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PĀKEHĀ CERAMICS AS DATING TOOLS

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Ceramics are one of the most useful sources of information in historical archaeology, especially when it comes to dating activity at a site. Despite this, they have been somewhat neglected within the field in New Zealand. The gaps in our knowledge of the history of many 'Pākehā' period (1792-1860; Smith 2008) sites around the country could be at least partly filled by a thorough analysis of the ceramic material. It would be of great use to future archaeological research to have a comprehensive model of the typical components of an early 19th century ceramic assemblage as exists in other colonial countries such as the USA (e.g. Samford 1997).

Ceramics have a long history as dating evidence, ever since Flinders Petrie used seriation of pottery styles to create a culture sequence for Egypt in the late 1800s (Petrie 1899). They lend themselves readily to this purpose because of their ability to withstand most taphonomic processes relatively well and their sheer abundance in the archaeological record all over the world (Brooks 2005: 1). Historic ceramics are even more useful thanks to the registration systems and maker's marks introduced as part of the mass production process. In New Zealand, however, they do not seem to have been given the amount of attention they deserve as a source of information. This is partly due to the current historical archaeology landscape and the main focus of contemporary archaeological research. While archaeology focusing on the historic period has been steadily increasing over the past couples of decades in New Zealand, the majority has been in the realm of salvage archaeology and heritage management. In the period between 1990 and 2004 only 20 per cent of historic excavations were undertaken primarily for research purposes (Smith 2004: 252). As a result of this, a lot of material on historic ceramics is reported only in unpublished site reports. The aim of most of these reports, however, is to give a broad outline of the site as a whole so the ceramic material is often only commented on briefly.

There are some ceramic attributes which are more useful for dating purposes than others. The most useful characteristics are undoubtedly back

marks, whether they are registration marks or the stamp of the pottery which manufactured the piece in question. Whole volumes have been dedicated to these marks as they are very well recorded and allow an accurate date to be assigned to a vessel (e.g. Godden 1991, Kowalsky and Kowalsky 1999). However, the often fragmentary nature of archaeological ceramics means that these marks are often only partly present, if there at all. This means other aspects of the ceramics must be relied upon. Luckily, ceramics tend to follow fashions in society quite closely and styles rise and fall in popularity reasonably quickly. This is most strikingly apparent in the transfer printed patterns and motifs (e.g. Coysh 1974, Coysh and Henrywood 1982, Samford 1997) and to a lesser degree in attributes such as vessel form (e.g. Miller 1983). These characteristics form the basis of this paper.

Because of New Zealand's colonial past it can be closely compared to other nations, such as the United States of America and Australia. This is especially useful when analysing historic ceramic assemblages from these places as most of the pieces will have originated from the Staffordshire region in England, which was a major hub for ceramic production during the 19th century (Brighton and Levon-White 2006: 111). For this reason it is possible to use similar research done on ceramics from these countries, such as Samford's 1997 work on North American transfer printed ware, Stelle's 2001 webpage about various North American ceramic characteristics, Brook's very useful 2005 guide to Australian historical ceramics and Erskine's 2003 book on the ceramics housed within the Kingston Museum on Norfolk Island, to get an idea of which attributes discussed in the more general literature sources might be present in New Zealand contexts.

The 'Pākehā' period (1792-1860)

Smith's (2008) Pākehā period (1792-1860) is of great importance to New Zealand history for a number of reasons. During this time New Zealand society was going through some huge and rapid changes. Europeans, who had previously only visited the area briefly, were beginning to settle here permanently and brought with them a completely different way of life to that of the local Māori population. They introduced a new range of material culture items, including glass, metal and ceramic objects, which from this point on begin to appear in the archaeological record (Smith 2008: 370). Most early settlers were involved in the sealing and whaling industries and often lived in close proximity to Māori communities, relying on them for food, protection and often women (Smith 2008: 371). The first residential settlement set up by Europeans was a mission station at Oihi in the Bay of Islands in 1814 and this was to mark the beginning of a new era in New Zealand history, although the spread of this type of

settlement around the country was relatively slow and formal towns were not established until the 1840s (Smith 2008: 371). Sites corresponding to this period often display both Māori and European characteristics which is evidence of the “cultural, social and economic entanglement” that was developing between these two groups (Smith 2008: 372). The end of this period also saw the end of the sealing and whaling industries which were to be replaced with farming (Smith 2008: 374). The foundations of the modern New Zealand identity can be clearly seen in this period and aspects of our integrated society established at this time are still of great importance to contemporary politics, economics and cultural issues (Smith 2008: 375).

Methods

The data required to form the model was extracted from a range of early historic period New Zealand sites. Only sites where it was felt that at least some of the ceramics were from a secure pre-1860 context were used. In several cases, such as when occupation at the site extended beyond 1860 or when it was obvious there had been considerable disturbance to the material, this meant only using part of the overall assemblage. Five such ceramic assemblages were able to be accessed directly and a further 11 were analysed through secondary sources including reports and theses (see Table 1, Figure 1 and Woods 2011 for further details).

Specific ceramic characteristics were targeted during analysis, namely vessel form, ware type and decoration style. For each of the assemblages, these characteristics were described, researched and sorted into three categories: known early, probably early and not useful (‘early’ here referring to pre-1860). The ‘known early’ category contains characteristics with a known production range that ended before the end of the Pākehā period in 1860 while the ‘probably early’ category contains characteristics which were most popular before (and sometimes very shortly after) this date or are somewhat subjective, such as clarity of print on under-glaze transfer printed vessels. Characteristics were placed in the ‘not useful’ category if they were not sufficiently temporally sensitive or had a very broad production range.

The information gathered from these sources was then combined and used to develop a model of chronologically relevant ceramic attributes that could potentially be used to determine whether an assemblage belonged to the Pākehā period.

Site	Date range of occupation	Assemblages used
1. Luncheon Cove	1792-1793	All
2. Facile Harbour	1795-1797	All
3. Russell Police Station	ca. 1820-	All
4. Sealer's Bay (Codfish Island)	1825-1850	All
5. William Cook's ship building site	1826-1833	All
6. William William's house	1826-1856	All
7. Pompallier House	1827-	Pits 2, 3 and 4
8. Te Puna Mission	1828-ca. 1874	All
9. Aldrige/Hung house site	1830s/40s-	All
10. Oashore whaling station	1839-ca. 1855	All
11. Purakau Mission	1839-1917	Chapel and Presbytery assemblages
12. James Callaghan's tannery	ca. 1840-ca. 1869	All
13. Edmonds house	1840s-1890s	All
14. Russell sewerage scheme	ca. 1840-	Test pits 1, 2, 3, 4, 5, 6, 8, 10, 11
15. General Assembly (Auckland)	1854-1918	First Parliament building assemblage
16. Russell Museum	ca. 1864-1900	Selected pieces

Table 1. Ceramic assemblages analysed.

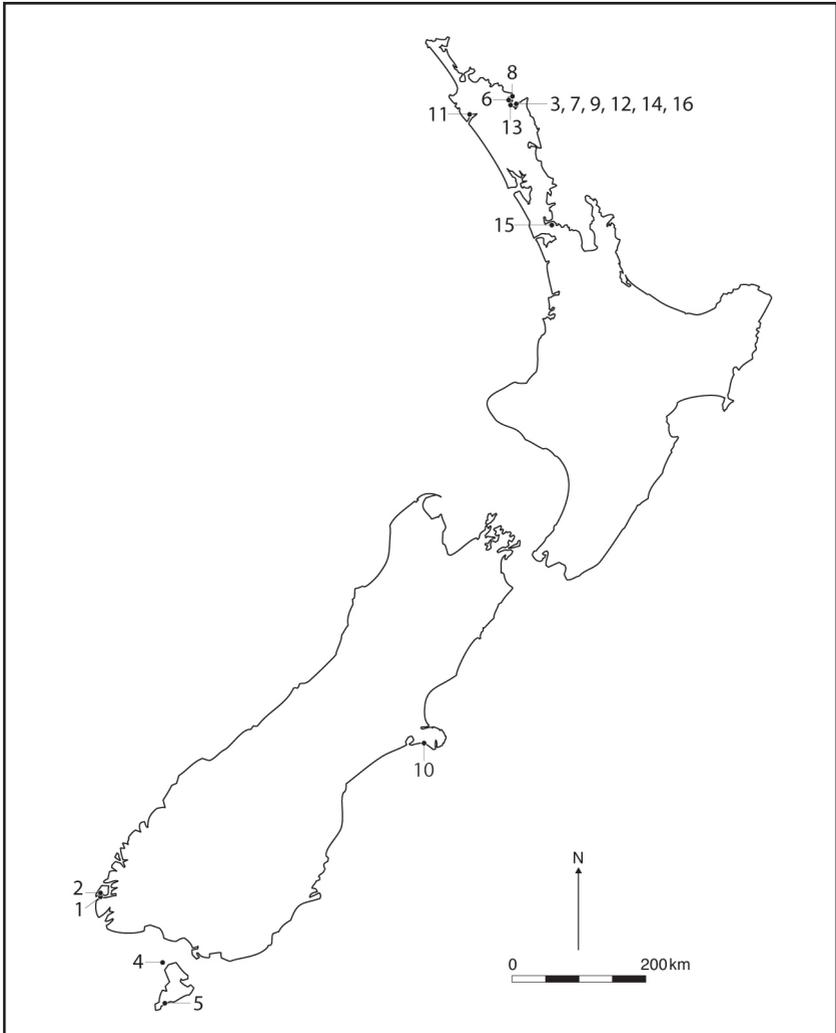


Figure 1. Sites referred to in the text.

Known early characteristics

Ultimately, there was only one type of vessel form which proved useful as a temporal marker. ‘London’ shaped tea cups are characterised by having flared rims and sloped sides which taper inwards and were in vogue at the beginning of the 19th century but were replaced relatively swiftly by straight

sided vessels in the late 1820s (Miller 1983).

A number of wares were able to be used as definite pre-1860 markers (Table 2). Creamware was one of the predecessors of the whiteware which dominates the ceramic market through to today and is identifiable by the cream colour of the body and green tint of the glaze. Crude, unglazed earthenware that was used for the handmade vessels in the very first European sites in the far south of the country has only ever been found in these extremely early contexts.

Ware	Date range	Sources	Identified at
Creamware	ca. 1761-1830	1	Sealer's Bay (Codfish Island)
Tin-glazed earthenware	ca. 1600-1800	1	Luncheon Cove
Coarse, unglazed orange/brown earthenware	ca. 1790-1820	2	Luncheon Cove, Facile Harbour, Sealer's Bay (Codfish Island)
'Canton' ware (Chinese export porcelain)	ca. 1785-1853	3	William Cook's ship building site

Table 2. Known early wares. 1. Brooks 2005; 2. Higginbotham 1987; 3. Madsen and White 2011.

Decoration styles (Table 3) and particular patterns (Table 4) provided the most useful dating evidence (other than maker's marks and date stamps) as fashions were transferred to the ceramic vessels. For example, shell-edged ware was a response to the market demand for Rococo-inspired pieces as this aesthetic took off in fashionable circles (Brighton and Levon White 2006: 119). Transfer print colours other than the timeless blue shades were also produced for rather limited periods, allowing them to be securely dated.

Style	Date range	Sources	Identified at
Shell-edged (scalloped rim, impressed curved lines)	1794-1845 (most popular 1802-1832)	1	Sealer's Bay (Codfish Island), Oashore
Shell-edged (scalloped rim, impressed straight lines)	1795-1840 (most popular 1809-1831)	1	Oashore

Spongeware	Most popular 1830-1860	1	William Wil- liam's house, Russell Museum, Russell Sewer- age Scheme
Hand-painted and UGTP	1840-1860	1	Oashore
Brown UGTP	1818-1869 (most common 1829- 1843)	2	Oashore, Te Puna, General Assembly site, Russell Police station, Rus- sell Sewerage Scheme
Purple UGTP	1814-1867 (most common 1827- 1838)	2	Oashore, General Assem- bly site, Rus- sell Sewerage Scheme
Green UGTP	1818-1859 (most common 1830- 1846)	2	Oashore, Te Puna, General Assembly site, James Calla- ghan's Tannery, Russell Police station, Rus- sell Sewerage Scheme
Black UGTP	1785-1864 (most common 1825- 1838)	2	Te Puna, General Assembly site, James Calla- ghan's Tannery, Russell Sewer- age Scheme
Pastoral UGTP designs	1781-1859 (most common 1819- 1836)	2	Oashore

Table 3. Known early decoration styles. UGTP: under-glaze transfer print. 1. Stelle 2001; 2. Samford 1997.

Pattern	Date range	Sources	Identified at
Muleteer	1815-1830	1	Te Puna

Table 4. Known early UGTP patterns. 1. Kowalsky and Kowalsky 1999.

Probable early characteristics

Some decoration styles and patterns (Tables 5 and 6) were produced for a long period of time but experienced greatest popularity before 1860, such as oriental-inspired transfer prints and various border patterns. These styles can be categorised as early with some confidence, especially if they share a context with pieces displaying characteristics that are definitely early.

Style	Date range	Sources	Identified at
Polychrome hand-painted	Most popular ca. 1830-1860	1	Pompallier House, Aldridge/Hung house site, Russell Police station
Flow Blue	1828-1887 (most common 1839-1863)	2	James Callaghan's Tannery, Russell Sewerage Scheme
Red UGTP	1818-1880 (most common 1829-1842)	2	Oashore, General Assembly site, Russell Sewerage Scheme
Crisp, high quality UGTP prints	ca. 1815-1840	3	Oashore
Oriental design motifs	1783-1873 (most common 1797-1836)	2	Sealer's Bay (Codfish Island), William Cook's shipbuilding site, Oashore
Exotic UGTP themes	1793-1868 (most common 1820-1842)	2	Oashore
Geometric border patterns	Most common 1818-1829	2	Oashore, William William's house
Floral border patterns	Most common 1820-1843	2	Oashore, Te Puna, William William's house

Narrow “earthy” colours on banded wares	Early 19th century	4	Russell Police station
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Table 5. Probable early decoration styles. 1. Stelle 2001; 2. Samford 1997; 3. Erskine 2003; 4. Brighton and Levon White 2006.

Pattern	Date range	Sources	Identified at
Italian	ca. 1800-today (most popular early 19th century)	1	Sealer’s Bay (Codfish Island)
Wild Rose	Most popular ca. 1830-1855	1	Te Puna, General Assembly Site, William William’s house, Russell Sewerage Scheme
Morea	1846-1871	2	James Callaghan’s Tannery, William William’s house
Fibre	Most common in early-mid 19th century sites in New Zealand	3	Oashore, Te Puna, James Callaghan’s Tannery, Edmonds house, Russell Sewerage Scheme
Rhine	Most popular ca. 1831-1851	4	Te Puna, Purakau Mission, Russell Sewerage Scheme
Predominance of Willow	‘early’	5, 6	Oashore, Te Puna, James Calaghan’s Tannery, General Assembly site, William William’s house, Edmonds house, Purakau Mission, Russell Museum, Aldridge/Hung house site

Table 6. Probable early UGTP patterns. 1. Coysh 1974; 2. Coysh and Henrywood 1982; 3. Middleton 2005; 4. Samford 1997; 5. Best 1995; 6. Maingay 2003.

Characteristics which are not useful

While Chinese export porcelain can be used as a temporal marker, British porcelain is not so useful. Too few sherds have been recovered from Pākehā period sites to allow generalisations to be formed. This could be for a number of reasons. Firstly, the type of inhabitants of these sites during that time probably had little use for the delicate tea services and ornamental vessels that are typically made from this material. The whalers, sealers and escaped convicts which made up a large proportion of the European population during this period would probably have had more use for durable, utilitarian vessels, as is apparent from the assemblages described above. It is also possible that the people who did have collections of high quality porcelain vessels, such as missionaries, would have taken great care of these pieces and potentially curated them which prevented these ceramics from entering the archaeological record. This was the case at the mission station at Te Puna (Middleton 2005).

More utilitarian wares and decoration styles, such as most stoneware, annular decorated vessels, yellowware and buff-bodied earthenware, are much more common in early historic sites but are also of little use for dating because they simply do not show enough variation over the period in question. Many of these wares show little variation in style from the early 19th to well into the 20th century (Brooks 2005: 34).

For obvious reasons, undecorated fragments are usually of little use as dating evidence. With most, it is not possible to be sure if they came from a plain vessel or if they are just an undecorated part of a patterned piece. This also makes them particularly troublesome for calculating things such as MNV for an assemblage. For those that come from undecorated vessels there is often not enough clear variation in plain pieces over time to be able to clearly assign a date without relying on association with other, datable artefacts.

Discussion

It is important to clarify that the dates given by these ceramic characteristics are the dates of manufacture and it is probable that most archaeological fragments were broken and subsequently deposited some time after their production. This is especially relevant since they almost exclusively originate from England and would have had to be transported to New Zealand by ship before they could be used here. Macready and Goodwyn (1990: 24) argues that ceramics have an average lifespan of about 10 years between manufacture and deposition; however, this seems to be quite a long life for vessels which would probably have been used almost every day. The rugged environment and people of most Pākehā period sites would also probably have increased the likelihood of a considerably shorter use period before the vessels were broken and disposed

of. Similar sites in Australia have shown that the time lag between production and deposition has possibly been exaggerated. Investigations at the military outpost of Port Essington have shown that the majority of the ceramics at that site were produced in the period 1830-1845, a date range which is not far off the known occupation of the site, 1838-1849 (Allen 2008: 75). The life span of these ceramics was potentially much shorter than that proposed by Macready and Goodwyn (1990), and the military environment of Port Essington probably created a similar breakage risk as the conditions at many New Zealand frontier settlements in the first half of the 19th century.

Conclusion

This research project emphasised the usefulness of ceramics in the interpretation of early colonial sites in New Zealand, something which is not fully exploited within historical archaeology in this country. Hopefully in the future this will change and the highly reliable, abundant and resilient source of information will be appreciated more and used to the best of its potential. More work also needs to be done to refine our knowledge of this material, for example, investigating the time-lag mentioned before.

Similar research to this work will also help further our understanding of the Pākehā period of New Zealand history, which was a pivotal time in the development of our national identity but is rather poorly documented (Smith 2008).

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