

THE AUSTRALIAN SOCIETY FOR HISTORICAL ARCHAEOLOGY
NEWSLETTER

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Subscriptions to ASHA for 1984

Subscriptions for 1984 are now due and should be sent as soon as possible to the Hon. Treas. Box 220, Holme Building, University of Sydney, 2006. Reminder notices are included with this Newsletter for members whose subscriptions have not yet been received. Individual membership is now \$15 per annum. As explained in the Renewal Notice for subscriptions sent to all members in December 1983, the rise in the subscription rate was necessary because the previous rate of \$10 per annum did not cover the basic costs of producing the Journal, Newsletters, Conference publicity and other material distributed to members. We hope that members will appreciate the necessity for this increase and will continue to support the Society and the Australian Journal of Historical Archaeology.

ASHA CONFERENCE 1984

The ASHA Conference will be held on Friday & Saturday 28-29 September. It is suggested that the Conference will have four sessions based on the following topics;

- (1) The socio-economic interpretation of ceramics from archaeological sites
- (2) Salvage excavation and research design
- (3) Historical settlement patterns: the archaeological approach
- (4) Work in Progress

Offers of papers are sought for the Conference and any other suggestions for consideration. DEADLINE FOR OFFERS OF PAPERS AND OTHER SUGGESTIONS IS 1 MAY 1984.

Please write to the Hon. Sec. of ASHA at the address at the top of the Newsletter.

Receipt of royalties

The Society is pleased to announce receipt of a sixth royalty cheque for U.S.\$51.85, from sales of Historical Archaeology: a guide to substantive and theoretical contributions, Ed. Robert L. Schuyler. (U.S.\$15.00 plus U.S.\$1.50 postage, Baywood Publishing Co. Inc., 120 Marine Street, P.O. Box D. Farmingdale, New York, 11735 U.S.A.)

Heritage Week 1984

Heritage Week is to be held from 8-15 April, 1984. For further information contact:-

Mr. Grant Kearney
Executive Officer,
National Trust of Australia
(N.S.W.)
Observatory Hill,
Sydney. 2000

Lectures of interest to ASHA
Members

Royal Australian Historical
Society

- ..Tuesday 27 March 1984
E. Wilson "The Domain,
then and now"
- ..Tuesday 10 April 1984
Assoc. Prof. K. Cable
"St. James Church, Sydney:
Architecture and
liturgical change"
- ..Tuesday 1 May
Assoc. Prof. J. Bach
"The Royal Navy in the
S.W. Pacific, 1859-1913"

Meetings take place in
History House, 133 Macquarie
Street, Sydney at 6.15pm
Non-members welcome.

The Inaugural Foundation Day
Lecture to commemorate the
laying of the foundation stone
of the First Government House
by Governor Phillip on 15 May
1788 will be delivered by
Professor D. J. Mulvaney
F.A.H.A., F.S.A. on Tuesday
15 May 1984. The Foundation
Day Lecture has been introduced
by the Friends of the First
Government House Site to
promote scholarly contribution
to the preservation and
interpretation of the site
at the present day intersection
of Phillip and Bridge Streets,
Sydney.

The lecture will be given in
the Assembly Hall of the
University of Sydney Law School
(on the corner of Phillip and
King Streets, Sydney) at 8pm.
All interested people are most
cordially invited to attend.

The Australian Journal of
Historical Archaeology, vol. 2

Assoc. Prof. Graham Connah has
now returned from his sabbatical
year overseas and Volume 2 of the
Australian Journal of Historical
Archaeology is being prepared for
publication. It is hoped that
the Journal will be published
before the next ASHA Conference.
Contributions for consideration
for inclusion in Volume 3 should
be sent to the Editor:

Assoc. Prof. Graham Connah,
Dept. of Prehistory and
Archaeology,
University of New England,
Armidale, N.S.W. 2351
AUSTRALIA.

Contributors should consult the
'Instructions for Contributors'
in the back of Volume 1 of the
Journal before preparing papers
for submission.

Seminars in Historical Archaeology

Members of ASHA have expressed
interest in a forum in which to
discuss important issues in
Historical Archaeology.

ASHA therefore intends to
initiate in 1984 a series of
occasional one day seminars, to be
held in Sydney. Speakers will be
invited who are highly experienced
in the seminar topic under
discussion. The format will
comprise 2-3 papers, each followed
by an opportunity for useful
comment and appraisal. Numbers
attending the seminars will be
limited to facilitate discussion.

'The Archaeology of the Historic
Landscape' has been suggested as
a topic for the first seminar.

ASHA would like to hear from its
members. If you have a suggestion
for a seminar topic or suggestions
as to the general arrangement of
such a seminar series please
contact Ted Higginbotham on (02)
516-2726 or write to ASHA,
the Hon. Secretary, Box 220,
Holme Building, University of
Sydney, N.S.W. 2006.

Judy Birmingham, the President of ASHA contributes these notes on a recent visit to the U.S.A. during which she attended the Annual Conference of the Society for Historical Archaeology.

The 17th annual meeting of the Society for Historical Archaeology - ASHA's jumbo-size counterpart in the United States - took place at Colonial Williamsburgh, Virginia this January (5th-8th) in conjunction with the Conference on Underwater Archaeology. Some three hundred and fifty members attended a packed and stimulating programme. If any criticism at all could be levelled at a stunningly well-structured and smooth-running operation it was having to select from concurrent symposia all of which fell into the not-to-be-missed basket. One other problem was actually making contact with people you desperately wanted to talk to in addition to the ones you just found yourself next to....

The outstanding impression from five full days and evenings of papers, discussion, field trips and socializing is that historical archaeology in the U.S.A. is now extremely relevant to the developing subject in Australia as it certainly was not ten or even five years ago. The obvious difference - of some two hundred years between the foundation dates of the American and Australian colonies - is misleading. The basic colonisation processes susceptible to archaeological enquiry are common to both areas - primary settlement, expanding pioneer frontiers, cultural and technological adaptation and innovation, an early slave/convict labour force, and expanding resource exploitation within an increasingly capitalist system, and yield more fundamental similarities than are immediately apparent from the conference paper titles.

Moreover the primary method of historical archaeology - the recognition of configurations or patterns in the physical evidence surviving from past human activity - is increasingly being applied to 19th century sites in both the U.S.A. and Britain, thus moving into trade and technology networks equally relevant to us.

The most striking feature of American historical archaeology sites is how many of them there are, and how many of each kind have already been listed, explored and above all, excavated, with the results processed, interpreted and published. Categories of site and subject area - colonial urban, regional or spatial and settlement - are cross cut by thematic preoccupations such as the frontier, slave roles, status differentiation and rank, ethnicity, the use of capitalism, urbanisation and industrialization, rural urban adaptation. By and large it is the big city excavations - New York, Baltimore, Pittsburgh, Boston - which produced the stimulating demonstrations of changing status, ethnic identification and industrialization on the basis of garbage analysis, eating habits, house plans and changes in proxemic practice largely of 19th - or 18th into 19th century material. More rural settlements such as Virginia and North Carolina, New England, Anapolis produced the older colonial sites with their emphasis on frontier adaptation, spatial archaeology, slave, rank and status, and social evolutionary studies. Again investigation is concerned with configurations in factors deterring choice of settlement, in changing rubbish percentages and in relationships of living and working space.

There were of course other kinds of papers- those concerning with special categories of site such as logging camps or potteries and those largely concerned with illustrating the use of a particular technique or artefact type (nearest neighbour analysis, remote sensing, pipe stem analysis, glass beads, military artefact, mortuary studies, intrasite artefact frequency analysis).

Individual papers stand out for particular lines of thought they spark off in our local Australian context, the analysis of town services as evidence of public adaptation in addition to the more usual study of individual adaptation, the study of socio-economic rank in historic Anapolis, the analysis of cultural isolation in research projects on remote upland farms in Virginia, the proxemics of 18th century Williamsburg backyard organisation, a model for determining increasing commercialism and urbanization in sea-board New York.

Others stand out particularly for aspects of their presentation . the wit of Ivor Noel Hume's wicked, vigorous onslaught on the Historic Parks reconstruction of Yorktown, Dominic Powesland's pyrotechnics in discussing his system for direct field recording onto a portable computer, Jim Deetz's deceptively avuncular presentation of his pipestem paper to a delighted audience. The intellectual quality of the New York city research design and practice, the relevance as well as the warmth of Pam Cressey's keynote address on the need to involve the public at every stage of historical archaeology and the enthusiasm of the Baltimore urban field team putting into vigorous practice the same message of public communication.

Lasting impressions? that the directions in which Australian historical archaeology at Sydney University has been developing over the last five years are remarkably comparable to those in the U.S. and that it is high time more Australian historical archaeologists became more closely involved in the experience now available to us there. A.S.H.A. wishes to record here its warm thanks to the Society for Historical Archaeology for its hospitality and support so freely offered to its representative.

54th ANZAAS Congress Canberra 1984

The Australian and New Zealand Association for the Advancement of Science is holding its 1984 Congress at the Australian National University, Canberra, from 14 to 18 May. The Draft Programme Summary for Section 25A Archaeology is given below, together with the draft programme for two sessions which may be of particular interest to ASHA members; Symposium 1, "Documents and landscape: historical archaeology in practice" and Symposium 6, "Archaeological and cultural resource management priorities and problems". Further details of Section 25A may be obtained from:-

..Graeme Ward
Secretary/Convenor,
Section 25A, 54th ANZAAS Congress
Australian Institute of Aboriginal
Studies,
G.P.O. Box 553,
Canberra. A.C.T. 2601

The names of the convenors of Symposia 1 and 6 are given with the programme details below:

ANZAAS - SECTION 25A: ARCHAEOLOGY
 Summary of Draft Programme
 (December 1983)

May 1984

Sat. 12 Fieldtrip 1
 Sun. 13 (Pre-Congress): South
 Coast, N.S.W.
 Mon. 14 Symposium 1:
 0900-1230 Documents and Landscape:
 Historical archaeology
 in practice
 0900-1230 Symposium 2
 Palaeobiological
 Studies: Adaptation,
 health and nutrition
 in Prehistoric
 Oceania
 Tues. 15 Symposium 4
 0900-1230 Exploration of Pre-
 historic Dietary
 Patterns
 1100-1230 Symposium 0
 Istopic Studies:
 Session 1: New
 Developments in dating
 the recent past.
 1830 Section 25A Reception
 Wed. 16 Symposium 0: Istopes
 Studies: Session 2:
 1100-1230 Past climatic changes,
 the evidence of them,
 and their implications
 0900-1230 Symposium 6:
 Archaeology and
 Cultural Resource
 Management
 1400-1700 Workshop 1:
 Aboriginal Involvement
 in Archaeological Work.
 1930- Section 25A Dinner
 Thur. 17 Symposium 3 (ex
 0900-1230 workshop 2) Chronology
 of Roonka: Dating
 Strategies for a
 Regional Sequence
 1300-1700 Fieldtrip 2 (Midweek):
 Aboriginal and
 Historical archaeol-
 ogical sites in A.C.T.
 and environs.

Fri. 18
 0900-1230 Symposium 5: The
 Role of Stone
 Artefacts in archaeology
 1400-1700 Workshop 3: Stone
 Tool Technology:
 Research Results
 Sat. 19 Fieldtrip 3
 Sun. 20 (Post Congress):
 Mungo and adjacent
 lakes, South-western
 N.S.W.

Symposium 1

Documents and Landscape:
 Historical Archaeology in
 Practice
 Convenor: Jon Winston-
 Gregson,
 192 Kingsford-Smith Drive,
 Spence, 22615 Phone(062)583965

Monday 14 May

0900-1230
 Chair: To be announced
 Introduction
 Digging through the documents:
 the archaeology of a penal
 peninsula.
 Dr. Brian Egloff
 Port Arthur Conservation
 Project, Tas. NPWS
 Old Government House: results
 and conclusions from the first
 year of research
 Ms. Anne Bickford
 Consultant, Sydney

Man's impact on a riverscape:
 the Hawkesbury-Nepean Valley,
 N.S.W.

Dr. Ian Jack
 Dept. of History, University
 of Sydney.

The Peruvian Connection
 Dr. Ian Farrington
 Dept. of Prehistory and
 Anthropology, Faculty of Arts,
 ANU.

Convicts, soldiers, fishermen
 and farmers: Archaeological
 and historical studies at
 Corinella, Victoria.
 Dr. Peter Coutts
 Victoria Archaeological Survey.

Discussion

Symposium 6

Archaeological and Cultural
Resource Management: Priorities
and Problems

Wednesday 16 May

0900-1230

Chair: Prof. Isabel McBryde
Dept. of Prehistory and
Anthropology, ANU.

Introduction

Prof. Isabel McBryde

Wearing two hats - consultant
and research student

Ms. Val Attenbrow

Dept. of Anthropology
University of Sydney.

A public archaeologist's view-
point of future directions in
cultural resource management.

Dr. Peter Coutts, Victoria
Archaeological Survey.

Whose resources are archaeolog-
ical resources?

Dr. Iain Davidson

Dept. of Prehistory and
Archaeology, University of
New England

Cultural Resource Management
studies in a university teaching
department

Dr. David Frankel and Ms. Denise
Gaughwin

Division of Prehistory, La Trobe
University

Training Aboriginal community
site curators

Mr. David Morrissey, Tranby
College, Sydney

Commercial consultancies and the
European cultural resource

Dr. Michael Pearson
Aboriginal and Historic Resources
Section, NSW NPWS

Title to be announced

Ms. Sharon Sullivan
Aboriginal and Historic Resources
Section, NSW NPWS

National Trust of Australia (NSW)
Industrial Archaeology Committee

The following sites were listed
by the Industrial Archaeology
Committee in 1982/1983

DRUMMOYNE

Rawson Avenue
Elevated water tower

GUNDAGAI

Sheridan Lane
Former Floods flour mill

KEMPSEY

Pipers Creek lime kilns and
ruins of convict stockade

BOTANY

Former Botany/Lachlan Swamp
water supply

WITHIN KINGSFORD-SMITH AIRPORT

Ruins of former Botany Pumping
Station

WELLINGTON

Warne Street
Former McLeods flour mill

MARRICKVILLE

Premier Street
Sewer ventilation stack and two
associated cottages

MENINDEE

Within Kinchega National Park
Kinchega Woolshed

ADELONG

Historic goldmining area
inc. Gibraltar Mine remains,
Gibraltar House
Adelong Falls remains

BROKEN HILL

Daydream Smelter remains and
mine

*MAITLAND EAST

Former Smiths flour mill

*NEWCASTLE

Former City incinerator

SYDNEY

East Rocks
Susannah Terrace

*ABERNETHY

Aberdare South Colliery
winder house and chimney stack

SOUTH HEAD/SIGNAL HILL

Gun emplacements and fortific-
ations

ST. LEONARDS

Stationmaster's residence

*MAITLAND

(and environs)
South Maitland Railway

First Government House Site:
A Statement of Cultural Significance
for the First Government House
Site, Sydney drawn up by a
Committee of the Australian
Archaeological Association was
published in November 1983.
The Statement discusses the
need to establish cultural signif-
icance; the history of the site
and the significance of each
period of occupation; comparisons
with other similarly dated sites
and the cultural significance and
future of the site. Sections
4 and 5 of the Report 'Statement
of Cultural Significance' and
the 'Future of the Site' are
reproduced here for the inform-
ation of members. The writers
of the report emphasise that it
is of particular importance that
a conservative plan for the site
be drawn up, based on internation-
ally accepted principles and that
any development of the site be
carried out within the guidelines
of such a conservation plan. The
Committee urges that any comments
concerning the Statement or other
considerations concerning the
site be sent to the responsible
authorities namely:

The Hon. N. K. Wran, Q.C., M.P.
Premier's Department
State Office Block
Macquarie Street
Sydney. 2000

The Minister for Environment
and Planning
Dept. of Environment and
Planning
Remington Centre
175 Liverpool Street
Sydney. 2000

Heritage Council of N.S.W.
Remington Centre
175 Liverpool Street
Sydney. 2000

Contact persons for the
Australian Archaeological
Association are:

Dr. Peter White
8 Bridge Street
Balmain. N.S.W. 2041
'Phone 8106968

Dr. Mike Pearson
67 Tranmere Street
Drummoyne. N.S.W. 2047
'Phone 814216

A very limited number of copies
of the Statement are still
available. Copies may be
consulted at the Heritage
Council of N.S.W.

Extract from First Government
House Site, Sydney, Australia:
statement of cultural
significance

A report by Anne Bickford,
Robert Irving, Michael Pearson,
Helen Proudfoot, Meredith
Walker and Peter White, for
the Australian Archaeological
Association

Section 4. Statement of
Cultural Significance

The most important fact about
the First Government House site
is that it contains the remains
of the administrative and social
centre of the first permanent
European occupation in Australia.
The site contains the only remains
from 1788 known to survive in
1983. The remains have been in
the past, are now and will be in
the future seen as a cultural and
historical landmark and focus of
sentiment for the Australian
community and for individual
groups within it. The value of
the site depends to a large extent
on the visible presence and form
of the remains from the period
1788-1845.

First Government House site has
a series of historic associations
which combine to give the place a
unique historic significance.
These historic associations
include:

- the use of the site by a large
number of prominent historic
figures, both European and
Aboriginal, of the eighteenth
and nineteenth centuries,
- the role of the site and its
inhabitants in events of
major historical importance,
- the association with a number
of major formative phases in
Australian history and the
administration of the colony
of New South Wales,
- evidence of the formative
phase of Australian architect-
ural history and building
technology, of which the site
and its remains are an exemplar.

The potential of the site to answer research questions in these and other fields gives the place great scientific significance.

The buildings at 39-47 Phillip Street and 36-42 Young Street, which flank and partly cover the 1788-1845 remains, are important in their own right. They have historical value. The former are rare survivors of residential use in this part of the city, and included among their residents several historically important figures; the latter is a probably unique example of office accommodation in the terrace style. These buildings also have townscape value.

The streets adjoining the site of the 1788-1845 remains are of primary importance in that they may be assumed to cover a further substantial proportion of such remains. They also embody evidence of 140 years of street construction and use.

The First Government House site is the most tangible link with the foundation of white settlement on this continent and, as such, is of the greatest symbolic importance to the Australian community.

5. Future of the Site

The future of the site is an issue of national importance and beyond the concern of any one organisation or group. Its investigation and conservation should be undertaken to the highest possible standards, and in accordance with ICOMOS principles.

The implications of this report, and statement of significance, are that:

1. On the site of the First Government House remains there must be no development other than that necessary for the conservation and interpretation of those remains. This restriction must apply to the entire area of the former car park.
2. Any development proposal concerning other areas of the site must give major consideration to their cultural significance.

3. Until such time as a conservation plan is prepared and implemented, the site must be given every possible legal and physical protection. This should include the placing of a conservation order over the entire site.

The other major aspect of the future of the site is the need to prepare a conservation plan. Such a plan must be based on understanding the cultural significance of the site and its physical condition. It must take into consideration all aspects of its cultural significance without unwarranted emphasis on any one. The conservation proposals should make use of all the disciplines which can contribute to the study and safeguarding of the site.

The conservation plan should involve the least possible intervention with the existing remains, and must maintain an appropriate visual setting. Environmental intrusions which adversely affect appreciation or enjoyment of the place should be excluded.

In the preparation of a conservation plan some matters which obviously require attention are:

- analysis of the materials excavated to date;
- conservation of the in situ and removed artefacts and structures;
- further excavation around the location of the current excavations;
- preliminary excavations within Bridge and Phillip Streets;
- development of the means and structures necessary to preserve and protect the in situ remains;
- display and interpretation of the in situ remains and artefacts and other aspects of the significance of the site as a whole (as set out in this report).

Finally, any plans for future development of the site must be consequent upon both the statement of cultural significance and the conservation plan.

FENCING

A brief account of the development of fencing in Australia during the nineteenth century.

James Semple Kerr

All early settlement plans and drawings emphasize the significance of fencing in the settled landscape. Its main function was to help protect gardens and cultivation from theft and straying stock. In purely 'urban' areas its purposes were as disparate as simple boundary delineation and the protection of human corpses from rooting swine.

The 1796 plan of Sydney, Norfolk Island, shows a variety of enclosures for allotments and gardens for the 'Governor', (1) officers, overseers and men. In addition, there was an extensive area for swine and an enclosure for cattle. Illustrations contemporary with the early settlement of the Sydneys, both at Norfolk Island and on the mainland, Parramatta, Newcastle and later Adelaide all show post and rail fencing with close set or open pales or pickets as the predominant type. Sophia Campbell's painstaking representations of such fencing at Newcastle (Fig.1) and at Five Islands in the Illawarra area about 1817 are good examples.

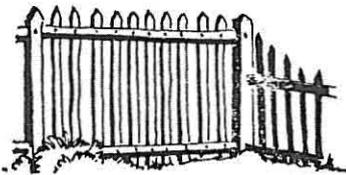


Fig. 1 Detail from Sophia Campbell's sketch book, ca. 1817, of Newcastle, N.S.W. A.N.L. Pictorial Section

Such picket or paled fencing remained common for homestead or garden enclosures right through the nineteenth century, however, it was the post and two, three and four rail fence that

became the dominant feature in rural landscapes. Lionel Gilbert mentions(2) that J.W.Lancashire depicted a two-rail fence in 1803 and on November 26, 1814 William Cox recorded in his diary that he was enclosing the famous road down the Mt. York escarpment in the same way(3). A watercolour of 1815 attributed to J.W.Lewin and now in the Mitchell Library, shows it clearly.

About the same time, Macquarie had ordered that cropped or cultivated land be enclosed with 'a good sufficient fence equal to a three rail mortice fence, or one composed of two rails and a ditch' (4). However it was only settlers with substantial resources and establishments such as the Government farm at Emu Plains that were able to comply.

The best account of post and rail fencing was given by James Atkinson in his Account of the State of Agriculture and Grazing in N.S.W. published in London in 1826. It is worth quoting at some length.

Fencing and enclosing land, is the greatest and most important improvement that can be effected upon it; to the acquiring a proper knowledge on this subject the attention of the new Settler should be early and closely devoted, since, without doubt, it is the foundation and basis of every other improvement to be afterwards expected. Enclosing with post and rail fence of split wood, has been brought to a very considerable degree of perfection in this Colony; and is executed in a style of great neatness and stability. This work is usually performed by free men, who have acquired the knowledge of this branch of rural labour since their arrival in the country; very few common labourers from any part of the kingdom being at all acquainted with it. The prices at which it is generally performed are:

- four-railed, 3s and 6d per rod
- three-railed, 2s6d
- and two-railed, 1s9d.

The best woods for the purpose are the blue gum, iron-bark, stringy-bark, and box trees. The tools used in splitting are a cross-cut saw, scoring axe, set of 7 wedges, and two mauls or beetles. In cutting out the mortices, a very singular tool, called a morticing axe, is used;

it has a short handle, large eye, head about a foot deep or long, and with an 'edge about an inch and a half wide; some use them double-headed, shaped like an adze on one side, and an axe on the other, and this perhaps is the best construction. In setting up, a common spade, and a post-hole spade are requisites for digging the holes; and if there are many stones, a small crow-bar or pick-axe will be useful in loosening them; an adze or broad axe are used for trimming and fitting the rails for the mortice.

Posts are cut five feet six inches, and rails nine feet long. The mortices are cut quite through the posts, about four inches long, and two inches wide; the ends of the rails are sometimes placed one over the other in the mortice, and sometimes one by the side of the other; which last is much the neatest plan. The ends are trimmed away so as to overlap each other, and project through the mortice on both sides; two panels are invariably put up to a rod, and the posts are always sunk two feet in the ground, which allows the fence to be three feet six inches high. In enclosing lands for cultivation, four rails are made use of; the three lower ones being placed pretty close to each other, completely exclude pigs or other small stock. Lands for grazing, are generally enclosed with three rails, but large enclosures intended for horned cattle or horses, and especially where timber is scarce, are frequently enclosed with two rails only.

Atkinson noted that drop (slip) rails are usual and that gates hung on hinges are seldom met with(5), a fact confirmed by Louisa Meredith who described the practice as a universal inconvenience and very tedious(6). Their popularity was due to their cheapness and ease of repair, unlike gates which were difficult to maintain.

Atkinson pointed out that (before 1826) there had been few attempts to grow live fences (hedges) (7). The main factors were the time needed to establish them, the necessity for regular and skilled maintenance and the fact that the most popular English hedges such as the Whitethorne (Hawthorne) needed careful attention if they were not to become too straggly.

However the larger estates, particularly in the colder parts of the colony, did establish fine hedging throughout the nineteenth century. In Tasmania, Gorse, Broom and Hawthorne were introduced and flourished. Sarah Ann Fogg depicted a variety of hedging in her view of Quamby Bluff from Westbury about 1860(8) and fine hedges survive in the vicinity of Westbury (Gorse) and Hagley and in N.S.W. at Dangarsleigh, (Hawthorne) today. in bleak and exposed areas such as the Western Districts of Victoria, more substantial trees were planted on field boundaries to create windbreaks.

Several exotic hedges left to themselves in a congenial environment without maintenance became pests and occupied the paddocks they were intended to protect. Gorse, Hawthorne, Privet and Lantana have all got out of hand in areas from Tasmania to Queensland, but the classic case of a live fence out of control is the Prickly Pear.

In 1826 Atkinson knew of no example of dry-stone walling having been erected in the colony(9). However in subsequent years where settlers or squatters had the resources and stone was easily obtained locally, such

walling was erected in a number of areas. Large parts of England have a long tradition of fine stone fencing, and the techniques were imported direct with varying success.

Fences of stone that does not split easily are usually constructed with a pyramid section containing bonding or through stones where available. On completion it looks like this Wensleydale example (Fig.2). Similar erections have survived near Robertson in N.S.W.

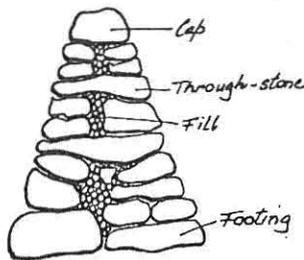


Fig. 2 Section through pyramid shaped dry-stone wall near Aysgarth, Wensleydale, U.K. showing bonding of irregular stones with 'through' stones

Where the stone splits easily along its bed as in this field fence near Huddersfield, Yorkshire (Fig.3), the fence is given vertical sides with appropriate capping. The coral rock wall at Kingston, Norfolk Island is a fine surviving Australian example (Fig.4).

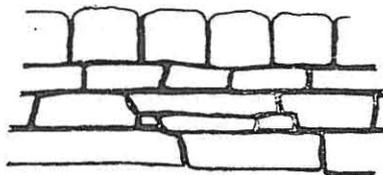


Fig. 3 Part of wall face including capping near Huddersfield, U.K.

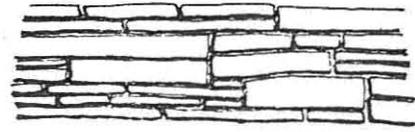


Fig. 4 Part of coral rock wall face behind the surgeon's quarters at Kingston, Norfolk Island

Neither type of construction was in widespread use in the colonies and fences of the more intractable materials were often a rough piling of stones in an approximation of a rubble wall construction, often adopted because it was necessary to clear an area of stone to bring it into agricultural production. The tufa walling erected by Scottish artisans on the Stoney Rises north-west of Pirron Yallock in the Western Districts of Victoria were a skillful exception. The better stone fencing later in the century sometimes appeared as a result of ornamental or symbolic requirements for garden or burial ground protection as on the Ryan's property at Galong (NSW) or in the ha-ha at Werribee Park (Vic).

By the 1840s and 50s the combinations and permutations of fencing techniques in the Australian colonies were astonishing and included:

- .all types of morticed post and rail (Figs. 5 and 6)
- .post and rail with picket and pale (Figs. 7 and 8) (some with rails superimposed in the mortice (Fig. 7) but most with rails side by side)
- .clasping posts and log (Fig.11)
- .chock log (Fig.10)
- .zig zag or crinkle crankle (Fig. 9)
- .stakes lashed or clasped (Fig. 12)
- .basket or woven (Fig. 13)

and among many others the ubiquitous and loosely termed 'cockatoo'. Lionel Gilbert quotes Thomas Tourle saying in 1840 'our fencing is what is termed Cockatoo, i.e. trees felled and rolled into line' (10). Mrs. John Mitchell depicted the same technique in her pencil sketches near Lisdillon (Tas.) in the 1850s (11). However the term is also applied by a number of other nineteenth century commentators to a wide range of makeshift fencing made from felled trees or scrub. Mrs. Mitchell's drawings provide a rare and remarkable record of a range of bough, log, brush, felled or deadwood fencing. Unfortunately they are faint and almost impossible to reproduce. As the century progressed 'cockatoo' became an increasingly disparaging appellation and this I suspect reflected something of the attitude of the squatter for the small farmer, selector or 'cockatoo' as he became known (12). Lack of resources made him the usual creator of such make-shift fencing.

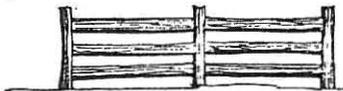


Fig. 5 Morticed post and three rail



Fig. 6 Morticed post and two rail

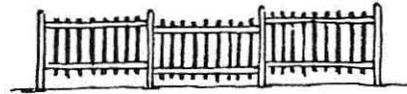


Fig. 7 Sapling picket with rails superimposed in the mortice. Based on Watercolour in C.F.L. Allport's sketchbook ca. 1885 (Allport Collection)

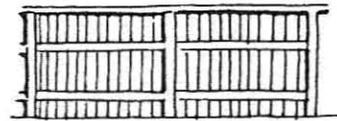


Fig. 8 Post with two rails clad with pales and finished with top plate. Homestead enclosure, Fysh River, NSW

The fate of cockatoo fencing was destruction by fire and frequently sooner than later. Some members may recall the conflagration of a magnificent cockatoo fence in the original film version of 'On Our Selection'.

The great variety and combination of fencing types arose as much from material shortages and a consequent need to use what was procurable as from a desire to improve the utility and durability of fencing. An article of 1827 in The Australian on the Bathurst area (and attributed by Malcolm Ellis to William Dumaesq) illustrates the point.

'From the great scarcity of timber, fencing is a very expensive improvement, and is only to be seen on the farms of the richest settlers, the want of paddocks is very general - what fences there are are bad, generally made of stringy bark, of a very inferior quality to the tree found nearer the coast, and as for iron bark there is none. What little fencing timber there is, is found on the ridgeThe smaller settlers content themselves with a 2 rail fence, and half the space underneath the lower rail is filled up with turf pared from the most tenacious part of the soil, and makes an excellent fence'. (13)

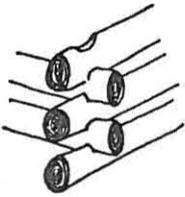


Fig. 9 Construction used for wooden 'zig-zag' fences

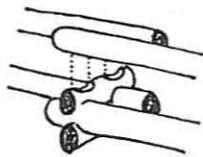


Fig. 10 Construction used for 'chock-log' fences

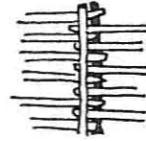


Fig. 11 Construction used for clasping post or stakes. Coolamine Hut stockyards NSW

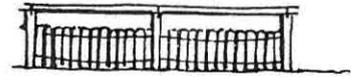


Fig. 12 Lashed stakes with post and top-rail system for sheepyards, Pyramul, NSW and Jondaryan, QLD.

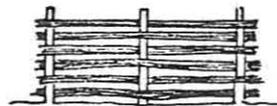


Fig. 13 Woven fence of split saplings

During the early 1850s squatters were carrying out a variety of experiments. John Learmouth and his neighbour William Lewis of 'Terinallum' in the Western Districts of Victoria erected a boundary fence in which the lowest rail was replaced by a stone dyke(14). At the same time, George Russell, who superintended the Clyde Company's operations in Victoria, wrote to Lewis from Scotland suggesting a turf bank two feet high or upwards with wooden stakes driven into the bank ten feet apart and two wires stapled to the stakes 9" and 1'9" above the bank(15). Both were built. This tradition continues in the Western Districts and may also be seen at Coswell, near Swansea, in Tasmania where rock-pile walls or dykes form the base storey for both post and wire (Fig.14) and modified cockatoo fencing.

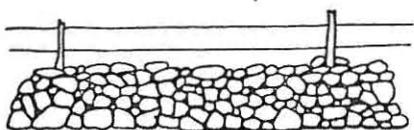


Fig. 14 Stone dyke with post and wire at Cosworth, near Swansea, Tasmania

From 1852 to 1855, the Clyde Company tried a variety of 'iron wire hurdles' from C.D.Young of Edinburgh and a Glasgow firm(16) as well as both iron and wire fencing from a variety of sources (17). Quite large quantities were purchased and improvements evolved. This early wire was mostly soft black bull wire, though at least by 1857 galvanized wire was available(18).

The fencing of sheep properties in the Western Districts was given impetus in 1854 by the outbreak of scab(19). Elsewhere pleuro pneumonia was to impress Riverina cattle-men in the 1860s with the need to isolate their properties from travelling or straying stock, or even to go over to sheep. Changing to sheep usually meant converting existing post and two rail cattle fencing by adding wire.

However, it should be emphasised that until the 1860s, extensive fencing of properties was the exception rather than the rule. The first boundary fence in the Barrabool Hills of Victoria had been erected by Williamson in 1854(20), and fencing gathered momentum after the mid 1850s.

In the Riverina, the change from post and rail for cattle to post and wire for sheep got underway in the 1860s and intensified during the 1870s and 80s. During the period 1861 to 1891, flocks increased from 1 to 13 million(21) and six and seven wire fences became usual.

At the beginning of the period a pastoral layout would probably include the following fencing:

- .paled fence for homestead and vegetable garden
- .post and rail stockyard
- .folds throughout the run for each flock attended by a shepherd - usually of a temporary nature (brush or hurdle) though sometimes of a more permanent wooden construction (fold at Wambo, Warkworth) (Fig.15).

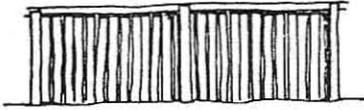


Fig. 15 Sturdy fold fence at Wambo, NSW, with post and top-rail holding heavy split timber stakes. Taken from photograph, plate 4, Cox and Freeland, Rude Timber Buildings, London, T & H, 1969

Another development in wire fencing was the introduction of barbed wire during the 1880s. The Tamworth Historical Society Museum (NSW) has samples of 21 types of barbed wire mostly found in the Tamworth area. An interesting early sample is that called 'Buckthorne' patented in the U.S.A. on July 26, 1881 and found on Bective Station. It is a single wire with a double flange or keel, one of which is set with regular cut-out points. The whole is then twisted and the thorns point every which way. The effect is very much that of an imitation of nature (Fig.16).

Fencing would be progressively added to enclose:

- .grass paddocks to conserve feed for summer
- .small horse paddocks to facilitate catching the beasts
- .cultivation paddocks
- .stock paddocks to permit the separation of bulls, stallions and rams to permit selective breeding.

At some stage, a boundary fence would be built.

An important consequence of the completion of boundary fences was the enclosure of stock-routes. By the 1880s this had created intense problems for travelling stock in dry seasons and virtually closed a number of routes(22). The process was accelerated by a requirement under the N.S.W. Crown Lands Act 1884, for selectors to enclose their land with a substantial fence within two years of conditional purchase(23).

By the 1880s, rabbits spreading north from Victoria had crossed the Murray into the western Riverina and by 1886 had reached southern Queensland(24). This resulted in the erection of netting fences. The 1891 Act (NSW) defined as rabbit proof, a 'substantial fence hung with galvanized-iron wire netting of maximum mesh of 1 5/8 inches, minimum width 36 inches, with wire minimum gauge of 17... furnished with suitable gates'(25). On Willurah Station such netting cost £23 per mile and was erected for £45 per mile.

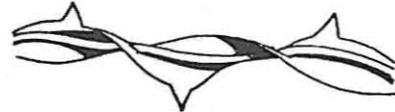


Fig. 16 'Buckthorne' barbed wire, patented in the U.S.A. July 26, 1881, Tamworth Historical Society Museum display

By the turn of the century, the N.S.W. Intelligence Department noted (26) that the following were the most common fences:

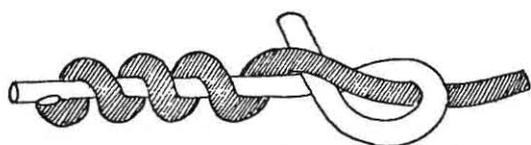
- .for cattle - post and barbed wire, though post and two rail was still preferred if timber was available
- .for sheep - post and six wires, the posts were spread 12 feet and the wires stapled midway on spreaders or battens.

The Department also noted the continued use of:

- .post, top rail and 4 to 6 wires
- .post, 2 rail and 2 to 4 wires
- .cockatoo fencing
- .chock and log fencing.

On the western slopes and Northern and Southern Tablelands, the wire fences had an optional cladding of rabbit-proof netting.

The almost complete abandonment of rail fencing and the general use of wire has made fencing a much less dominant feature in the twentieth century landscape. As the new century progressed, slim steel posts, high tensile wire and the use of multiple steel droppers have continued the trend. Older fencing forms are now used for ornamental effect or in some cases to reinforce the historic significance of a remarkably intact property.



The 'bull-wire' knot

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Figs. All figures are sketches prepared by the author from photographs in his collection except where otherwise acknowledged.

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THE AUSTRALIAN SOCIETY FOR HISTORICAL ARCHAEOLOGY

NEWSLETTER

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University of Sydney, N.S.W., 2006
Telephone (02) 692 2763

AUSTRALIAN JOURNAL OF HISTORICAL ARCHAEOLOGY

Volume 2 of the Australian Journal of Historical Archaeology has just been published and is included with this mailing. The Society wishes to express its gratitude to Assoc. Prof. Graham Connah, the Editor of the Journal for his work in producing Volume 2 and for the considerable amount of time, effort and skill which he expends on the Society's behalf on this publication.

The deadline for copy for consideration for Volume 3 of the Journal is 31 January 1985 and should be sent to the Editor:

Assoc. Prof. Graham Connah,
Dept. of Prehistory & Archaeology,
University of New England,
ARMIDALE NSW 2351
Australia.

Contributors should consult the 'Instructions for contributors' in the back of Volume 2 of the Journal before preparing papers for submission. Papers which are not prepared according to these guidelines may, in future, be returned to contributors for amendment before they are considered for publication, as the Society is unable to carry the considerable additional costs of re-typing etc. as well as the costs of Journal publication.

Subscriptions to ASHA for 1985

Subscriptions for 1985 may be paid now and reminder notices are enclosed with this Newsletter. Individual subscriptions have not been increased and remain at \$15 per year. In order to maintain publication of The Australian Journal of Historical Archaeology we do encourage you to continue to support the Society and to encourage others to do so. Subscriptions should be sent to the Treasurer, Box 220, Holme Building, University of Sydney, NSW 2006, as soon as possible.

ASHA ANNUAL GENERAL MEETING

At the Annual General Meeting of the Australian Society for Historical Archaeology held on 19 July 1984 the following office holders were elected:

President: Judy Birmingham

Vice

Presidents: Kenneth Cable

John Wade

Treasurer: Ilma Powell

Secretary: Rosemary Annable

Committee

Members: (3 elected and 2
co-opted)

Damaris Bairstow

Graham Connah

Edward Higginbotham

Helen Temple

Michael Pearson

Membership:

The membership of the Society as at 30 June 1984 was as follows:

Life members	17
Individual members	201
Corporate members	53
Copyright libraries	4
Exchanges of publications with other societies	24

Membership of the Society has increased slightly over the last year despite a considerable rise in the number of non-financial members, possibly due to the change in subscription rates in 1984 with the appearance of the Australian Journal of Historical Archaeology.

Treasurer's Report

The funds in the Society's investment accounts as at 30 June 1984 amounted to \$9,404.63, with a total of \$595.31 in the Society's cheque account. The cost of Volume 2 of the Australian Journal of Historical Archaeology will be met out of the investment accounts. It is estimated that these will be approximately \$6,500. Although the increase in subscriptions in 1984 augmented the Society's income, subscription fees (which totalled \$4,474.64 in the year 1983-4) do not cover the cost of Journal publication, which is

subsidised from the Society's accumulated funds. It will be necessary to increase the membership of the Society during the next two years to maintain the publication of the Journal. Profits from the ASHA Conference, which totalled \$500 in the financial year 1983-4, are also used for the costs of the Journal.

Industrial Archaeology in Italy

Anyone interested in the above topic, or visiting Italy, may wish to know that a new journal "Archaeologia Industriale" commenced production in 1983. The annual subscription is Lit. 14,000 and it may be ordered from:

Michelette Editore,
Via Solera 42,
I-25126 Brescia,
Italy.

Quoting "Archaeologia Industriale".

The text is in Italian but summaries of papers are given in English. A sample copy is held by Professor R.L. Whitmore, Department of Mining and Metallurgical Engineering, University of Queensland (Phone 07-377-2546).

FRENCH MILLSTONES

While on special studies programme in 1983 at the University of Bath in Britain I had considerable discussions with Owen Ward, who is researching the history of the technology of millstones. One of the world's largest production areas for them was at La Ferté which lies just north of the River Marne in France. From the 15th century the area was renowned in Europe for its millstones and as soon as European colonies were founded the stones from La Ferté went out to them. The trade lasted until 1940 although it dwindled rapidly after reaching a peak in 1880, because of the development of roller mills.

Owen Ward would be interested to receive information on French burr millstones whose existence has been confirmed in Australia. Any information should be sent to the undersigned who will be pleased to collate it and forward it to Owen Ward.

Prof. R.L. Whitmore,
Department of Mining & Metallurgical
Engineering,
University of Queensland,
St. Lucia Q.D 4067
Phone (07 377 2546).

Second National Conference on Engineering Heritage

THE VALUE OF ENGINEERING HERITAGE
The University of Melbourne,
20-21 May, 1985

THE CONFERENCE

The Second National Conference on Engineering Heritage is organised through the National Panel on Engineering Heritage of The Institution of Engineers, Australia, in association with the National Trust of Victoria and the Museum of Victoria.

The Conference will be held at Clunies Ross House, Parkville 20-21 May, 1985. It will draw attention to the need for a greater awareness of clearer policies pertaining to our Engineering and Industrial Heritage.

AIM

The aim of the Conference is to demonstrate to engineers how appreciation of the history of our Industrial and Engineering developments is of value to them, particularly with respect to:-

- (1) Undergraduate, public and continuing education;
- (2) The use of hindsight in the development of new technology, museology and the recording and preservation of objects of significance, and;
- (3) The social and economic impact of technology on our Engineering Heritage.

PAPERS

It is hoped that the following topics will be covered at the Conference:

- The Value of our Engineering Heritage
- Undergraduate Education and History of Technology
- Public Education and Engineering Heritage
- The use of Hindsight in Technical Development
- The Social and Economic impacts of Engineering in History
- The Role of Museums in the Preservation of our Engineering Heritage

- Documentation
- Dealing with Artifacts
- Early Professional Engineers
- Technology Transfer and our Engineering Development

FURTHER INFORMATION

The final program will be available in February 1985 and will include the Conference Registration Form.

ENQUIRIES

All correspondence relating to the Conference and papers should be addressed to:

The Conference Manager
2nd National Conference
on Engineering Heritage,
The Institution of Engineers
Australia
11 National Circuit,
BARTON ACT 2600
Telephone: (062) 73 3633
Telex AA62758
Telegrams ENJOAUST CANBERRA

PARKS CANADA

Publications in History and Archaeology

Parks Canada has an excellent series of publications in History and Archaeology including Research Bulletins and Occasional Papers. These cover a wide variety of subjects including archaeological excavation, artifact analysis and typology, site surveys and historical research. Details of available publications may be obtained from the National Historic Parks & Sites Branch,

Parks Canada,
Ottawa,
Ontario K1A 1G2
CANADA

and publications purchased through:

Canadian Government Publishing
Centre,
Supply and Services Canada,
Hull,
Quebec K1A 0S9
CANADA

The Institution of Engineers,
Australia

BICENTENNIAL CONFERENCE AND
COMMITTEE

P.O. Box 138 Milsons Point 2061
Telex AA26462 SKP

ENGINEERING 200 - GOALS

ENGINEERING 200 is a complete package formulated to commemorate engineering achievement and heritage for Australia's Bicentenary in 1988. Principally the programme aims to attract a wide audience by appealing to school children, educators, members of the general public and individuals associated in professionally related spheres, about the contribution of engineers and engineering as a discipline to the development of Australia technologically, economically and socially. Secondly, we

hope to give engineers a sense of professional pride and achievement by documenting their history.

ENGINEERING 200's objectives include:

- . identifying and recording works and sites of historical significance.
- . identifying and analysing the major engineering milestones in Australia's development.
- . preparing and publishing biographies of past and present engineers of outstanding achievement.
- . publication of the above work as calendars (to be an ongoing sequence beyond 1988), pamphlets, books and television specials.
- . preparing an engineering heritage exhibition for the 1988 Annual Conference of The Institution, to be subsequently displayed around Australia.

- . assisting and participating in the Australian Bicentennial History being prepared by the Australian National University's Research School of Social Sciences.
- . assisting and participating in the Australian Academy of Technological Sciences volume on the History of Technology.
- . selecting and publicising works of particular significance as "Bicentennial Engineering Projects" which will consist of works coming on stream, or substantially so, in 1988.

ENGINEERING 200 has received wide support from The Institution's state divisions, Australia's local government engineers, many government departments and private companies. Consequently, it's hoped that ENGINEERING 200 can benefit from a wide subject coverage and can, therefore, stimulate the interest of all those who even have a passing interest in engineering heritage.

COHO

The NSW Council of Heritage Organizations (COHO) was formed in 1978 as a non-formal committee of organizations in New South Wales concerned with various aspects of Australia's heritage.

The basic objective of COHO is to provide a forum for discussion of like-minded organizations, with occasional meetings, and also to play a co-ordinating role between the groups concerned. It is intended that COHO reduce duplication of effort, help in the development of policies on important issues, and assist heritage organizations in their efforts to influence Government.

The following organizations are currently represented on COHO:

Art Museums Association of
Australia
Australian Association of
Consulting Archaeologists
Australian Association for
Maritime History
Australian Society of Archivists
Australian Society for Historical
Archaeology
Engineering Heritage Committee,
the Institution of Engineers,
Australia (Sydney Division)
Institute for the Conservation
of Cultural Material
Library Association of Australia
Museums Association of Australia
Inc. (NSW Branch)
National Trust of Australia (NSW)
Regional Art Galleries Association
of NSW
Royal Australian Historical Society
Royal Society of NSW
Society of Australian Genealogists

In addition, two organizations
with a key interest in the natural
heritage have recently been invited
to join COHO. It is estimated that
COHO will represent approximately
100,000 Australians in 1984.

Current issues being pursued by COHO
include conservation of the Old
Government House relics in Bridge
Street, photography in museums and
historical houses, the need of
repositories for the documentation
of archaeological surveys, and the
need for open access to pre-1900
birth, death and marriage records
in Victoria.

Representatives are able to bring
others up to date on developments,
across the spectrum of heritage
activities, during meetings which
are held quarterly.

For further information, contact -
Mr. Nick Vine Hall
Chairman of COHO
Society of Australian Genealogists
Richmond Villa,
120 Kent Street,
SYDNEY Tel. 273953

Dr. Glenn Hunt
Secretary of COHO
The Australian Museum,
College Street,
Sydney Tel. 3398265 (wk);
9298675 (hm)

CANADIAN RESEARCH ON GLASS TABLEWARE AND BOTTLES

Olive Jones is researching glass
tableware and bottles recovered
from archaeological sites in
Canada and wants to get in touch
with people working on glassware
either made or used in Australia.

As both Canada and Australia were
British colonies, there should be
great similarities in the material
imported, especially before 1850
when U.S. imports dominated the
Canadian market. Ms. Jones and
others have produced a number of
research papers of relevance to
Australian excavators.

At the moment she is interested
in locating examples of bottles
bearing the royal seals GR, WR
and VR; some have a broad arrow
between the initials. Examples
of these were found at Port
Essington (see Jim Allen, World
Archaeology vol. 5 no. 1, January
1983 p.57 and pl. 9)

While the bottles are often found
broken and the seals as sherds,
complete bottles have been found.
They have cylindrical bodies,
shallow basal indentation,
generally short necks and are
made of dark green glass. The
Canadian examples measured
usually hold 1800-2000 ml.

If you know of any, please let
Ms. Jones know provenance, bottle
height, base diameter (measured
at outer edge), neck height and
capacity.

Write to Olive Jones, Glass
Researcher, Material Culture
Research, National Historic
Parks and Sites Branch, Parks
Canada, 1600 Liverpool Court,
Ottawa, Ontario K1A 1G2, Canada.

THE TECHNOLOGY OF GLASS ARTEFACTS

A brief summary of the preliminary findings of a research on early commercial Australian glass (funded by the Heritage Council of N.S.W.) was presented at the 4th Annual ASHA Conference on 28th September, 1984, by Dr. Jim and Mrs. Mary Boow, 3, Barellan Avenue, Turramurra, NSW 2074.

The changes in form and markings of commercial glass artefacts, mainly in the period 1788-1900, were briefly reviewed in relation to the corresponding developments in the methods of glass manipulation and packaging. These changes were illustrated by reference to:

- * 3-3½-litre square case bottles (Zeewyck wreck, W.A., 1727) moulded in tapered wooden "dip" moulds, compared with free-blown "onion" bottles.
- * Free and dip-moulded straight-sided "wine" bottles, which show a gradual standardisation in capacity of 6/gallon (26 2/3 fl. oz., 758ml.) size, and approx. 3/4" (20mm.) neck bore, and a 3/4" (20mm.) deep reinforcing ring applied to the lip, by c1800-1840. (Rapide wreck, W.A., 1841).
- * The gradual rise in maximum sizes, from about 18" to 48", of imported window glass by 1850, after the Crown process was displaced in 1832 by a modified "Broad Glass" (flattened cylinder) process by Chance Bros., of Smethwick in the U.K.
- * In food and fruit bottling, an increase in cork size from about 3/4" to 1¼-1½" in the period c1820 - c1850; and by c1860/70 to a 2" or more neck size, after the development of vulcanized rubber (1842), the Mason jar (1858/68), the side-lever (1854) and the press-and-blow (1883) glass-moulding machines.
- * Carbonated soda and soft drinks, first imported in 1819, used bottles which had to be laid flat (the torpedo-shaped Hamilton c1825-c1905 and long cylindrical round-ended Maugham c1845-c1895), to keep the cork wet and expanded and so prevent the drink becoming "flat" by gas leakage under pressure.
- * The introduction and patenting in 1869/1871 of equipment by which both the internal, as well as the external, shape of the neck, and thus the internal sealing by a floating stopper, by gas-pressure from the carbonated drink, became possible.
- * Following this introduction of internal moulding equipment, the rapid development and sale of bottles with floating non-spherical and spherical internal stoppers: Non-spherical, Hogben/'stick' c1870-80, Lamont c1870-c1905 and Hutchenson c1885-c1905 (to c1920 in U.S.A.); and spherical rubber-ball Gledhill c1880-c1890, the glass-marble Codd (1871) patent bottle (c1880 - c1925) and its many variants (c1885-c1925).
- * Later improvements in corking methods by the wire-lever "Lightening" seal, c1880-c1930; the internal-screw, c1880-c1960; and the modern crown-cork with applied lips, c1905-c1920 and machine made c1920 to date.

In any attempt to identify broken glass artefacts, the internal and external shape of the bottle top and neck are often as important, and can frequently be of more value in dating, than the larger body and base shapes. Pontil-marks (up to c1845-c1865) and glass-maker's marks appear on flat or concave surfaces (base); distributor's trade-marks are on flat or convex surfaces (body); whilst straight or circular "mould lines" can be on any outer surface of the bottle. The need for an established collection of such commercial glassware, probably collected from wrecks of known date, to aid in such identification work, was stressed.

Laboratory tests of possible value in such work may be:

- * X-ray reflection analysis to identify early weather-resistant high-lime hand-manipulated glass, compared with more modern poorly-resistant high-soda machine-made glass.
- * High chrome and rare-earth analysis of early Australian glass made from beach sands.
- * Spectro-photometer, electron-microprobe and density/refractive index checks, to identify glass pieces of similar origin.

On the completion of this work, it is intended to submit a more detailed summary for possible publication in the ASHA Journal.

The work outlined is under the supervision of the specialist archaeologist of the Heritage Council, Helen Temple. Of the many who have assisted, in providing information and comment, the authors particularly wish to thank Annette Keenan, Warren and Lisa Wickman, all of the Power House Museum, Sydney; Myra Stanbury of the West Australian Maritime Museum, Fremantle; David Jones, author of a summary of Sydney's Aerated Water Manufacturer's Bottles; and the staff of the Mitchell Library

and of the N.S.W. and Australian Archives and Patent Office.

THE RECORDING OF EXCAVATION PROCEDURE

Ted Higginbotham

I introduce these notes on an aspect of excavation technique by quoting those famous words of General Pitt Rivers:

'Excavators, as a rule, record only those things which appear to them important at the time, but fresh problems in Archaeology and Anthropology are constantly arising, and it can hardly fail to escape the notice of anthropologists ...that on turning back to old accounts in search of evidence, the points which would have been most valuable have been passed over from being thought uninteresting at the time. Every detail should, therefore, be recorded in the manner most conducive to facility of reference, and it ought at all times to be the chief object of an excavator to reduce his own personal equation to a minimum'. (Pitt Rivers, A.H.L.F. (1887-98) Excavations in Cranborne Chase, London, Vol. 1, 1887, xvii).

With this plea for detailed recording and objectivity, I would like to point out what I believe to be some of the shortcomings of recording techniques on excavations. Everyone is hopefully agreed that the pro forma for the recording of contexts, units, layers, etc. is more objective and allows less room for incomplete recording than the traditional site notebook. These forms record in great detail the description, dimensions, interpretation and other information relating to each context, but fail to record how the context was excavated, or how a decision was made to excavate it in a particular way. In short the context recording sheet does not tell you anything about excavation procedure.

I believe it is very important that the process of excavation should be recorded in great detail. It may be obvious or mundane information to the excavator, but to the archaeologist who is reading or writing the report at a latter date the information may prove invaluable. The modern pro forma method of recording has streamlined or standardised the traditional site notebook, but at least the latter did occasionally reveal detail of excavation procedure.

To rectify this perceived gap in the recorded evidence, I tested a method of recording excavation procedure on a recent excavation at Elizabeth Farm, Parramatta (October 1984). I include as an example one sheet from the Record of Excavation Procedure (REP) that I completed on site during excavation (Fig.1). I shall go through this in detail, as this is the best way of explaining the record, and I shall add comments to each heading where appropriate.

Site name: Abbreviation for site name or full name.

Date: Important, since it is useful to know the date on which each context was excavated, and in this way this record will duplicate the function of a day book, recording the excavation undertaken on each day. It would be necessary to start a new sheet at the beginning of each day's work.

Site number: Numerical identification of site.

Site subdivision: Trench number or grid reference. This recording system is flexible: you may wish to treat different parts of the excavation separately, so that individual sequences or recording sheets may be kept for each area.

Page number: the page number refers to a unique sequence for each site subdivision, for example, trench 9, page 1,2,3, etc, trench 10, page 1, 2,3 etc.

The main body of the form allows for the detailed recording of excavation procedure. I have found that excavation procedure may be conveniently divided up under the following headings, namely:

Questions: All excavation should start off with a series of unanswered questions, in other words, a research design. These are the most important questions that excavation will seek to answer.

During excavation a second level of question will also be encountered, namely the question of stratigraphic relationships, which must be resolved before excavation can proceed by removing contexts in reverse order of deposition. I have phrased my question as instructions, but instead of saying 'assess stratigraphic relationship between contexts a and b', this could be rephrased 'what stratigraphic relationship exists between a and b?'

Observations: The archaeologist should constantly be questioning the archaeological evidence as it is excavated, and should frequently be making observations. For example, as one layer is removed, another one or more contexts may be recognised and stratigraphic relationships assessed. It is the recognition of new archaeological evidence which should be entered under the observation heading.

Actions: All the processes of excavation should be recorded under the action heading from the laying out of the trench to the removal of each context, to its photographing, recording, planning and sampling. Each individual process should be recorded as a single action.

Valuable information too is the name of the person who supervised or directed the excavation, and also those who undertook each activity. At Elizabeth Farm I did not use these categories, since the excavation was undertaken by one person.

SITE NAME:

ELIZABETH FARM - PARRAMATTA

DATE:

18-10-84

SITE NO:

9

SITE SUBDIVISION:

TRENCH 10.

PAGE NO:

10-3

A10 Remove 051.

0.9 Recognition of brick and rubble feature (053), which may form roadside drain (052): recognition also that sandstone blocks (056) unearthed when the linear trench (043) was excavated may be another roadside drain (055) layer 051 covered over and infilled roadside drain feature (052, 055).

A11 photograph 053, 056, 050.

Q4 assess whether brick rubble (053) is part of 052, or not.

0.10 brick rubble (053) overlies 050, and forms fill of drain (052).

A12 remove 053.

A13 record 051, 052, 053 and brick type (054).

Q5 assess stratigraphic relationships of 055 and 056.

0.11 056 is part of 055.

A14 remove 056.

A15 Record 055, and 056.

A16 photograph 052, 055, and 050.

A17 remove 050.

A18 record 050.

0.12 recognition that 050 infills irregular depression (058), caused by the extraction of tree roots?, that the natural clay has been stripped of topsoil (057) under the roadway but not elsewhere PTO.

EXCAVATED BY:

EH.

PAGE TOTAL OF - QUESTIONS:

Q5

OBSERVATIONS:

O12

ACTIONS:

A18

EXCAVATION SUPERVISOR:

EH.

I have found that it is useful to number each question, observation and action in an individual numerical sequence. It would therefore be possible to correlate excavation procedure with the context or photographic record by merely identifying on the latter the relevant Q, O or A number. I have also found it useful to note the last Q, O, or A number at the bottom of each page, so that on writing the following page, quick reference can be made to find out the next available number:

In conclusion, I believe that the Record of Excavation Procedure (REP) is an important part of any excavation record. It forces the archaeologist to think objectively and question excavation procedure and decisions. It makes necessary the formulation of a series of explicit questions which require investigation by archaeological excavation. Above all it pinpoints the questions which we have or have failed to ask.

This record is flexible, takes little time to complete, is not complicated, and in general is a strong incentive to giving full attention to detail. Although I have not at the time of writing used this record in report writing, I consider that by completing the record of excavation procedure the writing of the report is substantially planned in the field. This record should form an invaluable addition to the other field records of an excavation and should likewise be kept in an archive. Finally, I consider that by recording excavation procedure in detail other archaeologists will be more able to familiarise themselves with the excavations of their professional colleagues.

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MARSEILLES TILES by Susan Bures

One of the main points of interest to historical archaeologists in the Wunderlich Project, conducted by the Museum of Applied Arts and Sciences, was the discovery on the Wunderlich Redfern Factory site, of ten Marseilles Tile brands, only three of which were known by their manufacturer's name previously.

The entire Wunderlich report is held by the Museum but the particular chapter on the Marseilles Tiles has been abstracted for the ASHA Newsletter with kind permission of the Museum and author, Susan Bures.

The Wunderlich Project, which began in 1980 and continued into 1981, was the recording of the demolition of the Wunderlich Redfern factory site, the earliest of its factories in Australia, and writing a history of the company.

Susan Bures and Barry Groom were employed as consultants by MAAS for this project.

Brief

Because of the significance of Marseilles tiles in the history of Australian architecture, we were advised to gather from this site, as much information on, and examples of, the different types as possible.

Sources of Information

The principal source of information on the importation of these tiles is a monograph by Robert Varman published by the Australian Society for Historical Archaeology. In it he canvasses the opinions of such writers on Australian architectural history as Prof. J.M. Freeland and Robin Boyd, on the commencement and extent of Marseilles tile importation, draws certain conclusions himself on these matters, on the number of brands offered for sale and their approximate selling period in this country.

The Wunderlich ledgers in the Museum's possession provided a good deal of information for the years 1898-1907 and 1916 onward, but the years 1892-98 and 1907-16 are regrettably not represented. A Minute Book of the Sydney Branch (1909-1916) fill in some of the gaps.

History

Wunderlich's have literally 'painted the town red'. The suburbs have now assumed a rich red hue that harmonises with the dark green of the eucalyptus. To the Wunderlich brothers belongs the credit of this transformation(1)

Beginning in the last two decades of the nineteenth century, the large scale importation of terracotta roofing tiles from Marseilles was to change the face of Australian colonial cities. The drab grey of slates and galvanized iron, and the dun colour of timber shingles, was gradually replaced by the vibrant orange-red of the imported tiles. Their growing popularity was partly due to the adoption of 'Queen Anne' style architecture, with its emphasis on high pitched roofs and red accents, to the housing construction boom which followed the depression on the early 1890s and to the fact that these tiles were a superior roof treatment. Machine-made interlocking roofing tiles designed to be laid with interrupted vertical joins, they allowed ventilation and were maintenance-free, durable and waterproof.

According to Varman, the Marseilles, or French Pattern tile, developed from a prototype designed by the Gilardoni Brothers in Alsace in the mid 1850s. When their patent expired, the concept was adopted and improved by a number of tile manufacturers in and around Marseilles. Some of these tileries formed a syndicate first known as the Societ  Anonyme des Tuileries et Ceramiques and, after c.1900, as the Societ  Generale des Tuileries de Marseilles et Cie. The syndicate marketed this new interlocking tile

in large numbers and in two colours - grey for Europe and red for 'tropical' climes like South America and Australia. In 1888 they won a medal for their roofing tiles at the Melbourne Exhibition.(3)

W.H. Roche and Co. of Melbourne were apparently the first to import these tiles to Australia in quantity in the 1880s although isolated shipments may have arrived earlier.(4) However, they fell victim to the depression that engulfed Victoria in 1892 and became insolvent in Sydney later that year. This provided an opportunity for the Wunderlich brothers who took responsibility for the sale of a tile shipment when the original consignees, presumably Roche and Co., were unable to handle the transaction.(5) The following year (1893), the Wunderlich brothers, who had been working for Rockes as managers, brought back from their employers the patent rights to stamped metal ceilings; they also took over W.H. Roche and Co.'s entire terracotta department, including their personnel.(6) By 1894, Wunderlichs are reported as the sole agents for the importation of Marseilles tiles into Australia,(7) and in 1897 they made the same claim in their own advertising, also claiming yearly sales exceeding two and a half million tiles.(8) In 1927, the company claimed that by World War I, when importation of the tiles ceased, they had imported a total of seventy five million tiles in one hundred and ten full cargoes; enough to roof 40,000 homes of average size, making Wunderlichs the largest, if not the sole, importer of these tiles into Australia. (9)

Not many years ago Metal ceilings were looked upon as a curiosity and by many people as a fad, but they proved to be so admirably suited to the requirements of this country that they are now a household word and a necessity. We have had a similar experience with Marseilles roofing tiles. At one time everybody fought shy of them, and many old prejudices and conservative habits had to be overcome

before their use was established; now their reputation is such that no other roofing material can come up to them." (10)

By 1900, the tile importing business was extensive enough for Wunderlichs to lease a private wharf at Careening Cove, Neutral Bay, Sydney, to receive and store the tiles, purchasing the freehold in 1903 (11) Previously they had used public wharves (for which charges are recorded in their ledgers (12) to unload the shipments, which were then stored in their tile yard on the west side of Baptist Street, Redfern, opposite their metal working factory. (13)

Terracotta accessories such as crestings, ridging and finials were also supplied by Wunderlichs. In 1897 they advertised in Sands Directory that their roofing accessories were made by Liebentritt's Cumberland pottery works (14) but by at least 1910 (15) they were manufacturing some accessories at their own works in Brunswick, Victoria. They were still importing ridging, however, and perhaps other items concurrently from Marseilles. (16)

The works at Brunswick had therefore been in operation since at least 1910. In the Forty Years book, Wunderlichs claim to have anticipated the War and the tile shortages it would cause, by experimenting with tilemaking at Brunswick from 1913 (17) around the same time they set up another experimental tilerly in Sydney at Rosehill, near Parramatta. This foresight paid off, and when tile shipments from France ceased after the outbreak of War, the Wunderlich tilerlies were already producing one and a half million tiles per year. (18)

The artistic trend of Domestic Architecture gives the Architect great scope for picturesque outlines in his designs, and the quaint gables, chimney stacks and skyline of the modern home is greatly enhanced by the use of Terra Cotta Roofing Tiles and Accessories.

There is a restful charm about the villa roofed with the Wunderlich Marseilles Tiles, the deep shadows

of its overhanging eaves and gables breathe that feeling of repose only assured under a roof which is sound and weather proof.

We are sole importers and our Marseilles Tiles of the well known brands "Bee", "Star", "Lion" etc. are rich in colour, strong, reliable of hard surface, absorption of moisture reduced to a minimum, and they are perfect insulators and keep the building warm in Winter and cool in Summer. The ideal roof for the country.

Marseilles Tiles are clean and cool; rain water from a tile roof is sweet and pure. Proof against fire or hail storms. Our tiles are imperishable and withstand climatic changes." (19)

From being the largest importer of the Marseilles tiles into Australia, the company went on to become the largest manufacturer of terracotta roofing tiles. (20) They began by reproducing almost exactly the 'French Pattern' tile which for a time they referred to as the "Marseilles" tile. Over the years, they introduced colours other than natural terracotta red, including chocolate brown and brindle. Later, they offered a semi-glazed and fully-glazed finish, including an amazing iridescent purple, a sample of which we collected at the Redfern site. Green and blue tiles, of which we also have samples, were introduced, and often a blended effect was encouraged using a variety of colours. Varman concludes most sensibly that the establishment in 1923 of the architectural terracotta works at Rosehill, next to the tilerly, was the impetus that set off this technicolour adventure; the new American techniques introduced at the architectural terracotta works were borrowed by the tilerly, including improved methods of burning and glazing. (21) Wunderlichs later moved away from the French pattern tile to make Spanish, Mission and shingle tiles and, toward the late sixties they were offering a 'Swiss Pattern' terracotta tile. (22)

After World War II, the demand for roofing tiles or indeed any roofing material became acute. The Wunderlich tileries resumed production but could not keep up with the demand. This provided an opportunity for new roofing materials to enter the market, including the concrete tile developed in Australia by Monier in the early 1950s. Wunderlichs refused to enter this field, but fought back by developing a metal roofing sheet stamped with a pattern of 'Marseilles' tiles, and by upgrading their tile-making machinery. For all their efforts, the concrete roofing tile substantially increased its share of the market to far outweigh that of terracotta tiles.

Location

Most of the main factory buildings and the timber mill were still roofed with Marseilles tiles when the factory was abandoned. The northern third of the timber mill, raised to two stories in mid 1928 (23) was roofed with Wunderlich tiles. A large area on the western side of the main factory building had also been re-roofed with Wunderlich tiles, at some unknown date. There were two concentrations of corrugated asbestos cement roofing material, presumably Wunderlich 'Durabestos' in the main factory building, and isolated examples elsewhere. Otherwise, we assumed the roofs were original.

The foundry, constructed in 1924 (and re-roofed four years later), the showroom, constructed in 1929 and the casemaker's shop, constructed in 1937, were all roofed with Wunderlich tiles. There had been a large standing display of Wunderlich roofing tiles facing Cleveland Street in front of, and largely obscuring, the showroom. When we began on site the tiles had all been removed, but the framework remained.

State of Site

By the time we began work on the site, demolition of the roofs was nearly complete. The main factory building

was almost totally de-roofed except for a small area on the south eastern boundary. The timber mill, foundry, and casemaker's store were also roofless. All these areas were littered with broken tiles, timber and other debris, which made investigation difficult; the area of the main factory building was constantly being traversed by a small tractor, and later a heavy crane which the demolishers brought onto the site, gradually pulverising the tile remains.

Before we began, a number of unbroken Wunderlich and Marseilles tiles had been stacked in the open area between the main factory building and the foundry. Once we had established the variety of French brands represented on site, this stack was thoroughly searched and examples of various brands removed. Soon afterward, this tile stack was raided by looters who removed all the remaining Marseilles tiles, leaving only the Wunderlich brand.

Procedure

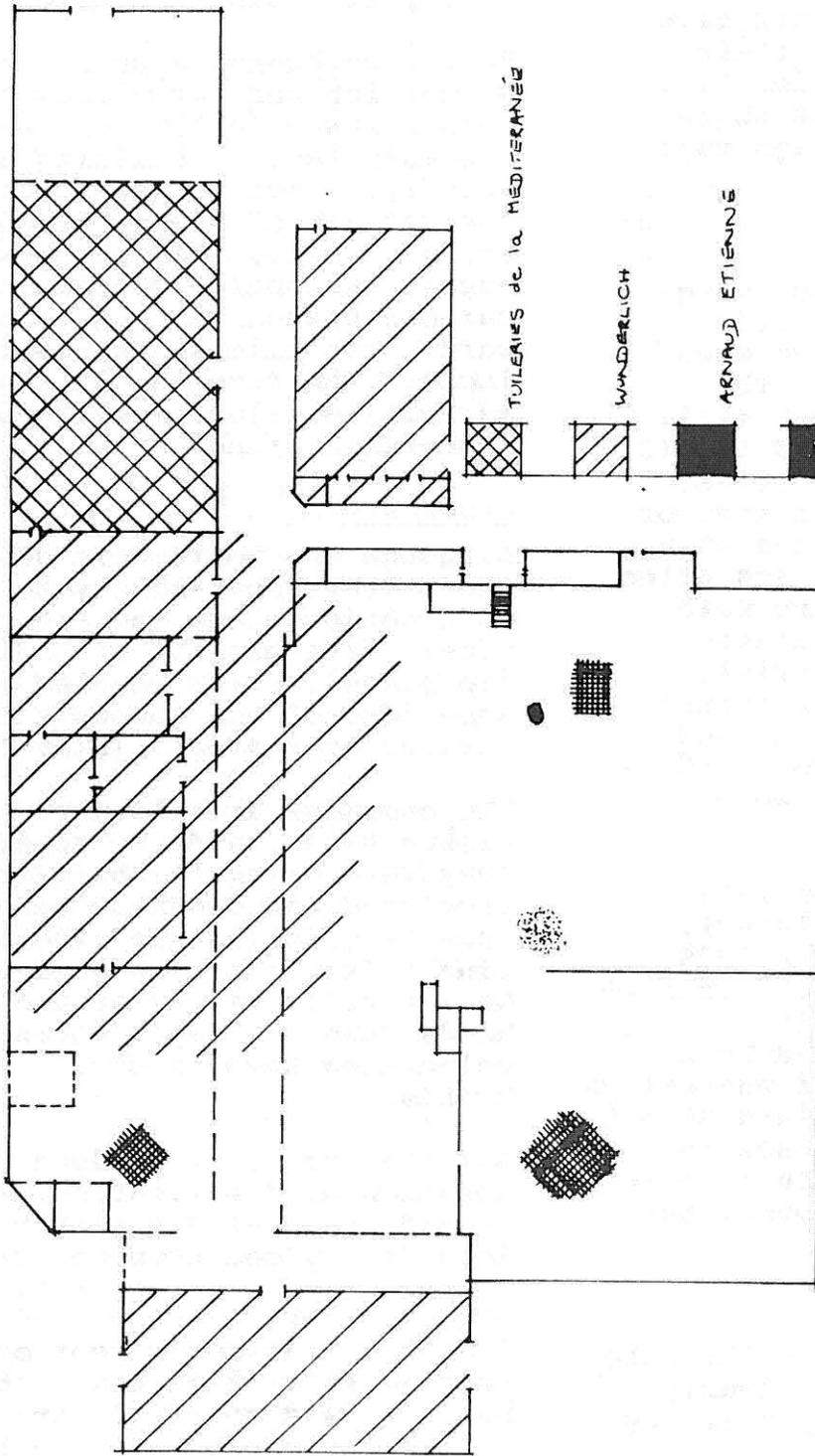
Although the roofs were down in those areas most likely to provide information about the French tiles, older tiles had, in the main, fallen 'in place', which enabled us to gain some idea of the composition of various roof areas. (Plan 1)

The enormous area littered with broken tiles, and the speed at which they were being further destroyed, precluded any organised approach such as gridding the site and sampling tiles from each grid square. We literally walked around with our heads down for days, noting and collecting samples of all different brands.

All that could be managed concerning notation of distribution, was to record where significant concentrations of any one type occurred.

When the various types had been isolated, the small roof on the south-west of the main factory building was searched for other, and possibly better, examples.

PLAN 1



TUILES DE LA MEDITERRANEE

WUNDERLICH

ARNAUD ETIENNE

CORRUGATED DURABESTOS

BLUE WUNDERLICH

GUSTAVO GAVOTTI

ASSOCIATED MARSEILLES 'BEE' PREDOMINATES

SCALE 1:500 SA.

SIGNIFICANT CONCENTRATIONS OF VARIOUS TILE TYPES

Results

Mr. Varman had previously discovered the names of three Marseilles tileries and their brand symbols: Guichard Frères - 'Lion', Pierre Sacoman - 'Star' and Guichard Carvin et Cie - 'Bee'. He also noted the brand symbols of three other tiles - 'Cock', 'Horse' and 'Spade', although their manufacturers were unknown. (24)

Because of the unique opportunity afforded by the Wunderlich Redfern site with its extensive concentrations of French tiles, we were able to isolate ten separate tile types, including the six already known to Varman, and the names of all ten manufacturers. Nine of these tileries operated in and around Marseilles, the tenth in a town near the port of Genoa, Italy. The names of the tileries, their brand symbols and other information found on the tiles are set out below (and see Fig.1).

All brands have their major markings on the reverse, while the 'Star' and 'Bee' brands often add a brand mark in the triangle on the obverse. The 'Turtle' brand had its symbol on the obverse only. Marks and lettering do not run in a standard direction; some brands have information to the right of the lug end, some to the left. Apart from the manufacturer's name and place of manufacture (or other notations), the reverse

includes not only the symbol, often shown more than once, but also a series of markings enclosed in small circles, typically two per tile. These are more frequently numbers, less often letters, in some cases mirror reversed. Some examples are drawn on Fig. 2. The current manager of Wunderlich's Rosehill tillery suggested the marks could refer to either a batch number, die identification or a date code.

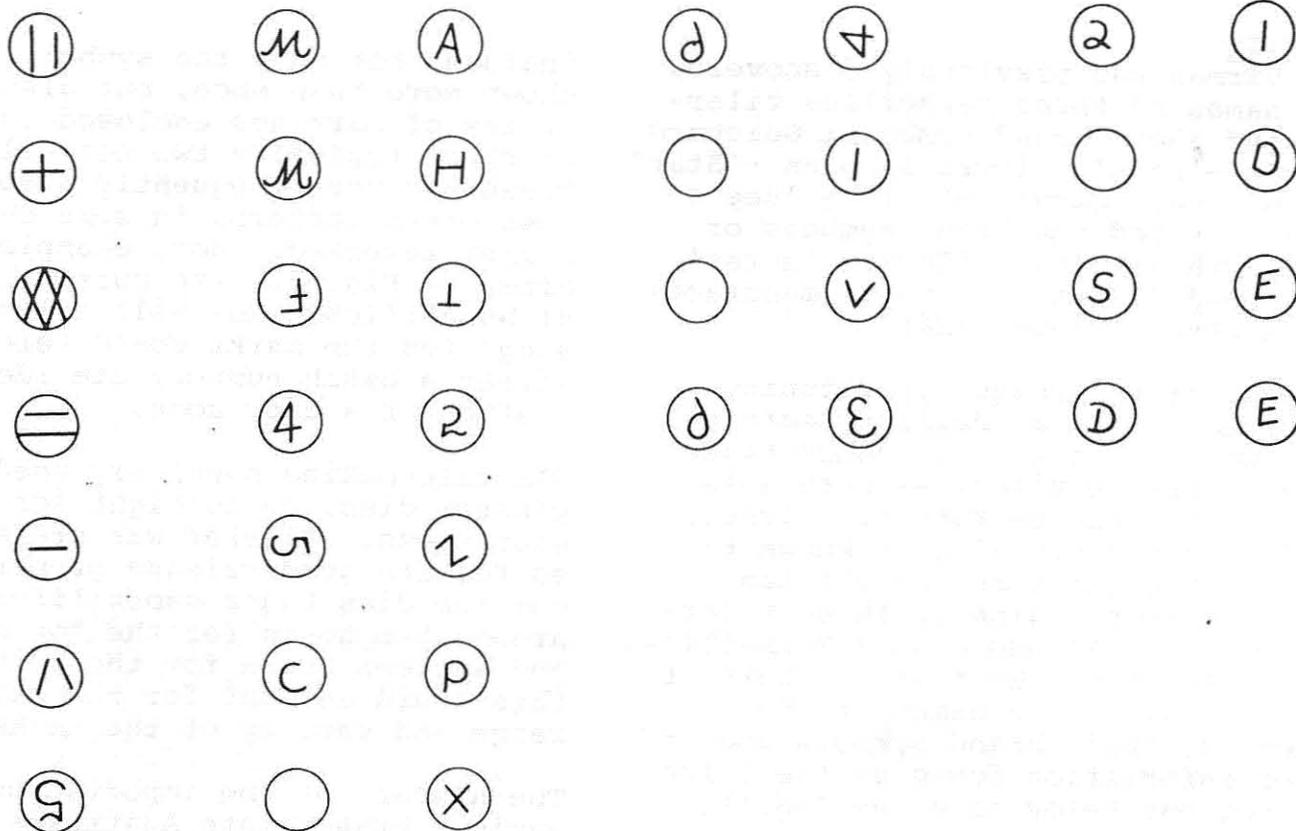
Old tile-making machinery used plaster dies, up to eight for each press. Plaster was preferred for its good release properties, but the dies had a short life; around two hours for the top die and sixteen hours for the bottom. This could account for the extensive range and variety of the marks. (25)

The history of the importation of these various brands into Australia needs more research. Varman had prepared a date scheme based on the brands of which he was aware:

'Cock' and 'Horse'	c.1890-1900
'Spade'	c.1890-1903
'Bee', 'Lion' and 'Star'	c.1890-1914 ^(2b)

<u>Company Name</u>	<u>Location etc.</u>	<u>Symbol</u>
Tuileries de la Mediterranée	Siège Social Marseille	Turtle
Saumati Frères	Marseille	Cock
Pierre Amedée	St. Henry Marseille	Spade
Arnaud Etienne et Cie	Marseille St. Henri*	Maltese Cross
Pierre Sacoman	St. Henry Marseille	Star
Antoine Sacoman	Usine La Plata Marseille St. Henry	Anchor
Guichard Frères	Séon St. Henri* Marseille	Lion
Guichard Carvin et Cie	Marseille St. André	Bee
Les Fils de Jules Bonnet	La Viste Marseille	Horse
Gustavo Gavotti	Lungaville Voghera	Horned animal + entwined anchor

* sic: the spelling varies



PIERRE SACOMAN

GUICHARD CARVIN

ARNAUD ETIENNE

TUILERIES de la
MEDITERANÉE

Fig. 2

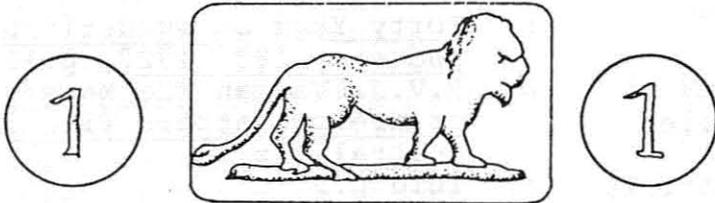
The information discovered during the Wunderlich Project suggests a revision of this scheme. The various Wunderlich ledger entries dealing with the importation of these tiles only once mention a brand by name; in 1906, a shipment of 'Bee' brand is mentioned - incidentally the brand best represented at the Redfern site, and which was probably imported throughout the period.(27) More significantly, an advertising dodger for terracotta roofing accessories, dated November 1908, mentions the brands of roofing tiles currently in stock and available from Wunderlichs: 'Bee', 'Lion' 'Star', 'Spade', 'Horse', 'Maltese Cross' and 'Mediterranean'. Both 'Horse' and 'Spade' were therefore, contra Varman, still being imported in 1908. The two new brands, 'Maltese Cross' and 'Mediterranean' (presumably the 'Turtle' brand - made by Tuileries de la Mediterranée) may be those referred to in a Wunderlich ledger entry dated April 30, 1906: "Extra 5% dis. (ed. (28) discount) off new brands not allowed."

There is an entry in the Minute Book which sheds light on the brands imported in 1914 and their relative popularity. Curiously, the 'Bee' brand, always mentioned in advertisements and best represented at the Wunderlich site itself, was noted as being of inferior quality.

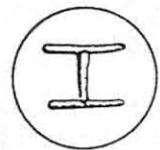
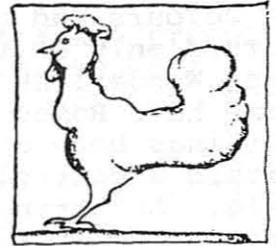
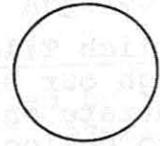
"...owing to the growing congestion of space at Neutral Bay, the price of Bee brand tiles be reduced on account of the small number of this brand sold in comparison with other brands...In order to increase the sales of Bee brand, which are of an inferior quality to the general stock, we consider the price should be reduced to (figure unclear) where necessary."

The meeting was then furnished with particulars of sales for the past half year:

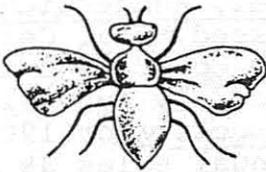
Mediterranean	717 226
Lion	309 994
Horse	184 546
Star	142 522
Bee	87 533
Maltese Cross	37 424 (29)



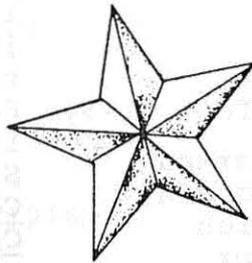
Guichard Freres



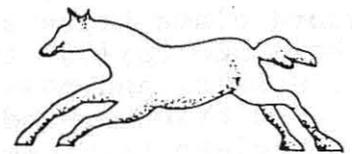
Saumati Freres



Guichard Carvin et Cie



Pierre Sacoman



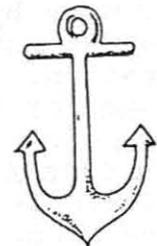
Les Fils de Jules Bonnet



Gustavo Gavotti



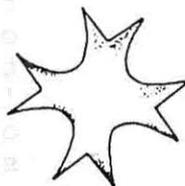
Tuileries de la Mediterranee



Antoine Sacoman



Pierre Amedee



Arnaud Etienne et Cie

Wunderlich Tiles

Although our specific brief was to concentrate on the imported tiles, we also collected samples of Wunderlich's own brand in a variety of colours and glazes. All are marked only on the reverse. Some bear Wunderlich's Waratah symbol, some have Roman numerals and other markings both on the lug end and within a central pattern on the tile. Lettering varies from "Wunderlich Limited" to "Wunderlich Ltd", and in some cases the word "Sydney", "Brisbane" etc. is added. (Table 1)

A number of glass tiles was also collected on the site. These fall into three categories: those marked Wunderlich, those marked St. Gobain, and those with no lettering which are marked with a cross-hatch or diamond shaped pattern. So far, little is known about these glass tiles. The old Wunderlich ledgers record glass tiles arriving with other imports; (30) these may be the St. Gobain, and possible the cross-hatched brand. Wunderlich's own brand glass tiles were made by AGM. (31)

Amid the debris in Wunderlich's Redfern garage, were a number of modern tiles. Among them we discovered a tile made by Porter and Galbraith of Doonside, N.S.W., and another made by Walker Benson of Merrylands, both companies no longer in operation. Possibly Wunderlich's kept them for testing. Some pieces of terracotta accessories were also recovered from the site, including several pieces of ridging or capping and some pieces of ventilators.

Footnotes

1. Forty Year of Wunderlich Industry 1887-1927, p.15.
2. R.V.J. Varman The Marseilles or French Pattern Tile in Australia p.1f
3. ibid p.5
4. Varman discusses the evidence for this p.4ff
5. Forty Years p.15
6. Building and Engineering Journal of Australia and New Zealand, Jan. 7, 1893, p.10.
7. ibid May 26, 1894, p.113.
8. Zinc or Steel, Wunderlich's Patent Embossed Metal Ceilings (1897), rear cover. And advertisement placed by Wunderlich's in Sands Directory for 1905 records 'annual sales 3½ million'
9. Forty Years p.15. They also imported 'Port Madoc Blue Welsh Slates'; in 'A Word to Our Country Visitors about Wunderlich Ceilings' (1907), rear cover, it states 'we have recently been appointed Agents for these world renown Slates'.
10. Catalogue 1903, Section I, p.2.
11. Ledger 1900-1907 p.275. Previously the Neutral Bay wharf had been rented. The land purchase cost £6,730; title to the land is recorded in the Registrar General's Volume 1632 Folio 86 for 1905 as the purchase of 1 acre 2 roods at Careening Cove.
12. Ledger op.cit. p.49.
13. This yard is pictured on the rear cover of the 1897 booklet Zinc or Steel etc. mentioned above.
14. No other advertisements in Sands Directory for successive years mention Liebentritt.
15. Minute Book (1909-1916): 14.2.10 - 'It was resolved that in future the metal travellers push the trade of terracotta accessories on all jobs where it is proposed to have slate roofs.' 24.6.10 - 'It was decided that the Melbourne branch should be asked to supply us with a price list showing the landed cost in Sydney of their terracotta manufactures'. 19.8-10 - 'It was resolved that an order be placed with the Brunswick factory for one crate consisting of, say 26 No. 3 finials and 13 No. 4 finials.'

16. ibid 2.9.10 'Goodlet and Smith informed us that they had increased the price of their number 9 ridge to 4/-. It was decided to bring the price of our imported ridge into line with this'. 3.9.12 - 'It was recommended that the price of Marseilles ridging be increased to 4/6 per dozen'. There are a number of entries in this Minute Book concerning the importation of Indian tiles, e.g. 12.8.12 - 'A letter from Head Office was read wherein they informed us that they had purchased on our account 250,000 Indian tiles at £7 per thousand'. Nothing whatsoever about Indian tiles appears anywhere else in the Wunderlich material.
17. p.167.
18. ibid
19. Our Work (1910) p.37.
20. Varman op.cit. p.17. SMH28.4.1916: article entitled 'Progressive Australian Industry Preparing for post-bellum trade - they had for a considerable time, carried out a series of investigations in a large way to the end that they might be able to launch out and produce a terracotta roofing tile equal to the best imported article ...what was originally the experimental works in Melbourne. In these works, the turnout was now about one and a half million tiles per annum. They had been established entirely under the direction of Dr. Wunderlich and do him the greatest credit. The works would be automatically increased with a production equal to three million tiles per annum. From these works, all the necessary information has been obtained for establishing at Rosehill, a much larger installation'.
21. Varman op.cit. p.18f.
22. The Museum has several pamphlets advertising this type.
23. See Site Development (in Report held by Museum of Applied Arts & Sciences).
24. op.cit. p.2.
25. Information supplied by the current manager of Rosehill tileries.
26. op.cit. p.10.
27. All advertisements and promotional material sighted for tiles include the name of 'Bee' brand.
28. p.327.
29. Meeting held on September 23, 1914. The selling price of the tiles per thousand increased from £12 in January 1912 to £21 for the 'Lion' brand in 1916, £20 for 'Bee' brand and £18 for the 'Horse' brand.
30. A7437-8/2 Minute Book (1909-1916) March 17, 1916: 'advice re steamer shipment of tiles, stating that this is now carrying 200,000 tiles, glass tiles and double window tiles'.
31. Information supplied by ACI

Australia Post

Australia Post celebrates 175 years of postal services in Australia this year. The NSW Australia Post Historical Section has a comprehensive collection of postal histories and photographs available for a small charge. For further information contact:

Mr. V. Cremer,
Historical Officer,
Australia Post,
Box 7001, GPO,
Sydney NSW 2001

APPENDIX IList of dates for Wunderlich designs

This list was compiled by examining all the catalogues, pamphlets, booklets and leaflets produced by Wunderlichs, as well as the pattern books which occasionally have dates for some designs. It has been possible to assess the highest design number Wunderlichs reached each year. This provides a fairly accurate dating scheme. Where specific months are mentioned, these are also listed.

<u>DATE</u>	<u>HIGHEST DESIGN NUMBER</u>		
pre 1899	466	1919	1500
1900	491	1922	1550
1901	674	1923-May	1546
1902	738	1924	1570
1903	878	1925-June	1588
1904	906	1927-April	1590
1905	1001	1928-March - Many dies destroyed.	
1906	1048	1928-Dec	1631
1907	1122	1929	1636
1908-May	1139	1932	1640
1908-Sept.	1142	1933-Aug	1684
1909	1159	1934-March	1696/7
1910-May	1335	1934-April	1700/1
1911	1378	1934-May	1702
1912-June	1379	1934-June	1705
1912-Sept	1385	1934-Dec	1757
1913	1410	1935-April	1759
1914	1460	1936-Nov	1774
1915	1482	1936-Nov	1793
1916	1488	1938-April	1797
		W.W.I 1939-Feb	1811
		Post 1945	1913
		1952 - Many dies destroyed.	

TABLE 1

<u>Description</u>	<u>Wording</u>	<u>Numerals</u>	<u>Symbol</u>
Glazed terracotta	Wunderlich Limited Sydney	I (lug) 28?5	Waratah
Unglazed, reddish brown	Wunderlich Limited	II (lug)	Waratah
Unglazed, reddish brown	Wunderlich Limited	VII (lug)	Waratah
Glazed, yellowish	Wunderlich Ltd	XXYV (centre)	
Glazed, yellowish	Wunderlich Ltd	XIII (centre)	
Glazed, pinkish-brown broken in two pieces	Wunderlich Ltd	XIV	
Unglazed, citrus yellow	Wunderlich Limited Sydney		
Highly glazed, iridescent black	Wunderlich Limited Sydney		Waratah
Highly glazed, irides- cent purple, broken	Wunderlich Limited Sydney	VII (centre) IIV/JXI (lug)	
Unglazed dark green	Wunderlich Ltd	55523/II (lug)	
Unglazed bright green fragment	? Sydney		
Unglazed dark blue fragment			
Unglazed blue	Wunderlich Ltd	XX (lug)	
Unglazed terracotta	Wunderlich Limited Brisbane	38112/II (lug)	
Unglazed, dark red/ brown	Wunderlich Limited Tasmania	27-11-52	

RECENT PUBLICATIONS

Historical archaeology and conservation philosophy: papers from the historical archaeology session ANZAAS Congress, Sydney 1982.

Edited by Michael Pearson and Helen Temple (1984). Published with the assistance of the Heritage Council of NSW. Recommended retail price \$7.50. Available from the Heritage Council of NSW, Remington Centre, P.O. Box A284, Sydney South 2000, Australia.

Aerial Archaeology Volume 9, 1983

This volume consists of a paper by Graham Connah and Alan Jones on Aerial Archaeology in Australia. Aerial Archaeology Publications are at 15, Colin McLean Road, East Dereham, Norfolk NR19 2RY, England. Subscription rates available on request.

W.A. School of MinesTechnological Survey of the Golden Mile

Kalgoorlie 1981: reprinted Perth 1984

This massive, two volume report is sub-titled "A visual record of the machinery, structures and equipment used on the Golden Mile, Kalgoorlie, from 1893". It was prepared by Keith Quartermaine of the School of Mines, funded by the Heritage Commission, and is now available again from Mr. P. Gilroy, General Secretary, Chamber of Mines, 231 Adelaide Terrace, Perth WA 6000, at a cost of \$80 plus postage.

The report consists of several hundred photos - modern and historic - reproduced by xerox, and therefore giving a tantalisingly imperfect picture of the astonishing range of gold mining apparatus and structures that still litters the Golden Mile. It is accompanied by minimal documentation; sadly, it especially lacks dates both for structures and photos.

However, the report is a superlative record of the cycle of technologies employed in Westralian gold mining and their remains.

Preliminary list of archives and manuscripts. University of New England Archives.

Produced under the auspices of the Archives Management Committee, Armidale, Dixson Library, University of New England, 1984.

Since its establishment in 1960 the University of New England Archives has been gathering records relating to the history of northern New South Wales. It now holds well over 500 collections, which for the first time are listed and in most cases described in this work.

Approximately 75% of the Archives' holdings consist of non-government records. Many relate to the New England region. They include documents concerning early settlers, leading political and religious figures, pastoral properties and business houses. Many social organizations are represented in the Archives. Letters, letter-books, diaries, notebooks, memoirs, account ledgers, minute-books, newspaper clippings, articles, scripts of speeches, maps, sketches, photographs, audio-tapes, films and other records make up the collections.

The University of New England Archives is a regional repository of the State Archives Authority. Consequently it receives records created in public offices in New England that are of particular interest to local researchers. This category of material is the next largest - approximately 20% - in the List.

Price \$4 (cheques made payable to the University of New England) from:

The Dixson Librarian,
University of New England,
ARMIDALE NSW 2351

THE VICTORIA ARCHAEOLOGICAL SURVEY

COASTAL ARCHAEOLOGY IN SOUTH-EASTERN VICTORIA

Edited by P.J.F. Coutts
Records of the Victorian Archaeological Survey No. 14

347 Pages, 60 Figures, 61 Tables and 3 Plates
Cost \$13.00 plus postage

Authors include: K. Aplin, N. Taylor, B. Gott, G. Berry, T. Egan, R. Gunn, A. McConnell, R. Fullager, S. Simmons, S. Sinclair, N. White, K. Gollan and P. Coutts

This volume describes the results of field surveys and excavations in the Mallacoota area of Victoria. The relationship between Aborigines and the environment over the past 3,000 years is explored and a model is erected to explain the disposition of archaeological sites on the landscape. Specialist articles focus on an analysis of the remains of dingoes recovered from this area and the analysis of Aboriginal craniometric data from the wider region.

ABORIGINAL ROCK ART IN THE GRAMPIANS

BY R.G. Gunn
Records of the Victorian Archaeological Survey No. 16
150 Pages, 67 Figures, 14 Tables, 27 Plates
Cost \$13.00 plus postage

This study presents the detailed recordings of twelve art shelters in the Grampians. From examination of the artwork a preliminary assessment is offered of the range and character of the rock art in the Grampians. The volume is primarily a resource document and compliments the earlier archaeological work of Coutts and Lorblanchet (see Records of the V.A.S. Number 12).

CAPTAIN MILLS COTTAGE, PORT FAIRY, VICTORIA.

by P.J.F. Coutts
Records of the Victorian Archaeological Survey No. 17
415pp, 89 figs, 65 plates, 37 tables, \$15 plus postage

(Victoria \$2.50, Interstate \$5.60).

This volume describes the results of historical, architectural and archaeological research on one of the oldest buildings in Victoria. Situated at Port Fairy, the original cottage was erected circa 1843 and has been added to and altered over the succeeding 100 years. The analysis of the building demonstrates that it may be regarded as an historical and social document in its own right as well as reflecting changes of building technology. Techniques of analysing and interpreting buildings are illustrated in detail.

The cottage was occupied initially by the Mills family who played a significant role in establishing the commercial viability of Port Fairy and Portland. Their family history is traced in the context of the emergence of Port Fairy as a seaboard township.

Copies may be obtained by forwarding your cheque to:

The Publications Officer,
Victoria Archaeological Survey,
29-31 Victoria Avenue,
ALBERT PARK VIC 3206

TELEPHONE NO: 690 5322

Industrial Heritage '84 National Reports. The fifth International Conference on the Conservation of the Industrial Heritage. Volume 1, National Reports 1981-1984.

Edited by Stephen Victor and Helena E. Wright (1984).

Available from:

Ms. Helena E. Wright,
President, Society for Industrial
Archaeology,

Room 5020,
National Museum of American History,
Smithsonian Institution,
WASHINGTON DC 20560
U.S.A.

Price US\$10 per copy including
postage.

Design for convicts: an account of design for convict establishments in the Australian colonies during the transportation era by James Semple Kerr (1984)
Price \$27.50

Published by the Library of Australian History in association with the National Trust (NSW) and the Australian Society for Historical Archaeology.

ASHA members are offered a 10% discount on this publication, details of which are enclosed with this Newsletter.

Design for convicts is available from the Library of Australian History, 17 Mitchell Street, North Sydney, NSW 2060.

THE AUSTRALIAN SOCIETY FOR HISTORICAL ARCHAEOLOGY

PUBLICATIONS

The following publications are available from the Society:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <u>OLD SYDNEY BURIAL GROUND 1974: emergency excavation in the City of Sydney by Judy Birmingham and Carol Liston (1976)</u> | \$3.00 |
| <u>ROSS BRIDGE, TASMANIA by Maureen Byrne (1976)</u> | \$3.00 |
| <u>SURVEY AND EXCAVATION AT FORT DUNDAS, MELVILLE ISLAND, NORTHERN TERRITORY 1975 by Eleanor Crosby (1978)</u> | \$5.00 |
| <u>PRINTED CERMAICS IN AUSTRALIA by Marjorie Graham</u> | \$3.00 |
| <u>THE MARSEILLES OR FRENCH PATTERN TILE IN AUSTRALIA by R. V. J. Varman</u> | \$3.00 |
| <u>WINDSOR BARRACKS - THE GUARD HOUSE by Kate Holmes (1979)</u> | \$3.00 |
| <u>LITHGOW POTTERY. A SOURCE BOOK (Part I) A Selection of contemporary published reports and manuscript sources. Collected and edited by the Lithgow Regional Library (1979)</u> | \$3.00 |
| <u>LITHGOW POTTERY. A SOURCE BOOK (Part II) A Selection of contemporary published reports and manuscript sources. Collected and edited by the Lithgow Regional Library (1979)</u> | \$5.00 |
| Back issues of ASHA'S annual publication the <u>AUSTRALIAN JOURNAL OF HISTORICAL ARCHAEOLOGY</u> (Vol. 1 published 1983) | \$7.00 (members)
\$10.00 (non-members) |

Postage and packing \$1.00 per publication

Please forward your payments in Australian dollars, as quoted.

PRELIMINARY NOTICE

5TH ANNUAL ASHA CONFERENCE

MONDAY--TUESDAY, 27-28 MAY, 1985

AT

LA TROBE UNIVERSITY, MELBOURNE

The 5th Annual ASHA Conference is to be held in Victoria at La Trobe University and will be co-ordinated by Dr. David Frankel and Dr. Peter Coutts. The Conference will be held on Monday-Tuesday, 27-28 May, 1985 and it is hoped that a one-day field trip to historical archaeological sites will be arranged either before or after the Conference.

The themes of the 1985 Conference will be 'The archaeology of standing structures' and 'The identification of ethnic groups in archaeological remains'. Reports on recent fieldwork will also be included in the programme.

A limited amount of accommodation for Conference participants will be available at Glenn College at a cost of \$22 per day for bed and breakfast and \$42.50 per day for full board.

In order to assist with accommodation bookings it would be appreciated if those ASHA members who would be interested in staying at Glenn College could return the slip below to:

Dr. David Frankel,
Division of Prehistory,
La Trobe University,
Bundoora VIC 3083

as soon as possible. This does not commit you to a booking, but it is not possible to guarantee you a room in Glenn College should you wish to attend the Conference, if you do not return this form.

Members interested in presenting a paper at the Conference on the themes mentioned above are also invited to indicate their willingness to participate in the Conference.

Please return this form as soon as possible to: Dr. David Frankel, Division of Prehistory, La Trobe University, Bundoora, Victoria, 3083.

I am interested in attending the 5th Annual ASHA Conference at La Trobe University and in staying at Glenn College.

Name _____

Address _____

_____ Postcode _____

Telephone No. _____