

The education of archaeologists for the 21st century

F. Donald Pate

Department of Archaeology, Flinders University, Adelaide, SA 5001, Australia. Email: donald.pate@flinders.edu.au.

Introduction

The recent introduction of archaeology to the Australian university curriculum in the late 1940s and the rapid changes in archaeological theory and method that occurred worldwide during its establishment in academic institutions have resulted in major adjustments in course content and scope over the past 50 years. A curriculum that focused initially on classical archaeology and ancient history (Cambitoglou 1979; Mulvaney 1993; O'Hea 2000; Trendall 1979) was expanded to include prehistoric archaeology (Allen and O'Connell 1995; Flood 1999; Mulvaney 1969, 1971, 1990; Mulvaney and Kamminga 1999; Smith et al. 1993; Spriggs et al. 1993; White and O'Connell 1982), archaeological science (Ambrose and Duerden 1982; Ambrose and Mummery 1987; Fankhauser and Bird 1993; Pate 2000; Prescott 1988), historical archaeology (Birmingham 1976; Connah 1993; Murray and Allen 1986; Paterson and Wilson 2000), cultural heritage management (Bickford 1991; Egloff 1984; Flood 1993; Green 1996; McKinlay and Jones 1979; Smith 2000) and maritime archaeology (Green 1990; Henderson 1986; Hosty and Stuart 1994; McCarthy 1998; Staniforth 2000). More recent additions to the curriculum include the archaeology of contemporary human societies, i.e. modern material culture (Farmen 2005; Noble 1995) and forensic archaeology (Blau 2004; Pate 2003).

The importance of cultural resource management (CRM) or cultural heritage management (CHM), as it is more commonly referred to in Australia, has increased significantly during this period resulting in a shift in primary archaeological employment from academia and museums to government and contract positions (Cleere 1984; Colley 2002; Cotter et al. 2001; Fowler 1982; McGimsey 1972; Pearson and Sullivan 1995; Schiffer and Gumerman 1977; Smith and Clarke 1996; Sullivan 1980; Zeder 1997).

Archaeology in Australian universities

Unlike Europe and North America where there is a relatively long history of professional archaeology associated with universities (Daniel 1975; Trigger 1989; Willey and Sabloff 1993), the first Australian academic appointments in archaeology did not occur until the late 1940s and early 1950s. Arthur Trendall established the Department of Archaeology at the University of Sydney in 1948 and served as Foundation Professor of Archaeology from 1948-1953. Trendall's research and teaching focused on classical Greek archaeology. He also held the Chair of Greek at the University of Sydney from 1939-1953. James

R. Stewart was also a foundation member of the Sydney department with interests in Near Eastern archaeology. Both Trendall and Stewart were educated at Cambridge University (Trendall 1979). John Mulvaney returned from postgraduate studies at Cambridge in late 1953 and was appointed Lecturer in Ancient World History in the Department of History at the University of Melbourne in 1954. Mulvaney introduced a topic in Pacific prehistory as an Honours history option in 1957 (Mulvaney 1990, 1993).

In the early 1960s there was a significant increase in the number of archaeologists working in academic institutions in Australia. In contrast to the earlier appointments in classical archaeology and ancient history, these new positions focused on the prehistory of Australia and adjacent island Melanesia (Allen et al. 1977; Golson 1971, 1977; Hallam 1975; Jones 1966; Lilley 2000; Megaw 1966, 1974; Moser 1995; Mulvaney 1964; White and O'Connell 1982). Funding for research in Australian prehistory was facilitated by the foundation of the Commonwealth Australian Institute of Aboriginal Studies in late 1961. Initial prehistoric research in Australia addressed chronology and adaptive variability across different environmental zones. Consequently, early fieldwork was dominated by excavations of occupation sites with long stratigraphic sequences and archaeological surveys in a variety of ecological settings.

After establishing a prehistory program within the Department of Anthropology at the University of Auckland (1954-1960), Jack Golson, also educated at Cambridge, arrived at the Australian National University, Canberra in 1961 to set up a Prehistory Section within the Department of Anthropology and Sociology, Research School of Pacific Studies. John Mulvaney left the University of Melbourne in 1965 to join Golson as a Senior Research Fellow in Prehistory. Henry Polach also arrived at the Australian National University in 1965 to establish the Radiocarbon Dating Laboratory. Polach's arrival had a major impact on the development of archaeological science in Australia.

Australian prehistoric archaeology was also introduced at the University of Sydney in the early 1960s in both the Archaeology and Anthropology Departments. The foundation lecturers included Vincent Megaw (MA, Edinburgh) in the Department of Archaeology, and Richard Wright (MA, Cambridge) and Rhys Jones (MA, Cambridge) in the Department of Anthropology. In addition, Isabel McBryde (Diploma in Prehistoric Archaeology, Cambridge) introduced prehistoric archaeology in the Department of History at the University of New England in the early 1960s. McBryde supervised the first Australian-based prehistory Honours thesis which was submitted by Sharon Sullivan in 1964. In 1966, McBryde completed a PhD thesis at the University of New England addressing the distribution of prehistoric sites and artefacts across various environmental zones of the New England region of New South Wales. This was the first archaeology PhD degree to be awarded in Australia for

research based on Australian fieldwork (Bowdler and Clune 2000; Moser 1995). Mulvaney (1969) summarised prehistoric archaeological research results in Australia and provided an outline of the technological history of the continent. Jones' research in Tasmania culminated in a PhD thesis at the University of Sydney in 1971.

Thus, the archaeologists who developed academic programs in Australian universities continued to be educated in the United Kingdom, with a strong emphasis on Cambridge University and the economic and environmental/ecological approaches that were taught there. However, the expansion of archaeology programs in Australian universities resulted in a large number of locally educated archaeologists who occupied the newly created academic positions that emerged across the country in the 1970s and 1980s (Golson 1986; McBryde 1986; Murray and White 1981). The first Australian based professional journals devoted to archaeology, *Archaeology and Physical Anthropology in Oceania* (University of Sydney) and *The Artefact* (Archaeological Society of Victoria) commenced publication in 1966, and *Australian Archaeology* (the journal of the Australian Archaeological Association) followed in 1974.

An expansion of the archaeological curriculum also occurred in North America during the 1960s and 1970s. Anthropological archaeologists (Binford 1962; Binford and Binford 1968; Deetz 1970; Gould 1978a, 1978b; Reid et al. 1974; Schiffer 1972, 1975, 1976, 1977) argued that the discipline of archaeology should not be confined to the study of prehistory and ancient civilisations but should encompass human behavioural inferences from material objects, i.e. artefacts, in all space and time, including early hominids (Isaac 1989), historic or colonial periods (Bass 1966, 1974; Deetz 1977; Ferguson 1977; South 1977; Schuyler 1978), and modern or contemporary societies (Gould and Schiffer 1981; Rathje 1979; Rathje and Schiffer 1982). Thus, archaeology was redefined as a social science that addressed relationships between artefacts and human behaviour in all prehistoric, historic, and contemporary societies, and teaching and research in North American universities reflected this expanded archaeological agenda.

Following the establishment of prehistoric archaeology as a core area of teaching and research, the Australian university curriculum was expanded in the 1970s and 1980s to provide increased emphases on historical archaeology and archaeological science. Judy Birmingham, Senior Lecturer in Near Eastern Archaeology, Department of Archaeology, University of Sydney, played a key role in the establishment of historical archaeology in Australia. In association with the University of Sydney Archaeological Society, Birmingham commenced historical excavations at the Irrawang site in the lower Hunter Valley of New South Wales in 1965 (Birmingham 1976, 1990). In response to increasing interest in historical archaeology, the Australian Society for Historical Archaeology was founded in 1970 and its journal, the *Australian Journal of Historical Archaeology*, commenced publication in 1983. Graham Connah, University of New England, Armidale, was the founding editor of the journal. Birmingham played a significant role in the establishment of the society and the associated journal. Furthermore, Birmingham initiated

teaching in historical archaeology in 1974 via an interdisciplinary undergraduate course at the University of Sydney (Bowdler and Clune 2000; Connah 1993).

The focus on scientific method and scientific techniques provided by the emerging 'New Archaeology' (Binford and Binford 1968), the ongoing development of chronometric methods to date prehistoric archaeological sites, and the established emphasis on environmental and economic data derived from the British tradition (Brothwell and Higgs 1963; Clark 1952; Veth et al. 2000), resulted in strong support for the expansion of archaeometry and archaeological science in Australia. Consequently, a substantial amount of interdisciplinary teaching and research in these areas at both undergraduate and postgraduate levels was carried out in association with various laboratories and institutions located in Australia and overseas. This focus on scientific method resulted in seven major Australian-based archaeometry conferences held between 1982 and 2005. Wal Ambrose, Department of Prehistory, Research School of Pacific Studies, Australian National University, played a major role in the establishment of these conferences and in the publication of their proceedings (Ambrose and Duerden 1982; Ambrose and Mummery 1987; Torrence and White 1997).

In contrast, cultural heritage management, maritime archaeology and modern material culture have only received limited attention in archaeology undergraduate and postgraduate curricula in Australia. Although a basic introduction to cultural heritage management is provided by a range of undergraduate topics in archaeology and related disciplines at various universities, there are limited opportunities to pursue postgraduate study in archaeological CHM. Only a few universities have introduced archaeology postgraduate programs focusing on CHM, e.g. the Graduate Diploma in Archaeological Heritage (University of New England) and the Postgraduate Certificate/Masters of Cultural Heritage Studies (James Cook University). A number of generic postgraduate programs in cultural heritage management are offered at various universities across Australia, but these programs do not provide the complex set of skills and knowledge required by the archaeological CHM professional.

For years university courses in maritime archaeology in Australia were restricted to a postgraduate Diploma in Maritime Archaeology at Curtin University (formerly West Australian Institute of Technology). This course was introduced in 1980 in association with the Department of Maritime Archaeology at the Western Australian Maritime Museum (Hosty and Stuart 1994). Offerings in maritime archaeology were expanded significantly with the introduction of undergraduate topics at James Cook University in 1993 and at Flinders University in 1996 (McCarthy 1998; Staniforth 2000), and in 2003 Flinders University introduced a postgraduate program in maritime archaeology. Although most undergraduate archaeology programs offer general topics in material culture studies, many in association with anthropology and museum studies programs, modern material culture as promoted by Gould, Rathje and Schiffer (Gould and Schiffer 1981; Rathje 1979) has had limited application in Australian archaeology.

Future directions in teaching and learning

This Special Volume of *Australian Archaeology* addresses some of the major topics of debate concerning the improvement of teaching and learning practices in contemporary archaeology. Since the late 1980s, Australian universities have become significantly more reflective regarding relationships between learning goals/outcomes and associated teaching methods across a range of academic disciplines (Biggs 1987, 1999; Candy et al. 1994; HERDSA 1992; Higher Education Council 1992; Ramsden 1993, 2003). Many universities have established postgraduate programs in teacher education to improve teaching and learning practices among university lecturers (Martin and Ramsden 1994; Pate 1999). A range of published papers addressing teaching and learning in archaeology are emerging from these postgraduate programs and related research (Adams 2000; Balme and Wilson 2004; Colley 2000, 2003, 2004; Feary 1994; Pate 1998; Staniforth 1998; Walshe 2000).

In comparison to traditional lecture-based teaching methods involving passive information transfer to students, active and experiential techniques may facilitate deeper levels of understanding and have a greater potential of producing independent, life-long learners (Candy 1991; Gow and Kember 1993; McKay and Kember 1997; Ramsden 2003). Due to the field and laboratory orientation of archaeology, the discipline offers a range of learning environments in which active, experiential methods can be employed to teach basic principles and to provide students with a better understanding of the relationships between material culture and human behaviour.

The Australian Archaeological Association National Teaching and Learning Subcommittee was established in 2002 to encourage excellence in archaeological teaching and learning in Australia. The subcommittee provides a national and international forum to address various issues in relation to quality teaching in archaeology. Dr Sarah Colley (University of Sydney), Chair of the subcommittee, and Dr Sean Ulm (University of Queensland) acted as guest editors in relation to the production of this Special Volume of *Australian Archaeology*. The AAA subcommittee is now subsumed under the Australian Joint Interim Standing Committee on Archaeology Teaching and Learning in collaboration with the Australasian Institute for Maritime Archaeology (AIMA), the Australasian Society for Historical Archaeology (ASHA), and the Australian Association of Consulting Archaeologists Inc. (AACAI).

The significant changes that have occurred since the mid-1950s in relation to the expansion of archaeological subject matter and the introduction of numerous specialised analytical methods, have provided major challenges to teaching and learning in the discipline of archaeology. The emergence of historical archaeology as a dominant sub-field of archaeology and the associated scientific and heritage values attributed to historic sites have resulted in an increased demand for archaeologists who are familiar with materials from both prehistoric and historic periods (Fredericksen 2000; Paterson and Wilson 2000). Furthermore, an increased dependence on a range of analytical techniques associated with the interpretation of archaeological sites and materials has favored professional

archaeologists who can communicate with experts from a range of specialist areas. In addition, the significant evolution that has occurred in computer systems, survey techniques, and databases, e.g. Geographic Information Systems (GIS), over the past 25 years, requires a sound understanding of these technologies in relation to the practice of both conventional archaeological research and cultural heritage management.

Finally, although a majority of university archaeology graduates in Australia are employed in the cultural heritage management area, the university archaeology curriculum has not adapted to accommodate the educational needs of CHM professionals (Colley 2004; Flood 1993; Moser 1995). Similar arguments have been made in relation to the education of archaeological cultural resource management (CRM) professionals in the Americas (Bender and Smith 2000; Blanton 1995; Cameron and Anyon 1995; Pape 1995). Thus, in relation to future developments in the evolution of the university archaeology curriculum in Australia, the educational needs of cultural heritage management professionals require urgent attention.

The substantial efforts that Australian universities have made over the past 15 years in providing lecturers with access to postgraduate qualifications in tertiary education have produced a new cohort of educators who can tackle the range of teaching and learning issues confronting various disciplines. The Australian Joint Interim Standing Committee on Archaeology Teaching and Learning is providing an important resource for addressing these issues as they relate to the education of professional archaeologists.

Acknowledgements

Vincent Megaw and Mark Staniforth (Department of Archaeology, Flinders University), Faith Trent (Executive Dean, Faculty of Education, Humanities, Law, and Theology, Flinders University), and one anonymous referee provided useful comments regarding an earlier draft of this paper. I thank Sarah Colley and Sean Ulm for their roles as Guest Editors in relation to the production of this Special Volume of *Australian Archaeology*.

References

- Adams, W. H. 2000 The shift from individualism to a collaborative approach for teaching and integrating curriculum design. In H. Silins and J. Orrell (eds) *Improving University Teaching and Learning*, Volume V, pp. 95-110. Adelaide: Flinders University.
- Allen, J. and J. F. O'Connell (eds) 1995 Transitions: Pleistocene to Holocene in Australia and Papua New Guinea. *Antiquity* 69 (265).
- Allen, J., J. Golson, and R. Jones (eds) 1977 *Sunda and Sahul: Prehistoric Studies in Southeast Asia, Melanesia, and Australia*. London: Academic Press.
- Ambrose, W. and P. Duerden (eds) 1982 *Archaeometry: An Australasian Perspective*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Ambrose, W. R. and J. M. J. Mummery (eds) 1987 *Archaeometry: Further Australasian Studies*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Balme, J. and M. Wilson 2004 Perceptions of archaeology in Australia amongst educated young Australians. *Australian Archaeology* 58:19-24.

- Bass, G. F. 1966 *Archaeology Under Water*. London: Thames and Hudson.
- Bass, G. F. (ed.) 1974 *A History of Seafaring Based on Underwater Archaeology*. New York: Walker and Company.
- Bender, S. and G. Smith (eds) 2000 *Teaching Archaeology in the Twenty-First Century*. Washington, D.C.: Society for American Archaeology.
- Bickford, A. 1991 The Australian ICOMOS Charter (the Burra Charter) and First Government House. In G. Davison and C. McConville (eds), *A Heritage Handbook*, pp. 38-42. Sydney: Allen and Unwin.
- Biggs, J. 1987 *Student Approaches to Learning and Studying*. Melbourne: Australian Council for Educational Research.
- Biggs, J. 1999 *Teaching for Quality Learning*. Buckingham: Society for Research in Higher Education and Open University Press.
- Binford, L. R. 1962 Archaeology as anthropology. *American Antiquity* 28:217-225.
- Binford, S. R. and L. R. Binford (eds) 1968 *New Perspectives in Archaeology*. Chicago: Aldine.
- Birmingham, J. 1976 The archaeological contribution to nineteenth century history: Some Australian case studies. *World Archaeology* 7:306-317.
- Birmingham, J. 1990 A decade of digging: Deconstructing urban archaeology. *Australian Journal of Historical Archaeology* 8:13-22.
- Blanton, D. B. 1995 The case for CRM training in academic institutions. *Society for American Archaeology Bulletin* 13(4):40-41.
- Blau, S. 2004 Forensic archaeology in Australia: Current situations, future possibilities. *Australian Archaeology* 58:11-14.
- Bowdler, S. and G. Clune 2000 That shadowy band: The role of women in the development of Australian archaeology. In F. D. Pate (ed.) *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 27-35. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Brothwell, D. R. and E. S. Higgs (eds) 1963 *Science in Archaeology*. London: Thames and Hudson.
- Cambitoglou, A. (ed.) 1979 *Studies in Honour of Arthur Dale Trendall*. Sydney: Sydney University Press.
- Cameron, C. M. and R. Anyon 1995 Finding creative solutions for restructuring American archaeology: A summary. *Society for American Archaeology Bulletin* 13(4):28, 54.
- Candy, P. C. 1991 *Self-Direction for Lifelong Learning: A Comprehensive Guide to Theory and Practice*. San Francisco: Jossey-Bass.
- Candy, P. C., G. Crebert and J. O'Leary 1994 *Developing Lifelong Learners through Undergraduate Education*. Canberra: Australian Government Publishing Service. *National Board of Employment, Education, and Training Commissioned Report* 28.
- Clark, J. D. G. 1952 *Prehistoric Europe: The Economic Basis*. London: Methuen.
- Cleere, H. (ed.) 1984 *Approaches to the Archaeological Heritage: A Comparative Study of World Cultural Resource Management*. Cambridge: Cambridge University Press.
- Colley, S. 2000 Archaeology and education in Australia. *Antiquity* 74:171-177.
- Colley, S. 2002 *Uncovering Australia: Archaeology, Indigenous People and the Public*. Sydney: Allen and Unwin.
- Colley, S. 2003 Lessons for the profession: Teaching archaeology practical work skills to university students. *Australian Archaeology* 57:90-97.
- Colley, S. 2004 University-based archaeology teaching and learning and professionalism in Australia. *World Archaeology* 36(2):189-202.
- Connah, G. 1993 *The Archaeology of Australia's History*. Cambridge: Cambridge University Press.
- Cotter, M., B. Boyd and J. Gardiner (eds) 2001 *Heritage Landscapes: Understanding Place and Communities*. Lismore: Southern Cross University.
- Daniel, G. 1975 *A Hundred and Fifty Years of Archaeology* (2nd ed.). London: Duckworth.
- Deetz, J. 1970 Archaeology as a social science. In A. Fischer (ed.) *Current Directions in Anthropology*, pp. 115-125. Washington, D.C.: American Anthropological Association. *AAA Bulletin* 3(2).
- Deetz, J. 1977 *In Small Things Forgotten: The Archaeology of Early American Life*. New York: Anchor Books.
- Egloff, B. 1984 Cultural resource management: A view from Port Arthur historic site. *Australian Journal of Historical Archaeology* 2:73-79.
- Fankhauser, B. L. and J. R. Bird (eds) 1993 *Archaeometry: Current Australasian Research*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Farmen, K. 2005 The Antipodean Hog Farm: Youth Subcultures, Human Ecology and Investigations into the Lifeways of Australia's Hippies. Unpublished MA thesis, Department of Archaeology, Flinders University, Adelaide.
- Feary, S. 1994 Teaching and research in archaeology: Some statistics. *Australian Archaeology* 39:130-132.
- Ferguson, L. B. (ed.) 1977 *Historical Archaeology and the Importance of Material Things*. Washington, D.C.: Society for Historical Archaeology. *Society for Historical Archaeology Special Publications Series* 2.
- Flood, J. 1993 Cultural resource management in Australia. In M. Spriggs, D. E. Yen, W. Ambrose, R. Jones, A. Thorne, and A. Andrews (eds), *A Community of Culture: The People and Prehistory of the Pacific*, pp. 259-265. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Flood, J. 1999 *Archaeology of the Dreamtime: The Story of Prehistoric Australia and its People* (4th ed.). Sydney: Angus and Robertson.
- Fowler, D. D. 1982 Cultural resources management. In M. B. Schiffer (ed.) *Advances in Archaeological Method and Theory* 5:1-50. New York: Academic Press.
- Fredericksen, C. 2000 History and prehistory: Essential dichotomy or arbitrary separation? In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 94-97. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Golson, J. 1971 Both sides of the Wallace Line: Australia, New Guinea, and Asian prehistory. *Archaeology and Physical Anthropology in Oceania* 6:124-144.
- Golson, J. 1977 No room at the top: Agricultural intensification in the New Guinea highlands. In J. Allen, J. Golson and R. Jones (eds), *Sunda and Sahul: Prehistoric Studies in Southeast Asia, Melanesia and Australia*, pp. 601-638. London: Academic Press.
- Golson, J. 1986 Old guards and new waves: Reflections on antipodean archaeology 1954-1975. *Archaeology in Oceania* 21:2-12.
- Gould, R. A. 1978a The anthropology of human residues. *American Anthropologist* 80:815-835.
- Gould, R. A. (ed.) 1978b *Explorations in Ethnoarchaeology*. Albuquerque: University of New Mexico Press.
- Gould, R. A. and M. B. Schiffer (eds) 1981 *Modern Material Culture: The Archaeology of Us*. New York: Academic Press.
- Gow, L. and D. Kember 1993 Conceptions of teaching and their relationship to student learning? *British Journal of Educational Psychology* 63:20-33.
- Green, J. 1990 *Maritime Archaeology*. New York: Academic Press.
- Green, J. 1996 Management of maritime archaeology under Australian legislation. *Bulletin of the Australian Institute for Maritime Archaeology* 19:33-44.

- Hallam, S. 1975 *Fire and Hearth: A Study of Aboriginal Usage and European Usurpation in South-Western Australia*. Canberra: Australian Institute of Aboriginal Studies.
- Henderson, G. 1986 *Maritime Archaeology in Australia*. Nedlands: University of Western Australia Press.
- Higher Education Council 1992 *Higher Education: Achieving Quality*. Canberra: Australian Government Publishing Service.
- Higher Education Research and Development Society of Australasia (HERDSA) 1992 *Challenging Conceptions of Good Teaching: Some Prompts for Good Practice*. Sydney: HERDSA.
- Hosty, K. and I. Stuart 1994 Maritime archaeology over the last twenty years. *Australian Archaeology* 39:9-19.
- Isaac, B. (ed.) 1989 *The Archaeology of Human Origins: Papers by Glynn Isaac*. Cambridge: Cambridge University Press.
- Jones, R. 1966 A speculative archaeological sequence for north-west Tasmania. *Records of the Queen Victoria Museum, Launceston* 25:1-12.
- Lilley, I. 2000 So near and yet so far: Reflections on archaeology in Australia and Papua New Guinea, intensification and culture contact. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 36-44. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Martin, E. and P. Ramsden 1994 *Effectiveness and Efficiency of Courses in Teaching Methods for Recently Appointed Academic Staff*. Canberra: Australian Government Publishing Service.
- McBryde, I. 1986 Australia's once and future archaeology. *Archaeology in Oceania* 21:13-28.
- McCarthy, M. 1998 Australian maritime archaeology: Changes, their antecedents and the path ahead. *Australian Archaeology* 47:33-38.
- McGimsey, C. R. 1972 *Public Archaeology*. New York: Seminar Press.
- McKay, J. and D. Kember 1997 Spoon feeding leads to regurgitation: A better diet can result in more digestible learning outcomes. *Higher Education Research and Development* 16:55-67.
- McKinlay, J. R. and K. L. Jones (eds) 1979 *Archaeological Resource Management in Australia and Oceania*. Wellington: New Zealand Historic Places Trust.
- Megaw, J. V. S. 1966 Australian Archaeology - how far have we progressed? *Mankind* 6:306-312.
- Megaw, J. V. S. 1974 *The Recent Archaeology of the Sydney District: Excavations 1964-1967*. Canberra: Australian Institute of Aboriginal Studies.
- Moser, S. 1995 Archaeology and its Disciplinary Culture: The Professionalisation of Australian Prehistoric Archaeology. Unpublished PhD thesis, University of Sydney, Sydney.
- Mulvaney, D. J. 1964 Australian archaeology 1929-1964: Problems and policies. *Australian Journal of Science* 27:39-44.
- Mulvaney, D. J. 1969 *The Prehistory of Australia*. London: Thames and Hudson.
- Mulvaney, D. J. 1971 Prehistory from Antipodean perspectives. *Proceedings of the Prehistoric Society* 27:228-252.
- Mulvaney, D. J. 1990 *Prehistory and Heritage: The Writings of John Mulvaney*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Mulvaney, D. J. 1993 From Cambridge to the bush. In M. Spriggs, D. E. Yen, W. Ambrose, R. Jones, A. Thorne, and A. Andrews (eds), *A Community of Culture: The People and Prehistory of the Pacific*, pp. 18-26. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Mulvaney, D. J. and J. Kamminga 1999 *Prehistory of Australia*. St Leonards, NSW: Allen and Unwin.
- Murray, T. and J. Allen 1986 Theory and the development of historical archaeology in Australia. *Archaeology in Oceania* 21:85-93.
- Murray, T. and J. P. White 1981 Cambridge in the bush?: Archaeology in Australia and New Guinea. *World Archaeology* 13:255-263.
- Noble, A. H. 1995 An Analysis of the Potential of Roadside Rubbish to Provide Archaeological Information. Unpublished BA Honours thesis, Department of Archaeology, Flinders University, Adelaide.
- O'Hea, M. 2000 The archaeology of somewhere-else: A brief survey of Classical and Near Eastern archaeology in Australia. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 75-80. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Pape, W. K. 1995 Emerging crises in CRM archaeology. *Society for American Archaeology Bulletin* 13(2):24-26.
- Pate, F. D. 1998 Field and laboratory based experiential teaching as a strategy to promote active, independent learning in undergraduate archaeology. In H. Silins, R. Murray-Harvey and J. Orrell (eds), *Improving University Teaching and Learning*, Volume III, pp. 57-67. Adelaide: Flinders University.
- Pate, F. D. 1999 The Graduate Certificate in Tertiary Education at Flinders University: Improving teaching and learning in undergraduate archaeology. *Australian Archaeology* 49:60-63.
- Pate, F. D. 2000 Bone chemistry and palaeodiet: Bioarchaeological research at Roonka Flat, lower Murray River, South Australia 1983 - 1999. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 67-74. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Pate, F. D. 2003 Forensic archaeology at Flinders University. *Dig It: Newsletter of the Flinders University Archaeological Society* 14:6-9.
- Paterson, A. and A. Wilson 2000 Australian historical archaeology: Retrospects and prospects. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 81-89. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Pearson, M. and S. Sullivan 1995 *Looking after Heritage Places: The Basics of Heritage Planning for Managers, Landowners and Administrators*. Melbourne: Melbourne University Press.
- Prescott, J. R. (ed.) 1988 *Archaeometry: Australasian Studies 1988*. Adelaide: Department of Physics and Mathematical Physics, University of Adelaide.
- Ramsden, P. 1993 Theories of learning and teaching and the practice of excellence in higher education. *Higher Education Research and Development* 12:87-97.
- Ramsden, P. 2003 *Learning to Teach in Higher Education* (2nd ed.). London: Routledge.
- Rathje, W. L. 1979 Modern material culture studies. In M. B. Schiffer (ed.) *Advances in Archaeological Method and Theory* 2:1-37. New York: Academic Press.
- Rathje, W. L. and M. B. Schiffer 1982 *Archaeology*. New York: Harcourt, Brace and Jovanovich.
- Reid, J. J., W. L. Rathje and M. B. Schiffer 1974 Expanding archaeology. *American Antiquity* 39:125-126.
- Schiffer, M. B. 1972 Archaeological context and systemic context. *American Antiquity* 37:156-165.
- Schiffer, M. B. 1975 Archaeology as behavioral science. *American Anthropologist* 77:836-848.
- Schiffer, M. B. 1976 *Behavioral Archaeology*. New York: Academic Press.
- Schiffer, M. B. 1977 Toward a unified science of the cultural past. In S.A. South (ed.), *Research Strategies in Historical Archaeology*, pp. 13-50. New York: Academic Press.

- Schiffer, M. B. and G. J. Gumerman (eds) 1977 *Conservation Archaeology: A Guide for Cultural Resource Management Studies*. New York: Academic Press.
- Schuyler, R. (ed.) 1978 *Historical Archaeology: A Guide to Substantive and Theoretical Contributions*. Farmingdale: Baywood.
- Smith, L. 2000 A history of Aboriginal heritage legislation in south-eastern Australia. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 109-118. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Smith, L. and A. Clarke (eds) 1996 *Issues in Management Archaeology*. St Lucia: Anthropology Museum, University of Queensland. *Tempus* 5.
- Smith, M. A., M. Spriggs and B. Fankhauser (eds) 1993 *Sahul in Review: Pleistocene Archaeology in Australia, New Guinea, and Island Melanesia*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- South, S. A. 1977 *Method and Theory in Historical Archaeology*. New York: Academic Press.
- Spriggs, M., D. E. Yen, W. Ambrose, R. Jones, A. Thorne and A. Andrews (eds) 1993 *A Community of Culture: The People and Prehistory of the Pacific*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Staniforth, M. 1998 Student self-assessment and self-grading in archaeology. In H. Silins, R. Murray-Harvey and J. Orrell (eds) *Improving University Teaching and Learning*, Volume III, pp. 29-36. Adelaide: Flinders University.
- Staniforth, M. 2000 A future for Australian maritime archaeology?. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 90-93. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Sullivan, M. 1980 The Australian Association of Consulting Archaeologists. *Australian Archaeology* 10:117-118.
- Torrence, R. and J. P. White (eds) 1997 *For the Experimental Archaeologist: Papers Presented to Wal Ambrose*. Sydney: Oceania Publications. *Archaeology in Oceania* 32(1).
- Trendall, A. D. 1979 *Twenty Years of Progress in Classical Archaeology*. Sydney: Sydney University Press.
- Trigger, B. G. 1989 *A History of Archaeological Thought*. Cambridge: Cambridge University Press.
- Veth, P., S. O'Connor and L. A. Wallis 2000 Perspectives on ecological approaches in Australian archaeology. In F. D. Pate (ed.), *Archaeology in the New Millennium: The Past, Present and Future of Australian Archaeology*, pp. 54-66. Canberra: Australian Archaeological Association. *Australian Archaeology* 50.
- Walshe, K. 2000 Small group teaching: Archaeology tutorials. In H. Silins and J. Orrell (eds), *Improving University Teaching and Learning*, Volume V, pp. 87-94. Adelaide: Flinders University.
- White, J. P. and J. F. O'Connell 1982 *A Prehistory of Australia, New Guinea and Sahul*. New York: Academic Press.
- Wiley, G. R. and J. A. Sabloff 1993 *A History of American Archaeology* (3rd ed.). New York: W.H. Freeman.
- Zeder, M. A. 1997 *The American Archaeologist: A Profile*. Walnut Creek: Alta Mira Press.

