The Future of Parramatta’s Past.
An Archaeological Zoning Plan,
1788-1844

Volume 1. Text.

Edward Higginbotham
& Paul-Alan Johnson (Maps).
THE FUTURE OF PARRAMATTA'S PAST

AN ARCHAEOLOGICAL ZONING PLAN
1788 TO 1844

VOLUME 1: TEXT

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THE UNIVERSITY OF NEW SOUTH WALES

1989 (Reprinted 2010)
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PREFACE

This document was first prepared as a draft in 1987. It has been substantially edited for publication, but the text has not been updated to include the results of archaeological excavations completed since that date. The text of this report was prepared by E Higginbotham, except for appendix 1. The maps, 1-5C and 1-4N, were drawn by P-A Johnson.

Published by the Department of Planning in 1991.
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ACKNOWLEDGEMENTS

The authors would like to thank the Faculty of Architecture of the University of New South Wales, and the Department of Planning, N.S.W. for funding this study.

The report was read in draft form by Parramatta City Council, the Department of Planning, N.S.W., Meredith Walker, Richard Mackay and Dr. Carol Liston. Their comments and assistance were gratefully received. A special note of thanks is due to Helen Temple, Meredith Hutton and Tracy Ireland for their encouragement.

The authors would like to thank the State Library of New South Wales for permission to publish various illustrations. All the photographs in the inventory, volume 2, were taken by E. Higginbotham.
1 THE ARCHAEOLOGICAL ZONING PLAN

1.1 Purpose

The archaeological zoning plan of Parramatta has been prepared to assist all those involved in conservation by identifying archaeological sites within the City and explaining the reasons for their importance.

The value of Parramatta as an archaeological resource has been recognised only recently. This has come too late to save some important sites from destruction without prior archaeological investigation. With the rapid redevelopment of the centre of Parramatta since the 1960s, the need to undertake such a study has become extremely urgent.

Parramatta was first settled by the British in 1788, and was founded as the second town on the Australian mainland in 1790. The cities of Sydney and Parramatta are the most important of a very small number of locations where archaeological evidence may make a substantial contribution to the study of the formative years of the penal colony and the beginnings of urban development in Australia. The establishment of a penal colony in New South Wales was a unique experiment within the British Empire; there is no other instance of the British establishing a colony principally for the reception of convicts. For this reason alone archaeological sites in Parramatta are of international significance. (This interpretation of the reasons for colonisation has formed the heart of a heated debate among historians for many years. It is not intended to review these arguments here, other than to indicate the likelihood that several factors may have resulted in the decision to colonise, the most obvious result being the settlement of convicts in New South Wales).

With the redevelopment of Parramatta proceeding apace, we cannot continue destroying this aspect of our Australian Heritage. These sites have to be investigated prior to development, so that the material evidence, the artifacts, and the information they hold may be saved for all Australians.

All the planning needs of the community have to be accommodated. It is no longer appropriate for redevelopment to proceed at the expense of other community needs. Both the historical archaeologist and the developer have to reach a compromise, so that neither is disadvantaged. The archaeological zoning plan of Parramatta will
provide the means whereby this balance can be achieved so that development may not be hindered by the need to conserve archaeological sites.

1.2 Scope

An archaeological zoning plan may be described as a survey which discusses the implications of planning and development on the conservation of archaeological sites. Many such studies have been undertaken for towns and cities in Europe and the United States. One of the most exemplary early publications in this area was entitled *The Future of London's Past*, published by Rescue in 1973 (1).

In New South Wales the heritage study duplicates many of the functions of the archaeological zoning plan. While heritage studies embrace all aspects of environmental heritage (2), this study concentrates on the period 1788 to 1844 within the original town boundaries. In consequence this study does not include:

1. archaeological sites on land grants as opposed to town allotments.

2. sites of industrial archaeological significance from the 1840s onwards.

The study commences with the settlement of the area by the British in 1788 and concludes in the 1840s. This decade marks the end of convict transportation to New South Wales. The town of Parramatta expanded rapidly from the 1810s, through the 1820s and 1830s until the depression of 1840-41. As a result, development stagnated until the late 1840s, but was boosted with the influx of capital after the discovery of gold in 1851. Between 1850 and 1890 the centres of Parramatta and Sydney were reshaped with more substantial Victorian buildings and denser settlement.

The concluding date of 1844 was chosen as it coincides with the publication of an important map of Parramatta showing buildings and property boundaries (3). This map accurately records the extent of the town up to the 1840-41 depression, marks the end of the convict system in New South Wales, and provides a benchmark against which the Victorian development of the town can be measured.

The second reason for concluding the study in the 1840s rests with the contribution that archaeology can make to Australian history. Where comparative physical evidence is scarce and where historical information is limited or heavily biased, as is
the case until the 1820s and 1830s, archaeological evidence is of great importance. However the extent of documentation and other comparative information often means that the need to resort to archaeological excavation is diminished for later periods.

1.3 Format and Methodology

The archaeological zoning plan is divided into three components, a discussion of the present state of knowledge of the history and archaeology of Parramatta, an inventory of archaeological sites with distribution maps, and finally an evaluation of the various approaches towards the conservation of archaeological sites in the city.

The initial section involved extensive historical research and interpretation of archaeological sites already excavated. It included the definition and discussion of relevant research topics to which archaeology could contribute.

The inventory was prepared with the assistance of a series of historic maps of Parramatta showing the location of buildings and other sites, followed up by extensive site survey to assess the likelihood of survival for each archaeological site. The methodology of the site survey is explained in detail in appendix 3. The inventory also includes detailed historical evidence on 1788 to 1823 property title, the name of the grantee, and in some cases a brief historical outline of the development of public buildings.

The chapters evaluating the conservation procedures that may be adopted are based upon a first-hand assessment of the progress and achievements of urban archaeology in Australia, where the proposed solutions are drawn from well-tested and successful approaches adopted both in Australia and overseas.

Notes
2. "Environmental Heritage" is defined by the Heritage Act, 1977 as meaning "those buildings, works, relics or places of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance for the State".
THE HISTORY OF PARRAMATTA, 1788 TO 1823

This chapter is intended to provide the historical background or synthesis of the history of Parramatta from the commencement of European occupation in 1788 until the 1820s. No attempt is made towards an exhaustive analysis, requiring lengthy research, but sufficient evidence is given so that, in the next chapter, the bias of the historical sources and the research themes available to historical archaeology can be assessed.

2.1 Early agricultural establishment, 1788 to 1790

In September 1788 the first wheat sown in the colony failed both at Sydney and Norfolk Island, partly because the seed had not been properly stored during the voyage of the First Fleet. As soon as this was known the "Sirius" was sent to the Cape of Good Hope for both flour and seed grain (1). Also in November 1788 an agricultural settlement was established at Rose Hill (Parramatta) (2). The intention was to clear sufficient land in advance of the ship's return, so that the grain could be sown immediately. The early settlement at Rose Hill was an attempt to save the penal colony from starvation, and necessitated the clearance of the best agricultural
land then known. Fortunately the "Sirius" returned in May 1789, allowing the wheat to be sown in the months of June and July in the ground already prepared (3).

The settlement, the second on the Australian mainland, was located on the Parramatta River, at the limit of navigation on Port Jackson. It was 23 kilometres west of Sydney and by July 1789 consisted only of a redoubt, containing a barrack and provision store, located on the south bank of the River in an area known as the Crescent. There were also a number of huts for the convicts, and on the north bank a small house was erected for the superintendent, together with a barn and granaries (4).

The importance of Rose Hill at this time can be seen from the records of the first successful harvest in December 1789. The second settlement produced over 200 bushels of wheat, about 35 bushels of barley, and a small quantity of oats and maize, "all of which was intended to be reserved for seed". In contrast, at Sydney the ground at Farm Cove produced only 25 bushels of barley as no other crop had been sown (5).

Figure 2. "View of Rose Hill", drawn by E. Dayes, from a sketch by Captain John Hunter, and printed in John Hunter, 1793, Historical journal of the transactions of Port Jackson and Norfolk Island, London. The observer is standing in front of the Government Farm, looking south across the Parramatta River towards the redoubt. The similarity between the position of the buildings in figures 1 and 2 is apparent. Although published in 1793, this view again records the buildings at Rose Hill prior to the foundation of the town in 1790. Figure 1 and 2 leave little doubt as to the position of the redoubt "beside" Government House (C689. Digital order no. a1978234. Mitchell Library, State Library of New South Wales).
2.2 The foundation of the town, 1790

It was only with the arrival of large numbers of convicts on board the ships of the Second Fleet in June 1790, that Governor Phillip was able to establish a town at Rose Hill. This he renamed Parramatta, using its native name, in June 1791. (6). Watkin Tench gives one of the most informative reports on the progress of agriculture and the establishment of the town in November 1790. Within this description he states that:

"The view from the top of the Wheat field takes in, except a narrow slip, the whole of the cleared land at Rose Hill. From not having before seen an opening of such extent for the last three years, this struck us as grand and capacious. The beautiful diversity of the ground (gentle hill and dale) would certainly be reckoned pretty in any country. Continued our walk and crossed the old field, which is intended to form part of the main street of the projected town" (7).

The last sentence of the above quotation clearly indicates why no clearance of trees or vegetation is mentioned in the historical documentation for the establishment of
the town, and also pinpoints the previous centre of agricultural activity in 1789. Tench continued to describe the town itself:

"The main street of the new town is already begun. It is to be a mile long, and of such breadth as will make Pall-Mall and Portland-Place "hide their diminished heads". It contains at present 32 houses completed, of 24 feet by 12 each, on a ground floor only, built of wattles plaistered with clay, and thatched. Each house is divided into two rooms, in one of which is a fire place and a brick chimney. These houses are designed for men only; and ten is the number of inhabitants allotted to each; but some of them now contain 12 or 14, for want of better accommodation. More are building; in a cross street stand nine houses for unmarried women: and exclusive of all these are several small huts where convict families of good character are allowed to reside. Of public buildings, beside the old wooden barrack and store, there is a house of lath and plaister, 44 feet long by 16 wide, for the governor, on a ground floor only, with excellent out-houses and appurtenances attached to it. A new brick store-house, covered with tiles, 100 feet long by 24 wide, is nearly completed, and a house for the store-keeper. The first stone of a barrack, 100 feet long by 24 wide, to which are intended to be added wings for the officers, was laid to-day. The situation of the barrack is judicious, being close to the store-house, and within a hundred and fifty yards of the wharf, where all boats from Sydney unload. To what I have already enumerated, must be added an excellent barn, a granary, an inclosed yard to rear stock in, a commodious blacksmith's shop, and a most wretched hospital, totally destitute of every conveniency." (8).

2.3 The Town Plan

Parramatta was the second township to be laid out in New South Wales after that of Sydney. Both were planned by Surveyor General Augustus Alt. However the plan at Sydney was not successfully adopted as settlement continued to follow the Tank Stream and the routes already established (9). This was not the case at Parramatta, as its original town plan survives and is recognisable today. The main avenue of the town was one mile long and 205 feet wide, running in a straight line from the landing place or wharf to Government House on the rising ground. One contemporary plan of the town, dated to c.1792, indicates the widths of the streets and shows Main or High (now George) Street crossed by two streets, namely Bridge (now Pitt) Street,
and Cross or Church Street. To the south of Main Street and parallel to it is South Street or Back Row (now Macquarie Street) (10).

In planning the town Governor Phillip believed he was laying the foundation of an empire: "to proceed on a narrow, confined scale, would be unpardonable: extent of empire demands grandeur of design" (11). To illustrate this, one feature of the town was the size of the allotments and thus the wide dispersal of the houses. Garden allotments had been provided for all classes in the penal establishment, officers, garrison and convicts, since the commencement of the colony in 1788. Such gardens were intended for vegetable production, as these articles were not provided by the stores. The allotments at Parramatta, measuring 100 by 200 feet were substantially larger than usual. Governor Phillip intended by this measure to encourage the convicts to work the land in their own time and thus profit by their ingenuity (12). One other reason for the size of the allotments may have been to accommodate the grandiose and geometric plan for the town!

Figure 4. "A View of the Governor's House at Rose Hill, in the Township of Parramatta", published in David Collins, 1798, An account of the English colony in New South Wales. In spite of the incorrect perspective of this print, the construction methods and appearance of the convict huts are clearly visible. The observer is looking along George Street in a westerly direction towards Government House (DG SSV1B/3. Digital order no. a928407. Dixson Galleries, State Library of New South Wales).
Governor Phillip also believed in the eventual replacement of the convicts by settlers (13), and thus planned sites for a town hall and market place, both necessary items for a growing town (14). At this stage however the town was occupied solely by convicts and their custodians: in fact it was a town for convicts, or a "gaol town".

2.4 Town Leases, 1796 to 1809

It was inevitable that Parramatta would outgrow its definition as a "gaol town", because of the emancipation of convicts as their sentences expired. In addition there were an increasing number of free settlers or persons who chose to stay on in New South Wales after their duties were completed. The process of free settlement commenced as early as March 1791, when small blocks of land, varying between 30 and 140 acres, were granted to James Ruse, Robert Webb, William Reid, and Phillip Schaffer in the vicinity of Parramatta (15).

As Governor Phillip had intended, it was not long before the presence of free persons was felt in the town itself. A town lease, dated 17 September 1796, is an early indication that town allotments were held by persons other than convicts. The land measured 100 by 200 feet, a standard size town allotment, and it was leased to John Macarthur for 14 years. The document also records that it was already occupied by James Larra (16). By 1800 a total of 19 town leases had been granted to individuals, the majority of whom were members of the New South Wales corps, prominent civil servants or churchmen. A few like James Larra were emancipated convicts. With the exception of 5 leases, these were all located away from the main streets of the town, and on larger acreages (17).

The early prominence of Parramatta as an agricultural centre is indicated by the population return for November 1791. Parramatta had the greatest number of persons, namely 1,628, while Sydney and Norfolk Island possessed respectively 1,259 and 1,172 persons (18). Settlement on the Hawkesbury River commenced in 1794 and rapidly eclipsed Parramatta as the centre of agricultural production. In spite of this Parramatta had taken on the appearance of a town by 1800. The influence of those individuals who had leased town allotments cannot have been great, for although the town was well laid out, it "consisted chiefly of prisoners' huts" (19).

From 1800 to the end of 1809 another 55 leases were granted within the town. Again a bias towards officials, both military and civil, is seen (20). Also during this period
occur the first grants of town allotments, one to Anthony Fenn Kemp on 11 November 1808, and another on the same date to James Larra, consolidating his previous leases (21). Unlike those before 1800, most of these allotments were located along the principal streets, George, Church and Macquarie Streets, and represent the first major infringement of the town centre previously occupied by convicts.

2.5 The development of the town under Macquarie, 1810 to 1821

With the arrival of Governor Lachlan Macquarie in New South Wales in 1810 the policy towards these town leases changed. Macquarie was concerned in the orderly and planned development of the major towns and also of the colony itself. Thus between 1810 and 1814, in addition to the pre-existing streets, he had laid out Phillip, Smith, Charles, Harris, O'Connell, Marsden, Hunter, Argyle and Aird Streets. To the north of Parramatta River further streets were laid out namely, Palmer, Pennant (Victoria Road), Ross, Grose, Sorrell, Brickfield and Bullen Streets, including the continuations of Church and O'Connell Streets (22).

Having undertaken a substantial proportion of this planning in 1810, the governor also set out to control the type of development which was to take place. On 15 May 1811 he issued the following Government and General Order:

"The Towns of Parramatta and Windsor having been laid out and arranged into regular Streets, His Excellency hereby orders and directs, that no Person shall presume to build any House within these Towns, without previously submitting a Plan of such House and Out-houses, or Offices as he may be disposed to build, to the Magistrate resident in each of those Towns, who will be furnished by His Excellency with the suitable Instructions on that Hand; and His Excellency gives this Public Notice, that no Town Leases will be granted in either of these Places, until he is furnished with, and approves of the Plan of Such House or Offices, as may be proposed to be built" (23).

Governor Macquarie had issued 19 town leases and 2 town grants in Parramatta as soon as he came to office on 1 January 1810. Fourteen of these leases cancelled and renewed those issued during the previous interregnum, as did one of the grants. This leaves only 5 new leases, and one grant, the latter being a consolidation of two previous leases (24).
Thus on analysis the total number of town allotments being leased to free individuals did not substantially increase. The significant difference from the previous situation was that they all contained clauses specifying the size of the buildings to be constructed. All the leases were conditional on building:

"a good and sufficient Dwelling House thereon within the space of Five years from the Date hereof Thirty Six feet in length and fourteen feet in width".

Both of the grants had more stringent requirements, namely:

"a good and sufficient Dwelling House thereon of Brick or Stone within the said period fifty feet in length, Sixteen feet in width, and two stories high" (25)

The effectiveness of Macquarie's beneficial policy may be called into question. While later evidence demonstrates that the free population of the town substantially expanded in the period 1810 to 1823, Macquarie's intention to promote the investment of capital in property failed. Only one town grant was issued in Parramatta after those of January 1810 (26). The reason for this failure is not hard to find, since the inhabitants were reluctant to invest in land with finite and insecure title. Governor Macquarie was unable to make any other attempt to remedy this situation, allowing James Meehan to report to Commissioner Bigge that during Macquarie's administration four fifths of the houses in Parramatta were held by permissive occupancy alone (27).

2.6 Town leases in 1823

Sir Thomas Brisbane succeeded Lachlan Macquarie as governor in 1821. Armed with the recommendations of the Bigge commission, he set out to remedy the continuing problems of town leases.

On 5 April 1823 the surveyor general, John Oxley, wrote to the colonial secretary, Frederick Goulburn, enclosing a map of Parramatta, together with a return of the allotments and their occupants. He succinctly described the parlous state into which the administration of town allotments had fallen:
"His Excellency will not fail to perceive that out of 390 Allotments not more than 10 hold their lands by lease from the Crown, and that 6 other persons hold Grants or are entitled thereto in consequence of the value of the Buildings they have erected on the Grounds.

The Quit Rents at present payable Annually by the Lessees of the Crown do not amount to Twenty Pounds. The remainder of the Town Lands being held by permissive occupation, pay no Quit Rent, and no legal title or transfer can be given on such land by the occupant as the Crown has neither leased or granted to the Individual any definite Interest in the Ground" (28).

The surveyor general estimated that more than 600 pounds sterling could be raised as annual quit rent if town leases and grants were properly administered, and for this purpose submitted draft documentation for the new leases (29).

In the following month the government completed the new arrangements and was able to notify the inhabitants of the new regulations on 3 May 1823:

"Whereby the allotments, with few exceptions, in the Town of Parramatta, are held by naked possession without any shadow of right, and it would be desirable that individuals wishing to undertake improvements, should enjoy a secure title, the governor has been pleased to direct that these inhabitants who can show no better claim to the portions they now occupy than mere sufferance, do apply for formal leases within three weeks from the present date of the office of the surveyor-general" (30).

The advantage of these leases was that they could be converted into grants by two mechanisms, either by paying 21 years quit rent in advance, or by constructing an approved building valued at 1000 pounds sterling or more (31). With this opportunity made available to them, the inhabitants of Parramatta formally leased, and therefore gained secure title to almost the whole of the town of Parramatta on 30 June 1823. In fact a total of 342 leases and 16 grants of town allotments in Parramatta were made that day (32).
2.7 Public buildings in Parramatta, 1788 to 1821

Since Parramatta began as a convict agricultural establishment in 1788, becoming a town for convicts in 1790, all the early public buildings were designed to meet the needs of this penal settlement.

The first structure to be erected in 1788 was a redoubt, enclosing a barrack and store, together with huts for the convicts (33). The defensive arrangement was considered necessary to ward off any threat from the aboriginal population. In the following year the government farm containing the superintendent's residence, a barn and granaries, was completed (34).

At this early stage most of the convicts were employed in agricultural activities, clearing trees, preparing the ground for cultivation and finally harvesting and storing the crops. Only with the arrival of the Second Fleet in 1790 were there sufficient numbers to contemplate the foundation of a town at Parramatta. Thus late in that year all efforts concentrated upon erecting the necessary buildings, and laying out the principal streets and allotments. These included a residence for the governor, stores, huts, a hospital, workshops, the wharf or landing place, and additional buildings and enclosures for agricultural purposes (35). The first church was completed in 1792, although religious services had been held from the beginning (36).

Thus at this early stage the range of buildings necessary for the smooth operation of a penal establishment were all present. In the ensuing years as the government gained experience of the convict system, the institutions and buildings associated with it formed an established pattern. They included the following:

<table>
<thead>
<tr>
<th>The Governor</th>
<th>Government House and Domain (37).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military Department</td>
<td>Military Barracks (38).</td>
</tr>
<tr>
<td>Civil Department</td>
<td>Staff residences.</td>
</tr>
<tr>
<td>- Commissariat</td>
<td>Stores and granaries (39).</td>
</tr>
<tr>
<td>- Medical</td>
<td>Hospital (40)</td>
</tr>
<tr>
<td>- Religious</td>
<td>Church (41)</td>
</tr>
<tr>
<td>Convicts</td>
<td>(Huts)</td>
</tr>
<tr>
<td></td>
<td>Convict Barracks (42).</td>
</tr>
</tbody>
</table>
To this list must be added those buildings associated with convict labour, including the Lumber Yard (containing workshops for all specialised and skilled work: the workplace of convict mechanics and artificers), Government Farm, mills (watermill, windmill), brewery, tanyard, brick kilns and the Female Factory for the manufacture of cloth and clothing by female convicts (43). (Detailed historical notes on these buildings may be found in the Inventory).

The changes to convict housing had an important influence on the development of the town of Parramatta. Only after 1800 did town leases to free individuals infringe upon the town centre previously wholly occupied by convicts. As the town approached maturity in the late 1810s, so the policy regarding convict housing had to be changed. Governor Macquarie realised that in all the towns in New South Wales, it was no longer appropriate for convicts to be housed in lodgings in the town. This led to the situation where they could not be kept under supervision and control (44). Thus in common with other towns, convict barracks were constructed in Parramatta by 1821 (45). This policy of segregating convicts from the free inhabitants of the towns continued under all later governors (46).

In the early years of the colony the lives and economic welfare of the free population were closely related to the penal settlements (47). Likewise the civil administration grew out of the penal system, and many institutions at first played a dual role. The slow development of those aspects of government independent of the penal system is therefore not surprising.

Free settlers first began to assert themselves in 1795 in relation to the security of their property, the frequency of theft and breaches of the peace. Governor Hunter took strong action to counteract such disorder by appointing constables to each district, and watchmen to each division of the major towns. One of their main duties was to regulate the movement of people, both free and bond, between the various districts of the colony. It was thought that absence of control on communication stimulated crime. In other words the constables and watchmen were obliged to administer the notorious pass system, whereby each convict required a passport to travel, and free persons possessed certificates. Any offenders were to be taken before the already appointed civil magistrates (48).

In concert with these new regulations, Governor Hunter ordered the construction of log gaols in both Sydney and Parramatta in September 1796. Since they were
principally devised for the benefit of the settlers and their property, these persons were required to assist in providing materials and labour (49). In addition a number of watchhouses were built in Sydney, and one at Parramatta: the latter was rebuilt in 1798 (50).

As a means of defraying the expenditure of the home government, public subscription, together with the use of levies and taxes collected in the colony, became an established method of advancing the construction of public buildings which were of benefit to the expanding free population. The Orphan Fund was one of the first instances of this. Initially proposed by the Reverend Richard Johnson in 1796 as a means of educating the first native born youth, and removing them from the bad influence of their convict parents, the Orphan Fund was successful in completing orphan schools in both Sydney and Parramatta by 1801 (51). The Orphan and Gaol Fund was subsequently used, as its modified name suggests, for constructing a new gaol at Parramatta in 1803 (52). Under Governor Macquarie it became known as the Police Fund, but its source of revenue and use remained essentially the same.

As conditions improved in the penal colony, and as more skilled builders, craftsmen and architects arrived, many if not all of the public buildings were replaced by more durable structures. The standards of construction reached an early peak under Governor Macquarie between 1810 and 1821. Many of the buildings erected during this period lasted for the remaining years of convict transportation, and subsequently served other useful purposes. Few now survive as many were demolished in the late nineteenth and early twentieth centuries, before their historical and architectural value was appreciated.

2.8 The general development of the town plan

The series of town plans for Parramatta dating from c.1792 to 1844 indicate a town, initially laid out along one main street with cross-streets, developing towards a substantial planned grid pattern. By 1804 the town was expanding to the north of Parramatta River, this process continuing with ribbon development along Church Street or the Windsor Road, and the gradual expansion of the grid pattern of streets behind this main road up to and beyond 1844.

At an early stage, the town was hemmed in by the surrounding land grants. Governor King noted in 1801:
"I shall take care that grants of land are not made to exclude Government from
the ground cleared by the convicts at public labour, which has been the case at
Toongabbie and Parramatta, to the great accumulation and expense to the
public" (53).

One notorious case regarding the alienation of such public land, already cleared by
convict labour, relates to the grant of 105 acres by Governor King to Governor Bligh
in 1806. The land was situated to the west of Church Street or Windsor Road, to the
north of and bounded by Parramatta River. This grant effectively prohibited the
expansion of the town into this area until the deed was cancelled (54).

By the 1830s the subdivision of the surrounding land grants was only just beginning.
This process did not accelerate until the 1850s, no doubt because of the 1840s
depression, followed by the dramatic increase in the population and influx of capital
in the 1850s.

In 1790 the town had been laid out with regular allotments, most of which measured
100 by 200 feet. This regularity did not disintegrate until between 1810 and 1823
with the failure of Macquarie's policy promoting the investment of capital in town
leases. Governor Brisbane in 1823 stated that:

"Soon after I had reached the Colony, I perceived that the lands in the towns
were holden almost wholly by permissive occupants. Scarcely a crown grant or
a crown lease in being; every tenanted allotment almost having been purchased
from some obscure individual, who had exercised the right to sell, under an old
verbal permission to occupy, given him by a magistrate or the surveyor. I did
not then know, nor have I since been able to discover, any means of reducing
this confusion into order, except by directing the surveying department to draw
a plan of such town with the divisions of prescriptive property actually
subsisting" (55).

This direction resulted in the 1823 map of Parramatta being produced (56). The
absence of former control over the transfer and leasehold of allotments allowed
property boundaries to begin a process of reversion to an organic rather than a
planned distribution. This can be seen in the number of allotments which do not have
street frontage, especially in the vicinity of Parramatta River, the narrow lane at the
south end of Sorrell Street, and also in the number of 1823 leases which had a right of
way put through them. For example, the lease for Section 23, Allotment 67 included the following statement:

"Reserving Convenient Passage (of sufficient Width to admit a Horse and Cart) to such of the adjoining allotments as may be deemed necessary by the proper officer" (57).

To a certain extent the irregular layout of the allotments by 1823 was rectified in subsequent years by the continuation of the grid layout of streets and by the resumption of encroachments.

Because of the large size of the allotments laid out in 1790 and in 1823, the buildings in the early town were well spaced out and rarely attached. This housing density compares with a small number of the historic country towns in New South Wales, for example, Berrima and Braidwood. The five Macquarie Towns of Windsor, Richmond, Pitt Town, Wilberforce and Castlereagh are not so easily compared, because of their subsequent historical development or stagnation. The various country towns of Tasmania, including Longford, Campbelltown, Ross, Oatlands, Richmond, and Bothwell, are more readily compared to Parramatta in the 1840s in both housing density and the date of surviving buildings. By this date Parramatta was beginning to subdivide town allotments along the main thoroughfares in order to give several buildings a narrow but continuous street frontage and elevation. In general detached buildings remained common on less important streets (58).

Notes
2. ibid: 37.
3. ibid: 54. The decision to send the "Sirius" to the Cape of Good Hope, and to settle at Rose Hill are juxtaposed in Collins as well as in HRA. This evidence suggests that the decisions were related.
5. ibid: 72.
6. ibid: 137.
10. Anon. c.1792.
16. LTO. Book 2B. No. 80.
17. LTO. Book 2B. Nos. 80, 238, 242, 338-346, 362, 363, 410; Book 3C. Nos. 30, 40, 43, 44.
22. Preston, c.1814.
23. SG. 11 May 1811.
25. loc. cit.
28. Oxley to Goulburn, 5 April 1823.
29. loc. cit.
30. SG, 3 May 1823.
31. LTO. Book 25. passim.
32. LTO. Books 25 and 26. passim.
33. The historical documentation for this public building is discussed in detail in the inventory: Parramatta Park, inventory no. 1.
34. Parramatta Park, inventory no. 2.
36. Parramatta Central, inventory no. 124.
37. Parramatta Park, inventory no. 3.
38. Parramatta Central, inventory no. 62.
39. Parramatta Central, inventory no. 61.
40. Parramatta Central, inventory no. 1.
41. Parramatta Central, inventory no. 124.
42. Parramatta Central, inventory no. 96.
43. Lumber Yard (Parramatta Park, inventory no. 5); Government Farm (Parramatta Park, inventory no. 2); Watermill (Parramatta Park, inventory no. 28); brewery (Parramatta Park, inventory no. 11); Female Factory (Parramatta North, inventory no. 14).

44. HRA, Vol.7: 153.
45. Parramatta Park, inventory no. 5.
46. HRA, Vol.11: 577.
47. Fletcher 1976: passim.
49. op. cit: 139. Parramatta North, inventory no. 89.
52. ibid. Vol. 4: 86, 319.
55. ibid. Vol. 11: 121.
56. Stewart, 1823.
57. LTO. Book 25. No. 40.
58. Brownrigg, 1844.
3 THE CONTRIBUTION OF HISTORICAL ARCHAEOLOGY

The previous chapter has outlined the historical development of Parramatta to the 1820s. The sources of historical evidence for this initial period are restricted both in their range and extent. They include the various journals and published accounts of the early penal colony by officials and other persons of rank, for example Captain Watkin Tench, and David Collins, the judge advocate. One of the most extensive sources of evidence is the despatches sent by ship to the home government, together with other official records.

These sources predominantly provide information on the government and administration of the penal colony, and also the public lives of the various officials, officers and others. What is lacking is any consistent evidence of the private lives of the individuals who collectively were responsible for the development of the colony away from its penal beginnings, or who began the development of towns like Parramatta and enabled them to reach maturity.

Historical archaeology, combined with detailed historical research, is able to make an important contribution to this subject. It has the capacity to provide detailed evidence of the social and economic conditions prevailing in the early colony. It can also explain and describe the way of life of individuals, the careers and economic choices available to them depending on their social position and relative wealth. By comparing the ways of life of a number of individuals it is then possible not only to evaluate their contribution to the development of Parramatta, but also finally to visualise more clearly what it was like to live in the town at that time.

Archaeology adds another dimension to the study of the historical development of Parramatta. While history relies on the written documents, maps, plans and illustrations, archaeology exposes the physical reality of the town, its layout, its buildings and streets, and provides a visible and tangible record. Archaeologists are also trained to interpret not only the physical remains of buildings and other structures, but also to evaluate the social and economic implications of such structures and the objects found in association with them. History and archaeology are therefore complementary; one without the other does not give a complete picture.

Parramatta is unique in Australia in having a continuous series of maps which show the layout of the town, its streets and buildings from the earliest time. They date
from as early as c.1792 and continue with others in c.1804, 1823, 1836, 1844, 1858, and 1895 (1). Some of these maps have been redrawn, all to the same scale, so that the positions of buildings and streets can be compared, and accurately located today. Without these maps this study would have been impossible, because it is not feasible to locate archaeological sites of buildings by excavation alone.

These maps form the basis from which the inventory of archaeological sites in Parramatta was prepared. From both historical documentation and this inventory some important conclusions could be made. The 1841 census records that there were at that date 1393 buildings in Parramatta, of which 428 were masonry, and 965 were wood (slab or weatherboard) (2). The inventory revealed that only approximately 50 buildings which were erected prior to 1844 still stand today. Of these none are of wood, although wooden buildings formed the majority in 1841. Thus only 3.5 per cent of the 1841 buildings survive today. These figures are made even worse when it is realised that both the historic maps and other documentation point to an almost total replacement of the 1790s building stock of Parramatta by 1820.

It is impossible to visualise the appearance of Parramatta prior to the 1850s, based on the evidence of standing buildings alone. The Victorian and modern redevelopment of Parramatta has effectively replaced the buildings of an earlier date. The only remaining opportunities of increasing our knowledge of the early town rest with historical research and the excavation of those sites identified in the inventory.

3.1 Research themes

The historical evidence outlined in chapter 2 allows the development of Parramatta to be divided into several periods for which a number of research themes can be addressed by historical archaeology. These themes are listed as follows:

1. Public Buildings, 1788 onwards.
   1a. The agricultural settlement, 1788 to 1790.
   1b. The foundation of the town as a convict settlement, or "gaol town", 1790 to 1795.
2. From convict occupation to free enterprise, 1796 to 1823.
3. The development of the town by free persons, 1823 onwards.
3.1.1 Public buildings, 1788 onwards

Apart from the previously mentioned maps, the historical evidence for the appearance and construction materials of buildings in the town is restricted to brief written descriptions, bills or accounts, occasional illustrations, and a few plans and elevations. These latter architectural drawings are extremely scarce until the 1810s, which not unexpectedly coincides with the arrival of qualified architects in New South Wales. In general the earlier the date, the less descriptive is the available material.

To illustrate the nature of the historical evidence, and the contribution to be made by archaeology, a number of buildings in Parramatta will be described, commencing with the huts erected in the 1790s for convict accommodation, and concluding with examples of other public buildings.

3.1.2 Convict huts

The construction of huts for convict accommodation was an integral part of the foundation of the town in 1790. The plan of Parramatta, dated to c.1792, records the layout and varying widths of the streets in the town and indicates that the convict huts were placed on the street frontage, central to each allotment.

The description by Watkin Tench of the huts and their different classes of occupants, as already quoted in chapter two, is the most complete (3). Coupled with the illustration of a number of these buildings in David Collins' *Account of the English Colony in New South Wales*, it is possible to describe their construction in some detail (4). They measured 24 feet long by 12 feet wide (7.3 by 3.65 metres), were divided into two rooms, and had a brick fireplace and chimney at one end. Each hut was constructed on a framework of wooden posts set into the ground, with wattle and daub walls, and a thatched roof.

This building type was very common and widespread in New South Wales and continued as a basic plan until at least the mid nineteenth century. It was of course built in a wide range of materials. A good example of this room layout can be found in Barrack Lane, Parramatta, although in this instance a number of the cottages are joined end to end to form a row or terrace (5). The central doorway is flanked on
either side by a window. The partition wall however is not central, but to one side of the doorway, thus forming two rooms of unequal size, the fireplace being in the larger. It is quite obvious that the huts erected in 1790 must have had this same internal layout.

Captain Watkin Tench also describes that the huts were intended to house 10 convicts each, but that in November 1790 between 12 and 14 were accommodated since not enough huts were built (6). They continued in this usage until at least 1800 as the Return of Labour for that year at Parramatta records that there were "Eight Men Old and feeble Takeing Care of Hutts" (7).

From the nature of their construction, these huts should be classed as impermanent structures. If they were to remain standing for any time then they would require periodic maintenance. As expected therefore they are mentioned in a return of public buildings erected since October 1796, which was sent to England in despatches on 25 September 1800. It records the following information:

"Repaired the government huts at Parramatta and Toongabbie, originally built by Governor Phillip for the reception of convicts, but which had been some years neglected, and were now in a state of ruin. Many indeed had fallen down". (8)

They are also mentioned in a return of public works between 23 September 1800 and 31 December 1801: "Weather boarded 40 houses at Parramatta and Toongabbie, which were in ruins - building chimneys" (9).

By comparing the location of these huts on the c.1792 and c.1804 maps it is possible to conclude that a number of them still stood at that date, and also that a number had been built in the intervening period.

In spite of the above historical evidence and comparisons made with standing buildings, there are a number of important questions which could be answered by archaeological excavation. Structural evidence includes the types of wood used, whether bush poles or sawn and planed timber, the strength and durability of the building or whether there were any variations in the construction method or layout. Social and economic evidence includes the arrangements for accommodating ten or more convicts, whether the huts remained solely for convict use, or were taken over
by free inhabitants at a later date, and if so, what the buildings imply about the way of life of the occupants.

Figure 5. A simplified plan of the archaeological remains of a convict hut erected beside George Street, Parramatta in c.1790. The black dots represent the posts of two structures. The rectangle of large square post-holes is the convict hut erected on the south side of the street. Another unidentified structure was erected behind it by c.1800 (E. Higginbotham).

The excavation of one of these huts beside George Street, Parramatta in 1985 did provide answers to a number of these questions (10). The pits into which the wall
posts had been set were located and revealed the outline of the timbers they had once held. Their shape was irregular but generally rounded, sometimes up to 20 centimetres in diameter, implying that strong bush poles had been used. Unfortunately the floor surface had been removed, but comparative historical evidence suggests that the floor was nothing more than stamped earth. The following is a revealing description of similar huts in Windsor:

"The walls are wattled and plaistered with clay, the roof thatched, the floor frequently nothing more than the bare ground. They generally consist of two rooms" (11).

This quotation also hints that not all examples of this type of building had an internal dividing wall. Indeed the one excavated revealed no evidence of such a wall, but it is possible that it would not have left any archaeological trace.

As for sleeping arrangements the archaeological evidence was again inconclusive. The strength of the posts however was sufficient to support hammocks if properly braced. This bedding arrangement, although not the only alternative, is well documented and was the most logical solution, since each convict would have become thoroughly acquainted with hammocks on the long voyage out (12).

One of the most significant discoveries of the excavation was the presence of a roofed building or enclosure behind the convict hut. While small additions to these buildings are hinted at in early illustrations, there is no historical evidence to predict the discovery of such a large structure in this instance (13). The series of maps from c.1792 to 1844 while they show the principal buildings, may also leave out other substantial outbuildings. Were it not for archaeological excavation these structures could remain unknown, or "historically invisible", and thereby bias conclusions made about the density of buildings, and the use of allotments in the town.

The excavation also provided answers to some of the most important questions concerning the length of convict use and subsequent occupation by free persons. This evidence is discussed fully below.
3.1.3 Other public buildings

Historical evidence reveals that a substantial number of other public buildings in the early years from 1788 to the 1810s were also impermanent structures, which would decay rapidly without proper maintenance. Even the house of the governor in 1790 was a flimsy building:

"a house of lath and plaister, 44 feet long by 16 wide, for the governor, on a ground floor only, with excellent out-houses and appurtenances attached to it" (14).

It finally fell down in 1798. A second government house was built the following year, but this was destroyed by a storm before completion. It had to be pulled down and recommenced (15).

Figure 6. "View of part of the town at Parramatta in New South Wales", by John Eyre, and published in 1812. The observer is looking in a south-westerly direction across the town from the north bank of Parramatta River. The Governor's house stands out above the town, while the majority of buildings are single storey cottages with whitewashed walls and shingle roofs. The eucalypt forest still surrounds the town but is being pushed back by clearance for agriculture. The stumps have not been cleared from the paddock in the foreground. The bridge over the river at Church Street indicates the expansion of the town onto the north bank, the most obvious building here being the Gaol and first Female Factory (SV1B/PARR?10. Mitchell Library, State Library of New South Wales).
The Future of Parramatta’s Past

The fact that the military barracks and provision store were the earliest masonry buildings in Parramatta reflects the condition of the penal settlement at this early date. The security of the colony as a whole was paramount. In addition the unreliability of communications with Britain required that the dwindling provisions had to be closely guarded. Control of the food supply, and the prevention of theft, ensured the submissiveness of the convicts.

Both the store and barracks were located near the wharf at the east end of George Street. The new store was completed in 1790, replacing the one erected in the redoubt in 1788. It was a brick building, with a tile roof, 100 feet long by 24 feet wide (16). The first of three barracks was commenced in the same year, but completed in 1791. It was of similar dimensions and building materials (17).

The difficulty with which these early brick buildings were erected was extreme. The bricks were so badly made as to attract comment and the absence of lime meant that clay mortar had to be used (18). The inadequacy of these building materials had several consequences. First, it was necessary that buildings should be erected and roofed prior to heavy rains. There are several instances in Sydney where buildings collapsed during construction for this reason. The example of the government house at Parramatta has already been mentioned. Second, it was impossible to build walls higher than one storey because of the dangers of collapse. The government house in Sydney, erected in 1788, was the first two storey building in Australia. It was only with the continual efforts to produce lime from aboriginal shell middens that other two storey buildings could be constructed (19). Finally it was important that such buildings should be continually maintained. All buildings, whether of timber or brick, were given regular coats of lime wash to provide some protection from the elements (20). This of course gave the early settlement a very distinctive appearance: buildings with white painted walls, grey coloured thatch or shingles, or biscuit coloured tiles, set among garden allotments, were separated from the surrounding bush by cleared paddocks in which the tree stumps were left to rot.

Gradual advances in building technology are indicated by the first exceptions to both single storey and whitewashed structures. The second government house in Parramatta was completed in 1799 with a suite of attic rooms, but this did not in fact necessitate significant additional height in the walls (21). The first undoubted exception to the single storey height limit at Parramatta was the new store erected at the Wharf between 1808 and 1810. This was a substantial three storey structure (22).
On the other hand the church was the earliest exception to the use of whitewash on buildings at Parramatta. The foundations to this sandstone building were laid in 1798, but it was not completed until 1810 (23). In fact it was only with the arrival of Governor L. Macquarie in 1810 that the standard of buildings techniques improved sufficiently to allow the abandonment of whitewash as a protective coat.

The above discussion of public buildings has emphasised the slow development of building techniques. The reasons for this are complex, but relate to the nature of convict labour, the scarcity of skilled craftsmanship, the quality and availability of tools, the types of building materials, and finally, if not most important, the slow adaptation of British traditional building techniques to an alien and totally new environment. Archaeology has the potential to recover building materials, and to make them available for study. Valuable information can be obtained on all the above inter-relating questions.

The historical evidence for the convict huts is probably the best available for any public building. In spite of this, excavation of one of these buildings demonstrated that additional important evidence can be provided by archaeological investigation.
The following description of the Female Factory at Parramatta in 1821 epitomises the
detail available from written sources on other public buildings:

"A Large Commodious handsome stone Built Barracks and Factory, three
Stories high, with Wings of one Story each for the accommodation and
residence of 30 Female Convicts, with all the requisite Out-offices, including
Carding, Weaving and Loom Rooms, Work-Shops, Stores for Wool, Flax, etc.
etc.; Quarters for the Superintendent, and also a large Kitchen Garden for the
use of the Female Convicts, and Bleaching Ground for Bleaching the Cloth and
Linen Manufactured; the Whole of the Buildings and said Grounds, consisting
of about four acres, being enclosed with a high Stone Wall and Moat or Wet
Ditch. N.B. - This important and highly useful as well as necessary Building
was erected by Contract" (24).

In many cases earlier written descriptions are only one line or two, but by the 1810s
they can be accompanied by bills and accounts which provide a wealth of additional
information. A good example of the latter is the extensive documentation for the
rebuilding of government house at Parramatta between 1812 and 1817 (25).

Where additional historical documentation in the form of illustrations, plans and
elevations is not available, such written evidence is inadequate, and must be
supplemented by archaeological investigation. Only in a few instances are there
detailed drawings of public buildings, but, even when they exist, the need for
excavation is not reduced. While archaeology in these cases may not reveal
additional evidence on the ground plan, it will provide information on the
craftsmanship and building materials. Most important of all the objects found in
these buildings will contribute substantially to our knowledge of their function and
use, and the way of life in the early colony.

### 3.1.4 Social and economic issues relating to the development of Parramatta

Compared to public buildings, the historical evidence available for those occupied by
private individuals is usually more limited. It can be separated into three principal
categories, namely:

1. Documentation produced by the interaction of the individual with government,
   including convict and transportation papers, property title, births, deaths and
   marriages, census and other statistics, etc.
Figure 8. "Plan and Elevation of a Hospital intended to be built at Parramatta", approved by Governor Lachlan Macquarie at Government House, Sydney, on 16 April 1817. This plan and elevation illustrates the detailed historical evidence that can be available for public buildings from about 1817 onwards (D337. Digital order no. a2874006. Mitchell Library, State Library of New South Wales).
2. Newspapers.
3. Personal papers.

Because of the scarcity or bias of this historical evidence, archaeology has a greater role to play. This is illustrated by considering various research themes below. However the discussion is limited because of the small number of published excavations to date.

3.1.5 Parramatta as a "gaol town", 1790 to 1795

The objects discovered in the 1985 excavation of one of the convict huts raise some important research issues. At first, probably in 1790, a single hut was erected on the allotment (Building 1, Phase 1). At some later stage the hut was extensively rebuilt (Building 1, Phase 2), and probably at the same time another building or enclosure was constructed behind it, (Building 2) (26). Historical documentation indicates that Building 1, Phase 1 was occupied by convicts. Very few artifacts and no personal possessions were found in association with it (table 1). This evidence may be interpreted by these two hypotheses; either convicts were deprived of all their property, or there was a shortage of materials in the early penal colony. The most likely explanation may be tested again on other excavations.

Table 1. Usage categories of artifacts recovered from Building 1, Phases 1 and 2, and Building 2, excavated in 1985 in Parramatta (27).

<table>
<thead>
<tr>
<th>Usage category</th>
<th>Building 1, Phase 1</th>
<th>Building 1, Phase 2, and Building 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of total number of artifacts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building materials</td>
<td>96</td>
<td>71</td>
</tr>
<tr>
<td>Alcoholic consumption</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Food consumption</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Other domestic items</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Leisure - smoking</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other items</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Variations in the quantity and range of artifacts associated with these early buildings may reveal the social hierarchy and layout of the "gaol town", with its convicts, military personnel, and civil servants. Archaeology may therefore reveal the
residences of the chaplain, assistant surgeons, the surveyor of lands, the deputy commissary, the superintendent of convicts, and the storekeeper, information not available from historical documentation.

There is ample historical evidence for the shortage of certain items in the early colony, including iron pots, steel mills, grindstones, and agricultural tools (28). In 1792 George Thompson recorded the living conditions of the convicts:

"At night they are placed in a hut, perhaps fourteen, sixteen, or eighteen together (with one woman, whose duty is to keep it clean and provide victuals for the men while at work), without the comfort of either beds or blankets, unless they take them from the ship they come out in, or are rich enough to purchase these when they come on shore. They have neither bowl, plate, spoon, or knife but what they make of the green wood of this country, only one small iron pot being allowed to dress their poor allowance of meat, rice, etc.;" (29).

The excavation of a single convict hut in Parramatta has raised some important questions relating to the penal occupation of the town, and in general the conditions existing in the early colony. The excavation of other sites associated with the convict establishment would certainly provide a great amount of new information.

3.1.6 From convict occupation to free enterprise, 1796 to 1823

In contrast to Building 1, Phase 1, the artifacts associated with Building 1, Phase 2, and Building 2 were more numerous and of a greater variety. Historical documentation indicates that the allotment was occupied by free persons before 1800 (30). They are identified as William Evans, an emancipated convict and his wife, Elizabeth Dougal or McDougal (31). The greater abundance and variety of artifacts is therefore to be expected.

In both the modern situation and in the archaeological context it is obvious that social and economic position relate closely to the range, quality and quantity of objects available to the individual or group. The relationship between artifacts and structures on the one hand and social and economic standing on the other becomes very complex and must rely upon comparative evidence derived from excavations.
In the case of the convict hut, it is surprising that the same structure, although largely rebuilt and with extended facilities, was occupied first by convicts and afterwards by free persons. The expectation whereby persons of high social and economic position occupy or build larger and more expensive structures is not satisfied. There are several factors which could be influencing this situation, for example:

1. the status of an emancipated convict may not at this time have been significantly different from the convict.
2. the insecurity of land tenure may not have encouraged capital investment in the property.
3. the pioneering stage of the settlement may not have encouraged improvements to living conditions.

The second factor may be translated into an hypothesis that can be tested archaeologically. Until 1823 no lease was issued which could be converted into freehold title. The expectation is that inexpensive and impermanent private buildings would have been erected prior to this date. Any exceptions to this rule would repay further investigation. John Oxley, the surveyor general, indicates in the following quotation that investment must have occurred in insecure title prior to 1823:

"His Excellency will not fail to perceive that out of 390 allotments not more than 10 hold their lands by lease from the Crown, and that 6 other persons hold grants or are entitled thereto in consequence of the value of the Buildings they have erected on the Grounds" (32).

The distribution of these sites indicating investment in insecure title, together with the small number of town grants issued prior to and during 1823 may indicate that the expenditure of wealth is associated with the centre of town development.

The question of permissive occupancy is an issue which may also be addressed by historical research and archaeological investigation. Historically the problem is associated with Governor Macquarie between 1810 and 1821, while it was solved by Governor Brisbane in 1823. The extent and duration of permissive occupancy may be defined by the archaeological excavation of those allotments for which there is no evidence of a registered lease, to assess the extent and date of early occupation.

Both historical research and historical documentation reveal some of the occupations based upon the town allotments. In the case of the 1985 excavation, Building 2
could not be easily interpreted. It was either a roofed structure, or an open yard or stockyard (33). The suggestion of horticultural or agricultural usage is confirmed by the many advertisements for the sale of registered leases in the Sydney Gazette, for example on 15 May 1808:

"To be let, for the term of one year, that pleasant, beautiful and truly desirable Cottage, belonging to James Williamson, Esq. situate in the Township of Parramatta, together with the Out-houses, Stable, and a very extensive Garden, in a high state of cultivation, with a fish pond, and plenty of manure to keep the grounds in a fertile state: the whole premises commanding the most picturesque and delightful view of the River, and of the surrounding hills; and from its contiguity to the Public Wharf, with every other conveniency, must be considered the most eligible situation in the colony....." (34).

These advertisements and public notices reveal that large numbers of stock were kept on the allotments in the town. One public notice, dated 28 September 1811, and re-issued the next month on 5 October, prohibited the grazing of pigs and goats in the street, and ordered their confinement to their owners premises, except when taken to the Common, where they should be ringed and yoked (35).

Other advertisements indicate the presence of licensed houses, bakeries, windmills, and other premises associated with the town, and are an invaluable resource for researching the nature of town development.

The excavation of Buildings 1 and 2 also provided other information on the way of life within New South Wales. Many fragments of earthenware pottery, most unglazed but a few with a yellow or green lead glaze, are examples of the first pottery manufactured in the colony from the 1790s onwards. Until recently the pottery was known from historical documentation alone, but the discovery of the numerous sherds will enable the beginnings of this industry to be studied in detail, including production methods, marketing patterns, and usage. The slow development of the pottery industry is the story of the early colony in microcosm, the problems of unskilled labour, the poor quality and scarcity of materials and glazes (36).
The Future of Parramatta’s Past

Figure 9. A group of objects recovered from Building 2, erected beside George Street, Parramatta by c.1800, and excavated in 1985. A small glass beaker which has been repaired with copper wire indicates the value of the object to its owner, or the difficulty of obtaining a replacement. The Chinese porcelain bowl with an oriental design upon it indicates the complexity of trade patterns with New South Wales in the late eighteenth and early nineteenth centuries. The unglazed earthenware cup is locally manufactured in New South Wales. It is an “apprentice piece” made by an unskilled potter since the handle is unevenly joined to the body, and the vessel has a very thick base. Glazes had to be imported at this time, and were consequently in short supply. This unglazed piece reflects that scarcity, and also meant that the earthenware remained porous. (E. Higginbotham).

3.1.7 The development of the town by free persons, 1823 onwards

Prior to the 1820s the historical evidence for the development of Parramatta, and for New South Wales in general, is limited to a small number of sources. With the expansion of the colony in the 1820s the information becomes more diversified, more revealing and detailed, but also more time consuming to research. While it has been possible to give an historical overview from 1788 to 1823, beyond this period the complexity of the society prohibits similar treatment without extensive initial research. Indeed both historians and archaeologists need to do this basic groundwork before the relevant research themes can be fully recognised.

In general the greater quantity of historical evidence available after 1823 tends to reduce the need to resort to archaeological excavation. In specific terms, however, it is necessary to thoroughly research the sequence of development upon each
allotment so that the need for archaeological investigation can be assessed in each case. This is so not only for public buildings, but also for the mass of town allotments leased or granted to individuals. These individuals where known should be thoroughly studied so that the usage or the allotment is clarified, whether it is an industrial site, domestic premises, owner occupied or tenanted.

There is a great potential for increasing our understanding of the historical development of Parramatta from 1788 onwards by the joint use of historical research and archaeological investigation. Many of the relevant research themes have been addressed, and the mass of information resulting from a single excavation discussed. How much greater will be the information available and the increase in knowledge derived from other excavations, if they are allowed to proceed!

Notes

1. Anon c.1792; Evans c.1804; Stewart, 1823; Johnstone, 1836; Brownrigg, 1844.
2. Census. 1841.
5. Parramatta Central. Inventory no. 95.
8. op. cit: 560.
11. HRNSW. Vol. 5: 294.
15. HRNSW. Vol. 3: 670, 753.
17. loc. cit; HRNSW. Vol. 1. Pt. 2.:470.
20. op. cit: 560.
21. loc. cit.
27. op cit: table 1.
30. Evans, c.1804; LTO. Book 3C. No. 44.
32. Oxley to Goulburn, 5 April 1823.
34. S.G., 15 May 1808.
35. ibid, 28 September, 5 October 1811.
4 THE FUTURE OF PARRAMATTA'S PAST

4.1 The Importance of Parramatta

For many reasons Parramatta is very important as an archaeological resource. It may contribute to research both within Australia and also overseas.

The early settlement of New South Wales was a unique experiment in the British Empire, a colony founded mainly for the purpose of ridding the mother country of its convicts. (This interpretation of the reasons for colonisation has formed the heart of a heated debate among historians for many years. It is not intended to review these arguments here, other than to indicate the likelihood that several factors may have resulted in the decision to colonise, the most obvious result being the settlement of convicts in New South Wales).

Sydney and Parramatta, the former founded as a town in 1788, the latter as an agricultural settlement in the same year, are the only two sites in Australia which record the processes of urban development from the 1790s onwards.

While Sydney has undergone redevelopment in the Victorian and modern periods on a massive scale, Parramatta, though experiencing similar development trends, was never so extensively transformed. The result in archaeological terms is the better survival of the archaeological resource in Parramatta.

Parramatta is unique in Australian towns and cities in having a series of maps, which locate all the buildings within the town, from the earliest date onwards. These include maps dated to c.1792, c.1804, 1823, 1836, 1844, 1858 and 1895. Sydney does not have such an extensive sequence. Without these maps the location of archaeological sites would be extremely difficult.

These factors all contribute towards making Parramatta a focus of historical and archaeological studies of urban development, and the convict system in Australia. The present increase in the pace of redevelopment has made the need to conserve archaeological sites in Parramatta all the more urgent.
4.2 Urban archaeology in New South Wales; the relationship of the archaeologist to the developer

Urban archaeology in New South Wales is a recent phenomenon. The following outline deals only with those sites which have played a role in the development of planning and other procedures which are now accepted as general practice by developers, archaeologists and the authorities.

The excavations of Hyde Park Barracks and the Royal Mint on Macquarie Street, Sydney, funded by the State Government in 1980 and 1981, was the first to draw historical archaeology to the attention of the general public. The objects recovered from the excavation, and the structures recorded and planned form the basis of a museum display in the same buildings. Unfortunately the failure of the government to recognise the archaeological potential of the site in sufficient time to allow for full archaeological investigation prior to development, proved a costly mistake.

The lessons of this and other urban excavations were quickly learnt by both the private and public sector. To avoid costly overruns and delays, developers now sought to evaluate the need for historical and archaeological investigation well before the commencement of construction. This change was brought about by the planning legislation enacted to protect our cultural heritage, namely the Heritage Act, 1977, and the Environmental Planning and Assessment Act, 1980. For sites belonging to the Commonwealth similar legislation was passed in 1975, namely the Australian Heritage Commission Act.

As early as 1981 the Government Insurance Office of New South Wales, sought to have the archaeological sites on their proposed development assessed and tested prior to construction. This exercise resulted in the excavation and permanent display of the brick barrel drain, constructed between 1822 and 1828, on the site of the Ferguson Centre in George Street, Parramatta (1).

This procedure was further streamlined upon such sites as the Joint Coal Board site in Pitt Street, Sydney, and the Gateway Plaza site in Macquarie Place. A report assessing the historical development and archaeological potential of each site was submitted to the Heritage Council of New South Wales as part of an application for an excavation permit, according to the Heritage Act, 1977 (2). Once a permit had been granted, the second stage of the archaeological investigation could proceed,
either an excavation prior to development, or a watching brief during bulk excavation.

This procedure has now been generally adopted, and has been completed successfully on a number of sites including the Commonwealth Office Block and Law Courts, George and Macquarie Streets, Parramatta, and also on the Anthony Hordern Site or World Square, George Street, Sydney (3).

Naturally, developers have been anxious to minimise the costs of historical and archaeological investigations, while accepting their responsibilities under the current planning and heritage legislation. These objectives have been realised by allowing sufficient time before the commencement of development for both the first stage report on historical and archaeological assessment, and the second stage archaeological excavation, where it is recommended. Where only a watching brief is recommended, developers have found that costs can be reduced by issuing two contracts for bulk excavation. For example, this procedure was adopted by the Department of Administrative Services at Parramatta. It involved letting one contract for the removal of the upper layers of fill to a specified depth, and allowed for delays caused by the discovery of archaeological relics. The authority for the archaeologist to stop work for specified periods depending on the discovery of archaeological relics was a condition written into the building's approval. This first contract removed all the layers that might contain archaeological relics, thus restricting any stop-work clauses to this first stage of the work. A second contract for the bulk excavation of geological deposits (rock, or undisturbed subsoil) was then let by the Department, in the knowledge that work would not be held up for archaeological purposes. Using this two contract, bulk excavation method, the Department of Administrative Services conveniently restricted delays to the first, and smaller contract, thereby minimising any extra costs. Alternatively other developers have been keen to recommend archaeological excavation as a less costly alternative to delays during bulk excavation.

The procedure generally adopted for the archaeological investigation of development sites may be summarised as follows:

**Prior to development**

First stage report on the historical development and archaeological potential of the site.
Application for an excavation permit from the Heritage Council of New South Wales.

Second stage excavation, if recommended.

**During bulk excavation**

Second stage watching brief, if recommended, leading to the completion of the on-site archaeological component.

**Off-site**

Conservation and analysis of objects found during excavation.

Preparation of the archaeological report on stage two for publication.

4.2.1 The conservation of archaeological sites

Two important factors ultimately resulted in the proposal for an archaeological zoning plan for Parramatta. The first was the rapidly increasing threat to the archaeological resource caused by the pace of redevelopment since the 1960s. The second was the fact that only a small portion of the total number of archaeological sites in Parramatta was receiving sufficient archaeological assessment, while the majority remained unrecognised.

The objective of this archaeological zoning plan is firstly, to locate all relevant archaeological sites, so that the real impact of development upon them can be assessed, and secondly to assess their relative importance so that each can receive appropriate attention. It is intended to create a balance between the needs of development and archaeology, so that one does not proceed at the expense of the other.

To achieve these objectives it is necessary for the archaeological zoning plan to be incorporated into the planning framework, principally at the level of the Local Environment Plan, but including specific clauses or provisions relating to archaeological sites.
4.2.2 Categories of archaeological sites

This study has identified a large number of archaeological sites, the majority of which consist only of underground archaeological remains. Two other categories were also perceived, namely a small number of standing buildings and other structures, erected prior to 1844, and a group of archaeological sites which may be well preserved below ground.

Those sites which consist solely of underground archaeological remains vary in importance. While all these sites should be investigated prior to redevelopment, a small number of more important sites may require conservation in situ, based on such factors as their survival and present condition, archaeological potential and cultural significance.

Approximately 50 standing structures or buildings, erected prior to 1844, were described in the inventory. In chapter 3 it was calculated that this represented only 3.5 per cent of the buildings in Parramatta in 1841. This is a very small surviving sample and should therefore be a priority for conservation. While acknowledging that structures of a similar type and date may survive in other historic towns, it is their association with Parramatta as an important archaeological resource, which increases their cultural significance. Each site requires a conservation plan and should be considered for statutory protection under the provisions of the Heritage Act, 1977. Historic cemeteries have been included in this category, and each should be treated in the same fashion as standing buildings.

The group of archaeological sites in Parramatta Park were given special emphasis in the inventory. As the Government Domain at Parramatta, this area has been free from the redevelopment experienced by the rest of the town. In the section of the Park near O'Connell Street are a number of former town allotments which have not been redeveloped since 1815. As a result Parramatta Park contains a number of very well preserved archaeological sites, but in addition to this it also includes many sites which are more important because of their rarity, date or function.

Since these archaeological sites have not received full consideration in previous studies of Parramatta Park, they should now be reassessed and included in the conservation plan for the Park with appropriate recommendations for their conservation. Indeed many of the sites are of such value, having cultural
significance, not only on a national, but international basis, as to warrant full protection under the provisions of the Heritage Act, 1977.

4.2.3 Establishment of an archaeological unit

If the archaeological sites identified in this study are incorporated into the existing planning framework, then this archaeological zoning plan will have achieved two of its objectives, namely, the recognition of archaeological sites in Parramatta, and a balance between the needs of development and archaeology.

A third and more important objective is the appropriation of sufficient funding to cope with the amount of archaeological investigation which will result from the rapid pace of development. At present the low frequency of archaeological investigations is adequately managed by consultants in historical archaeology on projects funded totally by developers. The recommendations of this study, if they result in a higher frequency of investigations, will necessitate the adoption of other measures. In other countries, including the United Kingdom, Europe, and the United States, the problems of the conservation of archaeological sites in urban areas have been addressed and solved by the establishment of archaeological units. Similar arrangements were adopted at Port Arthur, in Tasmania between 1980 and 1986. In the case of Parramatta an archaeological unit would have several advantages. It would allow a consistent research approach to be adopted, and obviate the repetition of historical research, which would occur where a number of bodies was involved. While local or state government could be involved in establishment costs and the provision of office, storage and other facilities, the main body of funding would still be provided by the developer, sufficient to establish the unit as an independent organisation. In all cases the funding available to the unit would relate directly to the extent of development. Likewise the basic staff complement of the unit would increase or decrease according to demand.

Notes

3. Higginbotham, 1985b and c.
5 RECOMMENDATIONS

The main conservation issues relating to the archaeological zoning plan have been fully discussed above. The recommendations arising from them are summarised below:

5.1 General recommendations

It is recommended that:

1. All archaeological sites mentioned in this survey should be incorporated into the Local Environment Plan for Parramatta, including appropriate clauses and conditions for the conservation (section 4.4.1).

2. All other items of cultural significance in Parramatta should be researched, located and assessed by means of a heritage study. This should include all archaeological sites outside the scope of this report (section 1.3).

3. The establishment of an archaeological excavation unit based in Parramatta should be considered (section 4.4.3).

5.2 Archaeological zoning plan: recommendations for archaeological sites, groups 1 to 4

The archaeological sites identified by this study in Parramatta have been divided into 4 categories (section 4.4.2). The category to which each site belongs is indicated on the plans accompanying this report, namely, Base Map and Inventory of Sites (IC and IN). The same information is recorded for each site in the inventory under the heading of archaeological zoning.

The four categories are summarised below with appropriate recommendations:

Group 1
Underground archaeological remains.
Each site should be subject to archaeological investigation prior to development.

Once the archaeological investigation is completed, there may be a requirement for archaeological remains to be conserved in situ, either completely or in part. This requirement will be based on the following factors, namely, their survival and present condition, archaeological potential and cultural significance.

**Group 2**

Underground archaeological remains.

Each site should be subject to archaeological investigation prior to development.

On the evidence at present available, there may be a requirement for archaeological remains to be conserved in situ, either completely or in part. This requirement will be based on the following factors, namely, their survival and present condition, archaeological potential and cultural significance.

**Group 3**

Standing structures and buildings, erected prior to 1844, also including cemeteries.

A conservation plan should be prepared for each site and consideration given to statutory protection under the Heritage Act, 1977. The plan should address the whole site including the standing buildings and underground archaeological remains.

**Group 4**

Archaeological sites within Parramatta Park.

These sites should be assessed and included in the conservation plan for Parramatta Park with appropriate recommendations for their conservation. Consideration should be given to statutory protection under the Heritage Act, 1977.
5.3 **Recommendations for procedures to be adopted by developers**

When those sites in groups 1 and 2 above are subject to redevelopment, then the following procedures should be adopted (section 4.3):

**Prior to development**

First stage report on the historical development and archaeological potential of the site.

Application for an excavation permit from the Heritage Council of New South Wales.

Second stage excavation, if recommended.

**During bulk excavation**

Second stage watching brief, if recommended, leading to the completion of the on-site archaeological component.

**Off-site**

Conservation and analysis of objects found during excavation.

Preparation of the archaeological report on stage two for publication.

Those involved in development on archaeological sites should be aware that archaeological investigations vary in their duration. They should therefore commence this work early to avoid any delays in construction.

Archaeological sites in groups 3 and 4 require the preparation of conservation plans according to ICOMOS guidelines (1).

**Notes**

**APPENDIX 1: THE MAPS AND THEIR PRESENTATION**

**Base Map and Inventory of Sites (1C and 1N)**

The Department of Lands map of Parramatta formed the basis for the preparation of the Base Maps for Central and North Parramatta\(^1\). This town map is drawn to a scale of 4 chains to 1 inch (1:3168). It was decided to reproduce all of the period maps to this scale and on A1 format for convenience of tracing and assembly. This map was considered more reliable in its detail on allotments because it pre-dated much of the substantial redevelopment that has occurred in Parramatta. More recent maps were difficult to use because of the amount of alteration that had been made to show new amalgamations, developments and road re-alignments. Also the newer maps were either of too large a scale or were not drawn accurately enough to permit proper linkage and alignment.

Ammonia prints of both sheets of the town map were purchased then kept in the drafting environment for several days to ensure stability and consistency. The key street alignments from each sheet were traced in pencil on to plastic film within several hours of each other and the printed sheets were not removed from the drafting environment until inking was almost completed. No differences between the prints and the tracings were apparent during this time or for the following weeks while the other maps were being prepared.

The Base Maps were closely compared with and updated from two other maps series, the one published by Cumberland County Council and Parramatta City Council at 1:2000, and the other by the Central Mapping Authority at 1:1000, and 1:2000 respectively\(^2\).

The status of each town allotment was recorded by site survey. Notes on the methodology of the site survey will be found below in Appendix 3. Those sites destroyed by development are blacked out. The remaining town allotments form the basis for the inventory of sites. The inventory numbers are divided into three sequences for Parramatta Park, Parramatta North, and Parramatta Central. The archaeological sites are themselves divided into four groups (section 4.4.2 and 5.3 and volume 2, section 1.4).
c.1792 Map (2C)

This map is developed from a pencil tracing on plastic film of an original in the Public Record Office, London, made in December 1986 and from detailed studies of this and other maps undertaken to 1985(3). The original is titled "Town of Parramatta" but is undated except for a pencil notation on back which reads "Parramatta Case 42 No. 25 (1792?)". The PRO catalogue entry reads "Plan of the Town of Parramatta in New South Wales. MS. 225 feet to 1 inch (Sydney 1792?)". The scale of the original is actually 250 feet to 1 inch (4 inches equals 1000 feet) and is drawn in red ink on watermarked paper except for the dotted lines and scale bar which are black and the river boundaries in a light grey wash.

The tracing of this map was enlarged from 1:4000 to 1:3168, a factor of 1.263, on opaque paper by xerographic means as a single step process and traced immediately onto film to minimise paper distortion.

c.1804 Map (3C and 2N)

This map is also developed from a pencil tracing on plastic film of an original in the Public Records Office, London, made in December 1986. The original is titled "Plan of the Township of Parramatta" by "G.W. Evans Actg Surveyor" with a date "about 1813" and the catalogue entry states the scale as "800 feet to 1 inch"(4). The scale of the original is actually 12 chains to 1 inch (792 feet to 1 inch) and is drawn in black ink on cartridge paper with a list of references showing names against leases numbered 1 to 38. The numbered allotments and the streets (some the reservation and some the carriageway only) are rendered in grey in the town with the buildings in dark grey and black and the river in blue. There are pin pricks at all line intersections and along the river boundary.

The tracing of this map was enlarged from 1:9504 to 1:3168, a factor of 3, on opaque paper by xerographic means and likewise traced immediately onto film to minimise paper distortion. Such an enlargement factor required several steps in the xerographic process with some inevitable linear distortion but this was not considered serious after careful comparison with the original. The greatest distortion has occurred in the sizes of the buildings themselves which were almost impossible to trace with high precision from the original because of scale. The multiple enlargements tended to
'fuse' the building outlines in many cases because of the medium resolution and contrast increase at each stage of the process so an averaging of line thickness and position was adopted in tracing them, always comparing with the original tracing when in doubt.

Historical research has allowed the provisional date of c.1813 to be corrected to c.1804(5).

**1823 Map (4C and 3N)**

This map is titled "Plan of the Township of Parramatta". The map is dated "1823" and was "Drawn by G.C. Stewart" and there is a pencil notation "P1 1022" in the lower right-hand corner indicating its origin in the Department of Lands(6). The map is slightly torn in two places and there are two torn folds at third points but none of these have caused major misalignment.

A reader printer copy of the map was obtained from the Authority and, after careful measurement and comparison with the original and the cadastrals for best fit, was enlarged by a factor of 2 on opaque paper by xerographic means then traced immediately onto film to minimise distortion. As with the c.1804 map there was some fusing of building outlines so the same averaging procedure was adopted in tracing them.

**1844 Map (5C and 4N)**

This map is titled "Plan of the Town of Parramatta and the adjacent properties". It is dated "1844" and was drawn by "William Meadows Brownrigg"(7). Negatives of overlapping parts of the map were obtained from which 500 mm x 400 mm bromide prints were produced. Attempts to reassemble the whole map from xerographic enlargements of the bromides were unsuccessful because of distortions inherent in the multiple photographic processes involved, especially at the fringes of the negatives and prints. As the map was to all intents the same as the Department of Lands town map described above and because of the distortion of the bromides it was decided to transfer allotment and building information to tracings of the base maps on a section by section basis with adjustments being made to street alignments where there were
obvious differences. To this extent the 1844 map is a composite, the accuracy of which is the best that could be obtained under the circumstances.

Notes
4. Evans (c.1804).
APPENDIX 2: THE HISTORIC MAPS OF PARRAMATTA AND THEIR ACCURACY

Apart from the problems of presenting the historic maps used in this report, the original maps also suffer from paper distortion and inaccuracies in survey. To a large extent these factors may be corrected by comparison with the remaining maps used.

c.1792 Map (2C)

When compared with the c.1804 Map (3C), the c.1792 Map exhibits certain inaccuracies.

1. The size of the Lumber Yard and its buildings may be incorrect. (Parramatta Park. Inventory No. 5).

2. The position and size of the Barracks and Store and their respective buildings may be incorrect. (Parramatta Central. Inventory Nos. 62 and 61 respectively).

3. The incorrect position of the Barracks and Store and related boundaries may result from the incorrect and shorter measurement of the length of George Street from Church Street.

4. The allotments and buildings on the south side of George Street to the east of Church Street may be incorrect and wider than was actually the case. Note that the allotment boundaries on the north side of George Street do not correspond with those on the south side of the street.

The actual position of the allotments and huts at the eastern end of George Street needs to be tested archaeologically. The positions of Pitt and Church Street at George Street, and the alignment of George Street at its western end, together with the allotments and huts, were confirmed by archaeological excavation in 1985(1).

c.1804 Map (3C and 2N)

When compared with the other historical maps used in this report, the c.1804 Map exhibits several inaccuracies:
1. The surveyor, George William Evans, obviously found difficulty in correctly measuring the distance across Parramatta River. The allotments and Gaol on the north bank are too close to the River. The position of the Gaol can be compared with the 1823 Map (Parramatta North, Inventory No. 89), and can be corrected by adjusting the c.1804 Map to fit.

2. The Parramatta River above the Water Mill (Parramatta Park, Inventory No. 28) has been incorrectly surveyed causing it to be rotated in a clockwise or easterly direction by approximately 10 degrees. This can be corrected with reference to the 1844 Map.

3. The allotments behind and to the north of those fronting George Street may be inaccurately positioned. There is little or no correspondence with the 1823 Map, although the alignment of Phillip Street in the intervening period may have caused the resurvey of allotments.

4. To the west of Church Street and north of George Street the allotments may have been widened, thus causing Parramatta River to be displaced at this point. The allotment size may be corrected with reference to the 1823 Map.

1823 Map (4C and 3N)

When compared with the 1844 Map and the Department of Lands town plan (2), the 1823 Map exhibits several inaccuracies:

1. All blocks or sections within the town require slight adjustment to fit the more recent maps. The maps produced by the Central Mapping Authority indicate that the 1823 allotment boundaries should fit within the modern section boundaries(3). The most obvious inaccuracy is in the size of the Section 18, bounded by George, Charles, Macquarie and Harris Streets, which has resulted in the displacement of Harris Street and the properties further to the east.

2. Again the surveyor, G.C. Stewart, found difficulty in measuring across the Parramatta River, with the result that all that part of the map of North Parramatta is rotated slightly out of its true alignment.
1844 Map (5C and 4N)

Due to difficulties associated with the presentation of this map, the detail of the 1844 map was transferred onto a copy of the Department of Lands town map(4). Only one significant difference with the other maps in the series deserves mention:

1. The width and alignment of Church Street in North Parramatta differs from other maps. This is caused by the later widening of Church Street from Parramatta River to the Windsor Road. It was widened on its west side up to Pennant Hills Road, thus removing the sites of several buildings, while from thence to the Windsor Road it was widened on its east side.

The alignment of George Street

The alignment of George Street is crucial to the correct positioning of all maps in the historic series. Both the c.1792 and c.1804 Maps indicate the original 205 feet width and alignment of George, Church, Macquarie and Pitt Streets. The 1823 Map indicates the first departures from the original street widths and alignments. For example, the carriageway at the east end of George Street takes a more southerly alignment which is confirmed by the 1844 and later maps.

While the registration marks are a guide to the correct positioning of each map, the most accurate correlation between the original and modern street layout may be obtained by overlaying the maps in reverse chronological order. The 1823 Map accurately fits over the 1844 Map, but to correctly position the c.1804 Map requires reference to the position of buildings and the building line, before fine adjustment with the street alignments. The c.1792 Map will then fit directly over the c.1804 Map. By this method it will be found that the registration marks on the c.1804 and 1823 Maps do not accurately coincide.

In addition to this technique, the original alignment of George Street can be confirmed by archaeological excavation. The excavations in 1985 precisely located the allotments, buildings and streets at the western end of George Street(5). The same information is required for the eastern end of George Street.
The position of buildings

Various points require consideration when attempting to use these historic maps to locate buildings on particular town allotments.

1. The methods used to present the historic maps at a uniform scale required in some case extreme enlargement of tracings, reader printers, or photographs of the originals. The exact size and position of each building may have been slightly changed by this process. When attempting to locate buildings from these maps onto large scale allotment plans, reference should be made to the original maps and measurement taken from them.

2. It is possible that only the allotment boundaries were accurately surveyed, and that the buildings were sketched in.

3. It is possible that only the principal buildings or structures on each allotment were planned. This hypothesis is supported by the 1985 excavation of two structures on George Street, only one of which appears on the c.1792 or c.1804 Maps(6). The various advertisements in the Sydney Gazette also confirm this hypothesis by describing, sometimes in great detail, the structures, layout and condition of allotments. The historical archaeologist should research all available historical documentation to obtain an accurate description of each allotment.

Notes

6. ibid.
APPENDIX 3. THE METHODOLOGY OF THE SITE SURVEY

The site survey of each town allotment in Parramatta was completed in April and May 1987. The purpose of the survey was to rapidly assess the extent to which archaeological sites might survive.

The 1985 excavation of an early timber building in Parramatta demonstrated that most of the remaining archaeological deposits were cut into subsoil, whereas topsoil had been thoroughly disturbed(1). The survey therefore concentrated upon recognising those properties upon which at least subsoil archaeological deposits might remain intact. The site survey further sought to eliminate from further research those sites, which had been destroyed, thereby rendering the extent of the study more manageable.

Each property was placed in one of five categories. These are defined below:

A. Archaeological deposits likely to survive undisturbed. Town allotments on which no development had subsequently taken place (for example in Parramatta Park) or where minimal disturbance was expected (for example, gardens and yards).

B. Archaeological deposits likely to survive but possibly with some disturbance. The typical property placed in this group was an older style single or two storey brick or weatherboard house or building surrounded by a garden or yard on a level block.

C. Archaeological deposits likely to survive but with disturbance. The typical property placed in this group was an older style brick building with wooden floors or concrete slab, and covering most of the allotment or subdivision, on a level block. Some modern buildings using concrete slab and concrete pile construction could be included in this category if they were on a level block.

D. Archaeological deposits likely to be heavily disturbed, and mostly destroyed. Because of the extent to which heavy machinery is used in modern construction, many modern buildings could be placed in this category.
E. Archaeological deposits destroyed. All buildings with cellars and subterranean car-parking were placed in this category. In addition other buildings erected on a hill slope, and indicating levelling or terracing prior to development were included here.

Due to the extent of the site survey only a small amount of time could be directed to each site. No further research was undertaken to determine whether previous buildings might have destroyed earlier archaeological remains. To obtain more detail not only is it necessary to research the building sequence on each site, but also to examine the results of geotechnical surveys which are usually undertaken to determine the foundation stability of new developments.

Only those properties grouped in categories A to C were considered worthy of further research in this study. Categories D and E were denoted as being destroyed. Only the deeper archaeological deposits (for example, wells and quarries) may survive on the latter sites.

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