

I. Editorial

It seems that legislation to protect historic sites in much the same way that prehistoric sites are now protected is really on the way at last from the NSW State government. While the recent awards from the federal National Estate for preservation and restoration of historic structures have been extremely heartening to those concerned for Australia's 19th century heritage, there is still nothing to prevent the wholesale looting of early hotels, homesteads and even whole ghost towns, as we recently heard, which have not yet qualified for such grants. Let us hope that the proposed legislation is unambiguous, tough and all-embracing, and that the Askin government is to be congratulated on a major breakthrough.

Suddenly there seems to be a very considerable number of books available to the public on many aspects of 19th and early 20th century. The new book on kerosene lamps is reviewed on p. 4. The admirable series for A & C Black's Social Studies in Australia by R.J. Unstead and W.F. Henderson, called Pioneer Life in Australia, Transport in Australia, and Police in Australia remains the only thing of its kind - an essential introduction to social habits and basic information on simple technology. Another excellent series of booklets, by no means limited to a children's market, is that put out by the Science Museum in London and available here at the Museum of Applied Arts and Sciences at 80c. each. These really attractive booklets printed on glossy paper are plentifully illustrated with colour plates. Titles currently available include the more technical like Chemical Laboratories & Apparatus to 1850, (part 1) and from 1850 (part 2 as well as the fascinating Lighting (in two parts), Timekeepers and Making Fire.

Recently your editor was able to visit a selection of country museums in the western districts, and was, as always, refreshed by the vitality of so many local historical societies and their staunch hard-working supporters. Many of these collections are increasingly rich, housed in interesting and often beautiful 19th century buildings, attracting a steady flow of visitors with a variety of local historical pamphlets on sale. The reverse side of course is less reassuring: many museums have still not managed to get their collections accessed, let alone catalogued, many suffer from inadequate space especially for large objects like ploughs and wagons which not infrequently must brave the elements outside, showcases are frequently pitifully sparse so that pilfering is only too common, while fire precautions are rarely more than a pious hope.

Not all Town Councils seem yet far-sighted enough to realise that an attractive, and well-maintained country museum is a solid financial asset. A comparatively small sum in the next budget set aside for a temporary paid assistant to catalogue museum contents and produce a saleable handlist for visitors would certainly show its return in due course. Meanwhile, if country museums should achieve this windfall, and should be finding it difficult to get a local person for the job, please write to us. We are gradually building up a core of knowledgeable personnel in Sydney some of whom could well be available over a long vacation for cataloguing and listing if some funds were available.

As we go to press in fact comes the announcement of a Government committee to enquire into the state of NSW country museums as part of a much wider scheme to aid collections which form part of the national heritage. Such a move is excellent news. At the same time the inevitable time lag increases our

apprehension lest final pilferings and disintegration take place during these last months (or years). Better that collections should be temporarily less accessible to the public if permanent aid to proper protection is in sight.

When a bulldozer first tipped the top corner of a brick vault during excavation for construction work near St. Andrews Cathedral, it seemed unlikely that anything would stop the inexorable progress of a \$10,000,000 construction scheme. In fact, after 30 students from the University of Sydney's Historical Archaeology course had spent a day of emergency excavation, recording and photography, His Grace the Archbishop and the Glebe Council came to the conclusion that an attempt should be made to preserve the vault, and even to incorporate it into the new plaza scheme. At present it is under temporary cover, and awaits final work on its preservation. The burial chamber, which is about 7' long and 5' wide with a vaulted roof about 6' high in the middle, contained a single cedar coffin with fragmentary bone. No inscriptions were found either in connection with this vault, or with the three others subsequently recorded and removed from nearby. The site was undoubtedly that of the Old Sydney Burial ground, in use from 1792-1820, from which headstones, inscriptions and remains were for the most part removed to the place now called Rookwood in 1869. An excellent article on the history of this burial ground can be found in Descent vol 5, part 1, 1970, published by the Society of Genealogists at 50c, P.O. Box A593, Sydney South, NSW 2000. Meanwhile work on the finds continues most Wednesdays 4-6 pm (re-starting from June 1st). Please ring 318851 (evenings) if interested in joining working party.

II. Forthcoming Events

On Wednesday June 12th at 8 pm Bob Irving from the Faculty of Architecture, University of New South Wales, will give an illustrated lecture on the Old Sydney Town project at Somersby (near Gosford). Mr. Irving has worked closely with Frank Fox who conceived this major scheme for re-creating the Sydney of about 1810 as a historic park and has in fact been in charge of the intensive historical research that has gone into the scheme so far. On June 23rd we hope to arrange an outing to visit the site; those interested should send word to us for further information.

From May 13th to 31st an excavation organised by Sydney University in conjunction with National Parks and Wildlife Service will take place at Hill End, near Bathurst NSW. It will probably be the largest excavation of its kind undertaken in Australia, with both full-time and evening students from Sydney Uni. making up its volunteer labour force of up to 60. In fact attendance is a requirement for the new Historical Archaeology course now under way in Sydney's Faculty of Arts. The whole group will be under canvas, and the operation will undoubtedly be of considerable interest....work will concentrate on two areas, the old Metropolitan Hotel, and the roasting pits where the earliest activity at Hill End took place (c.1854). An item on the history of Hill End follows on p.4.

The Macleay Museum's Special Exhibitions are rapidly becoming more widely known for their high standard of display and interest. This year's 'Nineteenth Century Utility and Technology' is no exception. The museum is a small one, with the limited staff and facilities that seems inescapable in Australia, and the exhibition as usual must hold its own among the more permanent cases of natural history specimens. Even so, it is most attractively mounted, and imagination has gone into the posters and excellent catalogue (\$1.00) on sale. It is salutary to find a small museum with such a record of energy, originality and quality as the Macleay has earned itself in the last three years.

Exhibition April 26-May 31st, 1974 Macleay Museum, University of Sydney. Fully illustrated Catalogue.

III. News Items

'Operation Graveyard', Kingswood High School.

On February 16, 1974, a group of thirty students, all members of the Kingswood High History Society, began a project to clean, partially restore, and thoroughly research the historic St Stephen's Graveyard at Penrith. The project was the brainchild of the school's History Master, Mr Bryan Cowling, and has been enthusiastically carried out by boys and girls from all Forms and by staff members from a number of the school's subject departments.

Working on Saturdays and after school, the students removed truck loads of bushes, bottles and rubbish, mowed the three feet high grass, chipped away the weeds around and in the 250 graves, and straightened up a number of gravestones. This stage has almost been completed and it is hoped that another organization in the community will maintain the cemetery in a neat way now that the basic clearing has been done.

Stage two, which involves recording all the information on the graves, is in progress, as is the process of researching the lives of many of the families buried in the cemetery.

The booklet which will be published later in the year will not only contain the information already mentioned, but will draw attention to the relationships which are found to exist between individuals and families buried in the grounds, to the similarities and differences in gravestone styles, the connection between various deaths and social crises, such as floods or epidemics, and the variations in life expectancy between males and females during different decades in the nineteenth century. Students with artistic ability will illustrate the booklet, whilst others will construct a scale model of the cemetery, and yet others construct a photographic display.

In completing the project, the students will not only develop a deeper understanding of the value of graveyards as a historical source, and be involved in a worthwhile community project, but will also acquire some of the basic research skills of the local historian. A number of local residents whose ancestors are buried in the graveyard, have offered to make available documents and information for the research programme, and the church itself is assisting the students in their task.

A further interesting aspect of the project is the way in which different subject departments have been involved in different tasks. For instance, the Agriculture Department has provided tools and tractors for much of the clearing work, whilst the Science Department has conducted studies of stone wearing. The Geography Department is making a study of the origin of the families buried, the Maths Dept is involved in the statistical aspects of the life expectancy study, the English Department has involved its students in a collection and examination of much of the gravestone verses, and the Art Department has found abundant opportunity for its students to sketch or paint scenes in the yard. Needless to say the Physical Education staff have discovered that at least thirty students have more muscular strength than they hitherto would have had.

B. Cowling
(History Master)

IV. Book Reviews

A Complete Catalogue and History of Oil and Kerosene Lamps in Australia by Peter Cuffley (Pioneer Design Studio 1973) Ill. 192 pages \$6.95

The first complete reference book for both the amateur and professional collector. The history and development of kerosene lighting is traced in great detail and illustrated extensively from contemporary store catalogues from 1879 to 1933. The illustrations are presented in chronological order and number over 600.

Adelaide Lace by E. Graeme Robertson (Rigby 1973) Ill. 207 pages \$27.50

The author's earlier volumes on cast iron in Melbourne and Sydney are well known but are now out of print. His latest volume while basically concerned with cast iron decoration in Adelaide includes much new material on Sydney and Melbourne as well as reproductions from early catalogues and other publications. As to be expected the photographs are superb. Published as a limited edition signed and numbered by the author.

Museums and Historic Buildings of NSW, published by the NRMA Touring Department, 151 Clarence Street, Sydney 2000 (free) is an updated edition of the previous pamphlet with more entries. It is a valuable preliminary guide for those anxious to visit the innumerable small and larger country collections, necessarily not accurate in every detail since this kind of information can get out of date very quickly, but far more complete, for example than the Australian Museums Directory from the Australian Government Publishing Service, Canberra 1972. (Australian National Committee for the International Council of Museums).

V. Research

Hill End and its History: the Remaining Evidence.

by M. Byrne

When Lachlan Macquarie founded the town of Bathurst in 1815 it was the signal for sheep and cattle men to move into the Central Western Tablelands district. At first the rugged mountainous topography of the area prevented its settlement as an agricultural or pastoral concern but gradually the local landowners began to encroach upon the plateau. By the 1840's the Hill End - Tambaroora region was being used as grazing land by Cummins, whose main station was at Peel, Treweeke, whose run included Tambaroora, and Isaac Reid of Triambil who, along with his wife Mary Ann is buried in the Hill End - Tambaroora District Cemetery.

When Hargreaves discovered gold at Summerville Creek in 1851 gold fever rapidly spread across New South Wales and it was not long before the rich Turon diggings were discovered. Diggers following the Macquarie and the Turon eastwards from Ophir traced the creeks they encountered upwards to the Hill End - Tambaroora plateau. Those prospecting south from Hargreaves crossed the Pyramul and the Green Valley and found pay dirt two miles outside Tambaroora and Dirtholes. (1) Tambaroora became a town almost overnight after the discovery of a sizeable nugget by a blacktracker pitching a tent. Hill End's development was much slower and it was not really until the government bans were lifted on the obtaining of gold by reef mining, resulting in the exploitation of Hawkins Hill, that Hill End's existence as a separate town began.

1. Hodge, H. The Hill End Story Bk 1. 1973 p. 28.

Gold mining here is both reef and alluvial with abundant evidence for each whether it be mine shafts, machinery or erosion. It was alluvial mining that first brought people into the region; the erosion of Golden Gully provides ample evidence for this. However it was not until the era of rich returns from the reef mines of Hawkins Hill began about 1869 that the town of Hill End began to boom.

The physical evidence of mining is abundant at Hill End even though today the economy has reverted back to an agricultural one with the town ringed, save for the common, by grazing land, and supporting itself through orchards, timber, animals and tourists. The track along Hawkins Hill takes one past a line of mine shafts, many of which are still open. They have such names as the Patriarch, Star of Peace, and Rampant Lion. In 1872 Beyers & Holtermanns 'Star of Hope' produced the biggest specimen of gold ever brought to the surface, and by doing so served to renew activity and optimism in the region after a wet and financially draining winter. On the same hill, which is riddled with mineshafts, can be seen the Flying Fox - an aerial ropeway running on cables which was used to send wood, dynamite and other supplies down to the battery in the gorge below and to bring up off-shift miners, and, presumably, gold. Also worthy of note are the huge slag heaps, many of which have since been used for road filling.

Alluvial mining was the major form of mining in the district for many years not only due to the relative ease of obtaining gold by this method, but also because rock mining requires expertise, equipment and financial resources that just were not available to many of the miners. When the Alpha Mining Company began operations on Sargents Hill it overcame this problem by importing a Cornish boiler and battery as well as experienced Cornish miners. The cemetery attests to this last fact with tombstones to people with such surnames as Everett, Clymo, Jeffree and Uren. Examples of Cornish mining technology are to be readily found in Hill End. Stamper batteries, the first was erected in 1856, used for crushing the ore, and the steam boilers that powered them are both to be found along the Hawkins Hill track. Near 'Connie' dam is a steam traction engine, now with the blackberries beginning to encroach upon it. The Roasting Pits, huge masonry cupoles built by Cornish miners to make the too-hard rock easier to crush, were a particularly Cornish technique. A dirt track linked these 1857 pits to the Valentine mine which boasts an oblique shaft, a 10-head stamper and evidence of cyanidisation.

Hill End in the 1870's was far from being a shanty mining town. The mines were the main reason for its existence but prosperity soon brought a mile of shops and 52 hotels. By this time Tambaroora's heyday had passed, to a great extent due to uncontrollable underground water. It is perhaps significant that whereas nothing but a brick chimney and blackberry overgrown foundations remain of Tambaroora today, Hill End still retains many of its older buildings from more affluent times.

Still standing and in use are the Royal Hotel, the shop, the hospital since restored as the NPWS Visitors Centre, and two of the churches. Also to be found are old miners' cottages, no two of which are the same. Boyers Cottage, at the corner of Clarke Street and Germantown Lane, has remained standing while his later mansion is nothing but a pile of bricks. The cottage has low sloping ceilings, a kitchen area at a lower level, and a unique underground cellar. Standard construction practise during the boom period was walls of mud plastered over saplings and then papered or painted, calico or hessian ceilings which were then sometimes papered, and shingle roofs. English's cottage, the best example of wattle-&-daub construction still extant in Hill End, has brick outbuildings. Hosies Store, a big double-storied building at the corner of Clarke and Short Streets,

p.t.o.

has large spacious rooms, often later partitioned, characteristic fire places, and a cellar built with 10" square beams.

One of the most exciting discoveries that greatly enlarged our knowledge of Hill End at its peak period was that of the Holtermann collection of photographs. Beaufoy Merlin, working under the name of the American and Australasian Photographic Company, made a name for himself as a travelling photographer in Victoria. In 1869 or 1870, accompanied by his assistant Charles Bayliss, he set forth for the gold fields of NSW, and wider opportunity. They reached Hill End at the beginning of 1872 and started the collection of photographs that was to prove of such value in reconstructing the appearance of the town at that date. By October, after Merlin had been to Gulgong and returned, an approach by B.O. Holtermann, a very prominent Hill End citizen, resulted in his appointment as "Photographic Artist of the Holtermann Exposition". The photographs he took, both for his own purposes and for Holtermann, show Clarke Street lined with weatherboard shop frontages and panoramic vistas of the Hawkins Hill area. They illustrate well the construction methods of the cottages, the individual shops with their wide array of goods and the fashion in dress of the period. The family groups, the school classes, the street scenes, the Temperance Society march all illustrate the prosperity and vigour of the Hill End community in 1872. The value of these photographs is immeasurable; their importance is twofold both as a solid comment on the times and as an aid for reconstructing the size and shape of the Hill End of that period.¹

The evidence for the rapid growth and slower decline of the township of Hill End, then, takes many forms. We have the large numbers of mineshafts and mine equipment and the still standing buildings as visible mementos of the period. The cemeteries attest to the numbers of inhabitants who lived in the area and their varied places of origin; so too do the records of births and marriages. The documentary evidence, the invaluable Holtermann collection, the letters and records of the times, and the old newspapers add another segment to the History of Hill End. So too do the memories and stories handed down through children to the present day many of which have found their way into Harry Hodge's History of that time.² Hill End is indeed a worthwhile example of the contribution all of these types of evidence can make to a complete reconstruction of a bygone era.

1. see Burke, Keast Gold & Silver Penguin Books 1973 for a selection of a commentary on the Holtermann Photographs.
2. Hodge, H. The Hill End Story Bk 1 1973

VI. Museums and Historic Parks

Contributed by P.A. Hughes, from Tasmania.

Pioneer Folk Museum, Burnie

Stemming from the personal collection of Peter Mercer, who turned over his museum to the Burnie Council. This was after he had turned down an offer from a mainland concern for considerably more than he finally received from the municipality. Layout - The museum has been housed in an old warehouse. The museum proper is laid out as a village street of the early 20th- late 19th century. Local informants gave me the impression that a good deal of thought and extensive inspection of museums in other states led to the choice of this layout. There are seven assorted shops, two interiors. The reconstruction is of a high quality, and small placards of information are displayed. Another point which I appreciated was that advertisements of the period were displayed in the shops, and often had price tickets of the time - 'Best Value' etc.

Behind the shops at the end of the 'street' is a second type of layout- the familiar 'Brit-Mus.' type showcase approach. This is to display small artifacts and charts, and documents. Display boards were also provided to show selected copies.

Special point- A lockert cabinet containing original documents relating to N.W. Coast history was available to visitors to inspect under supervision. One thing that particularly struck me was that the art work (copying of charts, small pictures etc.) was of a high standard, which is unusual in little municipal museums.

Special collections -

topics covered by this folk museum comprise the specialised areas covered by the shops, and the small show cases of NW history. There is a specific maritime case, which contains whaling relics; the shops include- a joiner, a farriers, a printshop and newspaper office (for which presumably they were given the materials by the Burnie Advocate the local newspaper.) a grocer and general store (very well set out, this) a pub bar (complete with picture of Queen Victoria) two small household interiors and a wash house.

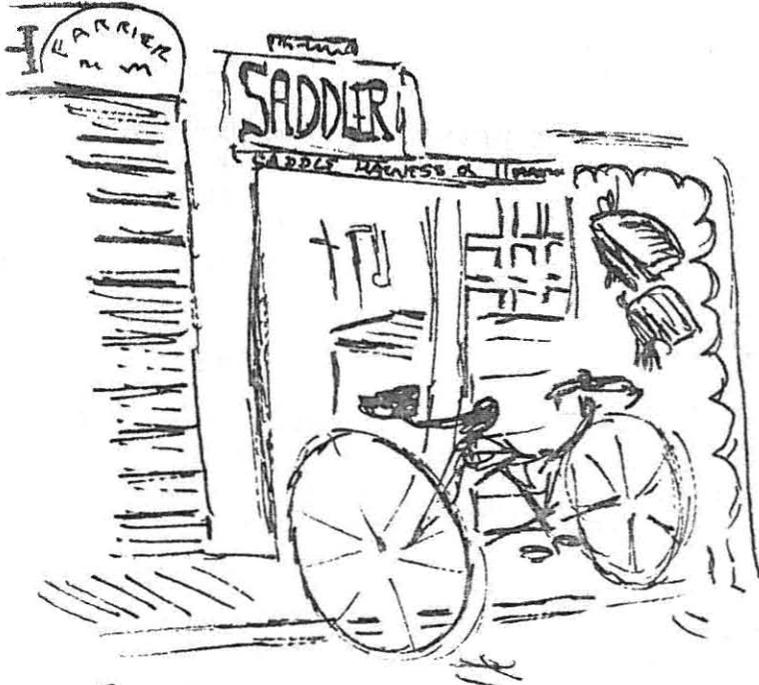
One item that rather took my fancy was a large machine for ruling lines donated by the Burnie Advocate- a very primitive looking beast. It would be interesting to know just how much old fashioned equipment is still in use in the outback newspaper offices- quite a lot, perhaps, because the Advocate was using this right up until the time of its donation which must only have been a couple of years ago.

The geological museum at Hastings This is located next to the Thermal Pool at Hastings in S. Tasmania, in a shop front. Its history; It grew out of the present owners' interest in geology, and now contains an extensive collection of minerals from all over the world, and also photos of early mining operations in the state. Amongst interesting individual items may be mentioned some early gold-pans, and photos of the famous 'Iron Blow' the 'lump' of pure iron ore which was found above the copper deposits at Mount Lyell, Queenstown. The arrangement was done some years ago, but is more informative than you might expect. The museum is free, which was a pleasant surprise.

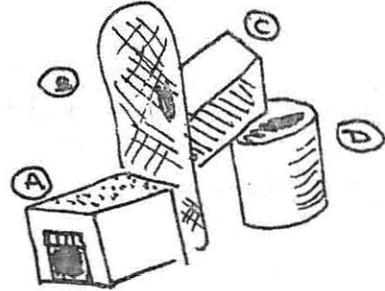
The Port Arthur museum. At present, this is in a temporary location, so it would be unfair to say too much about the layout. It is proposed to transfer it to one of the historic buildings on the Port Arthur site. It is difficult to find your way about this museum without a guide; who was, fortunately, in attendance. The 'convict relics are intermingled with many other exhibits, and also with surprisingly enough, a collection of small musical boxes.

Some individual items; Worth mention here are the following; a sort of metal 'cat-o-nine-tails' which was probably made after the convict era ended. Since it has no government stamp, it is probably one of the so-called relics which crafty ex-cons made to sell to tourists, complete with a hair-raising story of the 'torments' they had allegedly suffered. Of course, Port Arthur was not a 'hard case' prison; and the men were not treated with excessive brutality, as were the convicts of Norfolk Island. In fact, flogging for convicts at Port Arthur was outlawed long before it ceased for soldiers, so such horrendous relics as this spiky steel balls are products of an old lag's imagination. In the same vein, mention ought to be made of the notorious man traps which once lined the neck of the peninsula. Whilst it has been claimed that these were ferocious steel claws with jagged edges, the actual trap had straight edges and was designed to hold the prisoner without maiming him. Amongst the fittings of the

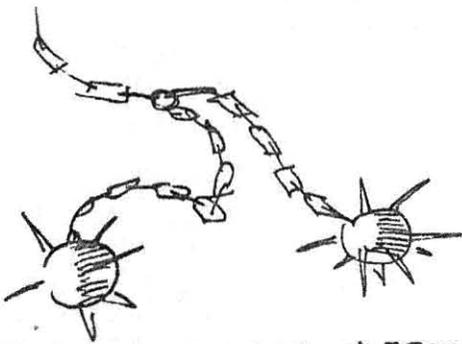
buildings removed for display is the one illustrated, which was once thought to represent Governor Arthur's wife; but a closer inspection once it was taken down revealed a beard. It is in fact, 'The Father of Medicine'. So much for legend. One unfortunate thing about this museum (which applies, I feel to a lot of folk museums) was that things like a collection of old plates, all very genuine, no doubt, but not very informative and a collection of minerals were allowed to intrude on what should have been basically a portrayal of life in the convict settlement. Incidentally, the souvenir shop here has improved a lot, but it still sells 'Convict Blood and Sweat' (the latter a violent purple, probably indicating that some of the lags had blue blood).



A view of part of the "Main Street" in the Burnie Folk Museum



A MOUSETRAP OF 1891. THE IDEA WAS THAT THE MOUSE WOULD BE TRAPPED IN (A), RUN UP (B), INTO (C) AND BE DROWNED IN (D), A $\frac{1}{2}$ FULL CAN OF WATER. IT IS NOT REPORTED WHAT HAPPENED IF THE MOUSE COULD SWIM. FROM BURNIE



THIS HORRIFIC 'RELIC' FROM PORT ARTHUR WAS PROBABLY NEVER USED. NOTE - IT HAS NO GOVERNMENT STAMP. THUS IT WAS PROBABLY MANUFACTURED FOR THE TOURIST TRADE BY AN OLD EX-CONVICT



IT IS REPORTED THAT THE 'IRON BLOW' A CONCENTRATION OF IRON ORE FOUND AT MT. LYELL, WAS SO RICH IN METAL THAT IT GAVE A METALLIC SOUND WHEN STRUCK BY A HAMMER HASTINGS Geological Museum.



Yerse - orrible days they was, used to tie us up with these 'n throw us to the sharks...

I. Editorial

Although this is only our second issue this year, and we have a special Christmas edition to come, November is nevertheless an appropriate time to look back over the achievements of the year - at least for academics who have a moment to draw breath between the end of lecturing and the first thudding of examination papers through the door....

A mixed year. On the one hand, more work done than ever before. Excavation at Hill End, excavation at the site of one of Sydney's earliest burial grounds (at the later Town Hall) and a concerted drive towards publication of earlier sites by teams of workers drawn mainly from evening and full-time archaeology students from the University of Sydney.

In particular should be mentioned the non-stop ferreting for information by one evening student about the old pottery works at Irrawang, which has finally yielded a wealth of hitherto unknown papers, and yet one more complete pot of James King. There is currently an exhibition of King's pottery in the Macleay Museum (University of Sydney): and the first part of the Irrawang report should be in the press at the end of the year. Members might be interested to note that excavation at the site (this time investigating the second kiln used for salt-glazed wares) will take place between December 3rd and 13th this year. Enquiries should be directed to the Secretary, Sydney University Archaeological Society, Department of Archaeology, University of Sydney.

Reports on the excavation at Elizabeth Farm, Parramatta, and at the Old Sydney Burial Ground are also ready for the press; and continuing work on excavated material from Balmain Presbyterian Church, and the Pitt Street Congregational Church is bringing some order particularly into the difficult question of dating city grog bottles. Dating these bottles, since they come from a variety of overseas sources, is by no means the simple matter of assessing string-rims and pontil marks that most bottle books would have one imagine: There is a considerable amount of overlap in the use of simpler and more complex moulds, as well of course as the possibility of a long life for individual bottles. Work on the glass (window as well as bottle) from all our Australian 19th century excavated sites is at present in progress and we would welcome comments from members (especially those who happen to have any bottles etc. from sealed early deposits e.g. under floors of dated houses).

Again on the credit side is the completion of the first year of Sydney University's new course in Historical Archaeology (given a 2nd year course in the Faculty of Arts). Unusual (for an undergraduate Arts course) in its emphasis on practical work and original research it turned out probably better than anyone had dared to hope. Segments included aspects of Australian 19th century economic and social history on the one hand, and elements of pedology (soils), drawing, excavation and recording on the other. Next year we plan more excavation and recording of structures in the Sydney area during the year, as well as an excavation camp and continuing work on research projects and case studies. Completed research projects are being indexed and filed in the ASHA archive.

Also of considerable interest is the fascinating research into pre-Macquarie building techniques that continues hand in hand with the steadily-growing Old Sydney Town project near Gosford. The need for authenticity in rebuilding slab, brick drop-log and wattle-and-daub structures has led to concentrated activity in Mitchell Library, in early encyclopedias of technology and into contemporary 19th century colonial buildings around the world by Bob Irving and his team - some of which our members were privileged to hear at his recent ASHA lecture. It is fair to say that at no

time before can such research resources have been brought to bear on the arts, crafts and buildings of such a limited period of Australian history, and we look forward in due course to the valuable publication of this new data which will be not the least important aspect of the very impressive Old Sydney Town project.

On the broader plane there is the encouraging work of the Committee of Enquiry into the National Estate, and the Committee for Museums and National Collections, both due for energetic and specific following-up.

At the same time, however every week sees more of our past crashing to the ground, and it seems a ghoulisn race to see whether much will survive to benefit from our belated awakening of national awareness. The affair of the Sybilline Books comes daily to mind.

In fact, in order to systematise the flood of information of doomed historic sites which already comes into this office, and at the same time to sllow those who are increasingly frustrated by their inability to do anything constructive, we have at least devised a simple RECORDING method for any kind of historic or industrial site in NSW which we hope local groups and individuals will take up; namely, the use of 5" x 8" cards (20.4 x 12.7 mm.), which can be sent in to us for filing in a central HISTORIC SITES INDEX. Sites can include homesteads, factories and workshops, dumps, mines etc., either one care for the total complex, or individual cards for any part of it described in detail. Similarly one card for a church, or a cemetery, or individual cards for any individual tombstones described in detail. Photographs to be stuck on the back, please.

N.B. Schools, historical societies and other interested groups who might consider this type of recording as a project for 1975 might care to write for further details and discussion to the Secretary.

II. Forthcoming Events

On Tuesday November 19th at 5.30 p.m. (for 6 p.m.) the second ASHA monograph (Lithgow Pottery: Three early catalogues from New South Wales) will be formally launched at a small gathering in the Rare Book section of Fisher Library - it is hoped by the Chancellor of Sydney University, Sir Hermann Black. An exhibition of Lithgow pots kindly lent by private collectors will be on display in the same area. All members able to be present are cordially invited to attend.

On Saturday November 23rd the postponed outing to Old Sydney Town will take place (whatever the weather). Gumboots and raincoats may be required. Barbecue facilities are excellent, and members and their friends are asked to bring their own lunch. We meet at the Farm Area at 10 am, and will view the site before lunch in a guided group, free roaming afterwards. Donation to ASHA funds \$2.00 members, \$2.50 non-members, \$1.00 children. Please ring me for Entry Permits and instructions (those who paid before of course do not pay again)

Notice of A.G.M.

On Wednesday November 27th our Annual General Meeting will take place at 8 p.m. in the Stephen Roberts Theatre, University of Sydney. After the usual necessary business we plan a Members' Night, with refreshments, short presentations of illustrated reports on the year's digs and activities, and two films kindly sent to us by the Department of Indian and Northern Affairs, Canada, on underwater excavation of two historic period wrecks. We look forward to seeing as many as possible there.

V. Research

Australian Railway Development: Originality or Adaptation?

(James Walker)

Before giving this lecture, I think it advisable to say a few words on the subject concerned. Research and writing in railway history has been bedevilled by a large following of enthusiasts, producing a large volume of "fannia". Much of it has ignored scholarly standards and techniques, and legend has often the place of fact, i.e. George Stephenson and the "Rocket". Should any of you wish to pursue this subject further, you would be advised to be careful in your reading.

Transport history is of great importance for any country, and in Australia from the 1850's to World War I, railway history is transport history to an extent equalled in few other places. There were few viable inland alternatives. I shall concentrate on N.S.W. with a number of glances at Victoria as those states are the best illustration of the problem.

The first factor which we might consider is that of time. The first railway, as we understand the term, was opened in N.S.W. in September 1855. Railways were by then well established overseas, and the idea was hardly new even in Australia. In 1836 a convict powered wooden railway had been used across the Tasman Peninsular (Tasmania). In May 1854, South Australia had opened a 7 mile horse line, and in September of that year, Victoria had opened a 2½ mile steam hauled line. This incidentally, had opened with a locally built locomotive which failed, and which had to be replaced with a contractor's engine until the motive power ordered from Britain had arrived.

When the Parramatta line was opened, the Stockton and Darlington line was 30 years old, the Liverpool and Manchester was 25, most of Britains main trunk routes had been completed, the Great Northern 2 years earlier, and in the United States, the Baltimore and Ohio was 28 years old. Railways had spread overseas:

first lines: France 1832 (1827 horse hauled)
Germany and Belgium 1835
Russia 1836
Austria 1838
Italy 1839
Denmark and Switzerland 1847
Spain 1848
Sweden 1849
India 1853
Norway 1854

Portugal and Egypt would open their first lines in 1856, Finland in 1860, Bulgaria in 1866, and Rumania and Greece in 1869.

Already in 1850, Britain had built 6,084 miles of line, the U.S.A. 9,021, Russia 108, Canada 66, France 1,852 and Germany 3,735. By 1860, these totals would be, respectively, 9,069 - 30,626 - 669 - 2,065 - 5,847 - 7,182, while India would have 838 miles.

The first travelling post office was in 1838.

The first use of semaphore signals was in 1839, and the first interlocking of signals about 1840, of signals and points in 1856, and of full interlocking in 1860. The electric telegraph was first used in 1839, and the first two needle telegraph in 1841.

Britain's first electric locomotive, albeit a fairly ineffective one was in 1842.

You will see from this that when the Sydney-Parramatta line opened, railways were not only an accomplished fact, but were already assuming the form and content of a mature industry.

Secondly, it should be noted that Australian railway experience was unique in none of its features. Similar conditions

to those overseas brought similar results. Australia's gauge problem mirrored that of Britain, the U.S.A. and Canada. In Britain, the Great Western Railway was initially built to a gauge of seven feet, and the Eastern Counties to a gauge of five feet. Some early Scottish lines used five feet six inches. In the U.S.A. the Erie railroad was built to a gauge of five feet. The lines from New York to Buffalo which were combined to form the N.Y.C.H.R.R. had gauges of four feet eight and a half and four feet nine. In 1860, ninety two percent of the Canadian railways were built to a gauge of five feet six, the rest being, four feet eight and a half, and it was 1870 before steps were taken to correct this.

Australia's wheat networks were similar to those of Kansas and Southern Manitoba.

Government intervention/ownership followed much the same lines as in New Zealand, India, most of Europe, and, later on, Canada. Australia's problems were much the same as elsewhere, and produced similar, though not identical results. The methods of obtaining those results tended to be those of Britain and her dependencies rather than those of the U.S.A. or Europe, while Canada and New Zealand had a larger American content in their admixtures, and the question is why? and why did a slight change occur later? Comparison could be made with the Argentine, whose railways were even more British.

First there was the matter of personalities. A high proportion of the population was British born and the social structure was largely that of the United Kingdom. The population still looked on "British" and "civilised" as the same thing. Many of the politicians, and most of the officials, from the Governor down, were likewise British born and trained. To them, British ways were natural ways. What is more, the engineers, artisans, and operating staff were British trained and experienced, unless they had no training or experience at all. When the Parramatta line opened, the only stationmaster with any experience came from the Eastern Counties Railway in England. The man who created most of N.S.W.'s 19th century network, John Whitton, was an already experienced engineer from England. Each colony also had a consulting engineer, always a Britisher. That for N.S.W. was the famous Sir John Fowler, whose office was in London, and who, no doubt quite incidentally, was Whitton's father-in-law.

Then there was the matter of initial equipment. This had come from Britain, and all later equipment had to be compatible with it. [It can be noted at this stage, that America did not become a major exporter of railway equipment until the 1870s.] In the earlier period of expansion, it was, for shipping reasons amongst others, easier to import from Britain than elsewhere. Once a railway system is established, it can afford to experiment, but till then, it must use well tried equipment designs, and it is on these bases that development must be made.

It might now be appropriate to discuss the differences in the railway philosophies of the U.K. and the U.S.A. These differences were economic and operational. Mechanically, the Americans built cheaply, and accepted rapid replacement, while the British built to last. Their idea was high capital expenditure and high capital return. The results were probably about the same in the long run. Examples of the differences were plate versus bar frames, and inside versus outside cylinders. There was less difference in civil engineering between the two countries. Much depended on the engineer, and there were great differences within each country. Later lines were constructed more cheaply than earlier ones in both. There were particular attitudes - Britain would not use suspension bridges for railways. Signalling was basically the same, except for the American train order system. Broadly - British built solidly with little further work, - Americans built cheaply and replaced or improved - but there were numerous exceptions in both countries - ie. the Erie Railroad.

South-eastern Australia followed the pattern set elsewhere. Early lines were between centres of population. As in the U.K. and the U.S.A., the densest areas received the earliest lines, and these lines were the most intensively constructed i.e. Sydney to Parramatta, Penrith and Bathurst, Liverpool, Campbelltown and Goulburn - but keep in mind the extensive deviations and regradings later - and Melbourne to the goldfields. This meant trunk lines with trunk line standards. One may take as examples the original Iron Cove viaduct, the zig-zag viaducts and those out of Lithgow, the bridge at Menangle (though this had timber approaches), and the beautiful stonework on the Geelong-Ballarat line. However, tunnels were avoided. The first one in N.S.W. was not till 1866 at Picton. Victoria in 1862 drove two at Elphinstone and Ravenswood.

As the main trunk lines were completed, three conflicting needs arose. Increasing traffic required development work on the trunk lines, while feeder branches and cross-country lines were demanded by the country areas. There was also a growing demand for suburban services. The impetus given to the first was economic and operating, that given to the second from the Crown Lands Act of 1861, and that of the third from the growing centralisation which characterises this country. However, by this time a certain amount of standardisation was taking place. The use of standard designs helped to decrease the cost of larger engineering items. You might care to look at the original bridge at Como and compare then with those at Kelso, Cowra, a number of other minor crossings. All were built within a period of 20 years, and consist of single track lattice spans on circular iron cylinders. The components were all standard, with the cylinders coming from Britain.

Stations, too, were of standard designs for the most part. Size might vary, but the basics remained the same. Compare Cowra and Carcoar, or from a later period the western suburbs, the Newcastle area and the Blue Mountains. Later country stations were considerably simplified.

Standardisation was the aim of most administrations everywhere, but because Australian systems were not the result of amalgamations, they were often more successful than in the U.K. or U.S.A.

Signalling was already well developed when construction commenced in this country, and the techniques used were basically British. The Americans copied the semaphore from the U.K. and frequently copied other developments. The British, around the turn of the century started introducing many American techniques. Australia largely copied the U.K. Victoria with somersault signals, N.S.W. with standard commercial parts. There was a later introduction of upper quadrant and colour light signals, as in the U.K. The large scale use of the triangle marker appears however to have been restricted to Australia.

No railway system can be operated without facilities for the maintenance and repair of rolling stock. The major problem is that of servicing motive power. Two types of facility are needed, heavy workshops for major work, and "running sheds" for day to day operations. Because of their distance from the main source of locomotives, Australian railway systems quickly developed major workshops, and at an early date, Victorian and N.S.W. railways attempted building their own engines. Towards the turn of the century, building of locomotives by the railways themselves became reasonably common - this was a British habit, most American systems did not normally construct their own motive power - an indication of the extent and capacity of the workshops.

Two types of running sheds developed overseas - rectangular and roundhouse. In spite of popular belief, both types were common in both the U.K. and the U.S.A. Different administration tended to favour one or the other, but most had both types. Australia followed suit. N.S.W. tended to use rectangular for large and small sheds, and roundhouses for medium depots, but there were many exceptions. Still existing large roundhouses are Enfield and Broadmeadow, small ones are at Valley Heights and Cowra. Everleigh running sheds no longer exist, but numerous photos are

available. The largest rectangular depot left is Bathurst. Other rectangular sheds, large and small, are at Albury, Mudgee, Dubbo, Gurabegah and Cootamundra.

The Redfern carriage shops and the Clyburn wagon shops show the extent of facilities needed for rolling stock.

The first locomotive used in Australia was the contractor's used on the Port Melbourne line. Locomotives to operate the line had been ordered from Britain, but when it became obvious that they would not arrive in time for the opening of the line, one was constructed locally, being the first steam locomotive constructed in Australia. The machine however, was a failure, and the contractor's engine had to take over until the British engines arrived.

In N.S.W., the contractor used the first running locomotive to arrive. This was one of four built by Robt. Stephenson & Co, which were a mixed traffic version of the L.N.W.R. standard goods engine. Other British manufacturers were also represented in early locomotive contracts, but Boyer Peacock became the major suppliers, and became responsible for much of the detail designing.

N.S.W. designed and built its first engine in 1870, fifteen years after the opening of its first line. This engine was built largely as a "public relations" gimmick to advertise the progress of the colony. Unfortunately, neither of the original Australian built engines survived - the N.S.W. one was condemned in 1892.

The first American locomotive in service in N.S.W. was in 1877. This was a 4-4-0 and was rather a failure. The next class, introduced in 1879, a heavy freight locomotive was a success. It might be noted at this point that Victoria was a trifle charier of trying American locomotives, but a shade readier to employ American style carriages. During the first fifty years, N.S.W. tried six classes of American locomotives totalling sixty-five machines. As with the British engines, some were successful, some were failures. There is some reason to believe that, in one case, this was deliberate. It seems possible that a class may have been built to specifications deliberately designed to ensure failure, as a matter of intra-departmental politics. All this class had been scrapped by 1928. None of the 19th century American designed and built locomotives lasted long enough to be preserved, but the 304 class was so successful that an order was placed on Dubs & Co. of Scotland using the same specifications and generally adhering to the original design, though some modifications were introduced. These engines were called the "Scotch Yankees".

It would seem that for N.S.W., British motive power had a slight edge. For political reasons, and in the hope of increased efficiency, American engines were tried six times. Half were successful. The other three classes were flops. The problem appears to have been that though suited to our geographic conditions, they were not suited to our operating conditions generally. The Americans were especially useful in the Blue Mountains. Australia could not, however, support the economic conditions which the American railroad philosophy presupposed.

What is interesting is the long time it took N.S.W. to do its own detail designing. It would appear that the C34 class was the first class of passenger engine for which detail designing took place in N.S.W. although extremely detailed specifications had previously been issued for the C32, D50, and C30 classes.

N.S.W. is famous overseas for two locomotive classes, the C32 and the C38, of which only the former concerns us here. Introduced in 1892, they were Thow's first major design for the colony, and they introduced a house style which continued till the end of steam. Nevertheless it is remarkable how alike they are to the Jones designed "big goods" and "Castle" class locomotives of the Highland Railway of 1894 and 1900, and to the Scandinavian engines of the same period by the same designer. Jones had corrections with Berger-Peacock, and it seems reasonably

apparent that he was consulted, at least, in the design of the C32 class. This class was very successful. A total of 191 was built, and the class saw steam out. Later steam locomotive development till the end of World War II was a logical follow on.

Early carriage stock was standard British equipment. There were three classes. First had roofs and windows, Second had roofs but no glass windows, and Third had roofs but no sides above. All often were four wheelers, although the six wheeler was already starting to spread in Britain. Australia followed Britain in using the six wheeler, and, as in the U.K., by the 1880s most new construction was eight wheeled. Generally speaking, however, Australia the rigid or radical eight wheelers, (there were a few), and went straight to the bogie coach. The first eight wheelers in N.S.W. were imported from Britain in 1869, and the first bogie coaches from America in 1877. No further rigid axle passenger stock was constructed for the colony after the mid 1880s.

Lighting followed British standards. Gas was first introduced in 1878, and electricity in 1904.

Braking lagged a little, a very little, behind the U.K. which was behind the U.S.A. In N.S.W., the non-automatic Westinghouse was introduced for some stock in 1877, and the automatic version in 1879. The decision to standardise the latter was made in 1890.

The first sleeping car was imported from the U.S.A. in 1877, four years after the first sleeper in Britain, but considerably later than those of the U.S.A.

Britain never built bogie goods vehicles in large numbers, and here Australia initially followed suit, and it was not until recently that bogie stock outnumbered four wheeled. There was a good reason for this. Train distances here, while longer than in the U.K., were shorter than in the U.S.A., towns were smaller, and businessmen followed the British practice of keeping small stocks and ordering frequently. Nevertheless, some bogie stock was introduced quite early, if infrequently. Some N.S.W. bogie sheep vans were in use in 1885.

As in Britain, most of the minerals were transported in the wagons of the mineowners, and the same problems, too small wagons, found in Britain, applied here. See Eardly's books published by the A.R.H.S.

Railway expansion in N.S.W. was bedevilled by politics. Many secondary lines were built too soon, before there was an adequate population to support them, and before there were adequate funds to build them to a sufficiently high standard to be operated efficiently. The results were a chronic lack of capital, unnecessarily high overheads, and an inability to rationalise services, and these effects were cumulative. Because early locomotive classes tended to be small, greater amounts of spairs had to be carried. Forward planning was extremely difficult, and it was impossible to budget for more than a couple of years in advance. Demands for upgrading of services were continuous. The result was that the Midland's Railway's policy of short, light and frequent, as opposed to the American ideal of long, heavy, and less frequent, was the rule. The fourth cornerstone of the Midland's policy, speed, was not, however, observed. There just wasn't enough money, and the track wouldn't stand it.*

The Blue Mountains caused havoc. The Zig-Zags were difficult and expensive to work, and formed a bottleneck.

There was the suburban problem, as bad then as it is now, and steam hauled.

Yet the railways remained economically viable till World War I.

* In the 1880's and 1890's there was a major spread of minor lines partly as a result of political logrolling. Less capital expenditure was needed, as happened overseas, but even less was provided. Cheeseparing was the order of the day - severe gradients, sharp curves, light wooden trestle bridges, minimum station facilities, unmanned crossings etc. - in order to build as many lines as possible.

Until then, passenger traffic was profitable. If the trains were light, they were usually full, and at night carried large quantities of mails and parcels. Interstate travel was mostly by rail.

There was a steady flow of coal and a growing traffic in wheat and wool, both bulk commodities well suited to rail transport, and in livestock. There were very few branches which did not pay the running expenses. The trouble was in meeting the interest payments.

It seems that the British, rather than the American, practices were more suited to Australian conditions. But they were practices which had been modified greatly. The approach was more casual. With lighter traffic, time was of less importance than convenience. Other than those concerning safety, sales could be bent a little more in the interests of individuals. There was a certain amount of local flexibility. This seems to have been so from early on, and only began to change with increased traffic and dieselisation.

The cost of transport is not purely economic, and nor are the benefits, a point which seems to escape economists, but was realised by both railway staff and railway users in the early period.

Over One Hundred Years of Letter Receivers (N. Peek)

One of the soundest investments ever made by the Department was entered into on 20th November, 1855, when a contract was signed with Robert Bubb and the Victoria Foundry Sydney for the supply and erection of twelve letter receivers in that city, at a cost of £14.10.0 each. These receivers being duly manufactured and installed came into operation on 1st July, 1856, just over one hundred years ago; some of them have been in constant use during the past one hundred years, and are still being used to house thousands of letters daily.

The first post office in Australia was in George Street Sydney near the present day Circular Quay. It was established in 1809, and for some years provided an adequate service for the small settlement; considering the primitive conditions then existing. In later years, however, residents who lived near Haymarket, Surry Hills, and other outskirts of the town, found it a hardship travelling over the very rough roads to reach the post office.

For the convenience of these people "Receipt boxes" were placed in the premises of shopkeepers at various points around the town in 1831. Prepaid postage stamps had not yet been introduced, therefore the fee for letters left in these boxes was paid to the storekeeper and collected by the postal employee when he visited the store twice daily. These "Receipt boxes" were the forerunners of our modern letter receivers.

In the Annual Report of 1855 the Postmaster-General, Mr. W.H. Christie, announced his intention of abolishing the receiving offices (as they were then known), and in their stead placing iron letter receivers in the most conspicuous parts of the city.

Twelve sites were selected and in the Government Gazette of 2nd November, 1855, tenders were called for the supply and erection of twelve cast iron letter receivers on the appointed sites.

The design for the receivers was modelled on that then used in France, with the exception of the elaborate French scroll work.

The first of these receivers was erected at Circular Quay near the Custom House. A newspaper of the day commenting on it, stated :

"It is made according to a plan and specification furnished by Mr. T.W. Levinge of the Post Office Department. It has a more elegant appearance than the London Receivers, and when bronzed as contemplated,

it will, with the others, form an imposing feature in the city. the apertures, three in number are placed near the top so that persons on horse-back may be enable to post their letters without dismounting It will not be practicable to erect all the receivers at once in consequence of the streets and kerbing in some places not having yet been formed."

The Street Paving Bill was introduced about September, 1855, and this had some bearing on the selection of the ultimate sites.

In 1859 the first four receivers were erected in country towns; one at West Maitland (in High Street opposite the Joint Stock Bank), two at Goulburn (one in Auburn Street and one in Grafton Street) and the other receiver was erected at Ipswich (Queensland) which was then a part of N.S.W.

In September of that year two receivers were forwarded to Bathurst by horse and dray at a cost of £9.12.0. for transport. One was erected at the northern end of the Bathurst township (at the corner of George and Howick Streets) and the other at Kelso.

Shortly afterwards two receivers were erected at Newcastle (one in Bland Street and the other in Hunter Street) and by 1867 they had been extended to Windsor, Morpeth and Singleton. In 1870 two were installed in Mudgee and in the following year one at Tamworth.

Letter receivers were introduced into the suburbs in 1861; first to Balmain, then in 1865 to Parramatta and Woollahra, 1867 North Sydney and in 1869 to Newtown.

Perhaps the most picturesque receivers in N.S.W. are the large newspaper receivers, most of which however, are now used for letters.

Soon after the introduction of letter receivers, the Postmaster-General considered a number of propositions for the introduction of large newspaper receivers in the city of Sydney. In March, 1859, the Gas Company had six surplus lamp posts with very large columns and, thinking they might be applicable for newspaper receivers, offered them for sale to the Department. It was suggested that the posts were large enough to divide into two compartments one for letters and one for newspapers. Quotations were called for the necessary alterations but the scheme was later abandoned. Another proposition considered and also rejected was the conversion of the old fountain in Macquarie Place.

In 1860 Bubb and Sons were asked to supply four large iron receivers suitable to receive newspapers, these were supplied in 1861 at a cost of £25 each and were erected at Queen's Wharf, the corner of Erskine and Sussex Street, George Street South, and near the Darlinghurst Court House. The latter two are still in the same position. A further 14 newspaper receivers were erected in the city area up to 1878 but it was not until 1881 that they were extended to the country.

During 1875 a smaller iron letter receiver, suitable for affixing to lamp and telegraph posts was introduced. Some of this type are still in existence.

The first four receivers of this type were erected at the School of Arts Pitt Street, Union Street Pyrmont, Royal Hotel George Street, and at Piper Street and Balmain Road Leichhardt.

In August, 1886, a system of private posting boxes was introduced into the City of Sydney under conditions similar to those then operating in London.

From time to time slight modifications were made in design of the receivers, but the basic design has changed but little. One of the major changes was the change of colour of receivers to

red, instead of the imitation bronze finish of the original receivers in Sydney, to conform with the British practice of adopting the Royal Colour of England.

Various colours are used on letter receivers in other countries, in France they are green, in Switzerland a bright yellow, and in the U.S.A. a light steel colour.

Today a large proportion of over 2,500,000,000 postal articles posted annually in Australia are posted in thousands of letter receivers throughout the length and breadth of Australia.

Town Letter Receivers

This notice was painted in a Booklett dated July 1st 1856

J. Cook & Co.

"Monthly Railway and Steam Navigation Guide"

Iron Letter Receivers have been established at the under-mentioned places and are now open for the Posting of letters only. -

Circular Wharf	-	near Customs House
Queens Wharf	-	near Commissariat Stores
Millers Pt	-	cnr. Kent St.
Crescent St.	-	Church Hill
George St.	-	between the Market Sheds
George St.	-	South near the Haymarket
Parramatta St.	-	near Tooths Brewery
Chippendale	-	near Railway Tunnell
William St.	-	cnr. Crown St.
William St.	-	cnr. Victoria St.
Hyde Park	-	opp. Immigration Barricks
Darlinghurst	-	opp. Court House

The following direction for Public guidance will be Painted on each of the receivers - For Letters Only -
Newspapers must be posted at General Post Office
Letters must always be pre paid with Postage Stamps (unless addressed to Britian).

Ref.= "Monthly Railway & Steam Navig. Guide" - (J. Cook & Co.)
- by courtesy of Mitchell Library.