1998, she has organized workshops and courses designed to train employees at World Heritage Sites and national and provincial parks in the region to manage and conserve rock art. Since the GCI launched its SARAP program in 2005, she has organized four workshops and three rock art tourist-guiding courses at the Mapungubwe and Cederberg World Heritage Sites.

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Ben Dickins studied design and visual communications at the University of Bristol, graduating in 1995. In 1996 he was appointed the graphic designer and web designer for the Bradshaw Foundation, being responsible for the organization's publications and web presence. He has spent the majority of his career working in the field of visual communication for rock art and archaeology. He is also codirector of Emotive Design, a graphic art and website design agency.

In 2004 he received the Science & Technology Web Award: Anthropology & Paleontology from *Scientific American* magazine. He was appointed director of the online project Journey of Mankind Genetic Map, a virtual global journey of modern humankind over the last 160,000 years, in collaboration with Professor Stephen Oppenheimer. In 2008 he received a web award from *American Scientist* magazine for this project.

In 2008 he was appointed director of Boilerplate Productions, the Bradshaw Foundation's in-house film production company, and produced the iLecture documentary series on rock art. He is currently working on new film projects with the Center for the Advanced Study of Hominid Paleobiology in the United States and with Alchemy VR, the digital arm of Atlantic Productions, looking at the production of virtual reality experiences involving rock art and virtual caves. He lives and works in the southwest of England.

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Jean-Michel Geneste is an archaeologist attached to the Ministry of Culture and Communication as honorary curator general of cultural heritage. His very first fields of research were dedicated to the study of the lithic production system among Palaeolithic cultures. Geneste has been involved in the study of the archaeology of rock art since 1992, when he was appointed curator of the Lascaux Cave as well as the director of its scientific research program. Since 2002 he has been in charge of the multidisciplinary research program of the Chauvet-Pont d'Arc Cave, one of the oldest rock art sites in western Europe.

Geneste has also coordinated numerous archaeological research programs in France, Ukraine, South Africa, Papua New Guinea, Arnhem Land, British Columbia, and Russia. He is codirector of the ARTEMIR research laboratory at the Archaeology and Ethnology Institute of Novosibirsk University. He has published hundreds of scientific articles and books and is currently directing the edition of a monograph on the Chauvet Cave whose first volume will be released in a large format.

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Goodman Gwasira worked as a curator of archaeology at the National Museum of Namibia before joining the University of Namibia, where he is currently a lecturer in archaeology and heritage studies and early southern African history. His research interests include critical archaeologies, prehistoric art studies, history of archaeology, public archaeology, and community participation in archaeological resources management.

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Nicholas Hall is a specialist in cultural heritage management, rock art conservation and management, community economic development, and tourism. He has qualifications in archaeology, rock art conservation, and heritage interpretation. He has worked for the Australian Heritage Commission, the Australian Government Department of Environment and Heritage, Tourism Northern Territory, and numerous government and Indigenous organizations. Nicholas was the founding coordinator of the Institute for Professional Practice in Heritage and the Arts at Australian National University. He has worked on heritage management at key heritage sites in Australia, including Uluru–Kata Tjuta and Kakadu National Parks, and sits on the Uluru–Kata Tjuta National Park Cultural Heritage and Scientific Committee advising the park on cultural heritage management issues.

Internationally, Hall has helped establish World Heritage management programs in Vanuatu, conducted training for UNESCO in Indonesia, worked for the World Monuments Fund on Easter Island, and has provided advice on heritage and tourism management for the Angkor World Heritage Site in Cambodia, including participating in the preparation of the Tourism Management Plan for the Angkor World Heritage Area. He has an ongoing involvement with the GCI to improve rock art conservation practice internationally. As part of this work, he was a coordinating author in 2015 of the Getty publication *Rock Art: A*

Cultural Treasure at Risk: How We Can Protect the Valuable and Vulnerable Heritage of Rock Art.

His professional interests center on rock art management, cultural landscape management, planning in cross-cultural contexts for land and heritage management, and appropriate use of heritage in tourism development.

Knut Helskog

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Knut Helskog's specific interest in rock art began in 1973 with the discovery of the large panels in Alta, Arctic Norway. He launched the investigation, documentation, and presentation of this discovery that same year and wrote the academic basis for the World Heritage application in 1983. Helskog developed an extensive approach to visitor management for the site and was instrumentally involved in the construction and development of Alta Museum in 1991. He has been a member of numerous committees involved in the protection and presentation of rock art, including the governing board of the Alta Museum to the end of 2014. He has worked extensively with the Norwegian Directorate for Cultural Heritage on major rock art projects that have included protection, documentation, conservation, sustainable presentation, and school programs. He has served as an adviser on rock art projects in Russian Karelia (1997–2008), Uzbekistan (2003–10), and Azerbaijan (2004–10).

In addition to rock art, Helskog has been responsible for organizing and managing large-scale excavations connected with development in northern Norway, including road and hydroelectric projects and oil installations. He has served as dean of Tromsø Museum (1994–96), three years leading the Department of Archaeology, and editor of the journal of Tromsø Museum. He has also undertaken archaeological research excavations in Russian Karelia and on the Kola Peninsula in northernmost Russia, in cooperation with colleagues from the Russian Academy of Sciences (1992–2000).

María Isabel Hernández Llosas

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María Isabel Hernández Llosas is an archaeologist, rock art, and heritage researcher. She has a degree in anthropological sciences and a PhD in archaeology from the University of Buenos Aires, and has completed postdoctoral studies in heritage research and management at Australian National University, Canberra.

Dr. Hernández Llosas has been a university associate and full professor, at graduate and postgraduate levels, at National Universities of Buenos Aires, Rosario, Cordoba and del Centro in Argentina, and at Politecnica del Litoral in Ecuador. She has been an ICOMOS expert consultant in evaluating international rock art sites for proposed UNESCO Heritage listing. She was recently a conservation guest scholar at the GCI.

Her primary fieldwork has been conducted in the southern Andes and Patagonia in Argentina, and abroad in Mexico, Italy, and Australia, and has included the subjects of archaeology, rock and prehistoric art, and heritage studies with a broad social sciences and humanities approach. This approach considers the importance of long-term connections between human societies and their lands, regarding all the cultural aspects involved while stressing the importance of the association between heritage, social memory, and cultural identity.

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Rachel Hoerman is an archaeologist specializing in Southeast Asian and Pacific rock art with a decade of experience in field, research, and laboratory work in the Indo-Pacific region. She has performed heritage assessments in Southeast Asia and historic preservation work in Guam. She has a PhD in anthropology from the University of Hawai'i at Mānoa. Her dissertation research utilized rock art design systems to study Holocene human movement in Southeast Asia using case studies from Sarawak, Malaysian Borneo. Her primary research interests are scientific approaches to rock art, human origins, creative behavior, migration, Southeast Asian and Pacific archaeology, and innovative rock art conservation and heritage management strategies.

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Tanya Koeneman is from the Sydney Aboriginal community of La Perouse, with family connections extending down the south coast of New South Wales and up into the Hunter Valley. She worked primarily in cultural heritage and strategic land use planning during the previous twenty years of her career.

Koeneman currently manages a program that develops planning tools, strategies, and pathways that facilitate the rezoning, subdivision, and infrastructure upgrades to Aboriginal communities across New South Wales and enables them to leverage greater economic, community, and cultural use of Aboriginal land. This program is working toward the realization of better economic and social connections between community and neighboring areas, reducing health hazards associated with poor road and infrastructure conditions, improving access to education and employment, and fostering an environment whereby Aboriginal communities can leverage better outcomes to create safer and more vibrant living places.

A keen advocate for Aboriginal people to have a voice in the development of a more inclusive and just society, she serves on a number of heritage advisory councils and committees that are working toward a greater understanding of the contributions Aboriginal people have made and continue to make to the history and heritage of New South Wales.

Koeneman's work in Aboriginal heritage involves regulation, protection, conservation, and management and has resulted in the State Heritage Listing of Aboriginal places of cultural significance across New South Wales. Importantly, her work has included the investigation of rock art sites and consultation and engagement with the Traditional Owners. She is passionate about the development of a better cultural understanding and management approach of this unique resource that incorporates the knowledge, cultural authority, and stewardship of the Traditional Owners to further their cultural, social, and economic aspirations as landowners and managers.

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In his role as a senior research fellow, Richard Kuba is curator of the Frobenius Institute's pictorial and rock art archive. He holds a PhD in anthropology from Bayreuth University and

has conducted extensive fieldwork in Nigeria, Benin, and Burkina Faso. His research focuses on precolonial history and the European encounter with Africa. He has published *Wasangari und Wangara* (Lit 1996) and edited several volumes, including *Histoire du peuplement et relations interethniques au Burkina Faso* (Karthala 2003), *Land and the Politics of Belonging in West Africa* (Brill 2005), and *Nigeria 100 Years Ago* (Frobenius Institute 2011). He has curated a number of exhibitions, among them *Art of Prehistoric Times: Rock Paintings from the Frobenius Collection* at Martin-Gropius-Bau in Berlin (Catalogue: Kunst der Vorzeit, Prestel 2016), and currently is preparing a project on rock art recording in northwestern Australia in the 1930s and 1950s.

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Terry Little is a specialist in the fields of cultural heritage and intercultural education. He worked as a project officer and communication specialist at ICCROM in Rome for more than a decade, and as a lecturer in communications and marketing of cultural heritage at the University of Cassino and at Venaria Reale / University of Torino, Italy. As chief operating officer of the Trust for African Rock Art (TARA) from 2007 to 2015, he led the development of several outreach programs and community rock art projects in Chad, Kenya, Malawi, Niger, Somaliland, Tanzania, and Uganda, and built and managed partnerships with embassies, ministries, foundations, UNESCO, and other heritage organizations and professional bodies worldwide to mobilize resources and strengthen the impact of TARA's activities. He continues his work for TARA in addition to other freelance work related to heritage, rock art, and community development.

Martin Marquet

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A Franco-American living in the US since 2005, Martin Marquet studied at the Atelier de Sèvres in Paris, then began his career at Films de Mon Oncle, dedicated to the restoration, distribution, and promotion of the films of Jacques Tati. Since that time he has worked on the releases of more than two hundred audiovisual projects around the world. He is a former director of communications and media partnerships for the film distributor Apparition and has been responsible for international promotions at Paramount Vantage. Marquet has worked on the theatrical release and promotion of films from major Hollywood filmmakers and has represented films at the Cannes and Sundance film festivals.

Concurrent with his film career, he has branched out into archaeology, with a particular interest in the origins and meanings of rock art. Working with a team of interactive designers, architects, and 3D engineers, he is currently developing an international exhibition of a selection of rock art panels listed by UNESCO as World Heritage. *The Adventure of Rock Art* will utilize innovative techniques of reproduction and of immersive forms of presentation to transport visitors through time and space for a physical and emotional experience worthy of what can be felt in the original sites. This project builds on an exclusive 28-minute single sequence shot through the Chauvet-Pont d'Arc Cave, allowing audiences to experience through a cinematic narrative the totality of 37,000-year-old paintings discovered in the cave. Titled *The Final Passage*, this short film premiered in 2015 at the Locarno Film Festival, and has shown also at the Getty Center in Los Angeles, NASA's Jet Propulsion Laboratory in Pasadena, the British Museum in London, and the Palais de Tokyo in Paris.

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Tom McClintock is a multidisciplinary conservator trained in a variety of studio art materials as well as the preservation of cultural heritage sites. He received his master's degree from the UCLA / Getty Conservation of Archaeological and Ethnographic Materials program in 2016, where he specialized in the preservation of rock art sites, his primary professional interest.

His most recent fieldwork was spent in West Arnhem Land, Australia, where he conducted research related to rock art preservation on behalf of a recently formed Indigenous ranger program, Njanjma Rangers, as well as in Cambodia, where he continues to work with a variety of French and Cambodian professionals and students undertaking the conservation of heritage artifacts and various novel methods of digital documentation to facilitate archaeological, conservation, and epigraphic research.

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Pilar Fatás Monforte holds a master of arts in cultural heritage management, bachelor of arts degrees in history of art and in sciences of antiquity (archaeology and prehistory) from the University of Zaragoza, and a bachelor of arts in social and cultural anthropology from National Distance Education University (UNED), Madrid.

Since 1999, she has been a member of the Spanish Museum Curators Body of the Spanish Ministry of Education, Culture and Sport. At the National Museum and Research Center of Altamira, she is in charge of planning, management, and supervision of technical, economic, and administrative areas, coordinating directly the programs of the Department of Publics, including educational and communication activities and the temporary exhibitions program.

She has been a member of the Accessibility Project and a researcher in the Social Value Project within the Preventive Conservation Research Program and Regime of Access to the Cave of Altamira (2012–14). In the latter, she carried out research on the relationship between contemporary art and Altamira rock art, research on which she continues to work.

As a professional in cultural management, she was adviser to the technical team for the start-up of the new Cultural Center of Spain in Mexico for the Spanish Agency of Cultural Cooperation in 2003. She was also adviser to the drafting of the new headquarters of the National Museum of Ethnography of Spain in 2010. In 2012–13 she represented the Ministry of Culture in the Culture Plan 2011–14 of the European Commission. As a researcher, in recent years she coordinated the cultural and scientific cooperation project Registration and National Inventory of the Archaeological Pre-ceramic Heritage and Rock Art of Paraguay.

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Catherine Namono is a researcher at the Rock Art Research Institute in the School of Geography, Archaeology, and Environmental Studies at the University of the Witwatersrand, Johannesburg. Her focus is on developing an understanding of the complex symbolism of

rock art in Africa based on an understanding of the worldview, Indigenous values and beliefs, and rituals and ways of life of the people who made the rock art. She is interested in approaches that also include consciousness and perceptions of landscape of the communities that made the art as well as those who use it at present. She is passionate about conservation, heritage management, community heritage tourism, and heritage and development, as well as the inclusion of local voices in archaeological knowledge. She is currently chair of the Association of Southern African Professional Archaeologists and ex officio member of the Uganda Archaeologists Association.

Gerard O'Regan

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Gerard O'Regan has worked in heritage management in New Zealand for thirty years. He trained as an ethnology technician and became manager of the Māori collections at the National Museum, Wellington. As regional museum officer for Otago and Southland, he provided professional advice to small community museums and art galleries. He has served on the museum's association council, has undertaken contract research on bicultural developments in museums, and was a ministerial appointee to the Māori Heritage Council of NZ Historic Places.

For several years he was on the executive of his local *runanga* (Māori community committee) and served on his tribe's council, Te Runanga o Ngāi Tahu, in the lead-up to their historic land claim settlement. Active in Māori heritage issues, he became the first heritage manager for Ngāi Tahu, his own tribe. Throughout, Gerard has maintained an active interest in Ngāi Tahu's rock art heritage, initially managing the tribe's survey project, then setting up a tribal rock art trust and leading the establishment of the Ngāi Tahu rock art visitor center. He undertook a master's thesis in archaeology examining South Island rock art and recently completed a doctorate at the University of Auckland; his dissertation is titled *He Ana, He Whakairo: Examining Maori Belief of Place through the Archaeological Context of Rock Art*. Dr. O'Regan is one of few Māori with a PhD in archaeology and is doing post-doctoral research focused on helping Māori develop better recording and understanding of rock art on the North Island.

Peter Robinson

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Peter Robinson is editor for the Bradshaw Foundation and a contemporary artist. He was elected into the Royal Society of British Sculptors in 1998. He is a codirector of Emotive Design, a graphic art and website design agency. In 1999 he was appointed project controller for the Bradshaw Foundation to direct rock art preservation projects, organize and undertake research expeditions, establish affiliations with rock art research institutions, and develop the foundation's website as an online resource.

From 2000 onward, he supervised the preservation project of the Dabous giraffe petroglyphs in Niger, involving the mold-taking and casting operations in the UK and the US and the subsequent cast installations for exhibitions in Germany, the UK, Denmark, and the US. The Dabous Giraffe Preservation Project in Niger involved several expeditions for scientific documentation of the area under the authority of Dr. Jean Clottes, as well as the

implementation of well digging near the site to provide a resource for permanent habitation for future site guidance. Other preservation projects undertaken include the Campeche petroglyphs of Brazil and the Calacala rock art site in Bolivia. He is currently working with the Ministry of Culture of Peru to establish a site museum for the petroglyphs of Checta.

Robinson is also codirector of Boilerplate Productions, the Bradshaw Foundation's in-house film production company, producing the iLecture documentary series on rock art. He is currently working on the production of virtual reality experiences involving rock art and virtual caves.

In 2012 he established the Bradshaw Foundation Rock Art Expeditions in association with FJ Expeditions Ltd. for tours of rock art in Africa. He has coedited publications such as *Bradshaws: Ancient Rock Paintings of NW Australia*, *Written in Stone: Shamans & the Origin of Art*, *Chauvet: Through the Eyes of a Sculptor*, and *Rock Painting Sites in the Kimberley Region*.

Sharon Sullivan

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Professor Sharon Sullivan, AO, is a former executive director of the Australian Heritage Commission and a former member of the World Heritage Committee representing Australia. She has worked in heritage place management and land management for more than thirty years and has been deeply involved in the development of cultural heritage management approaches in Australia and internationally.

She has contributed to and published extensively on cultural heritage management in Australia, the US, China, Africa, and Cambodia for more than forty years. She has worked as a cultural heritage consultant for the Australian government, the World Bank, the World Monuments Fund, the GCI, and the government of the People's Republic of China.

Professor Sullivan has been awarded an honorary doctorate from James Cook University and has been appointed an Officer in the Order of Australia and a life member of ICOMOS for her services in heritage conservation. She also is a recipient of the Rhys Jones Memorial Medal for Services to Archaeology.

Paul Taçon

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Professor Paul Taçon directs the Place, Evolution and Rock Art Heritage Unit (PERAHU) in the School of Humanities, Languages and Social Science at Griffith University and leads research themes in the Center for Social and Cultural Research and Research Center of Human Evolution. He has conducted archaeological and ethnographic fieldwork since 1980 and has more than seven years of field experience in remote parts of Australia, Cambodia, Canada, China, India, Indonesia, Malaysia, Myanmar, southern Africa, Thailand, the Philippines, and the US.

Professor Taçon coedited *The Archaeology of Rock-art* with Dr. Christopher Chippindale and has published more than two hundred academic and popular papers on rock art, material culture, color, and cultural evolution and identity. He has made key archaeological discoveries in West Arnhem Land (Northern Territory) and Wollemi National Park (New South Wales) that have been published in journals and made world headlines. In 2015 he

coauthored a book that outlines a new strategy for the conservation of world rock art and, in late 2016, published *Relating to Rock Art in the Contemporary World: Navigating Symbolism, Meaning and Significance* with Dr. Liam Brady.

He has been awarded the Australian Research Council's Australian Laureate Fellowship from 2016 to 2021. In December 2016 he received the Rhys Jones Medal for Outstanding Contribution to Australian Archaeology, the top award at the annual Australian Archaeological Association conference.

Noel Hidalgo Tan

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As a senior specialist in archaeology at SEAMEO-SPAFA, Noel Hidalgo Tan works in capacity building for archaeology across Southeast Asia. His research highlights have been documenting rock art sites across mainland Southeast Asia and discovering the hidden paintings of Angkor. His larger research interests lie in the archaeology of Southeast Asia, in particular the rock art of Southeast Asia. His career has seen participation in a number of projects across Cambodia, Thailand, Laos, Myanmar, Malaysia, Singapore, and Australia. His interests in rock art are influenced by his journalism background, and he has published works in the mainstream and online media as well as in academic press. He runs the Southeast Asian Archaeology Newsblog.

Jo Anne Van Tilburg

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Dr. Jo Anne Van Tilburg has served since 1997 as director of the UCLA Rock Art Archive. Under her direction, the archive received the Governor's Historic Preservation Award. She is founding director and principal investigator of the Easter Island Statue Project (EISP). For nearly three decades she and her codirector, Rapa Nui artist Cristián Arévalo Pakarati, have carried out an island-wide survey to locate, document, and depict more than one thousand of the monolithic statues (moai) for which the island is world famous. Dr. Van Tilburg is an innovative, widely published researcher with a passionate and long-standing commitment to Pacific studies. She is also an enthusiastic advocate for the preservation of Easter Island's patrimony and conservation of the statues. Her research interests address the integration of symbolism and structure and the complex ways in which humans employ cultural resources, social practices, and ancient aesthetics to relate to and alter, shape, and impact the natural landscape. She explores social processes and the interactive roles of art, history, and ecology in ongoing field and museum studies.

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Peter Veth has worked on heritage and rock art issues throughout Australia, Torres Strait, and eastern Indonesia. He has lectured at three Australian universities, directed research at the Australian Institute of Aboriginal and Torres Strait Islander Studies, and worked as a

heritage consultant and regulator. He is head of the Archaeology Section of the Australian Academy of Humanities, a member of the College of Experts of the Australian Research Council, and an adjunct professor at the University of Sydney. Currently, he is engaged in four Australian Research Council projects focusing on the rock art and cultural heritage of northern Australia, collaborating with scholars from France, Germany, the UK, and the US. Veth has received awards for contributions to research in Australian archaeology and Indigenous engagement. He lives in Fremantle with fellow archaeologist Jo McDonald and enjoys making music and partaking of the seafood, beaches, and landscapes of Western Australia.

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Lori Wong is a wall paintings conservator committed to improving approaches and strategies for protecting and conserving cultural heritage sites. Since 2002 she has worked at the GCI on such sites as the Mogao Grottoes in China, the tomb of Tutankhamen in Egypt, and Kasbah Taourirt in Morocco. She is coordinator of the Murals, Stone and Rock Art Working Group of the International Council of Museums–Committee for Conservation (ICOM-CC) and a fellow of the International Institute for Conservation of Historic and Artistic Works (IIC). A graduate of the Courtauld Institute of Art's Conservation of Wall Paintings program, she recently expanded her focus toward longer-term strategies for the management and protection of heritage sites by earning an MBA at the Wharton School of the University of Pennsylvania.

