

**THE ARCHAEOLOGY OF TRADE &
EXCHANGE:**

**Program and Abstracts of the 2005
Australian Archaeological Association (AAA)
and Australasian Institute for Maritime
Archaeology (AIMA) Conference, Fremantle,
Western Australia
(27-30 November 2005)**

Edited by

**Fiona Hook, Alistair Paterson and Corioli
Souter**

**Archaeology,
School of Social and Cultural Studies,
University of Western Australia
&
Western Australian Maritime Museum**

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ISBN 1 74052 125 0

Published by Archaeology, School of Social and Cultural Studies, University of Western Australia, Crawley, Western Australia & Western Australian Maritime Museum, Fremantle, Western Australia.

Printed by Uniprint, Crawley

Citation details:

Hook, F., Paterson, A. and Souter, C. (eds) 2005 *The Archaeology of Trade and Exchange: Program and Abstracts of the 2005 Australian Archaeological Association and Australasian Institute for Maritime Archaeology Conference*. Archaeology, School of Social and Cultural Studies, University of Western Australia, Crawley, Western Australia & Western Australian Maritime Museum, Fremantle, Western Australia.

Sunday 27 November Maritime Museum Victoria Quay – (MMVQ) <i>Registration desk</i> 8am - 5pm	8-1	Workshop: <i>In situ</i> conservation survey techniques (SHIPWRECK GALLERIES)	
	2-5	2-3PM Dr Udi Galili (Israel Antiquities Authority) "The Marine Cultural Heritage of Israel - Nature and Management of an Endangered resource" 3-4 PM Dr Jon Adams (University of Southampton) "Deep Water Archaeology: From Method and Madness to Method and Theory" 4-5PM Dr Robin Torrence (Australian Museum) "Pompeii of the Pacific"	
	5-7	Opening reception	FUNCTION ROOM
	7-7.30	Book launch (FUNCTION ROOM)	By Dawn Casey (WAM)
	7.30-8.30	Rock art film (THEATRE)	<i>Fragments of the Owl's Egg: a Film about Memory and Place</i>
	Monday 28 November MMVQ <i>Registration desk</i> 8am - 5pm	8.30-10.30	Interlinks: Maritime and terrestrial archaeological sites (THEATRE)
	10.30-11	TEA	
	11-1	Archaeology in museums (THEATRE)	
	1-1.30	LUNCH	
	1.30-3	Contact, mobility, encounter and exchange: rock art in its social context (THEATRE)	
	3-3.30	TEA	
	3.20-5	Contact, mobility, encounter and exchange: rock art in its social context (THEATRE)	
5-7 AAA AGM (THEATRE) & AIMA AGM (FUNCTION ROOM) 6.30 Conference First Night BBQ (SHIPWRECK GALLERY COURTYARD) Announcement of recipient of Rhys Jones Medal for Outstanding Contribution to Australian Archaeology			
Tuesday 29 November MMVQ <i>Registration desk</i> 8am - 5pm	8.30-10.50	Archaeozoology: The study of the exchange between people and their environment (THEATRE)	Intercolonial trade in the archaeological record – artefact typologies and research materials (FUNCTION ROOM)
	10.50-11.20	TEA	
	11.20-1	Africa's past: trade, exchange and other recent studies (FUNCTION)	The ethical boundaries of commercialisation of heritage (THEATRE)
	1-1.30	LUNCH	
	1.30-3	The Archaeology of Frontier Conflict (THEATRE)	
	3-3.30	TEA	
	3.30-5	The Archaeology of Frontier Conflict (THEATRE)	
5-6 POSTER SESSION (MMVQ ENTRANCE GALLERY) 5-7 AACAI AGM (MMVQ THEATRE) 5-7 NAS workshop (BOARDROOM) 7 Pub Dinner and Book launch (Clancy's Fishpub)			
Wednesday 30 November MMVQ <i>Registration desk</i> 8am - 5pm	8.20-10.30	"Worse things happen at sea": Papers in Honour of Dr Bruce Veitch (THEATRE)	
	10.3-11	TEA	
	11-1	In-situ preservation and/or stabilisation of cultural heritage sites (THEATRE)	Odds and sods (FUNCTION ROOM)
	1-1.30	LUNCH	
	1.30-3	General regional session on PNG/Island Melanesia (THEATRE)	Advances in archaeological methods (FUNCTION ROOM)
	3-3.30	TEA	
	3.30-5.20	General regional session on PNG/Island Melanesia (THEATRE)	
7.00 CONFERENCE DINNER (Fremantle Sailing Club)			

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Acknowledgments

Thanks go to the Western Australian Maritime Museum and the University of Western Australia for the use of facilities and staff.

Individual sponsors for conference events include:
Department of the Environment and Heritage, Department of Indigenous Affairs (W.A.), Pilbara Iron, BHP Billiton Petroleum, Archae-Aus, Deep Woods Survey Pty Ltd, Australian Cultural Heritage Management, Eureka Archaeological Research and Consulting (UWA), and Fremantle Prison.

Thanks to the session organisers, presenters of posters and papers, and field trip organisers.

Students from Archaeology, University of Western Australia staffed the Registration and Book Sales Desk, and assisted with the Welcome BBQ (under direction of Stuart Rapley).

Thanks to the executives of both organisations for financial support.

We extend particular thanks to the whole of the organising committee: Aidan Ash, Luke Lowery, Kelly Fleming, Samantha Bolton, Richenda Prall, Ross Anderson, Joel Gilman, Susie Allia, Karen Majer, Annie Carson, and Matthew Gainsford.

Thanks!
Fiona Hook, Alistair Paterson, and Corioli Souter
November 2005

Introduction and welcome

Welcome to the joint Australian Archaeological Association (AAA) and Australasian Institute for Maritime Archaeology (AIMA) Conference 2005: THE ARCHAEOLOGY OF TRADE & EXCHANGE.

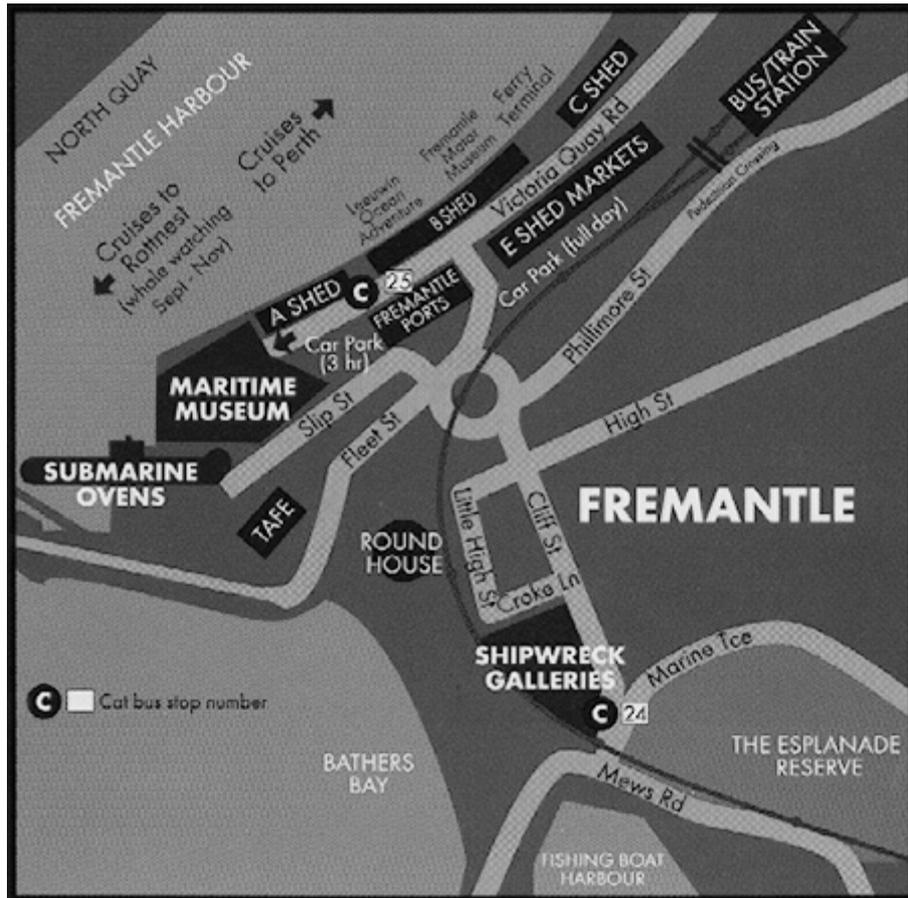
A Registration Desk is open daily at the Western Australian Maritime Museum (Victoria Quay, Fremantle, West Australia), the exciting venue for the 2005 conference. The modern facilities at the new museum on Victoria Quay are situated in the historical port city—a wonderful locale to explore ideas of exchange and trade.

The sessions will be held in the Maritime Museum Lecture Theatre (noted on the program as 'THEATRE') overlooking the mouth of the Swan River or upstairs ('FUNCTION ROOM' on program) for concurrent sessions. Other meetings are held in the Museum as noted: ask the Registration Desk staff for directions.

On **Sunday 27th November** there are several events opening the conference:

- 2-5 pm: Public lectures (THEATRE)
- 5-7 pm: Opening reception (FUNCTION ROOM) where nibbles and are drinks provided.
- 7-7.30: Book launch (FUNCTION ROOM) Dawn Casey CEO of the Western Australian Museum launches: *Many exchanges: archaeology, history, community and the work of Isabel McBryde*, Edited by Ingereth Macfarlane with Mary-Jane Mountain and Robert Paton 2005, Aboriginal History Inc Monograph No 11, Canberra
- 7.30-8.30: Film: *Fragments of the Owl's Egg: a Film about Memory and Place* (THEATRE) A film by Kim McKenzie (Duration: 40 minutes) An observational film about memory and place. The sandstone plateau of western Arnhem Land is renowned for its rock art and this film follows a search for a site called Wirlarrk Mukmuk - the Owl's Egg - remembered as a place of exceptional paintings.
- Sunday dinner: We suggest delegates consider eating at one of the nearby Fremantle restaurants on High Street, Market Street (at the eastern end of High Street), or at the Fishing Boat Harbour (just beyond the Shipwreck galleries). See the map on the next page for details.

This is followed by three days of sessions (Monday 28th - Wednesday 30th November 2005).



General information

Information for delegates about the conference, venue, and the city of Fremantle can be provided at the Reception Desk and from Conference Volunteer Staff.

For specific questions, please contact the following:

Registration Desk

Posters: Richenda Prall and Luke Lowery

Conference Dinner: Annie Carson

For general questions regarding the conference please contact Alistair Paterson, Corioli Souter and Fiona Hook.

Information for presenters

If you are presenting a paper please identify yourself to your session organiser and explain any requirements you may have for your presentation. Papers normally have a 20 minute slot (15 minute papers with time for questions unless otherwise stated). Time limits will be strictly adhered to.

Please see the audiovisual staff prior to your session.

Time limits will be adhered to (we expect papers to be 15 minutes long with 5 minutes for questions). Papers running over time will be asked to finish.

Presenters will not be permitted to use their own laptops and they must provide an electronic copy of the presentation to the AV volunteers at the end of the preceding session to be uploaded. Any slides will be loaded into carousels.

Poster session

If you have a Poster notify the Registration Desk. Richenda Prall and Luke Lowery will ensure they are hung in the display area in the museum entrance hall. These will be judged before the poster session (Tuesday 29th November, 5.00 - 6.00pm). Please state if the poster is a student poster. Prizes for best posters are awarded at the Conference Dinner.)

Conference prizes

The conference prizes, to be awarded at the Conference Dinner are:

- Best Overall Paper \$500
Sponsored by Pilbara Iron
- Best Student Paper \$500
Sponsored by BHP Petroleum
- Best Overall Poster \$500
Sponsored by Pilbara Iron
- Best Student Poster \$300 and volume of books
Sponsored by BHP Iron Ore and Dr. M. Weisler, School of Social Science and the Anthropology Museum, University of Queensland
- Runner-up Student Poster \$200 and volume of books
Sponsored by BHP Iron Ore and Dr. M. Weisler, School of Social Science and the Anthropology Museum, University of Queensland

Other prizes to be awarded are:

- Rhys Jones Medal for Outstanding Contribution to Australian Archaeology (awarded at Conference Dinner)
- Life Membership for Outstanding Contribution to the Australian Archaeological Association (awarded at Welcome BBQ, Monday night)
- John Mulvaney Book Prize (awarded at Conference Dinner)
- Laila Haglund Prize for Excellence in Consultancy – Australian Association of Consulting Archaeologists Inc. (awarded at the Conference Dinner)

Publication of proceedings

We plan to publish the proceedings in a volume edited by the conference organisers. We invite all presenters (posters and papers) to submit papers for inclusions in the proceedings. More details will be provided after the conference. Contact Fiona Hook, Alistair Paterson or Corioli Souter for more details.

Annual General Meetings

The AGMs will be held Monday evening 5-7 pm. The AAA AGM is in the THEATRE and the AIMA AGM in the (FUNCTION ROOM). If you have questions contact the respective Executive members at the conference. Only financial members can vote.

Other meetings

There is another meetings at the conference, namely:

- AACAI AGM (MMVQ THEATRE)
5.00-7.00 Tuesday 29 November

Book sales and Registration Desk

There are books for sale or ordering at the Registration Desk. Please be patient if the volunteers are busy.

Evening events

Sunday dinner

We suggest delegates consider eating at one of the nearby Fremantle restaurants on High Street, Market Street (at the eastern end of High Street), or at the Fishing Boat Harbour (just beyond the Shipwreck galleries). See the map and volunteers for details.

Welcome BBQ (Monday night) Shipwreck Gallery

Shipwreck Gallery, Old Maritime Museum, Monday 28th November 2005.

The Shipwreck Gallery is located on the corner of Cliff Street and Marine Terrace in Fremantle. The dinner costs \$15 per person and starts at from 6.30pm.

The Rhys Jones Medal for Outstanding Contribution to Australian Archaeology will be awarded at this event.

Pub Night (Tuesday night) Clancy's Fish Pub

On Tuesday night conference guests are invited to come down to Clancy's for a friendly drink and great food. Clancy's Fish Pub is a fun pub with a casual atmosphere and great seafood menu. It is located at 51 Cantonment Street in Fremantle, about 10 minutes walk from the centre of town and the train station. Ask the Registration Desk for directions. Hope to see you there.

A couple of books will be launched at the pub:

- McCarthy, M. 2005 *Ships' Fastenings: From Sewn Boat to Steamship*. Texas A & M University Press
- Jane Balme and Alistair Paterson (Eds) 2005 *Archaeology in Practice: A Student Guide to Archaeological Analyses*, Blackwell Publishing, Malden

Conference dinner (Wednesday night) Fremantle Sailing Club

The Conference Dinner for AAA/AIMA this year will be held at the picturesque Fremantle Sailing Club. Dinner starts at 7pm and costs \$55.00 per ticket. Dinner guests will be provided with a drink on arrival, however the upstairs bar will be open for pre-drinks for those who arrive early.

The Fremantle Sailing Club is located on Marine Terrace in Fremantle, about 5 minutes drive from the centre of town, or 10 minutes from the Museum. Whilst some may choose to walk to the venue (probably about 20-30 minutes from town) the Fremantle CAT free bus service stops at the entrance to the

Sailing Club driveway, and runs every ten minutes. Please note that the last CAT service leaves Fremantle Train Station at 6.10pm.

Please inform the conference dinner organiser Annie Carson (0407 693 771 or 6488 3947), of any dietary requirements you may have at least two days prior to the dinner.

Fieldtrips

There will be a number of pre- and post-conference fieldtrips.

Rottneest Island Shipwrecks Tour

Date: Thursday 1 December 2005 (after the conference)

Time: 9.30 - 4.00(-ish)

For tour cost and booking please contact: Dr M. McCarthy, Department of Maritime Archaeology, WA Maritime Museum

Tel: +61 08 9431 8436

Rottneest Island Tour

Date: Thursday 1 December 2005 (after the conference)

For costs and booking please contact: Charlie Dortch dortch@westnet.com.au

South-west Western Australia

Dates: Friday 2 December - Saturday 3 December 2005 (after the conference)

Leaving approximately 7am and arriving back Saturday night around 8 pm.

Dr Joe Dortch, Department of Archaeology, University of Sydney

Mob: 0428 601 008, E-mail: joe.dortch@arts.usyd.edu.au

Burrup Peninsula Rock Art Tour

Date: Saturday 3 December 2005 to Sunday 4 December 2005

For costs and booking please contact: Ken Mulvaney

ken.mulvaney@riotinto.com

Golden Pipeline Heritage Trail

If you are planning on either hiring a car or driving from the conference, then you may want to consider the Golden Pipeline Heritage Trail

Running between Mundaring, just east of Perth, and Kalgoorlie, this heritage trail is maintained by The National Trust and explores the Golden Pipeline, a scheme devised in the late nineteenth century and opened in 1903 to supply water to the goldfields of Coolgardie and Kalgoorlie.

For further information, please contact Samantha Bolton.

boltos01@student.uwa.edu.au

Workshops

GIS for archaeologists 3-day workshop (9.30am-5pm, Wednesday 23 - Friday 25 November)

An intensive workshop (at University of Western Australia taught by the Archaeological Computing Laboratory, University of Sydney, 23-25 November 2005).

Venue: Geography Second Year Lab (Room 1.40)
School of Earth and Geographical Sciences (North) M004
The University of Western Australia
Crawley, 6009, W A

Coordinator: Andrew Wilson, University of Sydney

In situ conservation survey techniques (8am-1pm, Sunday 27 November)

The in-situ conservation survey techniques workshop would entail short lectures outlining the basic theory on standard and more recent/innovative conservation survey techniques and the information that may be gained from utilising these techniques. The lectures would then be followed by a practical component allowing participants to gain hands-on experience with some of the more commonly utilised conservation equipment and undertake a limited conservation survey of a local shipwreck site (e.g. corrosion survey techniques, anode attachment, wood survey techniques, marine environment and sediment survey methods).

Diving and non-diving practitioners are invited to participate in this workshop, however diving participants will need, at the least, a recognised Open Water Dive qualification.

There will be no cost for this workshop with the exception of participants hiring dive equipment, if necessary. This can be easily arranged prior to the workshop.

Date: Sunday 27 November 2005

Time: 8.00am-1.00pm

Venue: Shipwreck Galleries

Vicki Richards, Research Officer, Department of Materials Conservation,
Western Australian Museum

NAS workshop (5-7pm, Tuesday 29 November)

AIMA Nautical Archaeology Society Maritime Archaeology Training Workshop The Australian Institute for Maritime Archaeology (AIMA), in conjunction with the Nautical Archaeology Society (NAS - United Kingdom), is now teaching a 4 part course series on maritime archaeology. This

internationally recognised course is being currently run in the UK, South Africa, Canada and the USA. The Nautical Archaeology Society is an international society which based in the UK. One of the stated aims of the Nautical Archaeology Society is to advance education in maritime archaeology at all levels. The NAS has put this into practice by introducing a structured training scheme open to both divers and non-divers. It was designed and developed by archaeologists and recreational divers working together, and has proved to be an effective way to learn basic archaeological skills for use underwater. The general aim of the course is to introduce the methods and procedures employed in underwater archaeology, as well as to generate awareness regarding shipwreck preservation in our country. On completion of each of the courses, students are awarded an AIMA/NAS certificate which is internationally recognised.

This workshop is open for tutors and students (present and prospective) of the AIMA/NAS program to meet to discuss the current training syllabus, current and upcoming projects. Prospective attendees should contact the senior Tutor directly to register and submit agenda items.

Date: Tuesday 29 November

Time: 5.00-7.00

Venue: Boardroom, Western Australian Maritime Museum

Corioli Souter (Western Australian Maritime Museum, Department of Maritime Archaeology), Nautical Archaeology Society (Australia) Senior Tutor

Detailed Program

Sunday 27 November (Maritime Museum Victoria Quay - MMVQ) <i>Registration desk (MMVQ)</i> 12pm - 5pm	8.00-1.00	Workshop: <i>In situ</i> conservation survey techniques (SHIPWRECK GALLERIES)	
	2.00-3.00	Public Lectures (THEATRE)	1. Dr Udi Galili (Israel Antiquities Authority) "The Marine Cultural Heritage of Israel - Nature and Management of an Endangered resource"
	3.00-4.00		2. Dr Jon Adams (University of Southampton) "Deep Water Archaeology: From Method and Madness to Method and Theory"
	4.00-5.00		3. Dr Robin Torrence (Australian Museum) "Pompeii of the Pacific"
	5.00-7.00	Opening reception (FUNCTION ROOM) (nibbles and drinks provided)	<ul style="list-style-type: none"> • Indigenous welcome • Welcome: Dawn Casey (WAM) • President of AAA and President of AIMA
	7.00-7.30	Book launch (FUNCTION ROOM)	Dawn Casey (WAM)
	7.30-8.30	Rock art film (THEATRE)	<i>Fragments of the Owl's Egg: a Film about Memory and Place</i>
Monday 28 November (MMVQ) <i>Registration desk (MMVQ)</i> 8am - 5pm	8.30-10.30	Interlinks: Maritime and terrestrial archaeological sites (THEATRE) 8.30-8.50 BEYOND 6000 BP - INVESTIGATING SUBMERGED ABORIGINAL SITES A CASE STUDY FROM SOUTHWEST ARM, NSW Cosmos Coroneos and Jim Wheeler 8.50-9.10 MARITIME MECHANISMS OF CONTACT AND CHANGE THROUGH TRADE AND EXCHANGE Stephen Beck	

	<p>9.10-9.30 CHUUK LAGOON'S WORLD WAR II UNDERWATER HERITAGE SITES: CONSIDERING THIS GLOBAL HERITAGE FROM DIFFERENT VIEWPOINTS Bill Jeffery</p> <p>9.30-9.50 THE EMERGENCE AND DISPERSE OF THE EASTERN MEDITERRANEAN FISHING VILLAGE - EVIDENCE FROM SUBMERGED NEOLITHIC SETTLEMENTS OFF THE ISRAELI COAST Udi Galili</p> <p>9.50-10.10 THE ASSESSMENT OF ARCHAEOLOGICAL SITES ON BARROW ISLAND AND THE DAMPIER ARCHIPELAGO, PILBARA, WESTERN AUSTRALIA: A COLLABORATIVE APPROACH Corioli Souter, Fiona Hook and Alistair Paterson</p> <p>10.10.10.30 THE TWO HARBOURS OF APERLAE IN LYCIA Bill Leadbetter</p>
10.30-11.00	TEA
11.00-1.00	<p>Archaeology in museums (THEATRE)</p> <p>11-11.20 NON-MARITIME ARCHAEOLOGY IN THE WA MUSEUM: "THERE AREN'T ANY JOBS", "YOU CAN ALWAYS BE A STRIPPER!" Moya Smith Head</p> <p>11.20-11.40 HOW ARE SHIPWRECKS REPRESENTED IN MUSEUMS? Peta Knott</p> <p>11.40-12.00 A CASE STUDY: THE DE FREYCINET CAMP SITE, 2005 Richenda Prall</p> <p>12.00-12.20 THE GALLE HARBOUR PROJECT - SRI LANKA Jon Carpenter</p>

	<p>12.20-12.40 "KEEPING THE KEEPING PLACE": A CONSERVATION MANAGEMENT PLAN OF THE BANGERANG CULTURAL CENTRE, SHEPPARTON , VICTORIA Oona Nicolson</p> <p>12.40-1.00 MUSEUM ARCHAEOLOGY OVERSEAS: THE AUSTRALIAN MUSEUM IN PAPUA NEW GUINEA Robin Torrence and Jim Specht</p>
1.00-1.30	LUNCH
1.30-3.00	<p>Contact, mobility, encounter and exchange: rock art in its social context (THEATRE)</p> <p>1.30-1.50 STAYING STILL AND MOVING ON: THE DYNAMICS OF LANDSCAPE IN ROCK ART RESEARCH Ursula Frederick</p> <p>1.50-2.10 WESTERN DESERT ROCK ART: CONTEMPORARY EVIDENCE FOR EXCHANGE AND TRANSFORMATION Bill Kruse, Jo McDonald and Peter Veth</p> <p>2.10-.2.30 A TALE OF TWO GORGES: WAGIMAN ROCK ART AND SACRED PLACES IN THE NORTHERN TERRITORY, AUSTRALIA AND MARYLAND, USA Daryl Guse</p> <p>2.30-2.50 EASTERN ARRERENTE ROCK ART AND LAND TENURE R. G. Gunn</p>
3.00-3.30	TEA
3.20-5.00	<p>Contact, mobility, encounter and exchange: rock art in its social context (THEATRE)</p> <p>3.20-3.30 IMAGES OF THE SS XANTHO THAT APPEAR INLAND OF COSSACK AND AT WALGA ROCK ON THE MURCHISON RIVER Mike McCarthy and Alistair Paterson</p>

		<p>3.30-3.50 ROCK ART Julie Drew</p> <p>3.50-4.10 "IN ACCORDANCE WITH THE ANCESTORS" - BUT WHOSE ANCESTORS? Sue O'Connor</p> <p>4.10-4.30 TRACKING ROCK-ART - LANDSCAPE RELATIONSHIPS IN WOLLEMI NATIONAL PARK, NSW Matthew Kelleher, Michael Jackson and Paul S.C. Taçon</p>	
<p>5.00-7.00 AAA AGM (THEATRE)</p> <p>5.00-7.00 AIMA AGM (FUNCTION ROOM)</p> <p>6.30 Conference First Night BBQ (SHIPWRECK GALLERY COURTYARD) Announcement of recipient of Rhys Jones Medal for Outstanding Contribution to Australian Archaeology</p>			
<p>Tuesday 29 November (MMVQ) <i>Registration desk</i> (MMVQ) 8am - 5pm</p>	<p>8.30- 10.50</p>	<p>Archaeozoology: The study of the exchange between people and their environment (THEATRE)</p> <p>8.30-8.50 MID HOLOCENE HUNTERS OF KANGAROO ISLAND - THE PERSPECTIVE FROM CAPE DU COUEDIC ROCKSHELTER Neale Draper</p> <p>8.50-9.10 TRADING PLACES: ABORIGINAL SETTLEMENT PATTERNS AND THE ARCHAEOZOOLOGY OF SOUTH-WESTERN AUSTRALIAN LIMESTONE CAVES AND ROCK- SHELTERS Joe Dortch</p>	<p>Intercolonial trade in the archaeological record – artefact typologies and research materials (FUNCTION ROOM)</p> <p>8.30-8.50 ABSENCE OF EVIDENCE: CREW ARTEFACTS FROM INTERNATIONAL TRADING VESSELS IN AUSTRALIAN WATERS John Forrest</p> <p>8.50-9.10 HISTORIC SHIPWRECK BOTTLES REFERENCE COLLECTION: STAGE 1 UPDATE Cassandra Philippou</p>

	<p>9.10-9.30 RECONSTRUCTING THE LOCAL CONTEXT OF MEGAFANAL DECLINE IN SEMI-ARID SOUTHEASTERN AUSTRALIA: THE INTERPLAY OF HUMANS AND THE ENVIRONMENT Rebecca A. Fraser & Karen L. Privat</p> <p>9.30-9.50 AGE PROFILES IN ANIMAL REMAINS AND THEIR RELEVANCE FOR INFERRING PREHISTORIC HUMAN POPULATION DENSITY Ken Aplin</p> <p>9.50-10.10 VARIATION IN THE TAPHONOMIC EFFECTS OF SCAVENGERS: ITS IMPORTANCE AND CAUSES Oliver Brown</p> <p>10.10-10.30 DINGOES: JUST ANOTHER TRANSLOCATION? Peter White</p> <p>10.30-10.50 A PRIMARILY PEOPLE-FREE PARADIGM FOR MEGAFANAL EXTINCTION IN AUSTRALIA Steve Wroe and Judith Field</p>	<p>9.10-9.30 THE DATING PROBLEM. A METHOD OF ESTABLISHING FINE CHRONOLOGICAL DATING WITHIN LATE NINETEENTH CENTURY HISTORICAL SITES Gaye Nayton</p> <p>9.30-9.50 TIN-COATED LEAD CAPSULES - CONSERVATION AND THEIR USEFULNESS IN IDENTIFYING THE ORIGIN AND CONTENTS OF 19TH CENTURY CONTAINERS Jon Carpenter & Carmela Corvaia</p> <p>9.50-10.10 EARLY NON- PONTILLED BOTTLES FROM THE WRECK OF THE CUMBERLAND (1830), WESTERN AUSTRALIA Myra Stanbury</p> <p>10.10-10.30 TOOL PROVISIONING, DISTRIBUTION AND USE IN THE WHITSUNDAYS: ASSESSING RISK IN A SOCIAL LANDSCAPE Lara Lamb</p>
10.50-11.20	TEA	

	<p>11.20-1.00</p>	<p>Africa's past: trade, exchange and other recent studies (FUNCTION ROOM)</p> <p>11.20-11.40 EARLY HOMININ ACTIVITY TRACES AT FxJj43, A ONE AND A HALF MILLION-YEAR-OLD SITE IN THE KOOBI FORA FORMATION IN NORTHERN KENYA Nicola Stern</p> <p>11.40-12 MEAT-EATING AND HOMO ERGASTER: NEW INFORMATION FROM FxJj43, A 1.5 MILLION YEAR OLD SITE IN NORTHERN KENYA David Wines</p> <p>12-12.20 PALAEOANTHROPOLOGICAL FIELD RESEARCH IN THE NORTHERN CAPE PROVINCE, SOUTH AFRICA Darren Curnoe and Andy Herries</p> <p>12.20-12.40 EXCHANGE NETWORKS, SOCIO-POLITICAL HIERARCHIES AND THE ARCHAEOLOGICAL EVIDENCE FOR DIFFERENTIAL WEALTH AMONGST PASTORALISTS IN SOUTH-WESTERN KENYA Allison Simons</p> <p>12.40-1.00 THE ROLE OF TRADE IN THE EMERGENCE OF COMPLEXITY IN SOUTHERN GHANA: A VIEW FROM THE EGUAFO KINGDOM Sam Spiers</p>	<p>The ethical boundaries of commercialisation of heritage (THEATRE)</p> <p>11.20-11.40 OREIGN HERITAGE SHOPPING: SOME ETHICAL ISSUES RECONSIDERED Jennifer Harris</p> <p>11.40-12 LINES IN THE SAND: SHIPWRECK ARTEFACTS IN THE PUBLIC DOMAIN - THE INVOLVEMENT OF EDUCATIONAL INSTITUTIONS IN EXPLOITING CULTURAL HERITAGE Cassandra Phillipou</p> <p>12-12.20 HERITAGE FOR SALE: ETHICS AND LAW ON THE SALE OF SHIPWRECK RELICS IN THE US Joel Gilman</p> <p>12.20-12.40 TRADING SHIPWRECK ARTEFACTS UNDER THE HSA: IS THIS COMMERCIAL EXPLOITATION? Bill Jeffrey</p> <p>12.40-1.00 <i>PURITY, PUNISHMENT AND POMPOSITY. A CONSERVATORS RESPONSE TO ETHICAL ISSUES WITH DISPOSAL OF MARITIME</i></p>
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		ARCHAEOLOGICAL MATERIALS Ian D. MacLeod
1.00- 1.30	LUNCH	
1.30- 3.00	<p>The Archaeology of Frontier Conflict (THEATRE)</p> <p>1.30-1.50 GENERAL INTRODUCTION TO SESSION Pam Smith and Lynley Wallis</p> <p>1.50-2.10 INTRODUCTION Joe Edgar</p> <p>2.10-2.30 FRONTIER CONFLICT: CONISTON STATION AND MYALL CREEK - AN INDIGENOUS OVERVIEW Stephen Free and Ken Markwell</p> <p>2.30-2.50 MASSACRE AND FRONTIER CONFLICT ON THE CENTRAL QUEENSLAND COAST. THE ARCHAEOLOGICAL RECORD AND IMPLICATIONS FOR THE WIDER DEBATE IN THE SO CALLED 'CULTURE WARS' Bryce Barker</p>	
3.00- 3.30	TEA	
3.30- 5.00	<p>The Archaeology of Frontier Conflict (THEATRE)</p> <p>3.30-3.50 FORENSIC ARCHAEOLOGY ON THE KIMBERLEY FRONTIER Pam Smith, Soren Blau, Rob Fitzpatrick and Donald Pate with Traditional Owners</p> <p>3.50-4.10 INVESTIGATING THE WOOLGAR ABORIGINAL MASSACRE, NORTHWEST QUEENSLAND: A PRELIMINARY REPORT Lynley A. Wallis, Richard Wright, Ian Moffat, Kate Domett and the Woolgar Valley Aboriginal Corporation</p> <p>4.10-4.30 APPLICATIONS OF MULTI-TECHNIQUE GEOPHYSICAL SURVEY TO SITES OF FRONTIER CONFLICT Ian Moffat and Lynley A. Wallis</p>	

		<p>4.30-4.50 THE CONVINCING GROUND: A FRONTIER CONFLICT TODAY Ross Anderson</p> <p>4.50-.5.00 CONCLUDING REMARKS Pam Smith and Lynley Wallis</p>
<p>5.00-6.00 POSTER SESSION (MMVQ ENTRANCE GALLERY) 5.00-7.00 AACAI AGM (MMVQ THEATRE) 5.00-7.00 NAS workshop (BOARDROOM) 7.00 Pub Dinner and Book launches (Clancy's Fishpub)</p>		
<p>Wednesday 30 November</p> <p>(MMVQ)</p> <p><i>Registration desk</i> (MMVQ) 8am - 5pm</p>	<p>8.20-10.30</p>	<p>"Worse things happen at sea": Papers in Honour of Dr Bruce Veitch (THEATRE)</p> <p>8.20-8.30 STORIES, ANECDOTES AND BRUCE Peter Veth</p> <p>8.30-8.50 MANAGING MEANING AT ANCIENT SITES IN THE 21ST CENTURY: THE GUMMINGURRU ABORIGINAL STONE ARRANGEMENT SITE ON THE DARLING DOWNS, SOUTHERN QUEENSLAND Annie Ross and The Gummingurru Aboriginal Trust</p> <p>8.50-9.10 YIRRA: EVIDENCE FOR OCCUPATION OF THE HAMERSLEY PLATEAU DURING THE LAST GLACIAL MAXIMUM Fiona Hook, Clint Hammond, Adam Dias</p> <p>9.10-9.30 THE AUSTRALIAN ARCHAEOLOGIST: A PROFILE Sean Ulm, Stephen Nichols and Cameo Dalley</p> <p>9.30-9.50 ARCHAEOLOGY, CLAIMANT CONNECTION TO SITES AND NATIVE TITLE: EMPLOYMENT OF SUCCESSFUL CATEGORIES OF DATA WITH SPECIFIC COMMENTS ON GLASS ARTEFACTS Peter Veth and Susan O'Connor</p> <p>9.50-10.10 TOWARDS A LATE HOLOCENE ARCHAEOLOGY OF THE INLAND PILBARA</p>

	<p>Ian Ryan, Kate Morse and Annie Carson</p> <p>10.10-10.30 ALL ABOARD? INCLUSIVE HERITAGE AND THE POLITICS OF RECOGNITION Ian Lilley</p>	
10.30-11.00	TEA	
11.00-1.00	<p>In-situ preservation and/or stabilisation of cultural heritage sites (THEATRE)</p> <p>11-11.20 NATURE'S AIRTIGHT CONTAINERS IN BRONZE AGE DENMARK: IRON PANS AND PRESERVATION Ann-Maria Hart</p> <p>11.20-11.40 ABORIGINAL HERITAGE MANAGEMENT AT THE NWSV WOODSIDE GAS PLANT ON THE BURRUP PENINSULA Neale Draper, Warren Fish, David Mott, Andrew Maland, Phil Czerwinski</p> <p>11.40-12 THE IN-SITU MONITORING AND STABILISATION OF THE JAMES MATTHEWS SHIPWRECK SITE Vicki Lewana Richards</p>	<p>Odds and sods (FUNCTION ROOM)</p> <p>11-11.20 THE SLAYING OF OCTAVIA-MAN: HUMAN SKELETAL REMAINS FOUND WITH ARCHAEOLOGICAL EVIDENCE IMPLICATING USE OF A DEATH SPEAR Jo McDonald, Denise Donlon, Judith Field and Richard Fullagar</p> <p>11.20-11.40 PREHISTORIC PAPUA'S HISTORIC ARTEFACTS Jim Rhoads</p> <p>11.40-12 MAINLAND MAGIC: INTERPRETING INFLUENCES ACROSS CAPE YORK-TORRES STRAIT Shelley Greer, Rosita Henry & Susan McIntyre-Tamwoy</p> <p>12-12.30 RECENT EXCAVATIONS IN NORTHEAST THAILAND: CEMETERIES,</p>

		<p>PERSONAL ORNAMENTS AND SOCIETY Nigel Chang</p> <p>12.30-12.50 PATTERNS OF BIOLOGICAL VARIATION ALONG THE NORTH EAST COAST OF THE INDIAN OCEAN Colin Pardoe</p>
1.00-1.30	LUNCH	
1.30-3.00	<p>General regional session on PNG/Island Melanesia (THEATRE)</p> <p>1.30-1.50 LATE PLEISTOCENE TO HOLOCENE FAUNAL SUCCESSION IN NORTH COASTAL NEW GUINEA: EVIDENCE FOR ENVIRONMENTAL CHANGE AND LOCAL EXTINCTIONS Ken Aplin and Sue O'Connor</p> <p>1.50-2.10 REVISITING THE EARLY PIGS AND POTTERY DEBATE: RESULTS OF RECENT WORK AT LACHITU, TAORA AND WATHINGLO ROCKSHELTERS, NORTH COAST PNG Sue O'Connor</p> <p>2.10-2.30 SHORT-LIVED COASTAL MICRO-ENVIRONMENTS ON UPLIFTING SHORELINES: IMPLICATIONS FOR ON-SITE CHRONO- AND BIOSTRATIGRAPHIC INTERPRETATIONS FROM CAVES AND ROCKSHELTERS Anthony J. Barham, Sue O'Connor and Ken Aplin</p>	<p>Advances in archaeological methods (FUNCTION ROOM)</p> <p>1.30-1.50 PHOTOGRAPHY FOR MARITIME ARCHAEOLOGY - THE CHANGE TO DIGITAL Patrick Baker</p> <p>1.50-2.10 DATA SHARING IN AUSTRALIAN ARCHAEOLOGY: A CASE STUDY FROM THE MARITIME ARCHAEOLOGY COMMUNITY Dianna Hardy</p> <p>2.10-2.30 IN SITU PRESERVATION AND/OR STABILISATION OF CULTURAL HERITAGE SITES Neale Draper</p>

	<p>2.30-2.50 INTERACTION OR INSULARITY IN NEW GUINEAN PLANT USE PRACTICES? Andrew Fairbairn and Matthew Spriggs</p>	<p>2.30-2.50 NEW TOOLS ON OLD SITES Jon Adams</p>
3.00-3.30	TEA	
3.30-5.20	<p>General regional session on PNG/Island Melanesia (THEATRE)</p> <p>3.30-3.50 KOSIPE REVISITED - A PROGRESS REPORT ON AN ANCIENT OCCUPATION SITE IN THE PAPUAN MOUNTAINS Andy Fairbairn and Geoff Hope</p> <p>3.50-4.10 CULTURAL PERSISTENCE IN THE FACE OF FREQUENT DISASTERS: LANDSCAPE ARCHAEOLOGY IN THE WILLAUMEZ PENINSULA, PAPUA NEW GUINEA Robin Torrence</p> <p>4.10-4.30 ISLANDS/ISOLATION AND POST MODERN DISTORTIONS – IMPLICATIONS FOR TRADE AND EXCHANGE Michael J. Rowland</p> <p>4.30-4.50 EARLY SOUTH COAST PNG POTTERY IN THE NORTHERN D'ENTRECASTEAUX ISLANDS, MILNE BAY PROVINCE, PNG? Vincent Kewibu</p> <p>4.50-5.10 THE IMPORTANCE OF THE CANOE TO ASMAT Nicolas Bigourdan</p>	
<p>7.00 CONFERENCE DINNER (Fremantle Sailing Club)</p>		

Public lecture

Dr Udi Galili from the Israel Antiquities Authority presents:

"The Marine Cultural Heritage of Israel - Nature and Management of an Endangered resource"

Sunday 27 November 2-3pm
Theatre
WA Maritime Museum Victoria Quay

Public lecture

Dr Jon Adams from the University of Southampton presents:

"Deep Water Archaeology: From Method and Madness to Method and Theory"

Sunday 27 November 3-4pm
Theatre
WA Maritime Museum Victoria Quay

Public lecture

Dr Robin Torrence from the Australian Museum presents:

"Pompeii of the Pacific"

Sunday 27 November 4-5pm
Theatre
WA Maritime Museum Victoria Quay

Book launch

Dawn Casey CEO of the Western Australian Museum launches:

Many exchanges: archaeology, history, community and the work of Isabel McBryde

Edited by Ingereth Macfarlane with Mary-Jane Mountain and Robert Paton
2005, Aboriginal History Inc Monograph No 11, Canberra
447pp, illustrated, bibliography, index ISBN 0 9585637 7 2 \$49.95

Sunday 27 November 7-7.30pm
Function Room
WA Maritime Museum Victoria Quay

Film

Fragments of the Owl's Egg: a Film about Memory and Place

A film by Kim McKenzie

Duration: 40 minutes

2005

An observational film about memory and place. The sandstone plateau of western Arnhem Land is renowned for its rock art and this film follows a search for a site called Wirlarrk Mukmuk - the Owl's Egg - remembered as a place of exceptional paintings.

SESSION

Interlinks: Maritime and terrestrial archaeological sites

Session Organizer:

Mack McCarthy michael.mccarthy@museum.wa.gov.au

In this session we will be digesting papers and presentations that will serve to touch on a range of theoretical and practical issues pertinent to the interlinks between our terrestrial and underwater disciplines. The papers themselves are varied, and in appearing here in one session reflect the confluence that is modern archaeology. In these six papers we will examine a range from Aboriginal, classical, neolithic and 19th century sites found on the shores and in the waters of the Indian, Mediterranean and Pacific seas. We will also hear of the assimilation of European trade goods into South Sea Island's culture and of maritime heritage sites of Chuuk Lagoon formed as a result of WWII.

BEYOND 6000 BP - INVESTIGATING SUBMERGED ABORIGINAL SITES A CASE STUDY FROM SOUTHWEST ARM, NSW

Cosmos Coroneos¹ and Jim Wheeler²

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The investigation of submerged pre-historic sites in Europe and America has yielded impressive results through the use of mapping and excavation techniques developed for maritime archaeology. Recent investigations have even reported undisturbed intact artefact deposits buried beneath marine sediments. Such investigations have opened up submerged landscapes to archaeological examination and allowed researchers to examine coastal use and occupation prior to the 6000 BP sea level rise.

The potential for submerged terrestrial archaeology in Australia is largely unexplored, with only a small number of investigations to date. In this paper we describe a recent collaboration between maritime archaeologists and pre-historians aimed at developing and testing methodologies for identifying and recording submerged archaeological deposits.

The primary aim of our paper is to describe practical, cost-effective methods we have employed for identifying and recording submerged rockshelter sites at Southwest Arm on the Hacking Estuary, south of Sydney. The purpose of

our ongoing investigation is to identify potential archaeological deposits with a view to future excavation. Our paper also highlights original research driven and funded by consultant archaeologists and enthusiastic members of the public.

MARITIME MECHANISMS OF CONTACT AND CHANGE THROUGH TRADE AND EXCHANGE

Stephen Beck

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Between 1863 and 1904, over 60,000 South Sea Islanders were indentured to work in Queensland sugar cane plantations. Before the Islanders could depart for Queensland, European recruiting agents had to compensate the Islanders' families with trade goods. These goods usually consisted of firearms, tobacco, clay pipes, axes, knives, bolts of calico and trade beads. When the Islanders were returned three years later, they brought with them their own trade boxes replete with European goods.

Research on the wreck of the Queensland labour schooner Foam has provided insights into the mechanisms by which these goods were introduced into the Islands. In this paper, I will present research findings that make explicit links between the maritime contact and exchange on the beach and the incorporation of European trade goods into the Islanders' internal trading and power/status systems. I will also introduce a new model for the assimilation of European goods into the South Sea Islands.

CHUUK LAGOON'S WORLD WAR II UNDERWATER HERITAGE SITES: CONSIDERING THIS GLOBAL HERITAGE FROM DIFFERENT VIEWPOINTS

Bill Jeffery

Maritime Archaeology, James Cook University, Townsville
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This paper discusses a number of issues in considering the research and management of the WWII underwater sites in Chuuk and the Pacific. The paper identifies the values that a number of interest groups place on these sites, the conflicts that have resulted and how this could assist in a more comprehensive view on their research/management needs. The paper will also demonstrate how these underwater sites should not be considered in isolation. They must be looked at as part of the broader history of the region and include consideration of terrestrial historic sites, the nature and impacts on the societies that share this heritage, as well as the physical environment that encompass the sites.

**THE EMERGENCE AND DISPERSE OF THE EASTERN
MEDITERRANEAN FISHING VILLAGE - EVIDENCE FROM
SUBMERGED NEOLITHIC SETTLEMENTS OFF THE ISRAELI
COAST**

Udi Galili
Israeli Antiquities Authority - Maritime Division

[no abstract provided]

**THE ASSESSMENT OF ARCHAEOLOGICAL SITES ON BARROW
ISLAND AND THE DAMPIER ARCHIPELAGO, PILBARA,
WESTERN AUSTRALIA: A COLLABORATIVE APPROACH**

Corioli Souter¹, Fiona Hook² and Alistair Paterson³

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Barrow Island and the Dampier Archipelago off the coast of the Pilbara was the setting for a range of economic activities prior to European exploration and continuing until settlement (1860s onwards) in the North West of Western Australia. A limited number of cultural heritage assessments in this offshore region, both indigenous (Vinnicombe 1987, Veth 1994, Quartermaine 1994 & 1997) and post contact (McIlroy 1979) have been undertaken but in all cases, addressing only one cultural group and/or type of occupation. More recently, as a result of two specific consultancies, a collaborative approach has been undertaken by the WA Maritime Museum, the University of Western Australia and Archae-Aus Consultants. Identification and assessment of indigenous, historical and maritime sites were fundamental in the production of comprehensive management strategies for the region. Similarly with practitioners specialising in each area completing research and fieldwork collectively, new insights and re-interpretation of the sites were achieved.

THE TWO HARBOURS OF APERLAE IN LYCIA

Bill Leadbetter

Social Science Education and History, Edith Cowan University

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The ancient town of Aperlae, situated on the southern coast of Lycia in modern Turkey, had been little known and studied until the last decade. Since 1995, teams from the University of Maryland, the university of Colorado and Edith Cowan University have collaborated in an ongoing terrestrial and maritime survey of the site. Founded in the hellenistic period, and flourishing well into the Byzantine period, Aperlae's economy was based upon the production and export of Tyrian purple dye. The raw dye was sourced from the colony of murex trunculus which abound in the bay upon which the town is situated. This bay, however, faces south-west, is open to the weather (its south-west cape is Ulu Burun) and is inconvenient for access to local ports. Navigation of the bay is further hampered by the existence of a strong south-westerly breeze which blows into the bay for most of the year. Despite the existence of a quay and harbour-wall (both now inundated) at the town itself, the Aperlites needed to find a different solution in order to safely export their dye to the ports of the Mediterranean. They found the solution in a sheltered inlet at the southern end of Kekova Roads. This bay provides access, under the long lee of the peninsular of Sicak Yarimadisi and the island of Kekova, to the emporium of Andriake. This paper examines the two harbours of Aperlae, and the strategies which the Aperlites employed both to produce and to transport the dye. It will conclude by briefly surveying the principal evidence for material wealth that this trade generated: the many standing sarcophagi extant on the site.

SESSION

Archaeology in museums

Session Organizers:

Corioli Souter corioli.souter@museum.wa.gov.au

Val Attenbrow ValA@austmus.gov.au

This session examines the current role of museums in archaeology and archaeology in museums. Please forward paper suggestions to both organisers. We are calling for papers that will address:

1. The dissemination of the results of current museum research projects to a wider audience.
2. The interpretation and presentation of archaeological themes through exhibition.
3. Archaeology Outreach - public education programmes
4. Collection research and management
5. Role of archaeologists in Museums- consultants, collectors, educators, researchers or collection managers?

NON-MARITIME ARCHAEOLOGY IN THE WA MUSEUM: 'THERE AREN'T ANY JOBS', 'YOU CAN ALWAYS BE A STRIPPER!'

Moya Smith Head, Department of Anthropology, WA Museum

Staff of the WA Museum's Anthropology [including Archaeology] Department are routinely ask to talk to final year undergraduates about Museums and Archaeology as part of the Cultural heritage management course. Much to my alarm when I asked the course supervisor to check what the students actually heard on a recent visit, this seemed to be the message! Museums have been one of the central state agencies in cultural heritage management, and maintenance. What has happened to Archaeology in the WA Museum in the last decade? Has our focus changed? Have our roles changed? How do we frame a future?

HOW ARE SHIPWRECKS REPRESENTED IN MUSEUMS?

Peta Knott
Flinders University

The representation of shipwrecks in museums in Australia is an important area of research that has yet to be comprehensively studied. To do this, the

many museums that exhibit shipwrecks will be examined for how the artefacts are displayed and interpreted. Are these objects just out on display, or is there an underlying message or story being told? If so, does the museum visitor comprehend the message? The contrasting perspectives of the archaeologists, curators and museum visitors will be investigated through interviews and questionnaires to answer these and other questions. The results of these qualitative research methods will evaluate the roles of maritime archaeology and social history within museums. Important information regarding the effectiveness of curators relaying the intended message of the exhibition to the museum visitor will also come to light. This is an important area of study as it will evaluate the effectiveness of previous and current museum displays with the results of benefit to the success of future exhibitions.

A CASE STUDY: THE DE FREYCINET CAMP SITE, 2005

Richenda Prall

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This paper will discuss the working relationship between a museum (the Western Australian Museum) and a statutory authority (the Shire of Shark Bay) through the medium of archaeology, site management analysis, collection management and dissemination. It will examine specifically the impact and effect of the research into an exploration camp, that of Rose & Louis de Freycinet, on the Shire of Shark Bay and local community groups.

THE GALLE HARBOUR PROJECT SRI LANKA

Jon Carpenter

More than a decade has past since maritime archaeologists and conservators from the Western Australian Museum first visited Sri Lanka to guide the establishment of a maritime archaeological and supporting conservation program. The project to locate, reveal and protect Sri Lanka's underwater cultural heritage has been a collaborative effort, between Australia, the Netherlands and Sri Lanka.

The old port town of Galle, located in the southwest corner of Sri Lanka, is situated in a fort originally established by the Portuguese, captured by the Dutch and later by the British. The fort protected the Bay of Galle, an important anchorage which was at the crossroads of trade between Asia, the Arab/African world and Europe beyond. A government proposal to build a shipping container terminal, in the bay, initiated a program of underwater investigation to determine its archaeological potential. This paper will report on some of the interesting sites that were discovered, principally the wreck of

the Avondster lost in 1659, and describe conservation procedures on-site and in the conservation facilities that were established. The impact of the Indian Ocean tsunami had on the project will also be reported.

Presenter, Jon Carpenter is a conservator of 30 years experience, he specialises in on-site conservation, and has worked on many maritime archaeological projects within Australia and overseas.

"KEEPING THE KEEPING PLACE": A CONSERVATION MANAGEMENT PLAN OF THE BANGERANG CULTURAL CENTRE, SHEPPARTON, VICTORIA

Oona Nicolson Principal Heritage Consultant, Environmental Resources Management Australia Pty Ltd

The Bangerang Cultural Centre, originally known as the Aboriginal Keeping Place was opened in 1982 after years of planning during the 1970s. It was constructed as part of the International Village, a tourist attraction by the Shepparton Council to celebrate the contributions of the different ethnic groups in Shepparton. John (Sandy) Atkinson OAM, a leading figure in Aboriginal organisations, came up with the visionary plan of an Aboriginal museum or Keeping Place which would display artefacts and be an educational resource about Aboriginal people and their cultures. Renowned architect Frederick Romberg agreed to design the building with input from Sandy Atkinson. The Cultural Centre continues to operate today, housing a wide range of cultural items from around Australia and includes four significant dioramas that present traditional aspects of Aboriginal life. The dioramas were the work of well known Victorian artist George Browning and the figures in them include some 19th century lifecasts made from the Yarra tribe (*sic*) of Melbourne. The cultural centre has played an important role for Aboriginal people in preserving their identity and represents a tangible symbol of Aboriginal self-determination. Recently listed on the Victorian Heritage Register as having State significance as well as being listed as an Aboriginal Historical Place with Aboriginal Affairs Victoria, recent development in Shepparton has threatened the Cultural Centre and a conservation management plan was commissioned. Carried out by RBA Architects with input from Oona Nicolson (Biosis Research Pty. Ltd.) the plan attempts to find a way forward for the Cultural Centre that allows for the continued display and storage of the artefacts and incorporates current museum management practices by the local Aboriginal community within the confines of a purpose built structure that presents many challenges.

MUSEUM ARCHAEOLOGY OVERSEAS: THE AUSTRALIAN MUSEUM IN PAPUA NEW GUINEA

Robin Torrence and Jim Specht
Australian Museum, Sydney

The Australian Museum has had a long association with Papua New Guinea through the acquisition of extensive ethnological and zoological collections, research projects and interactions with the National Museum and University of PNG. The most sustained archaeological research has been in West New Britain province where a long term productive relationship with the Provincial Cultural Centre has been forged through archaeological and ethnobiological fieldwork, experimental archaeology, and exhibitions and other public programs. This paper discusses how collaborations in West New Britain have markedly enriched the archaeological research outcomes. Since in some respects West New Britain has been treated as an extension of the NSW public that the museum regularly serves, this case study has a broad applicability to museum archaeology in Australia.

SESSION

Contact, mobility, encounter and exchange: rock art in its social context

Session Organizers:

Jo McDonald JMcDonald@jmcldchm.com.au

Ursula Frederick ursula.frederick@anu.edu.au

Rock art reflects people's connections to landscapes and country. But it is also linked to mobility and movement by people across the land. It can reflect social systems in stasis as well as those that are fluid and undergoing transformative processes. Rock art is stationary but the people and cultures that produce it are not. This session encompasses several of the overall conference themes. We are calling for papers which address rock art as evidence for social forms of exchange, encounter and contact. Papers which also present advances in methods and technique - particularly in coastal areas (!) will also be considered.

STAYING STILL AND MOVING ON: THE DYNAMICS OF LANDSCAPE IN ROCK ART RESEARCH

Ursula Frederick

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The varied and complex relationships between people and land have been a central theme of archaeological, anthropological and historical research into Aboriginal societies of the past and present. Amongst other expressions of visual culture, rock art has been an important source for such investigations. To a large extent interpretive frameworks for rock art research have been guided, explicitly or otherwise, by the fact that rock art is spatially fixed and as such may be seen as geographically 'contained' This has led to important developments in the understanding of rock art as an indicator of Aboriginal sociality, identity, history and cosmology as well as a useful form of evidence in broader archaeological studies. While recognising the significance of rock art as 'embedded in place', this paper draws inspiration from Indigenous conceptualisations of landscape which are spatially and temporally dynamic to develop an approach to rock art that more explicitly incorporates notions of mobility, transience and change.

WESTERN DESERT ROCK ART: CONTEMPORARY EVIDENCE FOR EXCHANGE AND TRANSFORMATION

Bill Kruse¹, Jo McDonald² and Peter Veth³

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Longitudinal studies of Western Desert societies reveal that their art systems form part of complex domestic and totemic landscapes. Many different values are attributable to these art bodies, which it has been found, have considerable and somewhat unexpected stylistic diversity.

A unique opportunity exists in the remote desert east of the central Canning Stock Route to contextualise art associated with a previously undocumented group that made contact as late as the 1970's. It is clear from our initial discussions with Martu people that only certain elements in the graphic system have contemporary valency and that these subsets of the art systems will invariably have changed through time.

Our work with the Martu has already determined that there are clear divisions between art made by Martu (humans) as opposed to art produced and said to belong to the Jukurrpa or Dreaming. Many elements in art panels we have recorded have current mythological connections and interpretations and the Calvert Ranges appears to be a "cross-roads" for a number of mythological tracks. A newly discovered style province associated with the 1970's contact group at the remote Mungulu Ranges provides further evidence for specific small social group's connections to country. This contact group maintains an extremely detailed knowledge of their country, including its waterholes, soaks and, importantly, its Dreaming stories. At Mungulu where the group's knowledge of country is particularly strong, the information offered about the entire corpus of art, as opposed to specific elements/themes within it, is at variance. Clearly a strongly selective process is at play whereby certain elements/motif groups within the art have valency and meaning while other large (spatially and apparently similar art productions do not).

These current ethnographic insights (and previous ethnoarchaeological work from the broader Western Desert) combined with detailed archaeological evidence – including a current pigment dating program – allows us to explore the emergence of current graphic systems within a broader social and iconographic system.

This paper addresses the issue of rock art as evidence for social exchange and transformative social processes within the Western Desert from recent times back into prehistory.

A TALE OF TWO GORGES: WAGIMAN ROCK ART AND SACRED PLACES IN THE NORTHERN TERRITORY, AUSTRALIA AND MARYLAND, USA

Daryl Guse

This case study examines some of the complexities in the way that rock art is perceived, and how these perceptions are expressed by an Indigenous community in the Northern Territory.

Wagiman traditional country extends over an area in the central Daly River region of the Northern Territory some 200 kilometres south of Darwin. Over the last few years, the Wagiman had learnt of a plan to reconstruct Umbrawarra Gorge at the National Aquarium of Baltimore, USA, to provide a north Australian flora and fauna exhibit. Part of Umbrawarra Gorge is a registered sacred site under the NT Aboriginal Sacred Sites Act 1989 and the gorge holds a high level of cultural significance for Wagiman Traditional Owners.

The subsequent events that unfolded in this case highlight the different levels of connection that an Indigenous community experiences with a 'place'. It provides an excellent example of rock art and place representing a mobile and dynamic cultural landscape for contemporary Indigenous society. Wagiman responses to the reconstruction of their sacred landscape in the United States has emphasized that concepts of space and time are very fluid within Indigenous traditional constructs.

EASTERN ARRERENTE ROCK ART AND LAND TENURE

R. G. Gunn

The identification of patterns and trends in rock art can offer substance to the interpretation of inter-group relationships beyond that provided by other areas of archaeology. The study of Central Australian rock art has been ongoing for several years and a broad framework is now available. Recent studies of Eastern Arrernte sites have seen a number of smaller scale patterns identified that form sub-divisions within the Eastern Arrernte. The patterns are based on the occurrence of a few distinctive motif types, and their distributions were found to overlap a number of different clan areas while not extending throughout the Eastern Arrernte language area. As these clearly do not reflect estate boundaries they cannot be seen to reflect clan identity. It is suggested that these patterns indicate the existence of an alliance between adjoining clans, based on both ritual and social alliances, and possibly reflecting the movements of a single artist or small group of artists.

ROCK ART IMAGES OF THE SS *XANTHO* THAT APPEAR INLAND OF COSSACK AND AT WALGA ROCK ON THE MURCHISON RIVER

Mike McCarthy¹ and Alistair Paterson²

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Amongst the many indigenous engraved images in the Northwest hinterland of the Pilbara Coast there occur near the nineteenth-century port of Cossack impressions of sailing boats and steamships. The steamship images, like the mysterious vessel appearing in the fabled Walga Rock Painting inland on the Murchison River in the Mid-west, are now understood to be images of the SS *Xantho* (1848-1872). This paper will describe the archaeological evidence, review previous literature, provide arguments in support of the identification, and will outline the reasons behind the appearance of the images indicates the Indigenous people's involvement in the colonial sheep and pearl diving industries and in the *Xantho's* effect on the Aboriginal community.

WARDAMAN ROCK ART

Julie Drew

The rock art of the Victoria River area of the Top End of Northern Territory reflects the movement of various language speaking groups. Depictions of some animals in the Wardaman country area of Innesvale (Menngen Station) are designated as totemic representations connected to neighbouring Djamidjung, Ngaliwurru, Dogaman and Madburra language speaking groups. Were these animal depictions part of a transforming social system of alliance to land?

Discussion about movement of women for ceremonies and their use of rock art in neighbouring countries will also be explored through the Moon Dreaming and Garnawala sites in today's Wardaman Country.

"IN ACCORDANCE WITH THE ANCESTORS" - BUT WHOSE ANCESTORS?

Sue O'Connor

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The landscape in which the small suco of Tutuala is positioned is the main painted rock art province in East Timor and one of the richest yet known in Island Southeast Asia. The subjects depicted in art, the style and the locational contexts of the images have been argued to place them within the large corpus of painted art known by the sobriquet "the Austronesian painting tradition" (Ballard 1992). The "Austronesian painting tradition" is recognized across much of Island South east Asia and Western Melanesia and is thought to have accompanied the spread of Austronesian speakers (AN) into the region within the last 4,000 years.

Today the caves and shelters of Tutuala, whose walls are adorned with the painted images, are regularly used for contemporary ritual and ceremony by the members of the landholding ratu, who speak a Non-Austronesian (NAN) language, known as Fataluku (Trans New Guinea Phylum). The images, while not attributed to human action, are explained within Fataluku creation cosmology and are reproduced in contemporary woven ritual cloth and even on modern Catholic concrete graves "in accordance with the ancestors". There are however good historical and linguistic grounds for believing that the Fataluku are fairly recent settlers of this area and that the landscape of Tutuala was formerly populated by Austronesian language speakers. This paper looks at the ways in which specific motifs and compositions may reproduce themselves through time and across space, and the implications of this for assigning 'style' in material culture with linguistic or ethnic groupings.

TRACKING ROCK-ART - LANDSCAPE RELATIONSHIPS IN WOLLEMI NATIONAL PARK, NSW

Matthew Kelleher, Michael Jackson and Paul S.C. Taçon

The cultural heritage of the over 487,000 hectare Wollemi National Park has remained an enigma. This is despite the fact that it is situated within the Sydney Basin, the most heavily researched geological province in Australia. Since 2001, a large team has been investigating the Wollemi with funds provided by the Australian Museum and National Geographic. This research, in often difficult and rugged terrain, has resulted in the discovery of hundreds of archaeological sites previously unknown to the outside world. Many of the sites contain drawings, stencils, paintings, engravings, grinding grooves and other rock markings. There are also open lithic scatters, shelters with lithics and deposit, and even the occasional wooden object. In this paper we explore the relationship of rock-art sites to larger Wollemi landscapes, with a

particular focus on probable travel routes. We also look at the relationship between different kinds of sites and briefly compare our preliminary results to site patterns in nearby areas. Aspects of exchange, contact and encounter between different groups of people are outlined in the process.

SESSION

Archaeozoology: The study of the exchange between people and their environment

Session Organizers:

Joe Dortch joe.dortch@arts.usyd.edu.au

Oliver Brown oliver.brown@arts.usyd.edu.au

Archaeozoology includes most of the methods that archaeologists have at their disposal for determining the economic relationship between people and their environment. Increasingly, the analyses conducted by archaeozoologists are both broader in scope and finer in detail than simply sorting and identifying faunal assemblages and selecting a most plausible explanation from the resulting quantified 'grocery list'. The aim of the session is to provide those working in the field of archaeozoology in Australia and its neighbours with an opportunity to present new areas of research (new sites and new methods), and to provide an overview of our field.

MID HOLOCENE HUNTERS OF KANGAROO ISLAND - THE PERSPECTIVE FROM CAPE DU COUEDIC ROCKSHELTER

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Cape du Couedic rock shelter is perched high in a limestone cliff, above a small bay on the SW coast of Kangaroo Island, South Australia. It was occasionally occupied between approximately 7,500 and 5,500 years before present. Archaeological excavations in the mid 1980s produced a wealth of faunal, lithic, and spatial data. Analysis of faunal remains from the larger mammals – the Australian sea lion *Neophoca cinerea*, the Kangaroo Island kangaroo (*Macropus fuliginosus*) and Tamar Wallaby (*Macropus eugenii*), is considered in conjunction with relevant data from the stone artefact assemblage and site structure mapping, to provide a picture of hunting, butchering, and food-sharing and preparation practices used by Kangaroo Islanders in the mid Holocene. Comparisons with ethnographic data provide some striking parallels and suggestions for continuity of these cultural practices into the recent past.

TRADING PLACES: ABORIGINAL SETTLEMENT PATTERNS AND THE ARCHAEOZOOLOGY OF SOUTH-WESTERN AUSTRALIAN LIMESTONE CAVES AND ROCK-SHELTERS

Joe Dortch

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How did the Pleistocene-Holocene climatic transition and the resulting changes in fauna affect Aboriginal groups in south-western Australia? In this region, a thin belt of coastal limestone contains rock shelters with rich faunal deposits, among them several archaeological sites. Holocene sites document Aboriginal occupation in coastal heath, scrub and woodland. Pleistocene deposits record hinterland occupation at times of low sea level when the coast was up to 40 km seawards of its present position and the surrounding vegetation was open-forest or woodland. Some of the species associated with occupational remains in these sites declined as rainfall increased and vegetation changed. As these probable prey species became locally extinct in the Holocene, hunters switched to other species of similar size that had become more abundant. Prey habitats, prey foraging behaviours, and historic records of ethnographic hunting suggest that the switch involved changes in hunting technique and site location. The likely persistence of certain subsistence patterns in relation to various ecosystems throughout all periods suggests that Aboriginal groups applied existing hunting techniques to new locations. The question remains as to whether changes in location of subsistence activities affected other aspects of past society, settlement and seasonality.

RECONSTRUCTING THE LOCAL CONTEXT OF MEGAFANAL DECLINE IN SEMI-ARID SOUTHEASTERN AUSTRALIA: THE INTERPLAY OF HUMANS AND THE ENVIRONMENT

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When humans arrived in Sahul, they presented a new variable in Australasian ecosystems, with a range of potential impacts on local flora and fauna. The ecological context of human arrival and dispersal in Sahul is still poorly understood. Pollen, loess and speleotherm records have been used to infer broad trends in continental and regional climate, but the detailed reconstruction of local climatic and environmental conditions at the time of human occupation is imperative for our understanding of the impacts of humans on their immediate environment and on the animals around them. Such detailed information can be obtained through biochemical analyses of fossil faunal remains recovered from archaeological sites.

This paper describes climatic and environmental information obtained from the biochemical analysis of two *Diprotodon optatum* incisors, recovered from the earliest archaeological levels at Cuddie Springs, NSW. It is possible to reconstruct a snapshot of site-specific, sub-annual patterns of rainfall seasonality, temperature and plant composition from the biochemical analysis of the *Diprotodon* teeth, using modern wombat teeth for comparison. This study examines consistencies and discrepancies between these climatic and environmental indices as recorded in the *Diprotodon* teeth, and the implications of this work in the context of human arrival and environmental impact.

AGE PROFILES IN ANIMAL REMAINS AND THEIR RELEVANCE FOR INFERRING PREHISTORIC HUMAN POPULATION DENSITY

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Age profiles of fossil mammal assemblages are used in various disciplines to infer either circumstances of death or agents of accumulation, post-depositional taphonomic influences, or some aspect of predator behaviour associated with selective culling. A recent study of wallaby remains from West Papua by Pasveer introduced a novel concept into the study of mortality patterns – the notion that age profiles can inform about prehistoric human population densities. In this presentation I propose to explore the theoretical underpinning of this notion, with particular reference to robust concepts derived from the field of wildlife management. More detailed examination of the principles allows for the identification of specific circumstances under which mortality patterns might be used to infer, firstly, the intensity of human exploitation of the prey species, and secondly, an associated relative human population density. The application of these principles will be demonstrated by comparison of the age profiles of wallabies from archaeological sites on the Bird's Head of West Papua and the Aru Islands.

VARIATION IN THE TAPHONOMIC EFFECTS OF SCAVENGERS: ITS IMPORTANCE AND CAUSES

Oliver Brown

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Scavengers are responsible for the removal or destruction of most animal remains to which they have access, and they are therefore capable of significantly altering faunal assemblages. Attempts have been made in the past to investigate likely amounts of removal based on experimental research.

However, whenever such experiments are carried out on a large scale with multiple replications, variations in the taphonomic effects of scavengers in relation to environmental factors become apparent. In this paper, I discuss the importance of understanding the causes of this variation and present results from experimental research on the north coast of New South Wales.

DINGOES: JUST ANOTHER TRANSLOCATION?

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Dingoes appear to be the only example of animal translocation to prehistoric Australia. But that event may have been just one example of the continuous process of wild and tame animal movement which had been going on in the Circum New Guinea Archipelago since the late Pleistocene. In this wider context, what can be surmised about this particular translocation? Is there evidence that dingoes derive from domestic dogs? What reasons might be involved in their transport to, and adaptation to, Australia? Is the comparatively late appearance of domestic dogs in the New Guinea archaeological record relevant? This paper may develop more questions than answers.

A PRIMARILY PEOPLE-FREE PARADIGM FOR MEGAFANAL EXTINCTION IN AUSTRALIA

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Human–megafauna interaction in Australia has become the centre of increasingly intense debate, with a majority of recent studies concluding that megafaunal extinctions were anthropogenically mediated. The primary focus has been on the establishment of terminal appearance dates, which advocates of human causation put at c. 50-45 ka. This approach has been underpinned by two principle assumptions: 1) that if megafauna disappeared before the advent of significant climate change, but after human colonization at 62-43 ka, then it can be inferred that extinctions were human mediated; 2) neither previous glacial cycles nor climate change during the Last Glacial Cycle produced significant faunal turnover and that the majority if not all Pleistocene megafauna were present when humans made first footfall. However, mounting evidence suggests that the last 400-300 ka in Australia

was characterized by stepwise, but escalating aridity and climatic variability, culminating in the most arid Interglacial on record. Many megafauna are not known to persist beyond the Penultimate Glacial Maximum (c. 130 ka), a time of undoubtedly significant climate change, while others are not known beyond the beginning of the Last Glacial Cycle (c. 80 ka). In light of this evidence we present a paradigm of staggered megafaunal extinction in which most extinct Pleistocene megafauna disappeared before human arrival. A possible role for humans remains, but only as a footnote to a broader trend already in effect for 10's of thousands of years.

SESSION

Intercolonial trade in the archaeological record – artefact typologies and research materials

Session Organizers:

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Jennifer Rodrigues Jennifer.Rodrigues@museum.wa.gov.au

The aim of this session is to enable a broader discussion on artefact research. Since the birth of the discipline, archaeologists have used artefact typologies to assist in the identification, dating and interpretation of sites. From stone artefacts, shell and bone tools to clay pipes, glass bottles and anchors, artefact typologies can be extremely useful for relative dating. This session aims to generate discussion on recent research on artefact types; classification systems for artefacts; the benefits of rigorous interpretation of artefacts on the comprehension of sites; and the usefulness of large collections in developing typological research materials. Papers on artefact research that have enlightened interpretation of specific sites are encouraged, as are papers on recent developments in artefact research from all areas of archaeology.

ABSENCE OF EVIDENCE: CREW ARTEFACTS FROM INTERNATIONAL TRADING VESSELS IN AUSTRALIAN WATERS

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With a different attachment to the material world from settlers and other passengers, in the context of their restricted physical and social space, sailors may have revealed changes in their practical and symbolic attachments to their surroundings through their material culture.

The study of the material culture of crews in association with historical documentation of shipping could provide insights into the spread of traditions and technologies. Artefacts representing the activities of sailors are not normally the object of historical, archaeological or anthropological research and are difficult to identify in collections. This paper identifies some reasons for the invisibility of the crews of 19th century shipping in Australian collections.

HISTORIC SHIPWRECK BOTTLES REFERENCE COLLECTION: STAGE 1 UPDATE

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In 2004 Heritage Victoria initiated a project to create a research catalogue of bottles recovered from historic shipwrecks off the coast of Victoria. Using data from twelve historic shipwrecks, the project aims to interpret what these artefacts can reveal about the changes in Melbourne life and society from the Gold Rush period through to the early years of Federation.

Shipwrecks artefacts can provide historical evidence of changes in consumerism in Colonial Australia. Typologies of these objects can create a valuable reference dataset for archaeologists and other researchers to aid in the identification and dating of artefacts on terrestrial sites around Australia. This paper will discuss the project and the types of information that can be acquired from the bottles in order to assist with future historical archaeological research.

Bottles from historic shipwrecks offer secure dates for the myriad types of glass and stoneware bottles and containers that were imported into Australia and found in terrestrial archaeological sites, and therefore constitute valuable reference information.

THE DATING PROBLEM. A METHOD OF ESTABLISHING FINE CHRONOLOGICAL DATING WITHIN LATE NINETEENTH CENTURY HISTORICAL SITES

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The culture formed by the historical colonisation of Australia is only 217 years old, that of Western Australia is even younger but vast changes have occurred in that short time, which present methodological problems for historical archaeologists working here. When a time period of ninety years was seen as archaeologically abrupt, (Lewis 1975:57) how can you study social changes or the effects of changing trade relations within processes like the Western Australian frontiers which historical records tell us matured and peaked within thirty years.

Archaeologically this is challenging, for the Northwest frontier centring on the port of Cossack chronological groupings of approximately ten years were required. To solve this problem a dating method based on a mean calculation has been devised. The method gave mean dates of 1881, 1888, 1903 and 1932 for the Cossack Knight & Shenton Store assemblage with *terminus ante quem*

and *terminus post quem* established date ranges of 1874 to 1880, 1884 to 1895, 1895 to 1910 and 1900 to 1980 respectively. The method has also been used on other Western Australian historical sites and appears to consistently give date ranges of approximately ten years duration providing chronological assemblages which are analytically useful when studying a period of rapid social and technological change.

TIN-COATED LEAD CAPSULES - CONSERVATION AND THEIR USEFULNESS IN IDENTIFYING THE ORIGIN AND CONTENTS OF 19TH CENTURY CONTAINERS

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The underwater environment is not conducive to the preservation of paper consequently glass or ceramic containers, found in submerged historic sites, are not expected to retain any applied labels. Fortunately many 19th Century containers were transfer printed, embossed, or incised with markings that may identify the origin and name of the container manufacturer, the type of contents and the contents producer. Equally, there are also many containers, particularly those made from glass, that are plain and unmarked. Cork closures survive reasonably often in the necks of bottles found underwater and sometimes they are additionally sealed with a metal capsule. Embossed examples of these capsules can offer an alternate source of information, frequently identifying manufacturer and the original contents. Just as some containers have the name of the pottery or glass manufacturer on them the trademark of the cap manufacturer is also sometimes found embossed in the metal.

This paper describes the discovery of an accumulation of bottle capsules, associated research, interpretation.

EARLY NON-PONTILLED BOTTLES FROM THE WRECK OF THE CUMBERLAND (1830), WESTERN AUSTRALIA

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The presence or absence of a pontil mark, indicating the use of either a glass-tipped pontil or a holding tool, usually called a *sabot*, has long been considered a useful criterion for dating 19th-century bottles. There are, however, conflicting views about the earliest use of the *sabot*. For most

practical purposes in dating, the consensus for some time has been that the *sabot* and other forms of holder such as the spring snap case for holding the base of wine bottles were generally introduced over the period c. 1840 to c. 1870, but that earlier use still remains unresolved.

In relation to the early use of the *sabot*, and the appearance of non-pontilled bottles from archaeological sites, some of the glass bottles from the wreck of the *Cumberland* are quite significant. Indeed, this new evidence would suggest that the first introduction of the *sabot*, to replace the pontil rod, probably coincided with the first use of finishing tools to mould the finish of hand-made bottles.

This paper provides a brief background to the wreck of the *Cumberland* in the context of the Swan River Colony, describes the collection of bottles recovered from the wreck site and discusses its significance in relation to the above dating issue.

TOOL PROVISIONING, DISTRIBUTION AND USE IN THE WHITSUNDAYS: ASSESSING RISK IN A SOCIAL LANDSCAPE

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The South Molle Island Quarry, on the central Queensland coast has been the focus of a recent, comprehensive technological analysis as part of a wider PhD project. During the course of this analysis, it was determined that large asymmetrical backed artefacts were being systematically produced, and indeed were the only tool 'type' produced on the quarry. Further analysis found that the raw material source was considerably depleted at the time use of the quarry ceased, at contact. These factors, in combination with an analysis of the spatial distribution of stone from the quarry, suggest that backed artefacts were being moved around the Holocene landscape and incorporated into the marine economy, as a mechanism for raw material conservation in a social, economic and environmental context that could be described in terms of heightened risk.

SESSION

Africa's past: trade, exchange and other recent studies

Session Organizer:

Nicola Stern N.Stern@latrobe.edu.au

Africa preserves the longest and most complete record of human history: not only was it the birthplace of humanity but all the critical transformations that have shaped the modern world took place there, including the advent of food production, metallurgy and the emergence of complex societies. These transformations are characterised by trajectories that differ in many ways from those recorded in better-studied areas (and which are the source of most established theoretical perspectives). Consequently, the African record offers a unique perspective on the role that trade and exchange has played in the origin and evolution of human societies.

EARLY HOMININ ACTIVITY TRACES AT FxJj43, A ONE AND A HALF MILLION-YEAR-OLD SITE IN THE KOOBI FORA FORMATION IN NORTHERN KENYA

Nicola Stern

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FxJj43 is one of a series of Early Stone Age sites preserved in the Okote Member of the Koobi Fora Formation in northern Kenya. It is the focus of a research project designed to investigate the impact of time-averaging on the composition and characteristics of Early Stone Age archaeological assemblages. FxJj43 lends itself particularly well to this exercise because an unusual set of depositional circumstances have preserved a laterally extensive set of interlocking landforms. Chipped stone tools and broken up animal bones occur in clusters of varying size and density all the way along the half-kilometre long, 200-metre wide, strip of outcrops. Small-scale excavations have sampled a variety of archaeological occurrences in different palaeotopographic settings. The assemblages recovered from these represent different amounts of overprinting and underscore the long term potential of this locality for investigating the relationships that exist between debris-generating activities and the agglomerations of debris that build up over geological time.

MEAT-EATING AND *HOMO ERGASTER*: NEW INFORMATION FROM FxJ43, A 1.5 MILLION YEAR OLD SITE IN NORTHERN KENYA

David Wines
Archaeology, La Trobe University

The dramatic appearance of *Homo ergaster* on the east Africa landscape 1.9 Ma marked a pivotal point in our evolutionary history. Compared to its predecessors and its contemporaries it exhibits a larger cranial capacity, a post-cranial skeleton that was almost human and that was adapted to bipedal running. It was the first of our ancestors to move out of Africa, sometime between 1.5 and 1.0 m.y.a. The systematic incorporation of meat into the diet of *Homo ergaster* has long been viewed as a critical behaviour that fuelled its large brain and facilitated colonisation of temperate Eurasia. Although researchers concur that early hominins consumed meat and marrow resources there is considerable debate about how those resources were obtained and about their importance in the overall diet. Analysis of the faunal assemblage from FxJ43 provides a springboard for discussing the meat-eating habits of *Homo ergaster*.

PALAEOANTHROPOLOGICAL FIELD RESEARCH IN THE NORTHERN CAPE PROVINCE, SOUTH AFRICA

Darren Curnoe and Andy Herries
Department of Anatomy, University of New South Wales

In 2004, research commenced at two new major archaeological and palaeontological localities within the escarpment of the Ghaap Plateau, South Africa. The World Heritage hominin site Taung is also found within this escarpment around 100 km northeast of our study area. We are excavating extensive breccia deposits, fossil bearing tufas and soft sediments within rock shelters. Palaeontological analyses indicate the presence of the Florisian fauna within brecciated deposits: faunal group dated ~400-10 ka in South Africa. All deposits sampled have normal magnetic polarities suggesting them to be <780 ka. Lithics sample Middle Stone Age and Later Stone Age with possible Early Stone Age present at one locality. Rock shelters also contain Holocene/recent archaeological materials (Herder or Iron Age) in addition to extensive rock paintings. Our research is important because these sites sample the time when modern humans are argued to have emerged. They also provide important new evidence about behaviour, ecology and environment in a poorly known part of Africa.

EXCHANGE NETWORKS, SOCIO-POLITICAL HIERARCHIES AND THE ARCHAEOLOGICAL EVIDENCE FOR DIFFERENTIAL WEALTH AMONGST PASTORALISTS IN SOUTH-WESTERN KENYA

Allison Simons
Consultant, Melbourne

This paper discusses archaeological evidence for differential wealth amongst Elmenteitan pastoralists (2,500-1,300 BP) in south-western Kenya. In an attempt to explain variation in the size and structure of Elmenteitan sites, Robert Shaw developed a model of Elmenteitan economy and socio-political structure that postulated the development of a socio-political elite who were wealthier and occupied larger sites than other Elmenteitan pastoralists in the same region. They accumulated were able to do so by controlling the obsidian exchange and re-distribution networks and by using their economic and political power to accumulate more livestock. This paper outlines a series of potentially testable markers developed from this hypothesis, and discusses the archaeological expectations arising from them. This includes a consideration of the features of the faunal assemblages from two Elmenteitan sites located in the Lemek-Mara area that might yield information about the inferred presence of a socio-political hierarchy.

THE ROLE OF TRADE IN THE EMERGENCE OF COMPLEXITY IN SOUTHERN GHANA: A VIEW FROM THE EGUAFO KINGDOM

Sam Spiers
Archaeology, La Trobe University

Prior to European contact, groups along the coast of modern Ghana lived in relatively small, sedentary communities, some with artificial or natural defensive capabilities. With the arrival of the Portuguese and other European traders on the coast from the late fifteenth century onwards, we begin to see a dramatic change in settlement pattern and the emergence of discrete polities in the coastal hinterland. Such a transformation in settlement size and population coincides with a shift in the focus of trade away from the northern routes toward the coast, first in gold and later in slaves during the trans-Atlantic trade. This paper reports on recent work undertaken by the Central Region Project in the capital of one of these coastal polities, historically known as the Eguafo Kingdom. I investigate the relationship between long-distance trade, and the changing nature of that trade from gold to the enslaved, and the emergence of more complex political forms in southern Ghana.

SESSION

The ethical boundaries of commercialisation of heritage

Session Organizers:

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Ross Anderson Ross.Anderson@museum.wa.gov.au

This session seeks to explore the sometimes fuzzy boundary between commercial exploitation of archaeological sites and supposedly legitimate sales of artefacts sanctioned by governments and institutions. This is a more subtle issue than the debate between archaeology and treasure hunting, as "surplus" artefacts are frequently sold in museum gift shops, by approved vendors, and by governments themselves.

This is an issue in both terrestrial archaeology and underwater archaeology. The recent controversy over the Binh Thuan porcelain raises the issue again in the u/w context. For example, in Israel, the government authorises the sale of ancient artefacts that are considered redundant specimens. Is this "Commercial exploitation?" Does the sale of wood chips from the original keel of the clipper Cutty Sark to support the ship's restoration cross the line between ethical and unethical activity? The question becomes what sort of artefact sale rises to the level of "exploitation"? What are the ethical constraints on the sale of deaccessioned artefacts from a museum collection?

Many codes of ethics - ICMM, CAMM, ICOM, etc. - address the issue in various ways. How can we as archaeologists develop a meaningful distinction between appropriate and inappropriate sales of artefacts? Or, perhaps there is no circumstance in which it is ethical to sell artefacts. Hopefully, this session will provide a forum for many points of view and out of the discussion we can begin to articulate some meaningful guidelines. Hopefully, we might yet have a ready answer to the inevitable question "What's the harm?" in selling artefacts.

FOREIGN HERITAGE SHOPPING: SOME ETHICAL ISSUES RECONSIDERED

Jennifer Harris

Curtin University of Technology

In 1989 and 1995 I purchased ancient oil lamps from an antiquities dealer in Jaffa, Israel. My understanding was that the sale was approved by the national museum in Jerusalem, the Israel Museum, which licensed certain antiquities dealers to sell artefacts deemed superfluous to museum collections. Visiting the Israel Museum I saw a huge collection of simple and ornate lamps. There were several examples on exhibition that were similar, but not identical, to my lamps.

In the intervening years the possession of the lamps has given much pleasure and been shared with many appreciative friends. However, there is some disquiet in owning objects which in the eyes of many archaeologists and museologists should not be owned privately and further should never have been available for sale.

This presentation raises many of the issues associated with heritage and commerce and is offered as a local example of participation in the commercialisation of cultural heritage in a foreign country.

LINES IN THE SAND: SHIPWRECK ARTEFACTS IN THE PUBLIC DOMAIN - THE INVOLVEMENT OF EDUCATIONAL INSTITUTIONS IN EXPLOITING CULTURAL HERITAGE

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In 2004 Christies Auction House in Melbourne was host to the largest sale of Vietnamese shipwreck ceramics in the recent past in Australia. The sale generated much interest in the public domain, with apparent support by reputable radio and print media. In addition, and perhaps more alarmingly, one of Australia's most renowned collecting institutions, the National Gallery of Victoria, hosted a seminar on the shipwreck material in conjunction with Monash University's Asian Institute.

AIMA seized the opportunity to voice concerns over the exploitation of cultural heritage sites in the waters of our near-neighbours, targeting the institutions involved and highlighting the unethical nature of their involvement. In August 2005, a similar situation arose in Sydney when the Art Gallery of New South Wales hosted a seminar on collecting objects by The Asian Arts Society of Australia, with an international guest speaker discussing his hobby of collecting shipwreck ceramics.

These two incidents will be discussed in light of AIMA's Code of Ethics, the International Council of Museum's (ICOM) Code of Ethics, and the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage.

HERITAGE FOR SALE: ETHICS AND LAW ON THE SALE OF SHIPWRECK RELICS IN THE US

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US law addressing historic shipwrecks is a patchwork of state and federal statutes, regulations and judicial doctrines. Whether or not it is legal to commercially exploit artefacts recovered from a shipwreck depends on where the shipwreck was found, and in some cases on whether or not an owner or successor comes forward to deny that the wreck is abandoned. The US has yet to adopt comprehensive protection of shipwrecks as heritage sites on the order of Australia's Historic Shipwrecks Act 1976.

This paper briefly examines the legal constraints – such as they are – on the sale of shipwreck relics in the US, and then examines in depth the “treasure-salvage” industry that operates legally within those constraint: the salvors and their values and expectations; the media images and mythology; the judicial thinking that underlies salvage law, and the code of ethics adopted by the industry itself. In so doing, I will consider some important questions – When does an object lose its personal property status and become an artefact? What does it mean to “own” an archaeological relic, and why do we want to? What makes a particular activity ethical or unethical?

TRADING SHIPWRECK ARTEFACTS UNDER THE HSA: IS THIS COMMERCIAL EXPLOITATION?

Bill Jeffrey

This presentation will look into whether the Australian government is sanctioning commercial exploitation of shipwreck artefacts.

The Australian Department of Environment and Heritage advertises that "Under the Historic Shipwrecks Act 1976, it is illegal to disturb or remove items from historic shipwrecks without a permit. However, the law does provide ways in which dealers and collectors can legally purchase or sell coins and other relics or artefacts." Is this commercial exploitation under the UNESCO Convention on the Protection of Underwater Cultural Heritage, 2001? Is the Australian Historic Shipwrecks Act 1976 and some similar Acts at State level in conflict with this Convention?

"PURITY, PUNISHMENT AND POMPOSITTY. A CONSERVATORS RESPONSE TO ETHICAL ISSUES WITH DISPOSAL OF MARITIME ARCHAEOLOGICAL MATERIALS"

Ian D. MacLeod

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Over the past quarter century of working in the area of shipwreck conservation a wide range of professional practice has been observed in museum contexts. Modern museums are faced with operational challenges of attempting to discharge their responsibilities to the public to inform and encourage engagement with collections and the underlying messages that objects from shipwrecks are able to communicate from past centuries. The managers of museums have to balance out the good of continued employment of professional staff with commercial opportunities that involve sound marketing and merchandising procedures. This paper will discuss attitudes that range from wilful destruction of materials to prevent a cataloguing nightmare to decisions to allow tonnes of encrustations, that once surrounded objects, to be sent to the dump rather than be aesthetically mounted and marketed for sale, because of apparent ethical dilemmas. The paper will also present a conservator's response to the ethical issues associated with decisions to treat or not treat maritime archaeological materials recovered by operators who are not servants of the crown."

SESSION

The Archaeology of Frontier Conflict

Session Organizers:

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The past decade has generated considerable discourse regarding the nature and extent of frontier violence in colonial Australia. This debate has primarily been conducted by historians, anthropologists and Indigenous people (with the popular media sometimes weighing in), and to date archaeologists have been largely silent on the issue. However, the techniques and methodologies that define the discipline of archaeology have the potential to make a significant contribution to the debates about historic sites of conflict between Indigenous Australians and colonists. Not surprisingly, this is a contentious and sensitive area of research. The aim of this session is to allow archaeologists, Indigenous Australians and others interested in this subject an opportunity to share their experiences and knowledge. Issues to be addressed will include ethics, working with Traditional Owners and appropriate field and laboratory methodologies, through the presentation of various case studies from around Australia.

GENERAL INTRODUCTION TO SESSION

Pam Smith and Lynley Wallis

INTRODUCTION

Joe Edgar

Karrijarri representative, Broome

FRONTIER CONFLICT: CONISTON STATION AND MYALL CREEK - AN INDIGENOUS OVERVIEW

Stephen Free¹ and Ken Markwell²

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The level of brutality the Indigenous peoples of Australia endured through the 18th, 19th and well into the 20th century is difficult for non-Indigenous Australians to imagine, to the point that some in Government still refuse to

utter the word sorry. The first part of this presentation centres on a historical overview of frontier conflict during Australia's brief history from first contact to the present day, supported by State examples of incidents that affected both sides. The second part will discuss examples of frontier conflict, for example the Coniston massacre of 1928 in the Northern Territory and the Myall Creek massacre of 1838 in New South Wales, a site currently being assessed for possible inclusion on the National Heritage List (NHL). Hopefully, as part of this session, this will provide a guide for AAA participants in considering just what are the ethical and discipline related issues involved with researching historical conflict sites and how will Australian archaeology make a significant contribution? Can the Aboriginal Tent Embassy be considered as a current example of the continued frontier conflict being continued by the Indigenous people of Australia today, in 2005?

MASSACRE AND FRONTIER CONFLICT ON THE CENTRAL QUEENSLAND COAST. THE ARCHAEOLOGICAL RECORD AND IMPLICATIONS FOR THE WIDER DEBATE IN THE SO CALLED 'CULTURE WARS'

Bryce Barker
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Recent revisionist accounts of European/Aboriginal frontier interaction in Australian history have sought to downplay the degree and extent of conflict on the frontier. This debate is part of a wider socio-political agenda at the national level in which a largely conservative ideology has challenged what is seen as a left/liberal interpretation of Australian history, characterized by conservatives as the Black Arm Band version of European settlement. These debates have taken place almost exclusively within the domains of European historical discourses as part of the so called wider 'cultural wars'. On the central Queensland coast the historical primary source material relating to European/Aboriginal frontier conflict is very strong. Similarly indigenous oral traditions relating to massacres are a recurrent narrative of contemporary indigenous reconstruction's of their historical past a component of the debate that has been to date almost wholly ignored. The missing piece in this overwhelming body of evidence both historical and oral is the archaeological evidence for these events. This paper then, examines the role of archaeology in the debate both in terms of highlighting some of the processes and inherent difficulties in providing direct evidence relating to frontier violence, as well as some of the broader issues relating to archaeological praxis as science and how it engages with wider socio-political discourses within Australian society.

FORENSIC ARCHAEOLOGY ON THE KIMBERLEY FRONTIER

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Historical research into episodes of frontier violence in the Kimberley region of Western Australia indicates that Aboriginal victims of massacres were frequently cremated following the event as a means of concealing the atrocities. The identification of such massacre sites would involve being able to distinguish them from, for example, the results of an epidemic. In order to identify the 'signatures' of a European presence at such sites and test the assumption that a burning event involving the disposal of humans had occurred, forensic archaeological methodologies with potential to identify, analyse and interpret such evidence have been tested at one site. The aim of this paper is to present the outcomes of this study and, in particular, the evidence for site formation processes.

INVESTIGATING THE WOOLGAR ABORIGINAL MASSACRE, NORTHWEST QUEENSLAND: A PRELIMINARY REPORT

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During 1881 Sub-Inspector Henry Kaye of the Native Mounted Police (NMP) was fatally speared on the Woolgar Goldfield in northwest Queensland. What happened next is not clear as there was never any detailed reporting of the events that occurred in the days following Kaye's death. Stories about retaliatory massacres by the NMP are held by both contemporary Wanamara people and members of the non-Indigenous pastoralist community; such a version of events is tentatively supported by the official inquest file into Kaye's death which notes that a number of "collisions" with Aborigines occurred in the subsequent days. The location of one of the alleged massacre sites (known as 'Skull Camp') is common knowledge amongst locals, with Aboriginal skeletal remains having been uncovered (and reburied) in the area during fencing in 1952. Recently, the authors embarked upon a community initiated project that aims to draw together the various lines of evidence in the attempt to reconstruct what happened at Woolgar in 1881. In this paper we outline background information about the Woolgar massacre, and report the initial findings from a preliminary archaeological investigation of the Skull Camp site conducted earlier this year.

APPLICATIONS OF MULTI-TECHNIQUE GEOPHYSICAL SURVEY TO SITES OF FRONTIER CONFLICT

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Sites of frontier conflict potentially provide ample scope for archaeological investigation; however, one of the difficulties in such a study is the attempt to identify a specific location at which archaeological evidence might be preserved. This complication is exacerbated by the deliberately vague or clouded references to these events in the post-contact European historical record, and the inherently non-specific spatial nature of oral histories. While conventional single technique geophysical survey methods may superficially provide a solution to this problem, their use will often yield an unsatisfactory result as they are prohibitively expensive and time consuming to perform in sufficient detail when applied to a poorly constrained study area. In this paper we suggest a bi-partite survey methodology would be more effective and outline case studies in which such a methodology has been applied with varying degrees of success. In the first instance the bi-partite survey involves reconnaissance using magnetometry and electromagnetic induction to more selectively define potential human and material culture remains. These instruments can provide evidence of areas of sub-surface soil disturbance, accumulations of skeletal remains and material culture. Following the location of targets in this fashion, high-resolution ground penetrating radar surveys can then be employed to define the nature and depth of the anomalies within these targeted zones. All data is displayed in a GIS platform allowing for integration with other available data sets (aerial photography, digital elevation models, geological or geomorphological observations) and continuing usefulness should investigations extend to multiple field seasons.

THE CONVINCING GROUND: A FRONTIER CONFLICT TODAY

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The early European explorers and settlers of Australia encountered maritime and terrestrial frontiers. The lack of detailed historical records from this period means that many early contact events occurred in broadly defined areas that do not fit neatly into the modern cadastral planning framework. The Convincing Ground site near Portland, Victoria is so named for being the

site of an early Aboriginal massacre by whalers. It is also Victoria's earliest and most intact whaling station and shipbuilding site with significant shared Indigenous, European and archaeological heritage values. Modern conflict over the site boundary continues to this day, a direct result of the frontier conflict.

Recent unauthorised development work at the site resulted in a Federal Police investigation into possible breaches of the ATSI Heritage Protection Act. This case has highlighted the need to incorporate this frontier site and its significant shared heritage values firmly within the local, state and national planning and heritage framework. There are lessons to be learned from this case study to ensure the shared heritage values of all such sites are recognised and protected, and can perhaps in time be a model for reconciliation.

CONCLUDING REMARKS

Pam Smith and Lynley Wallis

SESSION

"Worse things happen at sea": Papers in Honour of Dr Bruce Veitch

Session Organizers:

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Dr Bruce Veitch passed away in Perth on 10 March 2005 after a short battle with motor neurone disease. Bruce made a major impact on the practice and ethics of archaeological work in Western Australia. From his pioneering studies on the Mitchell Plateau, to his collaborative cultural heritage work in the Pilbara and elsewhere, he was known for his energy, persistence and honesty. He mobilised and published consultancy work, collaborated closely with traditional owners and worked strategically with major industry players as well as colleagues in the broader archaeological profession. Bruce was also committed to mentoring graduates and was endlessly supportive and generous with his time, skills and knowledge. This session celebrates Bruce's contribution to our profession through papers related to some of his work and interests.

STORIES, ANECDOTES AND BRUCE

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MANAGING MEANING AT ANCIENT SITES IN THE 21ST CENTURY: THE GUMMINGURRU ABORIGINAL STONE ARRANGEMENT SITE ON THE DARLING DOWNS, SOUTHERN QUEENSLAND

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Aboriginal stone arrangements occur throughout Australia and are generally known to be of ritual importance to Aboriginal peoples. Despite their ubiquity and importance, there has been little archaeological research undertaken into these enigmatic sites. One exception to this is the work of Bruce Veitch and his colleagues on the Gurdadagui stone arrangements of the Newman area in

Western Australia (Veitch *et al.* nd). Veitch *et al.* developed techniques to date the contexts for individual stones in the arrangements and found that placement and relocation of the stones that form the arrangements occurred over a 3000 year period, demonstrating regular and ongoing maintenance of the site over this time. Veitch *et al.* argue that this site is part of the 'dynamic context' within which peoples lived in the late Holocene, where constant renegotiation of social alliances required an increasing reliance on ceremonial places with ritual importance.

On the other side of the Australian continent, similar interpretations have been put forward for the Gummingurru Aboriginal stone arrangement site complex on the Darling Downs of southern Queensland. Covering some 5ha, the Gummingurru stone arrangements make up a highly significant men's initiation site on one of the main routes between the coast and the Bunya mountains (Gilbert 1992; Thompson 2004; Gummingurru traditional custodians, pers. comm. 2004). In the late 19th century the site was still being used for ceremony and male initiation, but by the early 20th century most of the traditional custodians of the site had been removed to Cherbourg and other Aboriginal settlements throughout Queensland.

In the last five years, traditional custodians have returned to the site and have given the site and its cultural landscape a new meaning. Now with a focus on teaching and education, the Gummingurru site is occupying a different place in Aboriginal society. In this paper we discuss the evolution of meaning and understanding of the Gummingurru site and its increasing significance as a place for reconciliation in the 21st century.

YIRRA: EVIDENCE FOR OCCUPATION OF THE HAMERSLEY PLATEAU DURING THE LAST GLACIAL MAXIMUM

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Considerable research has focussed on the timing and nature of human occupation of arid zones in Australia. Aside from determining when occupation in the area began, much of the discussion has focussed on the effect of environmental changes on human habitation in the area, especially around the time of the last glacial maximum (LGM). A number of researchers have suggested that the restriction of water sources during the LGM would have confined occupation to the more well-watered upland refugia, such as the Hamersley Plateau. Research in Hamersley Plateau, however, has not as yet provided conclusive evidence for occupation during the LGM. A number of sites have been dated to the Pleistocene and some researchers have claimed that sites such as Millys Cave, Newman Rock-shelter and Newman Orebody XXIX show evidence of occupation during the LGM. On closer inspection, however, such claims are either not supported by the data or are problematic.

This paper discusses the results of test excavations conducted by Bruce Veitch and Fiona Hook at the Yirra rock-shelter in the Channar Range, near Paraburdoo for Pilbara Iron. These test excavations have revealed a series of dates spanning the period between the glacial maximum at 18,000 BP and climatic amelioration at 12,000 BP. The results of this excavation show a clear continuation of cultural material from the LGM to the beginning of the Holocene and currently offers the best evidence to date in support of the theory of continuous occupation of Hamersley Plateau refuge during the Late Pleistocene.

THE AUSTRALIAN ARCHAEOLOGIST: A PROFILE

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How many archaeologists work in Australia? Where do they work? What qualifications do they have? What skills do professionals have and value? Based on data from 301 respondents to a national survey, for the first time we have the data to answer some of these questions and begin the process of articulating these findings to improving archaeology teaching and learning outcomes in Australia. A key recommendation of the 2003 Redfern Archaeology Teaching (RAT) Charter, sponsored by the Joint Interim Standing Committee on Archaeology Teaching and Learning (JISCATL), was to better characterise the status of the archaeology sector in Australia through a “commitment to gathering reliable data for benchmarking of a variety of archaeology activities.” This paper provides a snapshot of the who, what and where of archaeologists in Australia and points to challenges to establish effective mechanisms for giving all archaeological sectors and stakeholders a voice in the teaching and learning process. Archaeology teaching and learning issues were never far from Bruce’s mind and many benefited from his mentoring and enthusiasm in supporting students and early career archaeologists.

ARCHAEOLOGY, CLAIMANT CONNECTION TO SITES AND NATIVE TITLE: EMPLOYMENT OF SUCCESSFUL CATEGORIES OF DATA WITH SPECIFIC COMMENTS ON GLASS ARTEFACTS

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This paper argues that Indigenous utilisation and manipulation of post-contact materials should be given more attention in both routine and native title-oriented archaeology. Using data from a recently published paper, we discuss a range of categories of post-contact occupation materials including art, habitation sites and implements based on introduced materials. We draw particular attention to glass artefacts in that they have the advantage of being near-ubiquitous in the landscape. As Sue and I (and others before including Bruce in his successful expert witness reports for the Kimberley) have argued, if judiciously treated they can be highly informative about the timing and nature of settlement and subsistence patterns after contact (revealing both continuities and transformations). They may also reflect on group identity and processes of aggregation during the imposition of pastoral, mining and other regimes on traditional lands. Of the many Federal Court Archaeology Expert Witness reports prepared from the Australian arid zone in all cases glass artefacts were recorded. Equally in all cases claimants had some connections and knowledge of sites where such post-contact artefacts were noted.

TOWARDS A LATE HOLOCENE ARCHAEOLOGY OF THE INLAND PILBARA

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The inland Pilbara of Western Australia is a distinctive regional arid landmass dominated by the Hamersley and Chichester Ranges and drained by the Fortescue and Ashburton rivers. Some 10,000 archaeological sites – the great majority of which are surface scatters of stone artefacts - have been recorded in this region, largely as a result of heritage surveys undertaken in response to mining and other developments. Bruce Veitch's work in this context has played a significant role in developing our understanding of the archaeology of the inland Pilbara. However, while there are a number of published works focusing on rockshelter sites, very little analysis of surface artefactual material is published.

This paper focuses on a series of artefact scatters salvaged from the Hamersley Ranges and Chichester Plateau. An attempt is made to characterise surface artefact scatters in this region to expand our understanding of patterns of late Holocene Aboriginal occupation of the inland Pilbara.

ALL ABOARD? INCLUSIVE HERITAGE AND THE POLITICS OF RECOGNITION

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If anything characterised Bruce Veitch it was his generosity of spirit, evidenced as much in his relations with his Aboriginal collaborators as it was in his dealings with other archaeologists. Australian archaeologists are not generally known for their collegiality, at least when it comes to refereeing publications and grant applications, but Bruce's sort of generosity certainly pervades their approach to Indigenous archaeology. This inclusiveness places them at the international forefront in working with disenfranchised minorities in general, even though, by and large, they have focused almost exclusively on indigenous peoples. In the context of the so-called war on terror, it is timely to ask whether our expertise in such matters can be directed towards ameliorating the situation of alienated Australian Muslims in the same way that archaeology has undoubtedly helped improve relations between Indigenous and non-Indigenous Australians. It is a complex matter, but a significant part of the emergent problem for Muslims in non-Muslim nations seems to be one of sociopolitical recognition, in much the same way that it is for colonized indigenous minorities in settler nations. Accepting that it is the right thing to do, archaeologists can presumably best contribute by recognizing the place of Muslims in a country's history in a way that gives them an authentic stake in the national imaginary. This paper sketches the history of the Muslim presence in Australia and explores some of the issues entailed in making it more widely known in the current political climate. In keeping with the theme of the conference, it will focus largely on the 'Afghan' camelmen who helped open up the nation's remote interior and then maintained long-distance trade networks connecting many of the continent's most isolated settlements. The "all aboard" in the title refers to the legendary outback train, the Ghan, named for these cameleers.

SESSION

In-situ preservation and/or stabilisation of cultural heritage sites

Session Organizer:

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Within the last decade or so, in-situ preservation of archaeological sites has become an increasingly common and favoured practice. The aim of this session is to broaden discussions on the in-situ preservation/stabilisation and management of terrestrial and underwater cultural heritage sites and their associated archaeological finds. Papers discussing the ideology of on-site preservation, legislative requirements and present directions of in-situ preservation, assessment of site deterioration, principles for development and implementation of mitigation strategies, long-term success albeit failure of past stabilisation techniques, in-situ monitoring of sites to determine the effectiveness of in-situ management strategies, etc are encouraged.

NATURE'S AIRTIGHT CONTAINERS IN BRONZE AGE DENMARK: IRON PANS AND PRESERVATION

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The Skelhøj and Tobøl I Bronze Age barrow mound excavations by the National Museum of Denmark provide a unique opportunity to investigate large well-preserved turf mounds and their underlying buried soils. Skelhøj and Tobøl I are part of my PhD research, gauging preservation of organic material in archaeological sites. In order to understand how these barrows were constructed and maintained, samples were collected to assess organic preservation in relation to iron oxide deposition, and to better understand their redox environments. The sampling methodology is based on soil micromorphology and small bulk samples for geophysical and geochemical analyses. To provide a regional comparison for the Skelhøj and Tobøl I barrow mounds samples were collected from the experimental barrow mounds in Lejre, Denmark.

The reconstructed barrow mounds at the Lejre Historisk-Arkæologisk Forsøgscenter is an ongoing research project established to provide a better understanding of the well preserved Early Bronze Age barrows scattered throughout Denmark. Two barrows were constructed in 2001 and excavated in May 2004. The Lejre barrows were built using two different construction techniques, which follow techniques identified in archaeological barrows throughout Denmark. The first barrow was constructed with a wet core and mantle turves positioned radially to the core. The second barrow, a dry core with mantle turves positioned in a global (or rainbow) pattern around the core.

ABORIGINAL HERITAGE MANAGEMENT AT THE NWSV WOODSIDE GAS PLANT ON THE BURRUP PENINSULA

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In the early 1980s, the North West Shelf Venture established the Woodside Gas plant at a site provided by the Western Australian government north of King Bay on the Burrup Peninsula, on the Pilbara coast of Western Australia. Previous reconnaissance had indicated a high density of Indigenous heritage sites on this rocky peninsula, particularly petroglyph (rock engraving) sites, and the heritage site survey, recording, and salvage program undertaken by the Department of Aboriginal sites of the Western Australian Museum was the largest project of its kind ever undertaken in Australia. Some archaeological sites were destroyed to make way for gas plant and associated port facilities, mitigated by intensive site recording, test excavations, and salvage and storage of petroglyph boulders for later relocation. Other heritage sites were preserved in situ. Nearly a quarter of a century later, a heritage audit has been conducted for the Woodside plant by Australian Cultural Heritage Management (ACHM) to assess the status and long-term conservation needs of those sites preserved in-situ, and plans are being developed for heritage and environmental presentation of selected sites for education and tourism purposes. Recent construction for expansion of the Woodside plant has required the development of some innovative site protection methods. The State Government also has been negotiating with local Aboriginal groups regarding the relocation and long-term preservation of rock art that has been previously salvaged. These experiences have provided an ongoing series of challenges for heritage management of a highly significant and dense population of heritage sites in the midst of a major industrial area, of which the Woodside plant is only one part.

THE *IN-SITU* MONITORING AND STABILISATION OF THE *JAMES MATTHEWS* SHIPWRECK SITE

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Reburial of underwater archaeological sites is becoming increasingly common practice. Reburial may be an appropriate means of stabilizing and decreasing the deterioration rate of a site, however, there needs to be a holistic approach

to the study of the environment, before and after reburial to gain a full understanding of the changes that are occurring on the site and determine the effectiveness of the technique.

In the last few years, the James Matthews, wrecked in 1841 on Woodman Point, south of Fremantle, Western Australia has been identified as being under considerable threat from increased site exposure due to natural near-shore sedimentary processes and industrial activity in the immediate area. In 2000, an extensive on-site conservation survey was carried out to establish the state of preservation of the wreck. The survey included geological, chemical and biological analysis of the sediment. In 2003 it was confirmed that further exposure of the site was occurring at an alarming rate and devising an in-situ management plan was of paramount importance. A number of different reburial techniques are currently being trialled on the site and the results of these experiments will assist in implementing the most appropriate mitigation strategy for the long-term preservation of this wreck site.

SESSION

General regional session on PNG/Island Melanesia

Session Organizer:

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This session casts a broad net to include new research being undertaken in mainland PNG and Island Melanesia. Through the presentation of new data and the reevaluation of old, this session will revisit many of the thorny debates of the prehistory of this region, including the 'real' date for the arrival of pigs and pottery in PNG; plant use, forest clearance and the development of agriculture in PNG; environmental change, cultural response and cultural persistence: different views at different scales, islands, maritime technology and modeling trade and exchange.

LATE PLEISTOCENE TO HOLOCENE FAUNAL SUCCESSION IN NORTH COASTAL NEW GUINEA: EVIDENCE FOR ENVIRONMENTAL CHANGE AND LOCAL EXTINCTIONS

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Faunal remains are available from three cave sites in the near coastal, northern foothills of the Oenake Range, north coastal New Guinea. Together these provide a detailed record of faunal succession spanning the period from the Last Glacial Maximum to the present. The faunas document the depression under 'glacial' conditions of a 'montane' animal community to near present sea level, and its replacement by a typical lowland fauna in the early Holocene; a similar replacement is reported from the Bird's Head Peninsula of far west New Guinea, suggesting that this was a widespread rather a local phenomenon. The Oenake Range sites include several mammal species that are not recorded as living animals from the north coastal ranges. These presumably became locally extinct during the Holocene, perhaps as a result of human activities; consideration of these events leads to some thoughts on the timing and causes of regional to global mammal extinctions in New Guinea.

REVISITING THE EARLY PIGS AND POTTERY DEBATE: RESULTS OF RECENT WORK AT LACHITU, TAORA AND WATHINGLO ROCKSHELTERS, NORTH COAST PNG.

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The origin and development of pottery technology and the timing of the introduction of pigs in New Guinea remains uncertain. In particular, arguments persist over claims for indigenous development of pottery and the introduction of pigs before the putative Austronesian expansion from Southeast Asia into the Pacific at 3,300 BP. A corpus of archaeological evidence supports the introduction of pig into New Guinea and the Bismarcks between 8,000 and 6,000 BP (eg. Allen 2000, Gorecki 1991, Swadling et al. 1991) and the indigenous development of pottery production by 6,000 BP in northern New Guinea (eg Swadling et al. 1989; Gorecki 1991).

However problems of small sample sizes and uncertain chronostratigraphic reliability plague these claims and the issue continues to be hotly debated. Spriggs (1998) has argued that the early dates for pigs and pottery in northern New Guinea result from stratigraphic disturbance and direct dating has so far proved unhelpful in resolving this issue (Allen 2000: 159). Spriggs (1996; see also Kirch 2000). believes that pottery, pigs and other domestic animals arrived in New Guinea subsequent to their Austronesian dispersal 'out of Asia' after ca 3,300 BP, which also introduced or altered plant production.

Recent analysis of assemblages from excavated shelter sites on the north coast of New Guinea, including Lachitu and Taora, two of the key sites on which the claims for early pig and pottery were based, has gone some way to clarifying this issue.

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SHORT-LIVED COASTAL MICRO-ENVIRONMENTS ON UPLIFTING SHORELINES: IMPLICATIONS FOR ON-SITE CHRONO- AND BIOSTRATIGRAPHIC INTERPRETATIONS FROM CAVES AND ROCKSHELTERS

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Optimum sites for recovering high-resolution proxy data on climate change rarely coincide with sites occupied continuously by humans. Occupied caves and rockshelters represent depositional systems where lithostratigraphic development is in large part conditioned by local sedimentary systems and geomorphic tempos, cave morphology and inherited micro-architectures. However, the biostratigraphic and artefactual evidence deposited by humans in these micro-depositional contexts reflects conditions from a broader spatial area, but one which is often difficult to specify.

The Lachitu and Taora sites are located close to a variety of “off-site” alluvial, estuarine and reefal lithostratigraphic sequences, some of which offer scope for high-resolution palaeoenvironmental reconstruction. Two sites in alluvial tracts appear to represent short-lived habitats and microenvironments which represent temporally constrained habitat “spikes” in the local paleoenvironmental record. Data are presented which indicate quite specific questions regarding off-site activity can be addressed when ‘short-lived’ habitats have preserved in the local lithostratigraphic record in this way. At a broader theoretical level, sites on tectonically active shorelines may offer excellent potential for testing archaeological concepts of time-synchronous human-microhabitat interaction.

INTERACTION OR INSULARITY IN NEW GUINEAN PLANT USE PRACTICES?

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Archaeology in the Asia-Pacific has often emphasised interaction as an important aspect of past cultural practices in the region. Several accounts have read interaction into the sparse archaeobotanical record of New Guinea. For example, the widespread use of *Canarium indicum* has been seen as indicative of early-mid Holocene or even Pleistocene interaction between New Guinea and the archipelago's to the north and east. Research on *Canarium* use from New Guinea and Manus suggests that large fruited *Canarium* species, including *C. indicum*, were naturally distributed across the region. Exploitation of these species may have been part of the adaptive baggage of early New Guinean colonists and is in fact seen throughout the archaeobotanical record. Rather than interaction, a model based on local trajectories of plant use exploiting locally available species may better fit the developing database of past plant use for much of the region's prehistory, with interaction and translocation of certain crops a relatively recent phenomenon.

KOSIPE REVISITED - A PROGRESS REPORT ON AN ANCIENT OCCUPATION SITE IN THE PAPUAN MOUNTAINS

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Kosipe is a valley at 1995m altitude and 8°S latitude, in the Owen Stanley Ranges about 105km north of Port Moresby. It leapt into prominence in 1970 when White, Crook and Ruxton published an account of a 1964 excavation of church foundations with dates on charcoal near the base of the deposit at 26870 ± 590 C14 yr. This level, and one above it, yielded sparse stone tools including large and medium sized waisted blades that may have been hafted. Archaeologists, despite commenting on the site as one proving highlands settlement, have refrained from doing much further work there, and it is hard to model what may have drawn people to the site in the late Pleistocene. There are no other stratified open sites known from New Guinea of this antiquity although a cave site in the central highlands is known (Mountain 1993). This site has a range of evidence (tools, charcoal, pollen, carbonised plant remains, phytoliths and possibly starch) that is unparalleled. However the existing

chronology is based on bulk dates taken 40 years ago. We still have no idea what people were doing in this environment.

In 1974 Geoff Hope took a preliminary core from Kosipe swamp that dated back 31000 years so further coring in 1980-81 developed a landscape history for the area, establishing that the stratigraphy of the archaeological site is draped over the valley on old hills and river terraces. Pollen work shows that the northern swamp was a lake about 40,000 years ago, then developed a swamp about 36,500 years ago that expanded south up valley. Charcoal becomes noticeable during the earliest swamp phase around 36ka but is very low at the apparent LGM, before developing again in the early and late Holocene (ca 13-7000 BP, then 3500-Present). The archaeological section, which is ca 120cm of organic rich silty clay, contains pollen. Preliminary results show that the site was a grassy clearing in montane forest during the occupation time, represented by a organic rich layer ca 40-80cm in the section.

A field trip of Glenn Summerhayes, Herman Mandui, Andy Fairbairn, Matthew Leavesley and Geoff Hope in June 2005 reopened the White section and also established that some archaeology can be found on other ridges near the swamp. Andrew Fairbairn took samples of macrobotanical material and dated a burnt fragment of Pandanus nut. Dating of pollen-charcoal suspensions from selected samples from the section and individual pieces of charcoal will help to define the length of occupation. The ages will support high resolution pollen samples from the archaeological section which will define the setting of occupation.

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CULTURAL PERSISTENCE IN THE FACE OF FREQUENT DISASTERS: LANDSCAPE ARCHAEOLOGY IN THE WILLAUMEZ PENINSULA, PAPUA NEW GUINEA

Robin Torrence
Australian Museum, Sydney

Over at least the past 40,000 years, landscape history in the Willaumez Peninsula has been devastated by numerous volcanic events, many of which have resulted in cultural disasters marked by long periods of complete abandonment, often for hundreds of years. In contrast to the punctuated

environmental and demographic histories, the cultural record is remarkably stable. Only a few notable changes in artefact inventories, settlement patterns, or exchange networks are visible in the archaeological record. The paper examines possible explanations for this apparent cultural persistence in the face of an unpredictable and unstable environment.

ISLANDS/ISOLATION AND POST MODERN DISTORTIONS – IMPLICATIONS FOR TRADE AND EXCHANGE

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My focus in this paper is not on definitional issues or specific cases of trade and exchange. Rather my concern is broadly with Australia and the Pacific Basin and specifically with a change in paradigm developed by John Terrell and his colleagues which has implications for inter-island contact, trade and exchange. I argue that their post-modern definitions of islands/isolation and other underlying perspectives distort our understanding of the extent of human contact. It is argued that their 'myth of the primitive of isolate' is largely a myth of their own making and that their hypothesis of the 'universality of contact as a fundamental feature of human existence' needs to be reconsidered. Their approach when set against the evidence for trade and exchange suggests more caution across the region and at the global scale.

EARLY SOUTH COAST PNG POTTERY IN THE NORTHERN D'ENTRECASTEAUX ISLANDS, MILNE BAY PROVINCE, PNG?

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This paper is based on recent fieldwork carried out in the northern D'Entrecasteaux Group, Milne Bay Province in PNG, and hopes to contribute to the sketchy archaeological record of the 'Massim' in terms of prehistoric interaction between islands and mainland coastal areas. Some of preliminary results are presented here.

The northern D'Entrecasteaux played a significant role through which people and goods passed between the mainland and the outer islands. The island of Fergusson within the group has the obsidian sources, which supplied the 'Massim' and the south coast of PNG. However, the focus of this paper is on the pottery excavated on Barrier Islands between Goodenough and Fergusson

Islands. The West Fergusson obsidian sources lie about 20 kilometres to the southeast of the excavations. Pottery excavated from the two small islands are reminiscent of those that were recovered in the early phase of settlement in the south Papuan coast and Collingwood Bay, and suggests some degree of interaction in the region. This interaction was well documented by ethnographers since the early 19th century, as exchange networks, but its antiquity is not yet clearly known.

THE IMPORTANCE OF THE CANOE TO ASMAT

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In order to move physically and spiritually inside the swamps region of Asmat, canoes are a way of transport, a component of war arsenal, a fishing tool, as well as a receptacle for ancestral, divine, ceremonial and initiatory purposes. Thus, this study is focused on what are the place, role and meaning of a canoe for the old Asmat society of Southwestern Irian Jaya (New Guinea, Indonesia). The research aims are to provide an accurate documentation of five Asmat dugout and soul canoes, then attempt to demonstrate the nautical characteristic of Asmat communities, and finally looking at Asmat environmental adaptation.

SESSION

Advances in archaeological methods

Session Organizer:

Jeremy Green mm2@iinet.net.au

PHOTOGRAPHY FOR MARITIME ARCHAEOLOGY - THE CHANGE TO DIGITAL

Patrick Baker

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DATA SHARING IN AUSTRALIAN ARCHAEOLOGY: A CASE STUDY FROM THE MARITIME ARCHAEOLOGY COMMUNITY

Dianna Hardy

James Cook University

This paper presents interim results regarding a project considering the issues involved in facilitating maritime archaeologists to gain access to data held in multiple, widely distributed databases with dissimilar database structures and allow the discovery and download of the data in a usable format. This is a cross-disciplinary study between archaeology and information technology knowledge centres and will introduce the concepts of eResearch, the Semantic Web, the computational Grid, Storage Resource Broker and their potential to enable data sharing and collaboration. Although large institutions in the UK and Europe have exploited the availability of Grid resources with projects in social science, this will be the first use of this technology in regard to the archaeological field in Australia. Vast amounts of data currently reside in databases that are unavailable for research due to artificial constraints imposed by the lack of information technology support. This research will allow this data to be accessed and therefore be used in further archaeological inquiry and exploration. A tightly structured case study utilizing data sets provided by maritime archaeological research teams will lead to the end product of this research: a prototype system which will allow maritime researchers to share archaeological information across geographically diverse locations, while implementing strict rights management rules. The development of the system will address intellectual property concerns, security issues, and perceived conflicts within the maritime archaeological research community regarding allowing access to sensitive data.

IN SITU PRESERVATION AND/OR STABILISATION OF CULTURAL HERITAGE SITES

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NEW TOOLS ON OLD SITES

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Built to support Henry V's political and military ambitions in France, the 'Grace Dieu' (1416 – 1439), was the greatest ship of the medieval period both physically and symbolically. Yet in spite of various investigations over the years, many aspects of her construction and use remain enigmatic.

In 2004 a new programme of research was begun involving the intensive use of two sub-bottom profiling systems. Not only is this revealing new information about one of the most important wreck sites in Britain, it also demonstrates a new relationship between archaeology, industry and management. Rather than being 'off the shelf' technology, these systems were built to address archaeological requirements, yet with a view to industrial and military applications. Archaeology is also the stimulus for increased resolution in the navigational control of some underwater vehicles and in 3D structural recording. This paper presents the first results from the 'Grace Dieu' and points to wider implications for research and management.

SESSION

Odds and sods

Session Chairs:

Jane Balme and Kate Morse

THE SLAYING OF OCTAVIA-MAN: HUMAN SKELETAL REMAINS FOUND WITH ARCHAEOLOGICAL EVIDENCE IMPLICATING USE OF A DEATH SPEAR

Jo McDonald¹, Denise Donlon², Judith Field¹ and Richard Fullagar³

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In early 2005 workmen installing gas pipelines in Narrabeen, on Sydney's northern beaches, encountered human remains. Salvage excavation recovered the rest of the fully articulated skeleton of an adult male over 1.5m below a footpath and bus shelter. Part of the *in situ* pelvis refitted with previously recovered parts of the pelvis, indicating that all skeletal material recovered related to the one individual. The posture of the individual indicates an unconventional burial position. Parts of the skeleton show signs of burning - but not cremation.

Also found around the skeleton were fourteen stone artefacts (from a total of 17 fragments, with three conjoin sets). One of these was found lying flat on top of the vertebral column, one was found embedded between two vertebrae. Another backed artefact (apparently broken on impact into two pieces) was found subsequently within the spinal column. The cranium of the individual also revealed signs of recent major trauma.

Given that all artefacts are backed (or fragments of backed artefacts), show predominant (or likely) damage from hard impact to tips, and some fragments were found embedded in human bone, it is plausible that some if not most of these backed artefacts were elements in a weapon or weapons (projectile or club armed with barbs and points) that caused the death of the individual. The combined physical and archaeological evidence suggests a ritual slaying of this individual by ethnographically reported "death-spear".

PREHISTORIC PAPUA'S HISTORIC ARTEFACTS

Dr Jim Rhoads

Adjunct Senior Research Fellow

John Curtin Institute for Public Policy

Historic glass artefacts dating from 400BP were discovered in Papuan Gulf sites. Direct contact between the area's inhabitants and non-indigenous

peoples may be ruled out. This paper describes the prehistoric finds and their historic context. Interesting questions about the structure of late prehistoric trade and exchange systems along the New Guinea south coast are also discussed.

MAINLAND MAGIC: INTERPRETING INFLUENCES ACROSS CAPE YORK-TORRES STRAIT

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In this paper, the authors will explore current interpretations of Torres Strait archaeology. These interpretations suggest that while mainland Australians occupied the 'ancestral Cape York Peninsula' until around 6000 years ago, they were colonized by people from the north around 3500-3000 years ago. We suggest that such interpretations are problematic for a number of reasons, including their reliance on the ethnographic interpretations of Haddon (1901-35) and Lawrence (1994, 1998) and the current lack of comparative archaeological evidence from northern Cape York.

RECENT EXCAVATIONS IN NORTHEAST THAILAND: CEMETERIES, PERSONAL ORNAMENTS AND SOCIETY

Nigel Chang

PATTERNS OF BIOLOGICAL VARIATION ALONG THE NORTH EAST COAST OF THE INDIAN OCEAN

Colin Pardoe

There are many examples of the natural catastrophes that disrupt humanity and disrupt the patterning of biological variation shaped by our evolutionary history. In spite of that, evolutionary processes such as selection and gene flow produce patterns in biological variation. In this paper I will concentrate on one pattern - the relationship of biological difference to geographic distance. I will examine how gene flow might produce such patterns and the antiquity of such patterns. Three analyses are used to examine the nature of this relationship along a 7,000 km stretch of the north east coast of the Indian Ocean, from the Ganges Delta, through Myanmar and the Malay Peninsula to the Indonesian Archipelago. These are summary biometric differences, Isolation by Distance, and Isolate Differentiation.

Average biometric distances from other samples vary between 1.05 for Moulmein and 1.76 for Flores. Those that appear most distant from the rest

are Flores, Nicobar, Sumatra and Andaman in that order. These islands might be expected to be most distinctive. A single individual from the Malay Peninsula and dating to Mesolithic times (pre-agricultural) is also highly distinctive.

Isolation by Distance analysis produced strongly systematic results over the whole distance of this coast. Some groups appear to be outliers - particularly the islands, whose biometric distance is greater than others.

Human populations on islands are expected to be more isolated than mainland neighbours, and they usually are. In order to assess just how different such populations might be, the biometric difference between islanders and their mainland neighbours (divergence) is scaled to the diversity between nearest mainland neighbours (diversity). This isolate differentiation ratio is independent of scale and hence comparable among different studies and data sets. The ratio often exceeds 1.0, indicating that the difference of island to mainland is greater than differences on the mainland. Rather surprisingly some island groups diverge only marginally more from the mainland than the mainland groups do from each other.

Each of these analyses contributes to a view of how gene flow operates in the region, with island groups not as different as might be expected, especially for the Nicobar and Andaman groups, historically recognized as highly distinctive. That distinctiveness is apparent in these studies, but of greater relevance is the observation that they have also participated in the regional gene flow that serves to link populations. The antiquity of these patterns may not stretch back to original colonization (1.75 million years under a regional continuity model; 60,000 years under replacement), but must have a considerable antiquity.

**RECENT FINDINGS FROM A SURVEY IN THE EXMOUTH GULF,
WESTERN AUSTRALIA**

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In May 2005 a heritage survey was conducted on the eastern side of the Exmouth Gulf for Straits Salts Pty Ltd and the Gnulli and Thalanyji people. Minimal archaeological work on Aboriginal heritage has been carried out within the Exmouth Gulf region. The results of the survey have the potential to contribute to the wider interpretation of mobility patterns and resource exploitation in the greater Pilbara coastal region. The types and characteristics of the sites identified during the survey have marked differences compared to other sites within the Pilbara coastal area. Low numbers of shell scatters and shell middens were found and a higher than expected diversity of stone tool lithologies and types were identified. This poster outlines some of the questions that may be asked such as; is there a marked difference of land use and resource exploitation in the Giralia Gulf (the survey area) compared to the wider Pilbara Coastal region? Why are there a higher number of stone artefact scatters compared to lower numbers of shell scatters/middens? And, how do the results from this survey corroborate with the existing predictive model for the area?

COUNTER MEALS AT THE MOORNA PUB

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In 1867 stock inspector Andrew McClymont paid 2/- for dinner and 4/- for drinks at the Moorna Bush Inn (which survived the short-lived town of Moorna 1850-60) about 35km west of the Murray-Darling Junction. He probably ate mutton or roast beef, but he may have been served roast wild duck or swan. For 40 years the Bush Inn, first a wooden hut and later a substantial brick establishment, served passing travellers steaming up the Murray or riding the mail coach from Adelaide to Wentworth, where they could make connections to Melbourne, Sydney or up the Darling to Bourke. Our recent excavations (assisted by La Trobe archaeology students) at the Bush Inn site have investigated the kitchen and the rubbish dump. Excellent bone preservation has allowed analysis not only of the types of meat eaten, but also the butchering and cooking techniques. Contributions from publican family descendants and other historic records have illuminated the study,

particularly regarding food items (fruit cakes) not commonly found archaeologically.

A TAPHONOMIC REVOLUTION IN THE MID-HOLOCENE: ENSO ONSET, MAINLAND DEVIL EXTINCTION AND DINGO ARRIVAL

Oliver Brown

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Climate variability, particularly associated with the El Niño Southern Oscillation (ENSO), has far-reaching effects on Australia, including the ecology of scavenging. These effects experienced a sharp increase in intensity from the mid-Holocene. I have previously proposed that ENSO onset would have contributed to the mainland extinction of the Tasmanian devil and been a factor in the success of the dingo. Such changes in the ecology of scavengers must also be seen as changes in the process by which most faunal material is lost from potential preservation. Archaeological interpretations based on Holocene changes in the archaeozoological record need to remain alert to the fact that such interpretation may reflect taphonomic as well as cultural variation.

THE BONES OF AUSTRALIA: USING FUNCTIONAL ANATOMY AS A POSSIBLE CLUE FOR IDENTIFICATION

Sarah Croker and Denise Donlon

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Historically, comparative studies have been made with marsupial and placental mammal bones, detailing common or convergently evolved features, and those that are distinctly marsupial or placental. Limited work has also been undertaken studying the difference between human bones and those of non-humans. However, currently research is rare that pools together both lines of work and compares the osteology of humans, marsupials, placentals, birds and reptiles. Are the possible differences in the bones between these groups entirely based on function? Or is there something else which can define a bone as “human” or “not human”, “marsupial” or “placental” and so on? If so, this could potentially be used to assist in the identification of bone, for archaeological or forensic purposes. Apart from observation and the description of the exterior morphology, radiography can be used to examine the internal architecture of the bone, and the thickness of the cortical bone. Further research into the thickness of cortical bone is important as it is thought it may differ between human and non-human animals, but whether

this difference is due to function or something distinctly “human” must be investigated over a range of skeletal elements.

POINT OF RESISTANCE: SOCIAL PRESERVATION THROUGH TRADE AND EXCHANGE IN NORTHWEST AUSTRALIA

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This poster offers an explanation for the atypical increase in Kimberley point production that coincides with the introduction of European materials such as glass and metals in an excavation situated in Northwest Northern Territory. The underpinning data archaeological data is drawn from Head and Fullagar’s excavation of the Marralam Outstation, eastern Kimberley region. In this, trade and exchange is proposed as a mechanism used to prevent change and preserve socio-cultural networks as a form of resistance in initial contact years.

CAN CIRCLES IN THE SEARCH FOR IDENTITY: AN ASPECT OF THE ARCHAEOLOGY OF SETTLEMENTS ALONG THE MUNDARING-KALGOORLIE SETTLEMENT CORRIDOR (1830-1914).

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The region west of colonial settlement of the Swan River in Western Australia was ‘opened up’ for Europeans from the 1860s, with the discovery of Aboriginal wells by explorers such as Hunt. In the 1890s, the gold rush brought thousands of people to the area in search of their fortune. Newly established towns, such as Coolgardie and Kalgoorlie, suffered from a lack of water. As a response to this, the Goldfields Water Supply Scheme, a water pipeline, was built along the 560km from Mundaring Weir, just east of Perth, to Kalgoorlie. Settlement sites grew along this corridor as various components of infrastructure, such as the Hunt’s Wells (1864-66), a telegraph line (1891), a railway line (1894), and the pipeline (1897-1903) were built. The National Trust of Australia (WA) is currently undertaking a major heritage project of the pipeline, including interpretation and conservation of sites. What evidence is there for the different groups living and working along the corridor between Mundaring and Kalgoorlie, and what does this evidence tell us about life along the corridor? Much of the archaeological evidence is on the surface, therefore using methods developed to record post-European surface artefacts, the preliminary results of the archaeological study of the area are presented, including a spatial analysis of the sites and the development of a typology of

cans that were used in the area. This PhD project is funded by an Australian Research Council Linkage grant, in conjunction with the National Trust (WA).

CLOCKS, SIEVES AND COCOA: AN ARCHAEOLOGICAL STUDY OF MINING CULTURE?

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The gold rushes were a global phenomenon beginning in California in 1848 and in Western Australia on the Kimberley goldfields in 1886. Susan Lawrence, in her study of 19C gold mining in Victoria, proposed that traits common to gold rushes globally indicate the existence of an international gold mining culture. Although occurring in distant, most often isolated or frontier geographical locations, she suggests that gold rushes shared certain demographic, political and social characteristics that linked gold mining communities more to one another than to neighbouring settlements. I will investigate these commonalities in the archaeological record of the Upper Murchison to examine Western Australia's relationship to the proposed 'international mining culture'.

PORT STRUCTURES: SITE ABANDONMENT IN PORT ARTHUR

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Theoretical shifts in modern archaeology have driven academic discourse past the historical particularist approach, towards an anthropologically generalist and *process* oriented approach, allowing for greater multidisciplinary collaboration, comparative studies, and historical correlation. Within the context of Maritime archaeology this has manifested as a shift away from the focused study and singularity of the shipwreck event, towards a broader perspective on contextual significance and social processes. This has also encouraged the identification of alternative subjects of study, extending beyond the ship as a central maritime infrastructural component, to include other active maritime components as relevant process indicators.

Recently, the study of ship abandonment, in addition to shipwrecks, as a parallel and undocumented phenomena of vessel loss, has demonstrated interest in the generalist, process oriented approach, while utilizing comparative studies, multidisciplinary approaches, and historical correlations to understand this phenomena. Given the expanded theoretical framework in modern archaeology, possibilities for studying abandonment patterns in other maritime infra-structural components is the logical next step. This poster will

focus on such abandonment patterns as they are evident in the port structures of Port Arthur, Tasmania. It will attempt to demonstrate signatures of use, re-use, modification, and abandonment, and suggest historical correlations and explanations for such patterns within the archaeological record.

NATIONAL ARCHAEOLOGY WEEK - QUEENSLAND: ENGAGING AND EDUCATING THE PUBLIC

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After three years of Australian National Archaeology Week (NAW), it is timely to assess its achievements and outcomes. By examining four case studies from Southeast Queensland this poster will highlight NAW events and activities that have involved and educated the public through local and national media, school activities, public tours and participation. The case studies will look at Toowong Cemetery and Naval Stores in Brisbane, Mort Street Well in Toowoomba and Mill Point on the Sunshine Coast. In these cases the key public outreach strategies included strengthening community partnerships, engaging with media outlets and involving school groups and members of the public. Recommendations and future directions for successful engagement and participation are also addressed.

IN TRANSIT: AN ANALYSIS OF ARCHAEOLOGICAL MATERIAL EXCAVATED FROM ROCKSHELTER TP00-04, PILBARA, WESTERN AUSTRALIA.

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Rockshelter TP00-04 is one of many small rockshelter sites with stratified archaeological deposits in the Pilbara of Western Australia. While a number of these sites have confirmed the Pleistocene occupation of the region, very little analysis of excavated material from Holocene rockshelters has been published. Analysis of archaeological material from TP00-04 has been valuable in confirming anecdotal evidence provided by Aboriginal people about how rockshelters were used in the past and contributes to our knowledge of patterns of site use and late Holocene occupation in the archaeology of the inland Pilbara.

SURVIVING THE CURE: LIFE ON BERNIER AND DORRE ISLAND UNDER THE LOCK HOSPITAL REGIME

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Between the years 1907 to 1917 two islands off Western Australia, Bernier and Dorre Islands were respectively used as 'Lock Hospitals' for Indigenous male and female West Australians who were judged to be syphilitic. This was done as a public health measure to limit the spread of disease from the indigenous people to the colonists. While it is clear from historical documentation that few of these individuals actually had syphilis, nevertheless they were incarcerated on the islands until they were either deemed cured by the European doctors or died.

Little is known of how the Europeans and the Aboriginal people lived, survived and actually recovered from disease on an island that is known as inhospitable and resource-deficient. Historical documentation indicated that the Aboriginal people were to be encouraged to live "naturally" on the islands, but many questions remain about how two different sets of people with different ideologies and knowledge of the island environment used it to obtain food, water, fuel, and medicinal supplies.

While European living areas show evidence of the latest delicate and expensive ceramic ware, imported foodstuff building material and medical supplies results of the research indicate clearly that both European and Aboriginal people made use of the limited resources available on the islands. The limited objects associated with Aboriginal sites were confined to bones, shells, glass, Government-supply enamelware and corrugated iron.

Differences are seen in spatial use, resource understanding and European hospital set up between the two islands. On Bernier Island males lived and worked in open areas near the Hospital sites and exploited a relatively small range of the natural resources available on the islands. Nevertheless there is evidence that they continued to practice traditional tool making. On Dorre Island females lived in discrete shelter areas hidden from view of the hospitals and ate a variety of resources available on the islands.

While it is no wonder that records describe the place as a picture of 'misery, horror unalleviated and tombs of the living dead" there are signs that the Aboriginal women and men confined to the island kept hold of their cultural traditions and some small and occasional measures of independence and their cultural traditions.

HUNTERS, COLLECTORS AND GUARDIANS OF THE PAST: THE HUMAN IMPACT ON SHIPWRECK SITES

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The interpretation of archaeological sites is always problematic because of disturbances to the sites after their initial deposition. For shipwreck sites, the sources of disturbances include wave actions, tidal currents, chemical and biological reactions, divers visiting and removing artefacts, fishing, and boating activities. This poster provides a description of the different forms of human disturbances to wreck sites, particularly looting activities, which led to an Amnesty being declared in 1993. The research also considers the results of this Amnesty, which is described and explained in the poster.

WEIGHING DOWN THE TRADE ROUTES

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The purpose of this study was to establish anchors as a new category of archaeological artefact for revealing information about ancient Mediterranean trade from the Bronze Age to the end of the Roman Empire (2200 BC – 500 AD). Information concerning published anchors was collated to create an anchor database from which existing anchor typologies were re-examined and further analysis conducted. Thus an updated anchor resource was created to allow for dating and provenancing of anchors and the study of associated artefacts. This had particular relevance to studying ancient trade routes in progress. In the future, this information will be available on a searchable database of anchors, for use by scholars, students and all other interested persons.

GEOPHYSICAL INVESTIGATIONS OF THE ANSON MOORING SITE, PRINCE OF WALES BAY, TASMANIA

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The 1742 ton *Anson* was built in 1812 as a naval vessel, however was considered third rate and never saw active service. The ship served as a quarantine ship, then transported convicts to Van Diemens Land, from 1844 becoming the only prison hulk in Australia specifically used for the incarceration of female convicts, moored in the middle of Prince of Wales Bay, Tasmania. The ship was broken up in 1851 in Hobart however historical research suggests that the mooring system and related artefacts may remain in Prince of Wales Bay. These artefacts, if *in-situ*, provide a unique opportunity to compare the archaeology of female hulk confinement with existing paradigms of Australian convict life. As large accumulations of unconsolidated silt and poor visibility prevent straightforward visual survey, a marine magnetometer was employed to locate ferrous anomalies within the survey area. By collecting magnetometer data, integrating this with positioning information and correcting for diurnal variations in the earth's magnetic field a contoured map of magnetic intensity was created and overlain on an aerial photograph. This image is interpreted to contain a significant anomaly that will be the focus of future direct investigation as part of the larger Anson Archaeological Project.

BACKING AWAY - TRYING TO SEE THE FOREST AND THE TREES

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In the late 1990s archaeological investigations near Crookwell, in the NSW southern tablelands, produced an assemblage of apparently unique obliquely backed asymmetric points, previously dubbed 'Pejar Points'. Recent debates on backed artefacts in Australia have focused not so much on regional variation of typology or technology, but rather the antiquity, origins and diffusion of artefact backing technology. Our results from work near Crookwell provide further suggestive, rather than conclusive, evidence of the presence of Pejar Points. In light of this we consider the presence, nature and status of Pejar Points and the relationship between artefact classification, assemblage composition and regional variation. We show that the results from Cultural Heritage Management can provide important insights into questions regarding the regional distribution of artefacts and the manufacturing

technologies that produced them. We also consider the importance of regional variation when making Cultural Heritage Management decisions.

ALL ROADS LEAD TO MOUNT PERRY

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In the 19th century, the Upper Burnett district of Queensland was an apparently isolated, sparsely populated area. However networks of trade, communication and personal relationships grew up around quickly developing gold and copper settlements in the area. These networks resulted in a web of colliding interests such as communication routes that connected a number of remote settlements; links in ownership of structures, property and equipment; and financial and technical contributions from elsewhere. These occurred on a local, regional and even international scale. The different routes of trade, movement of people and exchanges of ideas can be illuminated by examining connections, near and far, to the mining town of Mt. Perry.

ALL THE SMALL THINGS: APPLICATION OF FORAMINIFERAL ANALYSIS IN ARCHAEOLOGICAL CONTEXTS

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For many decades Australian archaeologists have grappled with the problem of determining the origin of shell deposits. While it is often not difficult to distinguish between cultural shell deposits and natural shell deposits, some deposits exhibit ambiguous characteristics that limit understandings of site formation processes. The development of valid methods to differentiate site formation processes is critical to research in coastal archaeology. One possible solution is the microscopic analysis of archaeological sediments for the presence of a single-celled micro-organism known as foraminifera. This presentation assesses the efficacy of foraminiferal analysis to distinguish natural and cultural marine shell deposits, analysing a case study from the central Queensland coast.

OYSTERTOWN SETTLEMENT AT COFFIN BAY: THE HISTORY AND ARCHAEOLOGY

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This project conducted archival research and a preliminary pre-disturbance survey of the archaeological site of the nineteenth century settlement at Oystertown near the modern township of Coffin Bay on Eyre Peninsula in South Australia. This significant group of sites provides evidence for the oyster industry, an important maritime extractive industry in South Australia during the nineteenth century that underwent a resurgence in the first part of the twentieth century. The Coffin Bay oyster industry supplied oysters for consumption in the state capital of Adelaide as well as Port Lincoln. From the available archival evidence it is clear that the population at Oystertown varied over time and there appear to have been both individual men and families resident there either on a semi-permanent or a seasonal basis. There still exists evidence of huts built and used by the oyster fishers during their time as residents of Oystertown. There are three huts located on the southern shores of Kellidie Bay still extant in 1871 and a pre-disturbance survey revealed evidence of at least one of the huts sites as well as the location of one of the associated wells. This project provided recommendations to the local community for future research into this important area of South Australian history.

A LATE PLEISTOCENE OPEN SITE IN GEORGE STREET PARRAMATTA

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Salvage Excavation below the former RTA Building in Parramatta ahead of urban consolidation has found evidence of a deeply stratified Indigenous archaeological site – beneath the demolished footings and in the vicinity of important historic structures. Multiple phases of prehistoric Aboriginal occupation, from the Late Pleistocene (c. 25-30ka) to mid-Bondaian times (c. 3.5 ka), have been dated from amongst the assemblages retrieved from this sandy river terrace landscape.

BEACONS OF INDUSTRY: PEOPLE AS COMMODITY IN EARLY WESTERN AUSTRALIA- A CASE STUDY

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Archaeological evidence is often used to determine the details of the lives of people who, as a social minority, are overlooked in conventional histories. This case study examines the material evidence that remains of one man's life and death in 1881. I argue that a system of utilising minorities to facilitate progress existed in some areas of Western Australia in the 19th century, and that this system is not accurately represented in mainstream historical records. Rather, the archaeological record provides a singular source by which this hidden history can be illuminated in conjunction with reinterpretation of records.