

From *Fire and Hearth* to regional archaeology in Tasmania

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ABSTRACT – In this paper we aim to track the intellectual connections between Dr Sylvia Hallam (Sylvia), in her time as a lecturer with the Department of Anthropology at the University of Western Australia, and ourselves, three ex-students and research assistants. Together, our experiences span a period of almost a decade of Sylvia's lecturing years (1973–1981), with numerous other professional and social encounters. In particular, we focus on outlining the influences from Sylvia's work and values brought to our archaeological and cultural heritage work in Tasmania (1984 to present). We emphasise two main influences that we took to Tasmania from Sylvia's teachings – the first a landscape or regional approach to archaeology, and the second a holistic or integrated approach to archaeology that incorporated a wide range of data sources. We note that both regions are rich in historical source materials relating to Aboriginal people and this facilitated the flow of ethnohistorical methods from Western Australia to Tasmania.

KEYWORDS: Sylvia Hallam, regional Aboriginal studies, cultural heritage management

Graham Clark's Cambridge students from the 1930s on were initiated into a tradition of archaeology ... [with a] concern with 'ecos', the home, the nexus of the particular locality, ... The Antipodean tradition has its roots here, though it took on other grafts. (Hallam 1977a: 172)

INTRODUCTION: SYLVIA HALLAM AND HER INTELLECTUAL SETTING

In the Australian, and specifically Tasmanian, world of the 1970s and 1980s, where the 'cowboy phase' of Aboriginal prehistory was giving way to the rise of the Cultural Resource Management bureaucrat and consultant, where can the influence of Sylvia Hallam be recognised? We suggest that a large part of the answer lies within the

research arena: Sylvia as active advocate for spatial approaches to landscape and artefact studies and a rigorous interrogator of historical documentary sources. The second arena in which we can most strongly recognise Sylvia's influence is as educator: as a teacher able to transmit great enthusiasm for her subject matter, and as mentor. In writing this paper, we see many commonalities in our approaches to archaeology and recognise that a number of these derive from our common experience of studying archaeology under Sylvia at the University of Western Australia (UWA). On reflection, we realise in retrospect the extent to which we subconsciously absorbed Sylvia's teaching, enthusiasm and mentoring.¹

Sylvia's Australian work of the 1970s and 1980s reworked the British tradition of topographic archaeology within UWA's Anthropology

¹ Having worked in archaeology as a 'geo-archaeologist for a number of years, I (AM) acknowledge my debt to Sylvia in this area as well. Through her teaching she inculcated in her students the view that the science disciplines were an integral part of archaeology. This was also a feature of her own research. In particular, she collaborated over a long period with John Glover of the UWA Geology Department in analysing local stone tool distributions, and encouraged me in this area as well.

Department headed by Ronald and Catherine Berndt. Sylvia very much viewed archaeology as an interdisciplinary science, not the exclusive preserve of archaeologists, but one that must draw on a range of disciplines: 'The archaeologist is constrained to attempt to be a jack-of-all trades and examine the data himself' (Hallam 1977a: 169). Sylvia's interrogation of primary source material was, in effect, an anthropological approach to archaeology and history, again reflecting the strong interdisciplinary paradigm within which she worked. Through inter-disciplinary connections, adapting methods, and interrogating data in light of information from ethnohistorical sources, Sylvia redefined an holistic landscape approach to regional studies.

In the 1970s, the new archaeology held sway. For Sylvia, as we well recall, what was a New Archaeology for Americans had been around in Britain and Europe for a considerable time! In her words:

Thus the Antipodes greeted and welcomed with no particular surprise those approaches to the relationship of habitat and population which in the still typologically oriented America of the sixties seemed so fresh and refreshing that the New World proclaimed the New Archaeology. (Hallam 1977a: 172)

Sylvia was a firm advocate of '... a spatial approach or set of approaches to artefact studies' (Hallam 1977a: 171) where the concept of artefact included all tangible and intangible evidence, context and connections across broad regions and the relationship between the prehistoric past and ethnographic present.

However difficult it may be to derive cognitive patterns from archaeological data, lore from localities, we must not ignore anything which can elucidate the social mechanics of grouping, spacing, territorial attachment and the scheduling of the ceremonial and economic year. (Hallam 1977a: 173)

As past students and employees on Sylvia's Swan River survey project, we were able to enter Tasmania enthused with a spatial and environmental approach to archaeology based on sound mid-20th century British methods adapted to an Australian context and modified by local and international influences. Finally, Sylvia added to this mix the integration of ethnohistorical methods and analysis.

Many aspects of Sylvia's underlying philosophical and personal-professional approaches to archaeology have also influenced us. They have engendered a preference for inter-disciplinary

and people-centered approaches that aim at being inclusive, collegial, supportive, open, honest and professional. We have only recently become aware of the tremendous debt of gratitude that we owe to Sylvia Hallam. If we have not been able to follow intellectually in Sylvia's footsteps, we at least hope to have acknowledged the debt we owe to her in our professional lives. We offer some reflections on these influences before describing our own work in Tasmania.

SYLVIA HALLAM AS RESEARCHER

Christopher Chippendale has made the comment that Sylvia's fieldwork in the 1950s around the Wash remains the most extensive single archaeological survey ever undertaken in Britain (UWA 2004: 5). This work, undertaken by Sylvia in 1950–52 (under the supervision of Dr Grahame Clark), comprised a large sample survey of a wide section of the South Lincolnshire 'silts', examining areas where air photographs suggested pre-medieval occupation (Hallam 1964, 1970). Contextualised within a long tradition of British field archaeology, linking back to the work of William Stukely in the area between 1710 and 1747, the study also focussed heavily on the geomorphology and land-use history of the Wash in investigating and interpreting Romano-British settlement patterns (Hallam 1970: 24). In working with her husband Herbert, a medieval historian, Sylvia also was able to draw on his historical knowledge, methods and analytical skills.

In late 1970 (as the Fenland work went to press), Sylvia commenced an archaeological survey of the Perth area in Western Australia and '... an investigation of changing patterns of Aboriginal settlement and land use' based on three main classes of data '... from ethnohistorical sources, from field survey, and from excavation. Each contributed to the analysis, interpretation and further pursuit of the others' (Hallam 1972: 11).

Australian regional studies of the time of the Swan River survey (for example, by Isabel McBryde, Ron Lampert, Rhys Jones and Carmel Schrire) placed considerable emphasis on data obtained through excavation of stratified sites (usually rock shelters and/or shell middens). However, the nature of the Aboriginal archaeological data available for the Perth coastal plain required a greater level of interrogation of surface Aboriginal archaeological material from open contexts. Sylvia sought to do this through the application of an interdisciplinary approach that investigated artefactual evidence in its widest sense and the considered application of *relevant* data from the ethnographic present.

Certainly her Fenland work informed the methodology of the Swan River survey, the original aims of which were:

... to elucidate the changing occupance patterns

of prehistoric Aboriginal populations over an area which included at least the range of movement of one community and part of the terrain of adjacent groups along a transect, centred on the Swan estuary, across the coastal plain and the forested Darling Plateau, to the more arid country further inland. (Hallam 1977c: 20)

The emphasis was on systematic surface survey where surface artefact material (usually in a disturbed context and threatened by development) was collected to 'determine date and status' (Hallam 1970: 28). As in the Fenland study, the material was subsequently analysed to determine '... changes in the density and distribution of settlement, and in the types and proportions of clustering and scattering of habitation' (Hallam 1970: 23). Ratios, proportions, relative and absolute figures underpinned her analyses!²

A particular focus of the Swan River survey work was past Aboriginal resource use. In this regard Sylvia's interrogation of the ethnohistorical data can be regarded as one of the most thorough and insightful on the Australian, and perhaps world, scene. Duncan Merrilees and Rhys Jones had, in the late 1960s, drawn attention to linkages between past Aboriginal use of fire and 'management' of native vegetation (Merrilees 1968; Jones 1969). *Fire and Hearth* (Hallam 1975) was the product of an inter-disciplinary meeting of geography and ethnohistory with anthropology, and an inquiry into relationships between people, places and resources. Here, Sylvia provided a broader and deeper insight into the relationships between Aboriginal people and environment through close reading of the documentary evidence and the nuances of historical writing. Her later attempts to view *the other side of the frontier* (Hallam 1983) through documentary material are testimony to her historical abilities. Her work continues to inform research across a range of disciplines. Historian Maria Nugent, for example, can use work by Hallam (1983) to suggest an alternative mode of interpretation of the first encounter between James Cook and local Aboriginal people at Botany Bay in April 1770 (Nugent 2005: 13–16).

For those of us who subsequently undertook regional studies in Tasmania, this approach to a regional prehistory was highly relevant as it drew largely on surface artefact material and made use of documentary sources on the one hand and the natural environment on the other. This was not so much because of the absence of stratified archaeological deposits, but because of time and cost constraints. In addition, the adage 'excavation as destruction' common to the discipline (and

strongly instilled by Sylvia) placed a philosophical constraint on excavation as a readily accessible investigative method of archaeological and regional study.

IN TASMANIA WITH UWA CULTURAL BAGGAGE: DEVELOPING REGIONAL ARCHAEOLOGIES

STEVE'S STORY: 1984–1990

Tasmania loomed large on the Australian archaeological landscape in the 1970s. UWA had a copy of Rhys Jones' PhD thesis (Jones 1971), detailing the excavation and dated sequence from cave deposits at Rocky Cape, not to mention a comprehensive scraper typology. The biogeographically-derived ideas, translated into the concept of a 'slow strangulation of the mind' (Jones 1977, 1978), stimulated deeper levels of inquiry. In the early 1980s, Don Ranson, then Senior Archaeologist for the Tasmanian National Parks and Wildlife Service, instigated a long-term project to prepare biogeographic regional overviews of the prehistoric Aboriginal archaeology of Tasmania. Seven regional studies in all were completed and, though dated, they remain outstanding examples of contextualising Aboriginal cultural heritage information across an entire landscape (Cosgrove 1984; Brown 1986, 1991a; Kee 1990, 1991; Macfarlane 1992; Dunnett 1994). Still intrigued by Rhys Jones' Tasmanian writings, I had the opportunity to go to Tasmania in 1984, where I spent 12 months on a regional study of south-east Tasmania (Brown 1986) and then another 18 months on a study of eastern Tasmania (Brown 1991a). After this I took up the role of Senior Archaeologist and managed other staff who undertook more of the regional studies (Kee 1990, 1991; Macfarlane 1992).

Regional studies were not novel by this time in Australia. Although commonly set within a research agenda, they were primarily undertaken by government agencies and for the purpose of making management recommendations, on the basis of assessments of the significance of sites, drawing on the methodology of the 1979 ICOMOS Burra Charter (Sullivan 1983) and scientific/archaeological assessment processes proposed by Bowdler (1981, 1983, 1984).

The methodology for such studies was usually twofold. First, an investigation of the historical sources was undertaken to elucidate the economic, social and ceremonial aspects of Aboriginal people living in the study area at the time of contact. Second, an understanding of the environment of the study area was gained and intensive archaeological

² Just as Ronald Berndt had claimed his own pronunciation of 'mythic-being', so Sylvia had her characteristic and emphatic rendering of the word 'proportion'.

surveys of each of the main eco-systems were undertaken. From the early 1980s, Aboriginal people generally participated in the fieldwork part of such studies. Sometimes excavation of a particular site was undertaken to provide a chronology of Aboriginal occupation. Together the ethnohistorical and archaeological evidence was used to interpret past Aboriginal occupation and settlement patterns for the study area.

By the time I left Tasmania in early 1990 (for a career re-balancing act³), I had been drawn back to reflect on Rhys Jones' work. In a paper delivered at the 1988 AURA conference, I added to the list of publications commenting on Jones' Tasmanian thesis (Brown 1991b). The paper took a holistic approach to evidence of Aboriginal occupation of Tasmania describing change and regional variation and providing an alternative to Jones' interpretation (Jones 1977: 202–203). Spatial and time-deep archaeological data as well as ethnohistorical observations were the basis for arguing for increased mid-late Holocene socio-economic complexity. This landscape/regional perspective drew to a considerable degree on the approach of Sylvia Hallam.⁴

SUE'S STORY: 1986–1992

In a paper describing her research on the population and resource usage of the western littoral in the Perth area, Sylvia reflected on the space and time conundrum of the archaeological surveyor:

How are we to interpret ... sites in terms of social groupings, the movements, amalgamations and dispersal of different groups? and in terms of overall numbers and population density at any one time, and changes over time? Can any equation be drawn between an identifiable social entity, and the pattern of sites which the group generates over the years? (Hallam 1977b: 19)

These same questions concerned me during the completion of the North-East and Midlands regional archaeological research programs (Kee 1990, 1991). The north-east study will be discussed here in very broad terms for illustrative purposes.⁵

Both projects aimed to develop a definition of prehistoric settlement-subsistence system of the Aboriginal peoples who had occupied the regions.

But the absence of distinctive mid-Holocene changes in stone tool typology, as occurred on the mainland, meant even grossly dichotomised estimates of population density and subsistence trends over the Holocene were virtually impossible to predict. However, as Sylvia wrote:

At any point in time the state of the link between the variables of terrain, demography and patterns of usage – and processes and rates of change, maintenance, amelioration or degradation of the delicate balance of landscape, population and exploitation – all these are resultant of immediately previous interactions and process and rates of change or maintenance. (Hallam 1977b: 16)

Sylvia had developed a regional analysis and landscape approach to her transect survey centred on the Swan estuary, across the coastal plain and the forested Darling Plateau, to the more arid inner hinterland on the basis that preliminary ground surveys suggested differences in the patterns of usage between different ecological zones (Hallam 1972, 1977b, 1977c).

The primary research objective of the north-east regional survey was to enable the National Parks and Wildlife Service (and its successors) to include Aboriginal archaeological sites in planning and land management. Understanding site selection criteria and the quantification of site densities in different landforms would allow predictive assessment of the effect of natural hazards and developments on archaeological resources. Provided that the resource was appropriately protected from destruction, it could be analysed and incorporated into future research that might shed light on its temporal delineation.

Dr Richard Cosgrove had begun the north-east regional survey. When I arrived in August 1986 to take over it was immediately apparent that the heavily forested Tasmanian landscape would require a different investigative approach from that with which I was familiar in WA. In north-east Tasmania, apart from the coastal dunes, vegetation cover and the ruggedness of the landscape mitigated against a transect methodology. The coastal heath quickly gives way to dry and wet sclerophyll forests vegetating rugged ranges, rising to the alpine plateau of Ben Lomond, the highest point in north-east Tasmania. My previous professional

³ Editors' note: In fact Steve went off to join a circus!

⁴ Re-reading Sylvia's writings, I can see an extension of the continent-wide links drawn by Sylvia between the roof markings of Orchestra Shell Cave (Hallam 1971) and Koonalda Cave (Wright 1971) to extend to the Pleistocene art of Ballawinne Cave (Harris, et al. 1988), Keyhole Cavern and Judds/Wargata Mina Cavern (Cosgrove and Jones 1989) in Tasmania.

⁵ It should be noted that the references used here were current at the time my research was undertaken and prior to me moving on to the legal profession. To the extent that this section of our paper is written within this temporal framework readers would be aware of more recent archaeological research and resulting publications.

experience had been in the Pilbara and Goldfields regions where the soil is negligible and vegetation is accordingly sparse, and a textured and rich carpet of artefacts covers the ground. Cosgrove's interim report confirmed my first impressions. He had found that the dense ground cover in many of the sample survey locations had thwarted his stratified random sampling methodology. Thus, he recommended that the research should concentrate on 'exposed ground surfaces such as burnt land, lightly eroded areas and bulldozer pushes up to 50 cm deep and 4 m wide' (Kee 1991: appendix I). Accordingly, the survey sample design is best described as a stratified sample delimited by the opportunism of visibility.

The results of the survey revealed diversity in site types and in site densities (Kee 1991: 40–44). In summary, coastal environments have the highest density of sites and greatest lithic diversity, but there are also variations between coastal landforms – large base camps abound on the coast where marine resources were abundantly available and readily exploited. The coastal geology produces abundant stone resources, resulting in less need for conservative use of stone as evidenced by a diversified use of available lithic materials and assemblages hallmarked by less intensive patterns of use-wear. Satellite sites are found on the sandy dunes and are scattered generally over the extensive north-east plains reflecting consistency with ethnohistorical records that movement in this undulating sand-plain terrain was over the 'whole of the low country', rather than through well defined tracks (Plomley 1966). Sites are less common inland, but artefact assemblages show more use wear indicating the more intensive requirements of terrestrial resource exploitation

As no excavations were undertaken, interpretation of past human behaviour and the archaeological records from different ecosystems in north-east Tasmania was limited by the nature of the available data, specifically surface accumulations which spanned some unknown period of time. Is it mere coincidence that, when the preliminary observations made by Sylvia about the Swan Coastal Plain and the results of the north-east regional sample survey are compared, broad similarities emerge in the classes of data that describe site density and distributions across similar landforms and ecological zones? Does this reflect some regularity in Indigenous occupational patterns? How can the ancillary evidence of Indigenous resource exploitation and custom and traditions available in documentary sources be used to draw inferences about site usage and patterns of visitation?

Sylvia's research and interpretation of the archaeological record relied heavily on historical contact period records. For example, she interpreted her excavations at Orchestra Shell Cave in the light of the journals of explorer Sir George Grey – 'the fauna excavated at the cave ... agrees closely with the descriptions ... of the fare upon which the Aborigines regaled themselves in the 1830s ...' (Hallam 1974: 152).

Similarly, George Augustus Robinson travelled extensively throughout north-east Tasmania between 1830 and 1831, and his journals provide the most comprehensive ethnohistorical records for the region. Although Robinson's records must be interpreted cautiously, they provided valuable support for interpreting the surface archaeological record of that region (Kee 1991: appendix II).

Investigation of the time depth of occupation is necessary to address issues of cultural continuity and changes over time. However, surface assemblages can still be informative about use of different ecosystems. They are also an important part of the material cultural record of prehistoric occupation and are significant to the heritage of the nation. CRM practices and cultural heritage protection legislation reflect the general community's recognition and acceptance of this proposition (for example, Western Australia's *Aboriginal Heritage Act 1972*, and Tasmania's *Aboriginal Relics Act 1975*). Moreover, it must be emphasised that the protection of Indigenous material cultural heritage is a significant objective for the descendants of those people who created it in the course of their occupation and use of the land.⁶

With the discovery by the High Court of the limitations on the Crown's acquisition of radical title at sovereignty (*Commonwealth v Mabo (No 2)* 175 CLR 1), the archaeological record now serves a purpose in native title proceedings where native title claimants seek common law recognition of their native title rights and interests. Native title is recognised at common law only if native title rights and interests claimed are possessed under traditional laws acknowledged and traditional customs observed by the claimants, who by those laws and customs have connection with the land and waters that are the subject of claim (*Western Australia v Ward* (2002) 213 CLR 1 at 14–21; *Members of the Yorta Yorta Aboriginal Community v Victoria* (2002) 214 CLR 422 at 45–56). Unfortunately, in the context of native title proceedings, the courts have not always accepted that the debitage of utilitarian use and exploitation of land and waters and its resources was significant in prehistory or,

⁶ I am indebted for the assistance and thought provoking discussions on these topics provided to me by representatives of the Tasmanian Aboriginal Land Council and/or Tasmanian Aboriginal Centre during the two research projects undertaken in Tasmania. I am also particularly grateful to Darrell West for his work with me on the excavation at 'Bells Lagoon' (Kee 1990: 68–85).

at least at the time of European contact, or that any traditional laws and custom required them to be preserved (*Yorta Yorta v Victoria* (2001) 110 FCR 244). Archaeological research is regularly adduced in evidence in such proceedings. However, it appears that in some situations it will be of limited utility in the factual curial determination of whether the rights and interests now possessed by a native title claimant group (or groups) and their present connection to land and waters are referable to the body of laws and customs acknowledged and observed by their ancestors at the time of sovereignty (for example, *Sampi v State of Western Australia* (2005) FCA 777 at 759; *Yorta Yorta v Victoria* (2002) 214 CLR 422 at 84–85).

Native title claims covering the land and waters of the Swan Coastal Plain are yet to be resolved. The comprehensive archaeological and ethnohistorical works of Sylvia may provide a valuable source of evidence in support of those claims. No claim has yet been made by any native title claimant group in Tasmania. Although the journals of George Robinson provide much valuable insight for the archaeologist, they are likely to pose evidentiary difficulties for Indigenous Tasmanians in the same way as the writings of Edward Curr did for the Yorta Yorta peoples who disappointingly failed to meet the standard of proof of connection required by the courts (Castan and Kee 2003: 86).

ANNE'S STORY: 1988 – PRESENT

On arriving in Tasmania in 1988 to take up the position of Senior Archaeologist with the then Tasmanian Forestry Commission, I was in effect moving into a relatively new area of archaeology. No previous work had been undertaken on Tasmanian forest lands in relation to historic heritage, and the only substantive Aboriginal heritage work that had been undertaken were two assessments by Richard Cosgrove (Cosgrove 1982, 1990). It was my responsibility to determine the best way forward for Aboriginal and historic heritage management within Tasmania's wood-production forests. The main precedents were from New Zealand and the U.S. Forest Service (Coster 1979; Karamanski 1985; Tainter and Hamre 1988). Cosgrove's work and other mainland forest archaeology studies (e.g. Bowdler 1983) provided mostly general management advice. Apart from seminal work in Southern NSW in the Five Forests (Hughes and Sullivan 1978; Egloff 1979; Byrne 1983), Cosgrove's (1990) study was one of the few that went beyond this and provided specific management advice for the areas that he assessed.

I took a science-based, integrated, holistic systems approach including an emphasis on collaborative work using historical resources and oral information, rather than a mechanistic coupe

by coupe assessment. The result was a statewide, multifaceted, strategic and unified system for the management of the cultural heritage values of the Tasmanian wood-production forests (McConnell 1991). Elements of the system included values identification, data management, integration of values information into planning at various levels, reservation and conservation management planning for key sites and site areas, staff training, and community consultation within the specific Tasmanian forest context. While this may now seem obvious, at the time cultural heritage management in forests was essentially limited to overviews of issues with very generalised advice on how to protect the heritage values (e.g. Bowdler 1983), or coupe or forest district or smaller area based site surveys (e.g. Coster 1979). It was a new approach that went beyond the tradition of 'file drawers swelled with the accumulation of survey reports and site forms' (Propper 1988: 8) to analysis and translation into mechanisms for cultural heritage protection specifically tailored to the Tasmanian forestry context. The late 1980s to mid 1990s was a period when a range of significant forest archaeology studies were also being undertaken elsewhere in Australia (McConnell et al. 2003). Other significant new approaches included advocating for catchment type reservation for areas of forest (Byrne 1991; Gollan 1993), and large scale regional Aboriginal forest archaeological surveys in Victoria (e.g. Hall 1992). The shift in focus in forest management to recognising that Aboriginal heritage was a broader set of values than Aboriginal sites alone did not occur until later (McConnell et al. 2003).

Although cultural heritage management was not an area that Sylvia covered in her courses, the broad based, systematic and integrated approach reflected her approach to research. Rather than being 'static', it was very much a dynamic approach (also advocated by Sylvia), and it used a wide range of data. It was in essence:

... a spatial approach or set of approaches to artifact studies incorporating much that has been labelled settlement archaeology, ecological and systems studies, demographic archaeology, site catchment analysis, ethnoarchaeology and regional studies (Hallam 1977a: 171).

Key aspects of the system were the statewide *Historic Sites Inventory* – the initial approach to obtaining historic heritage information – and the statewide *Archaeological Potential Zoning* – an approach to protecting as yet unidentified Aboriginal sites.

Historic Sites Inventory

In 1988 there was no historic heritage legislation

in Tasmania, no state agency charged with historic heritage protection and no systems in place for this to be addressed. Most of the known historic heritage was the result of National Trust assessments in urban areas, and a small number of limited area surveys, mainly in national parks. My initial review of the heritage knowledge base for Tasmania's wood-production forests (about 24% of Tasmania's land area) identified 11 sites! There was clearly a critical and urgent need for a statewide approach to identify the historic heritage of these forests which would be both quick and cost-effective.

The complexity of factors governing the location of historic sites meant a predictive approach was not considered useful. I decided therefore on an 'inventory approach' based on reviewing accessible historical documents and exploiting the considerable collective knowledge of forestry employees (private and public sector) to find out what sorts of sites were likely to occur in the forests and where and to generate dots on a map. The fact that there would be little information about sites other than type, and that the locations might not be highly accurate, were not considered problems at this initial stage of research. Later, appropriate protective provisions could be developed and/or more detailed and targeted research could be conducted in high sensitivity areas prior to logging or to address key themes (e.g. timber industry and mining sites).

The Historic Site Inventory Project ran between 1989 and 1991 and was funded through the National Estate Grants Program. Three regions covered the State (excluding South-West Tasmania which did not include State Forests) and were reported separately (Scripps 1990; Gaughwin 1991; Parham 1992).

Each regional inventory or catalogue of sites was compiled from a review of secondary and key primary historical sources and interviews with forestry staff and others identified as potential informants. The historical and oral sources provided valuable complementary information. A contextual and thematic historic overview for each region was also developed. To flag priorities for further study and management, the sites identified were given an indicative significance ranking based on the contextual historical information and on an analysis of the known sites in the region. Entry of site records onto a computer database linked to the forestry GIS system enabled spatial heritage data to be computer generated (for the first time in Tasmania) and the site data to be integrated into broader forestry planning.

The project was surprisingly effective. The Historic Sites Inventory Project added 1,410 further sites to the 11 already known, some two thirds within wood-production or other State forests. The final inventory, although only a 'first

approximation' of the real nature of the historic heritage of Tasmania's wood production forests, was an invaluable starting point in identifying the historic cultural heritage of the forests for heritage management and protection purposes (McConnell 1993). The contextual historic analysis allowed relationships between sites to be understood and for heritage places to be considered as site complexes or parts of cultural landscapes as well as helping to identify priority themes, areas and landscapes for further research and on-ground survey.

Although not unusual now, the Historic Sites Inventory Project was innovative at the time. At this stage historical research was being used mainly to understand and interpret individual sites and few regional historical archaeological inventory projects had been carried out, particularly with heritage management as a goal, and there had been little use of historical sources to inform non-thematic regional historical archaeological studies and locate sites. The use of oral history as a formal approach to historic site identification was also not a common practice, yet in this study some 31% of the sites identified were from oral sources alone (McConnell 1993). However, to meet forestry needs in Tasmania, it seemed entirely logical to use other disciplines and a range of sources to produce a useful product. I can see now that this view was strongly informed by my West Australian experience, including my anthropological training and Sylvia's example of using a range of resources, multidisciplinary approaches and broad spatially based studies to understand the past (for example, Hallam 1970, 1975, 1977b).

Aboriginal Cultural Heritage and Archaeological Zoning

The Archaeological Potential Zoning project, described in detail in McConnell (1994, 1995a, 1995b), was essentially a planning tool. Although 'predictive statements' from Cosgrove's (1990) work were initially used in forestry heritage management advice (McConnell 1990), it was clear two years on that this advice was not being used because it was not in a form that forestry staff could use easily and required a level of interpretation that was difficult for people with no archaeology or cultural heritage training. Also, there was a considerable amount of new site data available. It was clear that what was needed was a systematic, mapped form of 'sensitivity' or 'potential' zoning that could be integrated into the forestry planning system. I had to advocate for this for some 18 months because at this time in Australia there was no successful, applied, large-scale sensitivity zoning to serve as an example, but finally the Forestry Commission agreed to develop the zoning.

The purpose of the Archaeological Potential Zoning was therefore to indicate in map form where survey and assessment was most required

prior to forestry operations in order to protect Aboriginal cultural heritage. At that time, very little pre-operation survey for Aboriginal sites and values was being carried out and it was clear there would never be funds for pre-operational survey for all coupes. In addition, it was questionable whether this was essential. The zoning was therefore devised to improve the level of pre-operational survey for Aboriginal archaeological sites in wood-production forests by ensuring surveys were undertaken where most needed, and to provide feedback to refine the zoning and improve management. It was acknowledged that a different approach would be needed to protect Aboriginal values other than sites, but the Aboriginal community supported the development of the zoning approach on condition that its effectiveness was evaluated and that other Aboriginal heritage values would be considered in the longer term.

The zoning is based on the premise that Aboriginal site location can be reasonably well predicted using environmental factors. All areas of State Forest were mapped at 1: 25,000 into six zones of different archaeological potential, with prescriptions for archaeological survey or other management actions for each of the six zone types. Archaeological data was considered with respect to a range of environmental variables, or 'zoning factors'. For transparency, the zoning shows not only the 'zone type' (that is, level of sensitivity/potential), but also the 'zoning factors' used to assign zone type.

The different potential zones were defined on the basis of both the density and nature of Aboriginal sites likely to occur in an area as determined by the 'zoning factors'. These two criteria were considered important to ensure that highly archaeologically significant sites would be protected as well as areas with high site density. The zoning was also undertaken on a regional and sub-regional basis as this was considered essential to accommodate archaeologically and ethnographically observable regional differences. Supporting reports outlined the archaeological basis for the zoning and all known survey locations were shown on the zoning maps to provide a 'first approximation' reliability index.

At the zoning scale required and for most areas, both environmental and archaeological data were inadequate for computer 'predictive modelling'. Consequently, the method adopted is one which can be termed 'heuristic modelling' where the analysis and synthesis is done manually, relying on an inferential (correlative) 'expert knowledge' approach. This was by necessity much less sophisticated, but the process followed was sufficiently transparent to allow for regular updating as more archaeological data became available. It might also be argued that the expert knowledge approach could accommodate subtle

biases and variations in data and data quality much more readily than a more rigid, mathematically based method.

An independent review of the zoning after 12 months demonstrated that, although the discrimination between the two mid-level zones was poor and there was at least one area that did not produce reliable results (the one area that had been zoned with very limited archaeological data), the zoning appeared to work. Furthermore, it achieved the aim of getting forestry staff to routinely use the zoning to determine where pre-operational field-survey was required; and this practice has continued (Sim 1996).

In retrospect it is clear that the Archaeological Zoning project might be considered an applied example of the 'topographic archaeology' approach advocated by Sylvia (Hallam 1977a). Her influence is particularly clear in the systematic approach and broad regional scope, the use of qualitative analysis and the explicit integration of environmental and archaeological data.

FINAL THOUGHTS

We conclude that the model provided by our experience of Sylvia's approach to the archaeology of the Perth region significantly shaped our own subsequent work in Tasmania. Although not explicit in Sylvia's teaching, it can also be argued that her views influenced our approaches to Aboriginal involvement in Aboriginal archaeology in Tasmania. The subtitle of *Fire and Hearth – a study of Aboriginal usage and European usurpation* [our emphasis] ...' acknowledged an Aboriginal historical perspective. Her 1983 paper 'a view from the other side of the Frontier' also explicitly acknowledged this. Both works show an empathy with Aboriginal history and culture, and a consciousness of the cultural biases that frequently prevail in cross-cultural studies of the past. This attitude influenced our support for calls to acknowledge a role for Aboriginal people in Australian archaeology and Aboriginal heritage management, such as Ros Langford's famous paper at the 1982 Australian Archaeological Association Conference (Langford 1983) and the 1984 Victorian ABARCH meeting.

In Tasmania we all worked with Aboriginal people. As archaeologists in the Cultural Heritage Branch, Department of Lands, Parks and Wildlife, Sue and Steve oversaw the start of the employment of Tasmanian Aboriginal people in a range of capacities within the Department. Sue also championed the formation of the Tasmanian Aboriginal Land Council in the early 1990s and was a strong advocate for their involvement in decision making in relation to Aboriginal archaeology and heritage management in Tasmania. Sue followed her interests by moving professionally into the areas of social justice and native title.

At Forestry Tasmania, Anne also advocated consultation with the Aboriginal community and the employment of Aboriginal people in relation to the management of Aboriginal sites. Within Forestry Tasmania, this resulted in the employment of an Aboriginal Heritage Officer to undertake pre-operational Aboriginal site surveys, and engaging the Tasmanian Aboriginal Land Council to prepare the Mt Victoria Rockshelters' Conservation Management Plan (Beasley et al. 1995), possibly one of the first conservation plans prepared for an Australian Aboriginal place.

As a final note, one of us (SB) has recently revisited the world of regional studies in a project undertaken for the NSW Department of Environment and Conservation (Brown 2005). What is striking in reviewing the current 'state of the art' in Australia is the currency of Sylvia's Swan River regional study in terms of conceptualisation, intellectual rigour, methodology and analysis. Few regional studies since seem to have achieved the high standards of inquiry achieved in Sylvia's topographic archaeological work.

CODA: FIRE AND HEARTH, FIRE AND SPIRIT

George Fletcher Moore gives a definition for an Aboriginal word that literally means fire:

Kalla – Fire; a fire; (figuratively) an individual's district; a property in land; temporary resting place. (Moore [1842] quoted in Hallam 1977a: 170)

Sylvia saw in this definition something of the notion 'hearth and home', but with the added implication of complex and thorough Aboriginal knowledge that questions the ability to adequately view pre-contact Aboriginal behaviour through archaeological evidence.

We also see a definition of *fire*, according to *The Australian Oxford Dictionary*, as applicable to the archaeological teaching and experiences provided to us by Sylvia Hallam.

Fire – fervour, spirit, vivacity ... lively imagination ... vehement emotion.

So on that note, we thank you Sylvia for *firing us up*, providing us with knowledge to go forth (as you did) to the further Antipodes of Tasmania and for supporting our careers. With our best wishes (and mega-congrats on your PhD) – Anne, Sue and Steve.

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APPENDIX – PERSONAL REFLECTIONS ON OUR WESTERN AUSTRALIAN YEARS AND OUR FIRST ENCOUNTERS WITH SYLVIA HALLAM

In the first draft of this paper, we included some autobiographical material on our entries into archaeology and how our encounters with Sylvia shaped our life stories, written in a 'slightly' unconventional style. As it was felt that it did not sit easily with the more formal description and discussion of historical material and pan-Australian connections, we have included this personal tribute as an Appendix.



FIGURE 1 Sylvia with students in the field 1974 – Sylvia second from left. Photo reproduced courtesy of *The West Australian*.

ANNE'S STORY: 1972–1976

It was as a naive, barely 17 year old student with very hazy ideas about what direction I was heading in academically (and in life more generally), that I first encountered Sylvia. Sylvia was presenting her usual four introductory lectures in archaeology to first year Anthropology students. These four lectures defeated me – as an anthropology student I just wasn't interested. The study of past European cultures reconstructed from building foundations and innumerable stone artefacts seemed all a bit esoteric. Two and a half years later I headed off to The Australian National University (ANU) in Canberra to take up post-graduate studies in archaeology, with a view to becoming a real archaeologist.

So what happened in those intervening years? At the end of first year while swotting for the exams, I suddenly found myself intrigued by the archaeology literature I was reading. I began to get an inkling that archaeology might be in some ways an anthropology of the past, and so I enrolled in archaeology in second year, not sure what it would be like: I loved it!

We were a small group of just three or four students so, rather than lecturing, Sylvia ran an

informal, informative tutorial style course, which was an ideal learning environment. At the time, it seemed a fascinating jumble of details about well known Near eastern and European sites, and major sites like Catal Huyuk and Star Carr invaded our dreams. In retrospect it was a well-structured course which introduced us to archaeological method and theory through a range of specific site studies, to the new 'science in archaeology' approaches of Geoffrey Dimbleby, Eric Higgs and Karl Butzer, and which, by the end of the year, encapsulated Australian archaeology.

A highlight of the archaeology courses at UWA was the collegial atmosphere brought about by Sylvia's personality and teaching. This contributed significantly to my confidence as a student. Apart from some exciting sailing on the Swan River with co-student, Rob Pearce, other highlights thanks to Sylvia were: a trip to the mouth of the Moore River to excavate a coastal midden; a field trip to Walyunga to look at Aboriginal quarries (well that's the bit that I remember, being also a geology student); a visit to Frieze Cave with Sylvia, and a trip south with Charlie Dortch to excavate a backed blade site at Northcliffe.

With few archaeologists in WA at the time, there were limited opportunities for archaeology students to gain field experience in archaeology. In 1973 Sylvia told us that Graeme Pretty would be excavating at Roonka in South Australia. Being young, and not realising what a two-way bus trip across the Nullarbor entailed, I enthusiastically put up my hand. With Sylvia's assistance (and some financial assistance) I went – and returned eager to become an archaeologist.

Sylvia was extremely supportive. Accompanying Charlie on the Northcliffe trip was something that Sylvia had specifically organised for me given my new-found enthusiasm for archaeology (and I think may have involved Sylvia in a bit of arm-twisting – after all I was young and highly inexperienced). I also remember her encouraging us all to attend the 1974 ANZAAS Conference in Perth. Although I was heading to ANU in 1975 to do further studies, Sylvia continued to provide advice, encouragement and support, including offering me work as her research assistant on the Perth Metropolitan Archaeological Survey over the summer of 1974.

Although helpful and fair, Sylvia could be stern. I remember her taking me aside in early 1975 and giving me a brief evaluation of my capabilities which concluded with some plain speaking on the subject of my impetuosity – which was very perceptive and useful advice, although perhaps not taken to heart enough at the time!

My shortcomings can't have been too bad however, as Sylvia took me on again in the second half of 1976. This time I shared the fieldwork with Barbara Dobson, driving throughout the Perth metropolitan area in Sylvia's mini-moke. The mini-

moke presented another facet of Sylvia, normally the responsible, mature, dignified, archaeologist. Driving it bought out her wild side – careening down the highways and byways of South-West WA, Sylvia would expound passionately on archaeology and her various other enthusiasms.

My other very fond memory is the wonderful Anthropology Department poolside Christmas parties hosted by Sylvia and Herbert at their Claremont home. They were very much 'Anthropology Department family' affairs with much friendship, fun and of course good food and drink.

On my last day as Sylvia's research assistant in late 1976, I handed over to the new incumbent Steve Brown, not realising that we would again meet in Tasmania 12 years and various experiences hence.



FIGURE 2 The 1977 Hallam poolside UWA Anthropology Department Christmas party – Sylvia Hallam and John Glover. (Photo: A. McConnell.)

STEVE'S STORY: 1974–1984

Like Anne, my first encounter with Sylvia was in 1974 where she gave several lectures on archaeology in a first year introductory Anthropology unit. The lectures took place in the Octagon Theatre with many hundreds of other students. My recollection is that she talked of the English Fenland and showed innumerable overheads of artefact drawings from around the world. I found it dull as ... (my memories of Renee Geyer performing at the Octagon are more vivid) ... but it made me want to study archaeology and gratefully ditch the idea of being a maths teacher!

I must have been quite a difficult student to teach as I was so neurotically reserved that I found it traumatic to say anything in tutorials and seminars. Fortunately Sylvia and a number of my co-students were not so inclined to timidity and silence.

Toward the end of third year, when I was still (worldly-wise) a naïve little vegemite, Sylvia asked me of my future plans. I had decided not to commence Honours – I felt academically inferior to my contemporaries, and figured a year in the workplace might give me a better start to a career.

However, I had no commitments. Sylvia generously asked if I would be willing to work on the Swan River survey for ten weeks after I finished my studies. She also organised for me to meet Bruce Wright, then Registrar of Aboriginal Sites, Western Australian Museum. I did the job for Sylvia, and then went on to work for the following four years with the museum. I remain eternally indebted to Sylvia for creating these opportunities.

I think it was in my second year of part-time Honours (1980) that I attended a seminar given by Sylvia on the subject of the colonisation of the Swan River valley. In it she made (for me) a fabulously memorable statement to the effect: 'I envisage virile young men penetrating deeply into the Avon Valley'. Sylvia, I have never known if that was a deliberate sexualising of a past landscape or if it was just a fantasy I have chosen to treasure! And I do! Bring 'em on!!!

SUE'S STORY 1979–1986

In 1979 Sylvia's hallmark treatise on the relationship between Aboriginal land use and European settlement in Northern Australia, *Fire and hearth* (Hallam 1975) was reprinted. The same year I enrolled in an Arts degree at UWA, aiming to fill in my first year of tertiary education in broad based humanities subjects before applying to study law. As it turned out, it took me almost a quarter of century to get around to obtaining the law degree.

In the modest lecture theatres used by the Anthropology Department I was captivated by the narratives of Emeritus Professor Ronald Berndt on Indigenous Australian history and anthropology and Sylvia (with Dr Charles W. Amsden) on archaeology.

I can recall very clearly listening intently to Sylvia giving her second year Archaeology students an objective critique of the unique approach to classification of material culture employed at the Pitt Rivers Museum in Oxford, when introducing us to the concept of 'fire landscape management'. At the time, I thought that this museum of such novelty was a 'must see' institution. And it proved to be suitably impressive.



FIGURE 3 A230 students of 1981 participating in a field survey in the Perth metropolitan area. (Photo: M. Schwede.)

Sylvia engendered a positive yet rigorous learning environment for her eager undergraduates. It is to her credit that the graduate student cohort, including Steve Brown, Dr Kate Morse and Lynda Strawbridge, amongst others, extended much support and encouragement to me to pursue studies in archaeology and Australian prehistory. Like many young undergraduates, I spent hours assisting in various research projects conducted by Sylvia's former students, research assistants or graduate students. These included Madge Schwede and Moya Smith in their work in or about the Swan Coastal Plain, and in South-West WA. I learned much from those experiences: most notably the ability to detect those frustrating and elusive conchoidal fractures in quartz artefacts (those 'horrid little bits of stone' – Hallam 1977a: 169). This was to prove a very helpful skill in my research in Tasmania.

I also diligently prepared cubes of cheese and cracker biscuits for the regular Archaeological Society meetings and guest speaker functions, and dutifully took comprehensive minutes of many long meetings as secretary. I was only liberated from minute taking when elected to the position of treasurer.

At about this time Sylvia became quite ill, her illustrious and welcoming presence significantly waned and new personalities influenced the carving out of a centre for prehistory.



FIGURE 4 Sylvia and some past Swan Coastal Plain Survey research assistants in 1987 – from L–R – Madge Schwede, Moya Smith, Lynda Strawbridge (lower centre), Sylvia, Anne McConnell and Steve Brown. (Photo: A. McConnell.)

And so from the three of us – thank you Sylvia for your teaching and your nurturing in our early days and initial explorations of archaeology. Your efforts made a significant difference to our lives!