

## Curso de Doctorado

### ***Back to Basics: A Critical Review of Contemporary Stone Tool Research***

Dictado por:

**Ph.D. ROBIN TORRENCE**

Australian Museum, Sydney, Australia

Fecha:

Desde el lunes 7 al sábado 12 de noviembre de 2011

Lugar:

Facultad de Ciencias Sociales, Campus Universitario de Olavarría.

***La estadía de la Dra. Torrence cuenta con el aval del  
"Programa de Alojamientos para la Internalización"***

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## Doctorado en Arqueología

### Curso

**1. Título:** Back to Basics: A Critical Review of Contemporary Stone Tool Research

**2. Docente a cargo:** Robin Torrence

### 3. Objetivos:

These are especially exciting times for research on stone tools. Due to new ideas and innovative techniques, the scope of potential topics is expanding rapidly. After literally centuries of being caught up in measuring 'progress' by identifying key tool types, under the guise of design theory scholars moved to focus on what has turned out to be a rather limited range of 'behaviour,' chiefly restricted to hunter-gatherers. Recently, there has been an explosion in research on what stone tools can tell us and many new topics like gender, performance, acoustics and personhood are being explored. This set of seminars will critically examine how the fundamental theoretical and methodological concepts embedded in different contemporary approaches guide the way stone tool assemblages are analyzed and interpreted. As a basis for comparison, we will go 'back to basics' and focus on fundamental questions such as the following. What role did stone tools play in human evolution? Why did people choose stone for their tools (e.g., as opposed to wood, shell, or metal)? In what settings was raw material a limiting factor? How did the production, exchange and use of stone tools create society? Case studies ranging across the globe and through time will provide the data for assessing the potential role of stone tool studies in archaeology.

### 4. Contenidos:

#### Seminar Topics

- I. Beyond Typology: Evolution, Selection and Practice
  - Life history: the fundamental methodology
  - Technological modes and human evolution
  - Case Studies:* Africa, SE Asia, Australia
- II. Why Stone?
  - Contributions from Ethnoarchaeology
  - Case Studies:* Papua New Guinea, Brazil
- III. Acquiring Stone
  - Making Choices
  - Assessing Raw Material Determinism

Quarries in their Regional Contexts  
*Case Studies:* Greece, Australia

#### IV. Designing Tools

Formal types vs Expediency  
 Minimising Risk and Maximising Energy  
 Production for Future Uses  
*Case Studies:* Russia, Japan, Australia

#### V. Mobilizing Lithics: Subsistence and Settlement

Technological Organisation  
 Reduction Indices and Use-wear/residue Studies  
*Case Studies:* Papua New Guinea, USA, France

#### VI. Creating Society through Practice, Performance and Exchange

*Case Studies:* Papua New Guinea, Greece, France

## 5. Bibliografía

### Key Readings

#### I. Theoretical Divides: Evolution, Selection and Practice

- Audouze, F. 1999. New advances in French Prehistory. *Antiquity* 73: 167-175.
- Bueno, L. 2010. Beyond typology: Looking for processes and diversity in the study of lithic technology in the Brazilian Amazon. *Journal of World Prehistory* 23: 121-143.
- O'Connell, J. and Allen, J. 2007. Pre-LGM Sahul (Pleistocene Australia-New Guinea) and the archaeology of early modern humans. In P. Mellars, K. Boyle, O. Bar-Yosef and C. Stringer (eds.), *Rethinking the Human Revolution*, pp. 395-410. Cambridge: McDonald Institute for Archaeological Research.
- Pauketat, T. 2001. Practice and history in archaeology: an emerging paradigm. *Anthropological Theory* 1: 73-98.
- Shott, M. 2003. Chaîne opératoire and reduction sequence. *Lithic Technology* 28:95-105.

#### II. Why Stone? Insights from Ethnoarchaeology

- Ellis, C. 1997. Factors influencing the use of stone projectile tips: an ethnographic perspective. In Knecht, H. (ed.), *Projectile Technology*, pp.37-78. New York: Plenum.

- González-Ruibal, A. Hernando, A. Politis, G. 2011. Ontology of the self and material culture: arrow-making among the Awá hunter-gatherers (Brazil). *Journal of Anthropological Archaeology* 30: 1-16.
- White, J. P. and Thomas, D. H. 1972. What mean these stones? Ethno-taxonomic models and archaeological interpretations in the New Guinea Highlands. In D. Clarke (ed.), *Models in Archaeology*, pp. 275-308. London: Methuen.
- III. Acquiring Stone
- Andrefsky, Jr., W. 2009. The analysis of stone tool procurement, production, and maintenance. *Journal of Archaeological Research* 17:65-103.
- Brumm, A. 2010. 'The falling sky': Symbolic and cosmological associations of the Mt. William greenstone axe quarry, central, Victoria, Australia. *Cambridge Archaeological Journal* 20: 179-196.
- Torrence, R. 2005. Valued stone: how so? In I. Macfarlane, R. Paton and M. Mountain (eds), *Many Exchanges: Archaeology, History, Community and the Work of Isabel McBryde*. Aboriginal History Monograph 11: 357-372
- IV. Designing Tools
- Bamforth, D. and Bleed, P. 1997. "Technology, flaked stone technology, and risk." In Barton, C. M. and Clark, B. A. (eds.), *Rediscovering Darwin: Evolutionary Theory in Archaeological Explanation*. Arlington, MA: American Anthropological Association, 109-140.
- Doelman, T, Torrence, R., Kluyev, N., Sleptsov, I., Popov, V. 2009. Innovations in microblade core production at the Tigrovyy-8 late Palaeolithic quarry in eastern Russia. *Journal of Field Archaeology* 34: 367-384.
- Elston, R. G. and Brantingham, P. J. 2002. "Microlithic technology in Northern Asia: A risk-minimizing strategy of the Late Palaeolithic and Early Holocene." In R. G. Elston and S. L. Kuhn, eds., *Thinking Small: Global Perspectives on Microlithization. Archaeological Papers of the American Anthropological Association No. 12*. Arlington: American Anthropological Association, 103-116.
- V. Mobilizing Lithics: Settlement and Subsistence
- Clarkson, C. 2008 Explaining reduction intensity, settlement and subsistence in Wardaman Country, Northern Australia. In Andrefsky, W. (ed.) *Lithic Technology: Measures of Production, Use, and Curation*, pp.286-316. Cambridge: Cambridge University Press.
- Hiscock, P. and Tabrett, A. 2010. Generalization, inference and the quantification of lithic reduction. *World Archaeology* 42: 545-561.
- Holdaway, S., Wendrich, W. and Phillipps, R. 2010. Identifying low-level food producers: detecting mobility from lithics. *Antiquity* 84: 185-193.

Torrence, R. 2011. Finding the right question: learning from stone tools on the Willaumez Peninsula, Papua New Guinea. *Archaeology in Oceania* 46: 29-41.

VI. Creating Society

Carter, T. 2007. The theatrics of technology: consuming obsidian in the Early Cycladic burial arena. In Flad, R. and Hruby (eds), *Rethinking Craft Specialisation in Complex Societies: Analyses of the Social Meaning of Productoin*. Archaeological Papers of the American Anthropological Association 17: 88-107.

Speth, J., Newlander, K., White, A., Lemke, A., Anderson, L. in press. Early Paleoindian big-game hunting in North America: provisioning or politics? *Quaternary International* online.

Torrence, R. Now you see it, now you don't: changing obsidian source use in the Willaumez Peninsula, Papua New Guinea. In J. Cherry, C. Scarre and S. Shennan (eds), *Explaining Social Change: Studies in Honour of Colin Renfrew* (McDonald Institute Monographs). Cambridge: McDonald Institute for Archaeological Research, pp. 115-125.

**6. Modalidad de dictado:**

Intensiva

**7. Duración:** 30 horas reloj (mínimo).

**8. Requisitos y modalidad de evaluación y promoción:**

La evaluación y aprobación del curso consistirá en una calificación conceptual por la participación en la discusión de las lecturas propuestas oportunamente por la docente durante el dictado del curso. Para ello cada alumno deberá presentar oralmente la exposición de una lectura previamente acordada. Asimismo al finalizar el curso se realizará una evaluación escrita a definir.

## CURRICULUM VITAE

### ROBIN TORRENCE

#### PERSONAL DATA

Date of Birth: September 14, 1949

Citizenship: Australia and United States

Current Address: 46 Pitt Street, Redfern N.S.W. 2016, Australia

Email: [robin.torrence@austmus.gov.au](mailto:robin.torrence@austmus.gov.au)

#### CURRENT APPOINTMENT

Senior Principal Research Scientist, (Equivalent to Full Professor)  
Australian Museum, Sydney, Australia

#### EDUCATION AND QUALIFICATIONS

1981 Ph.D. (Anthropology), University of New Mexico, U. S. A.  
1974 M.A. (Anthropology), University of New Mexico, U.S.A.  
1971 A.B. (*magna cum laude*), Bryn Mawr College, Pennsylvania, U.S.A.

#### HONOURS AND AWARDS

1999 Elected Fellow of the Australian Academy of the Humanities  
2002 Society for American Archaeology Award for Excellence in Archaeological Analysis

#### CURRENT RESEARCH AFFILIATIONS

Honorary Research Affiliate, Archaeology, University of Sydney, Australia.

#### PREVIOUS ACADEMIC APPOINTMENTS

1996-2001 Australian Research Council, Senior Research Fellow, Australian Museum  
2001 Visiting Associate Professor, Archaeology, University of Sydney (6 months)  
1998 Visiting Associate Professor, Archaeology, University of Sydney (March-July)  
1991-5 Australian Research Council, Research Fellow, Australian Museum  
1990 Visiting Senior Lecturer, Archaeology, University of Sydney  
1976-1989 Lecturer, Department of Archaeology and Prehistory, University of Sheffield

- 1987, 1981 Visiting Lecturer and Associate Professor, Department of Anthropology, Northwestern University, Evanston, Illinois, U.S.A.  
 1978-9 Visiting Lecturer, Department of Archaeology, Leicester University  
 1974-5 Graduate Tutor, Department of Archaeology, University of Southampton  
 1972-3 Graduate Assistant, Department of Anthropology, University of New Mexico, U.S.A.

## **FELLOWSHIPS**

- 1989 Australian Museum Visiting Fellowship  
 1971-2 Woodrow Wilson Fellowship

## **UNIVERSITY TEACHING**

### Lecture and Seminar Courses

Pacific Prehistory  
 Fourth Year Honours  
 Social Anthropology (Introduction and Intermediate level)  
 Economic Anthropology  
 Archaeological Philosophy and Theory  
 Economic Reconstruction  
 Methods of Inference in Archaeology  
 New Directions in Archaeology  
 Theoretical Approaches to Lithics  
 Hunter-Gatherer Studies  
 Hunter-Gatherer Technology  
 Ideology and Ritual of Funerary Practice  
 Prehistoric Exchange  
 Melanesian Exchange Systems  
 European Prehistory  
 Rise of Civilisations

### Practical Courses

Lithics  
 Quantitative Data Analysis  
 Computing in Archaeology

### Field Courses

Excavation and Surveying at Roystone Grange, Derbyshire (taught over 5 years)

### Postgraduate Supervision

I have been formal supervisor for 10 PhD, 3 MPhil, 1MSc. and numerous MA and Honours students and have supervised c. 20 PhD and MPhil candidates on an informal basis. Currently, I am formally supervising 2 PhD students at the University of Sydney.

### **ADMINISTRATIVE DUTIES**

Sheffield University: Postgraduate Admissions Tutor; Tutor for Year Abroad Students; Liaison Officer for Computing Services and Statistical Advisory Service; Ian Sanders Memorial Fund Committee; Recruitment and publicity for postgraduate courses; Organization of staff/postgraduate weekly seminars  
 Sheffield University, Arts Faculty Board  
 Sheffield University, Arts Faculty Committee on Numeracy  
 Sheffield University, University Computing Committee  
 Australian Museum Seminar Committee  
 Australian Museum Associate Director Search Committee  
 Australian Museum Science Advisory Committee Liaison  
 Australian Museum Acting Head of Science and Collections; Acting Head of Research

### **MEMBERSHIP OF PROFESSIONAL SOCIETIES**

Australian Archaeological Association  
 International Association of Obsidian Studies  
 Lithics Studies Group  
 Prehistoric Society  
 Royal Anthropological Institute Fellow  
 Society for American Archaeology  
 Society for Archaeological Science  
 World Archaeological Congress  
 Indo-Pacific Prehistory Association

### **PROFESSIONAL DUTIES: EDITORIAL BOARDS, MAJOR COMMITTEES, ETC.**

1979	Pompeii Committee, U.K.
1979-89	Executive Committee, Theoretical Archaeology Group, U.K.
1982-6	National Committee for the International Union of Pre- and Proto-historic Sciences, London
1982-9	Committee on Archaeology and Anthropology, Royal Anthropological Institute, London
1983-6	Council, Royal Anthropological Institute, London
1983-9	Editorial Board, <i>Man</i>
1984-5	Institute of Field Archaeology, Committee on Theoretical Archaeology
1987-8	Steering Committee, Southampton-York Archaeological Simulation System, Science Research Council
1987-1991	Editorial Board, <i>Journal of Mediterranean Archaeology</i>
1998-2000	Founder, Chairperson, Ancient Starch Research Group



- 1998-1999 Editorial Board, Archaeology and Natural History, Australian National University
- 1991 on Editorial Board, *Archaeology in Oceania*
- 1993 on Editorial Board, *Journal of Archaeological Science*
- 1995-2003 Treasurer, World Archaeological Congress
- 1997 on Assistant Editor, *Archaeology in Oceania*
- 2000 on Editorial Board, *Lithic Technology*
- 2002 on Editorial Board, *Journal of Field Archaeology*
- 2007 on Editorial Board, *Australian Archaeology*
- 2007on Editorial Board, *Heritage Management*
- 2007-9 Editorial Board, *Bulletin of the Indo-Pacific Prehistory Association*
- 2009-2012 Editorial Board, *Museum Anthropology*

### **PROFESSIONAL DUTIES: CONFERENCE ORGANIZER**

- 1978 Theoretical Archaeology Group Symposium, Sheffield
- 1979 First Theoretical Archaeology Group Conference, Sheffield
- 1980 "Approaches to Micro-wear," Sheffield
- 1982 Session organizer, SAA Annual Meeting Minneapolis
- 1986 "Recent Research in Palaeolithic and Mesolithic Research," Sheffield
- 1986 "Social Implication of Technological Change," Theme organizer at World Archaeological Congress, Southampton
- 1992 Annual Meeting of the Australian Archaeological Association, Valla Beach
- 1992 Session organizer, "Melanesia: Archaeology sets the Paradigm," Australian Archaeological Association, Valla Beach
- 1994 Session organizer, "Culture Contact in Melanesia," World Archaeological Congress, Delhi
- 1997 Sixth Australasian Archaeometry Conference, Sydney
- 1998 Annual Meeting of the Australian Archaeological Association, Valla Beach
- 1998, 2000 Australian Research Council Special Initiative Workshop on Ancient Starch,
- 1999 Session Organiser, World Archaeological Congress 4, Capetown
- 2000-3 Theme and Session Organizer, World Archaeological Congress 5, Washington, D.C
- 2005 Session organizer, Fourth Lapita Conference, Tonga
- 2006 Session organizer, IPPA conference, Manila, Philippines
- 2008 Session organizer, World Archaeological Congress 6
- 2009 Session organizer, IPPA conference, Hanoi, Vietnam
- 2010 Workshop organizer, School of Advanced Research, Sante Fe, USA
- 2011 Workshop and session organizer, Lapita Pacific Archaeology conference, Apia, Samoa

### **PRINCIPAL RESEARCH PROJECTS**

#### **FIELD PROJECTS**

- 1969 Assistant Director of the Venango County Archaeological Project, Oil City, Pennsylvania, U.S.A.

- |           |                                                                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1971      | Field Supervisor for the Cottonwood Gulch Foundation excavation, Thoreau, New Mexico, U.S.A.                                                                             |
| 1972      | Research Assistant for the excavation and survey directed by Professor L. R. Binford at Anaktuvuk Pass, Alaska, U.S.A.                                                   |
| 1973      | Staff Archaeologist for the Natural Areas Survey of the L. B. Johnson School of Public Affairs at the University of Texas, Austin, Texas, U.S.A.                         |
| 1974-7    | Intensive programme of research at the obsidian quarries of Sta Nychia and Demenegaki on Melos, Greece. Test excavation of an obsidian dump at Phylakopi, Melos, Greece. |
| 1982-7    | Co-Director for excavation at the rockshelter and within the landscape of Roystone Rocks, Derbyshire. Sheffield University Field courses.                                |
| 1988-9    | Survey and sampling of obsidian sources and production sites at Talasea, New Britain with colleagues from the Australian Museum.                                         |
| 1991      | Analysis of tephra chronology in West New Britain, collaborative project with scholars from Australia, Japan, and PNG.                                                   |
| 1992-1997 | Excavation and survey of prehistoric sites on Garua Island, PNG.                                                                                                         |
| 1999-2005 | Survey and excavation in West New Britain, PNG                                                                                                                           |
| 2004-2008 | Survey and excavation of obsidian quarries, Far East Russia                                                                                                              |

#### LABORATORY AND MUSEUM PROJECTS

- |           |                                                                                                                                                                                                             |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1974-80   | Detailed analysis of the waste products at Sta Nychia and Demenegaki obsidian quarries, Melos, Greece.                                                                                                      |
| 1975-6    | Analysis of the chipped stone from the following sites in Greece: Knossos (excavations of S. Hood, P. Warren, J. D. Evans), Pyrgos, Lerna, Nemea, Ayia Irini, Southern Argolid Survey, Achilleion, Halieis. |
| 1976-1988 | Analysis of the chipped stone assemblages from the bronze age site of Phylakopi, Greece.                                                                                                                    |
| 1977      | Seriation analysis of the chipped stone from the Melos site survey, Greece.                                                                                                                                 |

1978	Attribute analysis of 250 prismatic, obsidian cores from the Phylakopi collection housed in the National Museum of Denmark, Copenhagen.
1978	Descriptive study of the chipped stone assemblages from the site survey of the Biferno Valley, Molise, Italy.
1980-1990	Analysis of the chipped stone assemblages from the bronze age site of Ayia Irini, Greece.
1984	Analysis of the chipped stone assemblages from the Kea Archaeological Survey, Greece.
1984-6	Analysis of the chipped stone assemblages from the Nemea Valley Archaeological Project (including the survey and the excavation at the prehistoric site of Tsoungiza), Greece.
1986-1990	Analysis of assemblages from the obsidian quarry at Umleang, Manus Province, PNG.
1987	Analysis of obsidian artefacts from recent sites on Watom Island and various Lapita sites in the Pacific.
1987-1995	Museum study of obsidian-tipped daggers and spears from the Admiralty Islands. Collections housed in Britain, U.S.A., Australia, PNG.
1991-on	Analysis of obsidian production and exchange using assemblages from West New Britain, PNG.
1992-on	Analysis of the effects of obsidian exchange on subsistence and land use on producers Garua Island, West New Britain, PNG. Involves artifact and plant fossil analyses, dating, obsidian characterisation.
1996-2004	Analysis of modern reference material and ancient starch grains in order to establish a classification scheme for starch grains.
1999-on	Analysis of lithic artifacts from West New Britain, PNG.
2007 on	Analysis of ancient starch from stone mortars and pestles, Australian Museum
2007 on	Analysis of Indigenous agency based on studies of museum collections from Central Province and Wuvulu, PNG

## RESEARCH GRANTS

- 1976 Sheffield University Research Fund, for the study of obsidian artifacts from Greece: £453.
- 1978 British Academy, for the study of Phylakopi cores in Copenhagen: £383.
- 1979 Science Research Council, UK, for research on obsidian microwear (with P. A. Phillips): £5000.
- 1979 Sheffield University Research Fund, for the study of chipped stone from Molise: £115.70.
- 1980 Sheffield University Research Fund, for the study of chipped stone from Ayia Irini: £138.50
- 1981 Sheffield University Research Fund, for the study of chipped stone from Ayia Irini: £295.50.
- 1981 Sheffield University Travel Grant: £175.
- 1981 British Academy, for the study of chipped stone from Ayia Irini: £500.
- 1981 Science Research Council, UK, obsidian microwear (with P. A. Phillips). £6,600.
- 1982 British Academy Conference Grant: £300.
- 1983 The Society of Antiquaries of London, for excavations at Roystone Grange (with G. Barker): £200.
- 1984 Prehistoric Society for excavations at Roystone Grange (with G. Barker): £250.
- 1984 The Society of Antiquaries of London, for excavations at Roystone Grange (with G. Barker): £500.
- 1984 Sheffield University Research Fund for the study of chipped stone on Kea: £300.
- 1985 British Academy, for fieldwork on Lou Island, Melanesia. £1000.

- 1985      Sheffield University Research Fund for fieldwork on Lou Island, Melanesia. £199.70.
- 1986      British Academy, for study of Melanesian obsidian in Australia: £1680.
- 1987      Sheffield University Research Fund, for analysis of museum collections in Papua New Guinea: £325.
- 1988      British Academy, for the analysis of museum collections of obsidian-tipped spears and daggers from the Admiralty Islands: £1981.
- 1989      Wenner-Gren Anthropological Foundation, for the analysis of museum collections of obsidian-tipped spears and daggers from the Admiralty Islands: US \$8000.
- 1992      Australian Research Council, for survey and excavation of archaeological sites on Garua Island, West New Britain, PNG \$30,000.
- 1993      Australian Research Council, for survey and excavation of archaeological sites on Garua Island, West New Britain, PNG. \$30,000.
- 1994      Australian Research Council, for survey and excavation of archaeological sites on Garua Island, West New Britain, PNG: \$15,000.
- 1992      Australia and Pacific Foundation, for excavation on Garua Island, West New Britain, PNG: \$6950.
- 1993      Australia and Pacific Foundation, for excavation on Garua Island, West New Britain, PNG: \$6950.
- 1994      Papua New Guinea Biological Foundation, for ethnobotany in West New Britain, PNG: \$6700.
- 1994      AINSE, for obsidian characterisation (with J. P. White): \$19,010.
- 1994      ARC Small Grant AMS, Associate Investigator on grant to Bill Boyd for dating of phytoliths from Garua Island: \$10,000
- 1995      AINSE, for obsidian characterisation (with J. P. White): \$23,180.
- 1995      National Science Foundation, Associate Investigator on grant to John Terrell, for excavation in PNG: US \$79,000.

1995	<u>Australian Museum</u> (with R. Fullagar), Preparation of starch reference collection, \$9,000.
1996-7	<u>ARC Major Grant</u> (with B. Boyd), Archaeological Research on Garua Island: \$45,000.
1996	<u>Australian Museum</u> (with R. Fullagar) Extraction and analysis of starch from modern soils: \$19,700.
1996	<u>Earthwatch Institute</u> Excavation on Garua Island: \$7315.
1996	<u>AINSE</u> (with P. White) Obsidian characterization: \$14,400.
1997	<u>Australian Museum</u> (with J. Specht) Fieldwork at Numundo Plantation, PNG: \$8,000.
1997	<u>Earthwatch</u> Excavation on Garua Island: \$2926.
1997.	<u>AINSE</u> (with P. White): Obsidian characterization: \$9000.
1997-8	<u>ARC Small</u> (with P. White): \$26,000.
1998	<u>ARC Special Initiative Grant</u> Analysis of prehistoric starch: \$30,000.
1998	<u>AINSE</u> (with P. White) Obsidian characterization: \$19,800.
1998	<u>AINSE</u> (with B. Boyd) Obsidian characterization: \$9000.
1998	<u>Australian Museum</u> (with J. Specht) Analysis of starch and pollen from West New Britain cores, PNG: \$10,000.
1999	<u>Australian and Pacific Foundation</u> Fieldwork at Numundo Plantation, PNG: \$7290.
1999	<u>AINSE</u> (with P. White) Obsidian characterization: \$12,600.
2000	<u>AINSE</u> (with P. White) Obsidian characterization: \$14,400.
2000	<u>Papua New Guinea Biological Foundation</u> , Fieldwork at Numundo Plantation, PNG, \$6710.

2000	<u>Australian Museum</u> (with J. Specht) Dating of volcanic eruptions in PNG: \$8,500.
2001-3	<u>ARC Large Grant</u> Fieldwork and analysis of Willaumez Peninsula, PNG: \$300,000.
2001	<u>AINSE</u> (with P. White) Obsidian characterisation \$11,000; AMS dating: \$5,360.
2001	<u>Australian Museum Research Grant</u> , Survey of Unea Island, PNG: \$8,555
2002	<u>AINSE</u> Russian obsidian characterisation \$6,545; PNG obsidian characterization: \$6,545.
2002	<u>Papua New Guinea Biological Foundation</u> , Geological fieldwork in West New Britain: \$11,790.
2003	<u>AINSE</u> Obsidian characterisation, Papua New Guinea: \$9200.
2003	<u>Australian Museum Research Grant</u> , pollen coring in PNG: \$10,000
2004-7	<u>ARC Discovery</u> (with T. Doelman, N. Klujev), Reconstructing prehistoric exchange of volcanic glasses in Far East Russia: \$230,000.
2004	<u>AINSE</u> Russian obsidian characterization: \$11,875
2004	<u>ARC</u> Networks (member of group application): \$10,000
2005-9	<u>ARC</u> Network (member) Discovering the past and present to shape the future: networking environmental sciences for understanding and managing Australian biodiversity. [Director Prof Bob Hill, University of Adelaide: \$1,500,000]
2006	<u>AINSE</u> , Characterisation of obsidian sources from Papua New Guinea: \$16,000
2006	<u>AINSE</u> Volcanic glass and human colonisation of remote Oceania: \$9500
2006	Wenner-Gren Foundation for Anthropological Research (with Klujev): US\$28,500
2006-8	<u>ARC</u> Linkage (with A. Clarke and J. Philp) Producers and collectors: Uncovering the role of Indigenous agency in the formation of museum collections: \$103,950

- 2007                      Australian Museum Research Grant (with I. Graham), pilot study of Laser Ramon technology: \$6,600
- 2009-2012              ARC Discovery (with E. Carter and N. Kononenko) Valuing stones: obsidian stemmed tools in the creation of social complexity in Papua New Guinea: \$457,000

## CURRENT RESEARCH INTERESTS

Method and theory in lithic studies  
 Archaeology of the Pacific region  
 Prehistoric exchange (with special reference to obsidian)  
 Role of natural disasters and risk avoidance in long term history  
 Indigenous agency within colonial societies (with special reference to Papua New Guinea)  
 Complexity and diversity of material culture  
 Hunter-Gatherers

## PUBLICATIONS

### BOOKS

- 2011     Byrne, S., Clarke, A., Harrison, R., Torrence, R. (eds) *Unpacking the Collection: Networks of Material and Social Agency in the Museum*. New York: Springer.
- 2011     Specht, J. and Torrence, R. (eds) *Changing Perspectives in Australian Archaeology*. Technical Reports of the Australian Museum, Online 23.
- 2007     Grattan, J. and Torrence, R. (eds) *Living Under the Shadow: The Cultural Impacts of Volcanic Eruptions*. Walnut Creek, California: Left Coast Press.
- 2007     Torrence, R. (ed.) New Approaches to the Study of Volcanic Glass. *Papers from the Manila Congress, Bulletin of the Indo-Pacific Prehistory Association* 27: 114-162.
- 2006     Torrence, R. and Barton, H. (eds) *Ancient Starch Research*. Walnut Creek, California: Left Coast Press.
- 2003     Specht, J. Attenbrow, V. and Torrence, R. (eds) *Shaping the Future Pasts: Papers in Honour of J. Peter White*. Special issue, *Australian Archaeology* 57. 16 chapters.



- 2002 Torrence, R. And Grattan, J. (eds), *Natural Disasters and Culture Change*. London: Routledge.
- 2000 Torrence, R. and Clarke, A. (eds), *The Archaeology of Difference: Negotiating Cross-Cultural Engagements in Oceania*. London: Routledge.
- 1997 Torrence, R. and White, J. P. (eds), *For the Experimental Archaeologist: Papers Presented to Wal Ambrose*. Special issue *Archaeology in Oceania* 32 (1). 15 chapters.
- 1989 van der Leeuw, S. E. and Torrence, R. (eds), *What's New? A Closer Look at the Process of Innovation*. London: Allen and Unwin.
- 1989 Torrence, R. (ed.), *Time, Energy and Stone Tools*. Cambridge: Cambridge University Press. Reprinted in paperback 2009.
- 1986 Torrence, R., *Production and Exchange of Stone Tools: Prehistoric Obsidian in the Aegean*. Cambridge: Cambridge University Press. Reprinted in paperback 2009.
- 1983 Torrence, R., and Cherry, J. (eds), L. R. Binford, *In Pursuit of the Past*. London: Thames and Hudson. Reprinted by University of California Press 2002.

## ARTICLES

- In press Torrence, R. Volcanic disasters and agricultural intensification: a case study from the Willaumez Peninsula, Papua New Guinea. *Quaternary International*. DOI 10.1016/j.quaint.2011.03.041
- In press Clarke, Anne and Torrence, R. Archaeology and the collection: tracing material relationships in colonial Papua from 1875 to 1925 *Journal of Australian Studies*.
- 2011 Torrence, R. and Clarke, A. "Suitable for decoration of halls and billiard rooms," finding indigenous agency in historic auction and sale catalogues. In Byrne, S., Clarke, A., Harrison, R., Torrence, R. (eds) *Unpacking the Collection: Networks of Material and Social Agency in the Museum*, pp. 29-54. New York: Springer.
- 2011 Byrne, S., Clarke, A., Harrison, R., Torrence, R. Networks, agents and objects: frameworks for unpacking museum collections. In Byrne, S., Clarke, A., Harrison, R., Torrence, R. (eds) *Unpacking the Collection: Networks of Material and Social Agency in the Museum*, pp. 3-28. New York: Springer.
- 2011 Torrence, R. Finding the right question: learning from stone tools on the Willaumez Peninsula, Papua New Guinea. *Archaeology in Oceania* 46: 29-41.

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## MUSEUM EXHIBITIONS

- 1993-4 (6 months) (written and designed with S. Colley and the staff at the Macleay Museum)  
“Lukluk Bek Long Taim Bepo: Community Archaeology in Papua New Guinea.” Macleay Museum, University of Sydney.
- 1995 on (written and designed with S. Colley and the staff at the Macleay Museum)  
“How We Know About the Past: Archaeology in West New Britain.” National Museum and Art Gallery, Port Moresby, Papua New Guinea.