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Material Culture and Documentary Sources: An Inductive Approach to Research

This chapter presents the methodology involved in conducting the research for this study. It discusses the range of source material associated with consumer goods traded as part of the late eighteenth and early nineteenth century US – China trade, as well as some of their biases, limitations and availability. This thesis has drawn on three main types of source material: material culture (both museum collections and excavated artifact assemblages), images and documentary sources (both courtesy literature and newspapers). In doing so, this study attempts to take a wider and more inclusive view of the US – China trade than any one of these source types can offer on its own.

Material Culture

The material culture used in this study focuses upon a range of portable consumer goods associated with the late eighteenth and early nineteenth century US – China trade. This includes consumer goods purchased in Canton and shipped as cargo aboard ships to the American markets, as well as consumer goods used by those involved in this trade, but not necessarily purchased in Canton (i.e. objects associated with the crew). This includes both organic and inorganic materials, such as ceramics, glass, leather, and wood. Functionally, the material culture analysis presented in Chapters 7 and 8 includes items associated with fashion and personal adornment (buttons, shoes, jewellery, ivory fans and parasols), eating and drinking (teawares,

tablewares, glass bottles and cutlery) and medicine (glass bottles, closures and medical instruments). This section discuss some of the advantages of using certain types of portable objects for analysis, as well as their biases, limitations and availability to this research.

Museum Collections

As part of this research I visited a number of museums and galleries in the United States, including the Peabody Essex Museum in Salem, Massachusetts, the Smithsonian Asian Art Gallery in Washington, DC, and the Metropolitan Museum of Art in New York City, as well as Mount Vernon and Monticello (both house museums of US Presidents). I examined their collections for comparative purposes and to gain a general impression of late eighteenth and early nineteenth century American material culture.

Though museum displays are easily accessible to the general public, they are biased in that many objects that are today found in private collections or museums are usually elaborately decorated wares that are not necessarily representative of items that were used on a daily basis, and which, subsequently, find their way into the archaeological record (Baker 1978:2; Wall 1994:136; Porter 1988:110). Instead, museums have tended to collect unique and aesthetically pleasing objects, rather than items that were used everyday, and as such often show wear and tear (Burcaw 1997; Pearce 1989, 1992). This tendency was reflected in the collections of the Peabody Essex Museum, the Smithsonian Asian Art Gallery and the Metropolitan Museum of Art. The smaller house museum like Mount Vernon and Monticello, on the other hand, incorporated archaeologically recovered material culture into their displays and interpretations.

Although museums obtain their own pieces, objects or groups of objects are often donated by collectors (Burcaw 1997; Horne 1984; Pearce 1989, 1992). These donations more often than not reflect the biases of mostly middle to upper class males and, as such, commonly exemplify several centuries' worth of acquisition choices predisposed towards an emphasis upon their social groupings (Horne 1984:1-4; Pearce 1992:68-88; Porter 1988:107). For instance, expensive and rarely used ceramics are often passed from generation to generation as heirlooms, which eventually become donations to museums (Wall 1994:136). This could possibly account for an over-emphasis upon unique and one-off objects associated with the

middle and upper classes, as well as a corresponding paucity of archaeologically recovered material culture associated with everyday activities of those without history (see Chapter 2).

The Peabody Essex Museum in Salem, Massachusetts, has one of the largest collections of Chinese export porcelain in the world, as well as a variety of other Chinese export items, like furniture and paintings. Karina Corrigan, Curator of the museum's Asian Export Art division, granted access to their Chinese export porcelain collection that was in storage and allowed me to examine and photograph¹ a wide range of Chinese porcelain produced specifically for the American market.

Both the Metropolitan Museum of Art in New York City and the Smithsonian Asian Art Gallery also house large collections of Chinese porcelain. Access to the Smithsonian collection was not granted, but I was able to examine the collection on display in their museum. Both the Metropolitan Museum of Art and Smithsonian Asian Art Gallery collections are composed of a very high quality pieces typically used by elite groups such as the Chinese imperial family and, as such, were not considered export wares. Although there were a few export pieces amongst the collection, most of these dated to an earlier period than that of the American Republic.

Nearly all of the Chinese export collections in major museums consist of Chinese export porcelain, paintings and Chinese export furniture. Most of the Chinese export porcelain on display in the Peabody Essex Museum, the Smithsonian Asian Art Gallery and the Metropolitan Museum of Art were specially ordered overglaze enamelled vessels often decorated with unique designs and motifs, rather than the more common underglaze blue-and-white Chinese export porcelain destined for common markets (see Chapters 5 and 6). Although most art historians agree that artistic merit is demonstrated in special order pieces, they were the exception rather than the norm (Mudge 1962:74). As such, the display items were biased in favour of an elite class of people who could afford to purchase specially ordered pieces and thus only provides a fleeting and narrow glimpse of past American consumer life.

¹ It should be noted that due to copyright issues and costs, these images are not reproduced in this thesis.

There were a few exceptions to this general museum preference for unique and very high-quality Chinese porcelain vessels. One such museum was Mount Vernon, the house museum of George and Martha Washington. Although this estate belonged to a well known US President, some of the interpretation is supported through archaeology. Thus, some of the collection represents objects that would have been used every day. For example, blue-and-white Chinese export porcelain was used in every day life, both by the family and for use in the slaves' quarters (see also Detweiler 1982).

Artifact Assemblages

The main part of this research was concerned with a selection of artifacts recovered from the *Frolic* shipwreck, along with several other archaeological assemblages. As Staniforth (1999:82) points out, one of the greatest challenges for archaeologists is making sense of the vast quantity of artifacts excavated from even a small archaeological site, as describing each and every artifact or types of artifact in detail involves an enormous amount of analysis. Therefore, archaeologists must make choices as to which artifacts or types of artifacts and what level of analysis is suitable to explore their research questions. It is not the aim of this thesis to provide a full excavation report on any of the archaeological sites included in this study, as in most cases this has already been done, nor is this thesis designed as a descriptive artifact catalogue. Rather, this study is similar to Staniforth's (1999, 2003), in that it explores a selection of artifacts recovered from the *Frolic*'s shipwreck alongside several other archaeological assemblages and material culture collections in order to discuss the meanings of things and how these meanings relate to contemporary American consumer society.

One strength of material culture recovered through archaeology is that it presents information in context, providing a unique range of relationships that is true for people of all walks of life – be they rich, poor, men, women or children (Lawrence 1998:9). This strength, for instance, entails advantages for the researcher that are not often seen in museum collections, which are often divorced from their original context. Furthermore, context is important because it can tell us about the range and nature of goods that a particular household acquired, how they made use of space, and how their household was transformed over time (Lawrence 1998:9).

Another major challenge faced by archaeologists is the fragmentary nature of postprocessing, in which objects from particular contexts are studied in isolation from the rest of the collection from which they came (Cochran and Beaudry 2006:193). Susan Lawrence (1998:9) suggests, “Solitary artifacts provide an illusory sense of connection with the past...” She continues that this is akin to object fetishism and studying isolated objects with empathy for those who used them seeks to exploit that closeness. Studying artifact assemblages that include a wide range of goods, in contrast to studying solitary objects, lets us get closer to describing the commonalities, or patterns of material culture, and hence the symbolic meaning of the goods when they were used in the past (Lawrence 1998:9). One of the first historical archaeologists to examine a disparate collection of “small things” as a whole was Deetz (1977). In maritime archaeology, on the other hand, Staniforth (1999, 2003) examined a variety of consumer goods like ceramics, alcohol, tobacco and clothing from four different shipwrecks to discuss how suitable consumer goods were required in the Australian colonies before a consumer society could be established and maintained.

Another consideration that archaeologists should take into account is what types of artifacts survive in the ground (and underwater) and what types do not. Robert Ascher (1982:329-330) asserts that a major limitation of artifacts is their chance of survival. Archaeology is chance, what we find in the ground, such as buttons, pins, nails, and ceramics, are there by chance – chance that someone broke them, disposed of them or even lost them, and chance that they survive into the present. Thus what we find does not necessarily reflect the full extent of material culture used. At the same time, however, context provided through analysing numerous sites can, to a degree at least, mitigate this randomness.

Though this study does draw upon these shipwrecks, a major portion of the analysis is based on the shipwreck *Frolic* (see Chapter 6 to Chapter 8). The artifacts recovered from this shipwreck were studied through the *Frolic* artifact database, which is a *Filemaker Pro* database representing the repatriation of 28 different small assemblages, including artifacts salvaged and subsequently donated to the Mendocino County Museum, the Kelly House Museum and the Point Cabrillo Light Station Museum by sport divers, as well as artifacts collected from the shipwreck as part of a PAST Foundation archaeological field school during 2004. Because the collection is an amalgamation of many different repatriation acts housed in several different facilities, this study was only able to access the collection in its entirety through the *Frolic* artifact database. As such, this study was reliant upon the

photographs and descriptions of artifacts included in this resource. This was a major limitation to this study, as in some cases artifact files contained a number of photographs and lengthy descriptions, while at other times no photographs or detailed descriptions were available.

The PAST Foundation's 2004 archaeological field school entailed collecting a sample of artifacts, creating "a baseline from which artifacts recovered previously without scientific provenience and artifacts in the future can be compared and researched" (Smith 2006:31). It should be noted then that this artifact collection method has impacted the sample size seen in the *Frolic* artifact database, also a limiting factor in this analysis, as the criteria for collecting artifacts was based on the following:

- 1.) The artifact was the best example regarding type and/or style within a given transect, and
- 2.) The artifact represented a material composition that was not previously collected in a given transect (Smith 2006:32).

Currently, the Frolic artifact database includes 2,524 database files for individual artifacts and artifact sets, with sets being files with several artifacts recorded under the same accession number. The sets consist of those artifacts in the Mendocino County Museum, the Kelly House Museum, and the Point Cabrillo Light Station that did not receive a unique accession number (Smith 2006:50).

The database conceived as part of the PAST Foundation 2004 field school only included 19 fields. The major categories upon which one could sort the database included: Artifact Class, Material Composition, and Material Culture Code. Artifact Class (Table 2) categorizes the artifact based on where it would have belonged in the ship. In the Artifact Class field, Chinese export porcelain, for instance, would have been designated as Cargo, while scuppers would have been designated as Ship.

Table 2. The Artifact Class fields in the *Frolic* artifact database.

Artifact Class
Cargo
Furniture
Gear
Instrumentation/Navigation
Medicinal
Misc.
Munitions/Armament
Personal/Crew Items
Ship
Stores
Unknown

The Material Composition was defined by eight lot numbers, each representing a different type of material composition (Smith 2006:32). Each artifact to a category based on its material composition. These are presented in Table 3.

Table 3. List of the Material Composition fields in the *Frolic* artifact database.

Material Composition
Ceramic
Metal
Glass
Mineral
Wood
Organic
Composite
Unknown

The Material Culture Code category (Table 4) was based on functional categories. For example, Dishware and Flatware represents those items that were used for dining, while Rigging and Running Gear denoted items that were used in specific tasks as part of the daily operation of the ship.

Table 4. List of Material Culture Code fields in the *Frolic* artifact database

Material Culture Code
Clothing
Concretion
Containers/Glassware
Dishware
Flatware
Hardware
Jewelry
Misc.
Personal Belongings
Repair/Tools
Hull
Rigging
Running Gear
Ordnance
Coal/Fuel
Guns
Spirits

As part of a Flinders Overseas Travelling Fellowship, I interned with the PAST Foundation to further develop this database. Following along the lines of Miller and Stone (1970), it was conceived that an additional four fields – Class², Group, Variety, and Type – were needed to denote information that would help to identify similarities or differences between artifacts and artifact sets. For example, consider an artifact designated as Ceramic in the Material Culture Code field and Cargo in the Artifact Class field. Though we do know that all of Frolic’s ceramic cargo consisted of Chinese porcelain, these fields alone do not indicate that. If this artifact was Chinese export porcelain, it was designated in the Class field as Chinese porcelain. Decoration was designated in the Type field, while the Group indicated whether it was complete vessel rim, or base, fragment or unknown. If the ceramic was a fragment, the Variety field indicated what type of fragment: rim, base, body or unknown. A complete list of all 23 categories is presented in Table 5. The Frolic

² It should be noted the Class field was different than the Artifact Class field mentioned previously.

artifact database is searchable by any of the 23 aforementioned fields. This allows for all or only part of the database to be sorted and studied.

This study was only concerned those artifacts designated under Artifact Class as Cargo, Furniture, Instrumentation/Navigation, Medicinal, Personal/Crew Items, and Stores. Thus, this study does not discuss artifacts in the Gear, Munitions/Armament, Ship, Misc., or Unknown categories. This selective choice is because Smith (2006) has already dealt extensively with those items associated with the ship, tracing repairs made to the vessel during its operation through the archaeological record. This study, on the other hand, is concerned with daily life of those on board, as well as how the cargo would have been used in day-to-day activities if it would have actually made it to the markets at San Francisco.

After defining the variables to be included in this study, the database was first sorted by Artifact Class, and those artifacts in the Gear, Munitions/Armament, Ship, Misc., and Unknown Categories were omitted from the study group. Next, the remaining artifacts were sorted alphabetically by field in the following order: Material Culture Code, Material Composition, Class, Type, Variety and Group. It was from here that I counted the number of artifacts (or artifact sets) for each type of artifact, as well as calculated the minimum number of artifacts (MNA) and minimum number of vessels (MNV) (see below), represented in the collection.

Table 5. List of all fields included in the *Frolic* Artifact Database

Frolic Artifact Database Fields
MCM Acc. No: CA.MEN.1947.H
Layton Catalog No.
Storage Location
Material Culture Code
Material Composition
Provenience
Artifact Class
Height
Length
Width
Diameter
Thickness
Class
Type
Variety
Group
Drawing/Illustration
Photograph 1
Description
Notes
Condition
Recorder
Date

The material culture from the *Frolic* shipwreck was also analysed in light of other shipwrecks assemblages, including *Rapid*, *Ontario*, the Blue China Wreck (see Chapter 5). Through an analysis of these artifact assemblages it is possible to trace artifact trajectories, thus providing the context to incorporate shipwreck events into broader themes like capitalism and consumption and to provide a more holistic picture of the changing dimensions of the consumer market (see Chapter 2). Additionally, the market *Frolic* was intending to supply was to a significant extent understood through archaeological evidence recovered from the San Francisco waterfront. This study has examined the Hoff's store site (Pastron and Hattori 1990), along with other archaeological assemblages from storeships like *General Harrison* and *Niantic* (Delgado 2006, 2009), in order to examine the nature of the US – China trade as part of what Delgado (2006) refers to as the “world maritime system.”

Ceramics

Ceramics represent the most common type of material culture found on archaeological sites (Barker and Majewski 2006:205; Lawrence 2006:362-363; Miller et al. 1989:245; Mrozowski et al. 1996:24). According to George Miller et al. (1989:245), ceramics are ideal for studying the relationship between people and things because they have unique intrinsic and extrinsic characteristics. Intrinsically, ceramics are easily broken. Unlike other artifacts, like pewter, they have no recycling value after they are broken, and as such are often thrown away and discarded. Largely due to the fact that their molecular composition ensures that they preserve well in the ground, ceramics represent one of the largest classes of material culture on both historical and maritime archaeological sites (Barker and Majewski 2006:205; Miller et al. 1989:245; Mrozowski et al. 1996:24). This is also partly related to their extrinsic characteristics. By the mid-eighteenth century ceramics were a universally used item in the household. In this way, ceramics are what Robert Ascher (1982:335) refers to as a “superartifact.” They are a universal item found archaeologically on historic sites (Miller et al. 1989:245).

Ceramics are important in archaeological analysis because more often than not an archaeological sample of ceramics represents teawares, tablewares and toiletwares that were used on a daily basis, unlike ceramics found in museums or depicted in images (Wall 1994:136). Additionally, there is often a variety of different decorations and forms in one archaeological sample because dishes were acquired from a number of sources over a long period (Wall 1994:136). Ceramics are also particularly useful because ceramic styles changed based on fashion and consumer choice. Thus, diagnostic ceramics have a high archaeological value when considering the temporal sequence of an archaeological site (Barker and Majewski 2006:205; Beaudry et al. 1991; Martin 1994). Susan Lawrence (2006:363) believes another reason for the attention given to ceramics (tableware, buttons and clay pipes) relates to how they encode information. “Because of their plasticity and amenability to decoration, they carry information about a wide range of subjects of interest to archaeologists...” These include such topics as foodways (e.g. Baker 1978; Otto 1977), trade (e.g. Miller and Stone 1970), status (e.g. Ferguson 1977b; Otto 1977), gender (e.g. Wall 1994), beliefs and priorities (e.g. Mazrim 2002), as well as ideology (e.g. Leone 2005; Shackel 1993).

For instance, porcelains had always been considered luxury items and were highly sought after by the elite (Martin 1994:173), so it is not surprising that nearly all

Western attempts at ceramic manufacture were an attempt to emulate Chinese porcelain (Beaudry 1984:14). Before the late eighteenth century, English delftware, a tin glazed earthenware, was popular, as well as pewter tablewares (Martin 1989, 1994). In the 1760s, however, with the introduction of creamware people of nearly every socio-economic class could afford ceramics in a variety of forms and decorations (Lawrence 2006:366; Martin 1994; Miller 1980, 1991). Creamware was a cream-bodied refined earthenware with a lead glaze that often pools yellow or yellow-green in cracks and crevices of the body (Brooks 2005:29). What Martin (1994) has termed the “Creamware Revolution” refers to the mass production of this ware type combined with the conscious and effective introduction and marketing by Wedgwood of an affordable and widely available product. With the purchase of a set by Queen Charlotte in 1761, creamware was subsequently referred to as ‘Queensware’ (Martin 1994; Brooks 2005:29). Creamware was the most readily available refined earthenware at the end of the eighteenth and beginning of the nineteenth century (Miller 1991). Referred to as ‘CC ware’ ware by contemporary potters and merchants, creamware can serve as a price benchmark upon which other refined wares can be compared (Miller 1991:1; see also Brooks 2005:29; Lawrence 2006:366; Martin 1994). Creamware was revolutionary in that, like porcelain, it could withstand daily wear and tear from forks and knives while delftware could not (Martin 1994:178). Creamware remained the dominant and cheapest table, kitchen and hygienic ware after the second half of the eighteenth century (Lawrence 2006:366; Miller 1991:86). Even though it remained the cheapest ceramic, its appearance changed so that by the 1830s creamware was sufficiently whiter in colour that archaeologists would classify it as whiteware (Mazrim 2008b; Miller 1991).

In 1779, Wedgwood introduced pearl white as an imitation of Chinese blue-and-white porcelain (Lawrence 2006:366; Sussman 2000). Referred to as pearlware by archaeologists, this refined earthenware was essentially a creamware fabric covered in a soft blue- or blue/green-tinged lead glaze (Sussman 2000). At the time of its introduction, pearlware was identical to creamware except for its glaze colour; but between 1820 and 1830 its blue-tinged glaze gradually decreased into a clear glaze, so much so that by the 1830s pearlware was indistinguishable from creamware (Brooks 2005:31; Lawrence 2006:366; Sussman 2000:43). The most common type of decorations used on it included blue- or green-shell edged, blue enamelled, blue transfer printed and industrial slip, and early transfer printed pearlware often featured Chinese inspired decorations, such as Willow Ware or Blue Willow (Brooks 2005:31; Sussman 2000:37).

Other techniques of ceramic production resulted in the introduction of bone china, produced by adding animal bone to kaolin clay, and ironstone china, made by adding finely powdered flint stone to a kaolin clay body (Lawrence 2006:367). Except for the highest quality services, bone and ironstone china replaced porcelain in popularity during the nineteenth century, particular during the latter half when it peaked in popularity (Lawrence 2006:367).

Transfer printing was the most common type of refined earthenware decoration during the late eighteenth and nineteenth centuries (Brooks 2005:43; Lawrence 2006:367). It was revolutionary in that it allowed for decoration to be applied to ceramics uniformly at a low cost, as opposed to hand-painted wares (Samford 2000:56). It also allowed people to decorate their tables in a variety of forms with attractive, colourful designs that were exactly matched (Larkin 1988:144). The process of transfer printing was first developed in the 1750s and involved transferring a pattern from an engraved copper plate to a ceramic biscuit via tissue paper, after which the biscuit was fired to fix the print (Brooks 2005:43; Samford 2000:57-58). The versatility of this engraving process allowed for highly complex designs to be added to ceramics quickly, accurately and with a high rate of reproducibility (Lawrence 2006:367). At first transfer prints were applied over the glaze, but because the decoration had a tendency to rub off, by the 1780s transfer prints were being placed under a glaze (Brooks 2005:43; Samford 2000:57). Prior to the 1820s most transfer prints were blue, with Willow Ware or Blue Willow being one of the most popular decorations (Lawrence 2006:367). After 1828, transfer-printing technology improved so that other colours, including green, red, yellow, purple and black, were being applied. However, most designs were monochromatic because the technology was not developed enough to fix multiple colours on a vessel in one firing. Instead, each colour required separate firings. Because of this, a multicoloured plate, for example, usually consisted of a central design motif in one colour and a border in another, rather than having the colours intermixed in the same design (Brooks 2005:43). Transfer printed wares declined in popularity during the 1850s, and were replaced by white granitewares, which were plain white or minimally decorated. Transfer printed wares regained popularity again for a brief spurt during the 1870s; at this time transfer printing technology was advanced enough to mix colours in a decorative design and fix them in a single firing (Samford 2000:59).

In maritime archaeology, ceramic assemblages from shipwrecks tend to have a more tightly dated context than those recovered from terrestrial sites (see Chapter 2)

(Staniforth 2006:27). Ceramics as shipwreck cargoes have great research potential in archaeology because they are often more representative as a collection of particular types of goods than similar ceramics found on household sites (Staniforth and Nash 1998). Ceramic cargoes excavated from shipwreck sites can provide excellent information for comparative purposes, as well as general information about the quantity, quality and type of ceramics going to, and coming from, a port (Staniforth and Nash 1998).

There are several different ways of analytically approaching ceramics. The most basic level of analysis is a sherd count, which involves counting all sherds of each ceramic ware type to give a total. Even though this method is sufficient for indicating how much of the collection was composed of ceramics and the relative frequencies of each type, it does not indicate relative amounts of different types of ceramic vessel forms or subtle decorative variations (see Brooks 2005:22; Yentsch 1990:25). George Miller's (1980, 1991) economic scaling technique provides a method for examining the cost of ceramics, and, as such, following a person's status in an assemblage, but as Yentsch (1990:24) points out, "it is not designed to reveal actual ceramic use or other aspects of the larger foodways system into which ceramics fit." Minimum vessel counts, on the other hand, not only allow the archaeologist to observe the function of ceramics on a site, but also allows interpretation at a symbolic level (Yentsch 1990:25). Mark Leone's (1999) Index of Ceramic Variability not only provides an alternative method of examining both the function and symbolic meaning of ceramics through form and decoration, but it uses minimum vessel counts to do so.

This study considered minimum vessels counts in light of form and decoration in order to understand the symbolic meaning of ceramics. Though this study did conduct a sherd count, it also uses MNV and discusses the ceramics in light of Leone's index of ceramic variability. Patricia Hagan Jones undertook the initial identification of Frolic's Chinese porcelain ceramic types in 1992, while those ceramics collected during the PAST Foundation archaeological investigations of the wrecksite in 2004 are discussed by Sheli Smith (2006). This study integrates this work, and compares the ceramics found on the *Frolic* shipwreck to that found on other shipwreck sites associated with the US – China trade and contemporary historical sites.

The most basic level of analysis of ceramics was a sherd count. This involved counting all ceramic sherds in the collection to give a total sherd count. This number

was then calculated as a percentage of total artifact sets in the collection. Even though this method was sufficient for indicating how much of the collection was composed of ceramics, it does not indicate relative amounts of different types of ceramic sherds in the Frolic artifact collection (see Brooks 2005:22).

In order to determine the relative amount of different types of ceramics, a minimum number of vessels (MNV) was calculated. An MNV is an estimate of the number of vessels recovered from a site and the relative number of different types of ceramics at a site. Although there are different approaches, at times involving complex calculations, to calculate an MNV, Brooks (2005) and Lawrence (2006) discuss a straightforward method that this study has chosen to follow.

In order to calculate an MNV for the *Frolic* artifact collection, the ceramics were first divided by ware type. Then they were divided by decoration. Subsequently, they were divided by form. Because some ceramic groups, particularly the Chinese porcelain, were still quite large even after these aforementioned subdivisions, and because matching sherds was not possible due to the collection being stored at different storage locations and their inaccessibility, a couple other methods were used for determining a MNV for these groups.

First, in regards to the Chinese porcelain, it was decided that bases and base fragments that were approximately more than 60% complete represented individual vessels. Unfortunately, percentages of completeness were not recorded in the majority of database entries. In these cases, photographs were used to determine whether or not a base was approximately or more than 60% complete. If neither a percentage of completeness was recorded, nor a photograph was available, then the ceramic was considered a base fragment and, as such, not necessarily representative of an individual vessel.

Second, in several cases, one of the defining decorative characteristics of a ceramic group was the presence of a central medallion or design not found anywhere else on the ceramic vessel. Photographs were used to determine whether or not this characteristic was present, and if such a characteristic was positively identified on a ceramic sherd, then that sherd was considered representative of an individual vessel.

Third, other characteristics such as design variation, colour and size provided further grounds for indicating whether or not a sherd represented an individual vessel. Variation, colour and size are rather intuitive, and require a “common sense” approach (Brooks 2005:23)

These additional methods for calculating an MNV were considered analogous to an Estimated Vessel Equivalency (EVE) because its calculation does not rely on a percentage number of extant vessel remains. Instead, EVE relies on one distinctive part of an artifact, in this case a base that is more than 60% present or the presence or absence of a design, to represent a whole ceramic vessel. EVE is most often used in archeofaunal assemblages in which a certain bone survives more than others due to its size, density and the anatomy of a particular species. It is recognized, however, that this method often underestimates the number of vessels in an assemblage because body sherds are usually more represented in a collection than diagnostic pieces such as rims, bases and handles (see Lawrence 2006:247).

It is believed that this aforementioned method for calculating an MNV gives what Brooks (2005:23) calls a “sensible minimum,” rather than an absolute minimum. Brooks (2005:23) maintains,

A ‘sensible minimum’ is simply a statement that there are at least this many vessels in this assemblage, that this minimum is acceptable close to, though probably somewhat lower than, the actual original number of vessels, and that the count is as representative as possible of the relative number of each type in the assemblage.

This study acknowledges that like other MNV methods, this method has its inaccuracies, particularly that the MNV is underestimated. However, given the information that was available in the database, and not having access to the entire collection do to accessibility issues, the abovementioned method for calculating MNV was deemed most viable and relative in reflecting a sensible calculation of minimum vessels in the *Frolic* artifact collection.

Glass

Glass is one of the most common artifact types found on historical archaeological sites (Jones 1971, 1986; Jones and Sullivan 1989; Lorrain 1968). This is because glass is brittle and breaks easily. Once in the ground, however, it can be quite durable, though the surface of the glass, or patina, often flakes off (Lawrence 2006:370). Glass is a mixture of silica, soda or potash and lime that has been melted at a high temperature and then moulded into a variety of shapes and forms, including window panes, beads, buttons, jewellery, figurines, tablewares, light fittings, among others (Lawrence 2006:370). Glass colour ranges from clear to brown, green, blue, purple and red, amongst others (Jones and Sullivan 1989:13-14; Lawrence 2006:370). Colour depends upon the amount of minerals and colorants naturally

present in the silica source, or the amount added to or subtracted from the mix (Lawrence 2006:370). The most common colour before the middle of the nineteenth century was dark olive green, commonly referred to as “black glass” (Lawrence 2006:370).

After the mid-nineteenth century a vast increase in the amount and variety of glass was produced as a result of improvements in production (Lorrain 1968:35). During the early nineteenth century glass manufacture in the US mainly consisted of mouth-blown bottles and window glass, but by the second half of that century glass included a variety of pressed glass tablewares and machine made bottles along with improved corking mechanisms and seals (Lorrain 1968:35). Despite the appearance of a variety of improved glass tablewares, bottles remain the most common type of glass found on nineteenth century archaeological sites (Lorrain 1968:35; Lawrence 2006:370).

A standard historical archaeological bottle typology includes its manufacturing technology and dimensions. Staniforth (1999:87) believes, however, that it is important to go beyond such a standard typology to include the contents contained within a bottle, as well as the quality of those contents. For example, as Palus and Shackel (2006:109) point out, “When patent medicine bottles are sufficiently intact to reveal a label and suggest contents these can be interpreted to suggest what ailments dominated in a family or community.” However, this can be challenging because most bottles found archaeologically are either empty or broken. The exception to this is in shipwreck excavations, such as the *Sydney Cove*, *General Harrison* and *Niantic*, for example, where glass bottles often survive in remarkably good condition (Staniforth 1999:88; see also Delgado 2006, 2009). These bottles not only provide information about bottle morphology, but also about contents, corks and seals, as well as how they were packaged into cases (Staniforth 1999:88).

Though shipwrecks can provide an ideal opportunity for the recovery of intact bottles, they also present other difficulties. As Staniforth points out, classifying glass bottles from shipwrecks as cargo, however, is often difficult, as some bottles found on shipwreck sites were almost certainly intended for the consumption of the crew (Staniforth 1999:88). Cargo manifests can provide clues as to which bottles may have been part of the cargo or intended for the crew. At other times provenience, or the sheer numbers of similar bottles in a shipwreck assemblage, can hint at identification as cargo (Staniforth 1999:88).

Nearly all of the glass discussed in this study was drawn from the shipwreck *Frolic* artifact database. Smith (2006) has previously identified which bottles types were

part of the cargo and which probably belonged to the crew. This study uses Smith (2006) as a starting point to further discuss how the glass from this shipwreck represents wider trends associated with consumer society (see Chapter 9).

Glass analysis included a shard count and calculating an MNV. A similar method to calculating the MNV of ceramics was used for calculating the MNV of glass. Frolic's glass was first sorted according to colour and form. Then, I determined which diagnostic portion of each bottle type – bases or finishes – was represented in the collection with a higher frequency, as this would determine which section of the bottle would be used for calculating the MNV. It was decided that bases and finishes that were more than 60% complete represented individual vessels. Also similar to the ceramics, percentages of completeness were not recorded in the majority of database entries, and, in these cases, photographs were used to determine whether or not a base or finish was approximately or more than 60% complete. If neither a percentage of completeness was recorded nor a photograph was available, then the glass fragment was considered not necessarily representative of an individual vessel.

Images

Paintings, photographs, engravings, lithographs, and sketches are all useful in archaeology because they can tell us what a complete object looked like, who used it, how it was used, how it was produced, and when it was used (D'Agostino 1995:119-120). They are visual archives for historical objects (Davidson and Lytle 2005:78). In this way, images can provide archaeologists with context about objects in the past.

Images, however, are not without their biases. Paintings, for instance, are consciously composed to serve a purpose (D'Agostino 1995:120). For instance, while dining activities portrayed in paintings usually depict more formal scenes, archaeological samples of tableware more often than not show greater usage of less formal dishware on a daily basis (Wall 1994:136). In this way, paintings often tell us as much about their intended audience and perspectives as the scene being depicted, as whoever produces the image decides what is to be included (D'Agostino 1995:120). An interesting question to ask about a painting, then, is: what types of objects are not presented in it? (Davidson and Lytle 2005:92).

Similar to a painting, a photograph “captures the reflections of its user as well as its subjects” (Davidson and Lytle 2005:230). Louis-Jacques Daguerre introduced

photography in 1839, when he announced a process with which to fix images on a copper plate (Davidson and Lytle 2005:213). Photography was revolutionary in that it recorded everything in front of its lens and, as such, was seen as a mirror of reality (Davidson and Lytle 2005:213). One point to be considered when analysing photographs is that every photograph is framed in accordance with the perception and intent of the photographer. Additionally, the gaze, reflecting what a photograph was intended to convey, could be augmented through distorting capabilities like framing and focus (Davidson and Lytle 2005:213). Most historical photographs are reflections of ceremonial events – birthdays, anniversaries and vacations. In this way, photographs are limited in historical analysis of the everyday in that very few photographers sought to capture the everyday in a photographic frame (Davidson and Lytle 2005:218).

Some of the images in this research were selected because they could provide context for the consumer markets in which the *Frolic* was bound. Most of these particular images can be found in two different collections located in the Bancroft Library at the University of California, Berkeley: the Robert B. Honeyman, Jr. Collection of Early Californian and Western American Pictorial Material and the collection of Chinese in California. These images include paintings, lithographs and engravings by Henry Bainbridge, J. Clark, Henry Firks, Francis Samuel Marryat, Captain William F. Swasey and A. Wenderoth.

Very few images of San Francisco harbour exist before the Gold Rush. This absence from the historical record implies the relative insignificance of San Francisco prior to the discovery of gold. After the Gold Rush, however, there was at least one image, and usually more, for each year between the years 1849-1855, showing the tremendous growth of San Francisco harbour (see Chapter 5). At the same time, other images depict setbacks to this growth. Included in these are horrific landscape scenes depicting the series of fires that ravaged San Francisco during the 1850s.

Everyday life and ordinary people in San Francisco are rarely depicted in images prior to the mid-1850s. There are a few exceptions to this, one of them being a lithograph depicting a Chinese mining camp (see Chapter 9). This single image is significant because it provides information about the Chinese miners including how they dressed, how they ate and how they spent their leisure time.

Few photographs of San Francisco and its inhabitants exist for the 1850s. One exception to this is a circa 1850 skyline view of San Francisco, showing a forest of masts in the harbour (see Chapter 5). This lack of photographs likely relates to the

relative expensiveness and rarity of photographs at the time. The availability of photographs increasingly picks up after the 1870s, after which photographs became slowly more affordable to a greater number of people.

Other images explored as part of this research included paintings produced in China for the export market. Though some of these were found at the Peabody Essex Museum in Salem, Massachusetts, others belonged to private collections and can only be viewed as reproductions in books (see Crossman 1972, 1991). These images consisted of port scenes, ship paintings, landscapes, seascapes, and various genre scenes, such as silk, rice, tea and porcelain production, as well as the Canton street trades (see Chapter 7). Most of the painters did not sign their work, but two of the Chinese painters were identified as Yonqua and Tinquá.

Documentary Sources

Documentary analysis in historical and maritime archaeology is a vital component to research because it constructs context, which frames meaning by tying artifacts to actual situations or events (Beaudry et al. 1991:160). There are many types of documentary sources that are complementary to objects, including probate records, diaries, account books, correspondence, ship manifests, invoices, etiquette books, newspapers, magazines, among others. This study has drawn on two main types of documentary sources in particular: courtesy literature and newspapers.

Texts can be viewed as artifacts produced in a particular socio-political context for specific purposes (Wilkie 2006:14). According to D'Agostino (1995:117), "Beyond the fact that documents are themselves artifacts, they often include and discuss material culture..." Documentary sources "include direct references to and discussion of material life and, thus, provide an avenue into artifacts and their contexts parallel to the material record exposed by 'dirt' archaeology" (D'Agostino 1995:117). In this way, texts can be used to comment on material culture, giving insight into people's attitudes about the world, while at the same time material culture can be used to confirm or contest documentary sources (Galloway 2006:42; Beaudry et al. 1991:160). Andrén (1998:149) argues, "There is a reciprocal need for artifacts and texts in broader interpretation of writing as well as material culture. Neither artifact nor text can thus be automatically given primacy of interpretation when these source materials are seen as cultural expressions." Beaudry et al. (1991:164) concur with this argument: "Just as documents are not best used as

background context to test against artifacts, artifacts are not best used when considered independent of the context from which they were discovered.”

According to Wilkie (2006:16), archaeologists use texts “to identify the people who once lived at a particular site; to understand the social-cultural context in which the site was occupied; and to understand the social meanings and lives of the objects they recover.” However, documentary sources should not just be site-specific. Historical archaeology should include a variety of documentary sources rather than just site-specific data because, as Deetz and Scott (1995:114-115) indicate, “Over reliance on site specific documentary data puts us at risk of dealing with material events of inconsequential significances since these may well have been the products of historical events unique to a single site and thus not reflecting in any way the larger course of events in which they took place.”

Texts are biased, however, because “our reading is in fact an interpretation of someone else’s perceptions” (Beaudry et al. 1991:162). Along these same lines, most historical documents tend to reflect the attitudes of upper white class males (Galloway 2006:43; D’Agostino 1995:116), while material culture, on the other hand, does not discriminate, as poor, rich, men, women and children of all ethnicities leave an archaeological signature (Lawrence 1998:9). Unfortunately, this creates dissonance between material culture and text. As Deetz declares, “If only the written records, rich and detailed as they are, are studied, then the conclusions will reflect only the story of a small minority of deviant, wealthy, white males, and little else” (Deetz 1991:6).

Courtesy Literature

This study examined a variety of courtesy literature in order to understand how contemporary consumers used material culture and the symbolic meaning they attached to them. “Etiquette,” Shackel (1993:3) states, “is tied to human relations and the creation of hierarchies in society, it is dynamic, it supports interest groups, and it has material consequences.” During the mid- to late- nineteenth century etiquette was referred to as gentility (Praetzellis and Praetzellis 2001). Gentility in the United States was inherited from predominantly English social rituals and is often associated with the rise of the middle-class (Fitts 1999). Genteel behaviour was practised in the home as part of teaching middle-class values and negotiating social relations (Fitts 1999). In addition to etiquette books, prescriptions for good manners can also be

found in contemporary social commentary, educational treatises, satire, novels and other fiction and sermons (Goodwin 1999:17). According to Stephen Brighton (2001:22), such courtesy literature “informed women of the skills and morals necessary to imbue the proper values in their children and make the home environment a sanctuary of beauty and nature.”

Etiquette books and other similar publications paired with archaeology can show how well people followed unspoken rules of polite society (Shackel 1993:159; Fitts 1999:40). As Shackel explains (2000:159),

Rules of behaviour [sic] found in etiquette books and household management guides provide the standards people are expected to follow in order to belong to a group. Although these guidelines furnish expected standards of behaviour [sic], the archaeological record shows how people responded to and followed these expectations.

Over the past few decades a number of archaeologists have made extensive use of etiquette books, including Barbara Little and Paul Shackel (Little and Shackel 1989; Shackel 1993, 2000), Lorinda Goodwin (1999) and Diana di Zerega Wall (1994). Of particular interest, Barbara Little and Paul Shackel (1989) used etiquette books to discuss the *longue durée* of dining etiquette in Anglo culture (see Chapter 4), which in turn was examined in the light of the social history of etiquette in eighteenth-century Annapolis, Maryland, and the individual history of the Green family in that city (see also Little 2006:397-401).

Mannerly behaviour in the modern world stems from “the need or desire to organize, ritualise, and heighten the experience of communal eating” (Goodwin 1999:16). In medieval times, etiquette was used as a means to create and direct inequalities within society (Little 2006:398). Within etiquette was an emphasis on table manners, which was a daily social activity. The first courtesy books, or etiquette guides, were published in Latin during the twelfth century, and English translations appeared in the fifteenth century, after which polite or civil behaviour distinguished its form until the middle of the eighteenth century, when the first etiquette books were published (Goodwin 1999:18; Little 2006:398). According to Goodwin (1999:18), this is also when etiquette began to take its modern form. Indeed, over the next several centuries, table manners and the material culture that went along with them became increasingly complex and disciplined, and according to Barbara Little (2006:398), produced along with it a naturalising ideology legitimating the social exclusion of those who did not know proper etiquette. Shackel (1993:2) argues, “Material culture

and behaviour became increasingly standardized, precise, and exacting in the eighteenth and nineteenth centuries.” By the mid-nineteenth century, family meals had become highly ritualised domestic activities embedded in middle-class life, with women presiding over the meals (Wall 1994:111). As discussed in Chapter 3, the ritualisation of meals was also related to the adoption of a time-oriented society, in which men and older boys were away at work for most of the day and came home to relax and have a family meal.

Lorinda Goodwin (1999), in *An Archaeology of Manners: The Polite World of the Merchant Elite of Colonial Massachusetts*, examines courtesy literature in order to better understand the relationship between etiquette, material culture and social relations within the merchant community of seventeenth century Massachusetts (Goodwin 1999). As Goodwin (1999:4) relates,

No one has ever excavated a curtsy. No field archaeologist has recovered and catalogued a wine health toast, a proposal of marriage, or a gracious nod of recognition in a church. Yet all of these activities have their material components, and archaeologists have written extensively about these through research on consumer behaviour [sic], dominance, public display and elite allegiance-building, to name just a few.

This is because material culture embodies forms of non-verbal communication and was “used as props and stage settings for expressions of mannerly behaviour [sic]” (Goodwin 1999:4). In this way, material culture represents the residues of mannerly behaviour, and courtesy literature provides context for interpreting the symbolic meaning associated with these props for expressions of mannerly behaviour.

Most of the courtesy literature selected for this study was found at the US Library of Congress and includes many rare etiquette guides that were published during the eighteenth and nineteenth centuries (e.g. Carey, Lea & Blanchard 1838; Celnart 1833; Day 1843; Lacey 1838; McLean 1850; Trusler 1791). The particular examples chosen for this study were those that were published between 1790 and 1850, as publications printed between these dates would have been readily available to contemporary Americans.

Etiquette guides are useful in archaeology for interpreting expected modes of behaviour for particular groups of people. For example, *Etiquette for Ladies; with Hints on the Preservation, improvement, and Display of Female Beauty* (Carey, Lea & Blanchard 1938) contains a plethora of information about how a lady should

present herself in a variety of situations. A list of what appears in the table of contents best explicates its aims and purpose (Carey, Lea & Blanchard 1938:7):

Propriety of Deportment
 At home, and From Home
 Visiting
 Table
 Salutations and Ceremonies
 Dress
 Balls, Concerts and Evening Parties
 Letters and Presents
 Marriage
 Servants
 The Importance and Utility of Exercise
 Appropriation of Exercise
 Preservation and Improvement of Beauty
 Carriage and Demeanour
 Dancing
 Singing and Playing
 Drawing, Reading, &c.
 Voice, Deportment, and Dress
 Dignity and Familiarity of Deportment

Other etiquette books are focused on specific topics. For example, *The Honours of the Table, or, Rules for Behaviour During Meals; with the Whole Art of Carving, Illustrated by a Variety of Cuts; Together with Directions for Going to Market, and the Method of Distinguishing Good Provisions from Bad; To which is Added a Number of Hints or Concise Lessons for the Improvement of Youth, on All Occasions of Life* (Trusler 1791) contains information relevant to interpreting etiquette associated with eating and drinking. As indicated in the title, this book also informs readers about how to carve meat properly and how to purchase groceries at the market.

Etiquette; Or, a Guide to the Usages of Society with a Glance at Bad Habits (Day 1843), on the other hand, teaches the reader etiquette by informing the reader about what not to do. For example, the author Charles William Day articulates, “Do not touch any of the articles of bijouterie in the houses where you visit: they are meant only for the use of the lady of the house, and may be admired, but not touched” (Day 1843:50), and “Do not beat the ‘devil's tattoo,’ by drumming with your fingers on a table; it can not fail to annoy every one within hearing, and is the index of a vacant mind” (Day 1843:50-51). Instructions such as these include directions as to what not to do, but they also provide reasons why they should not be done.

Similarly, the *Book of Etiquette* (McLean 1850), instructs the reader in what is not acceptable in society through a combination of words and black and white satirical illustrations. The images depict people engaged in activities like picking their teeth with a fork at the dining table, tripping ladies with outstretched feet and sticking one's nose into the face of a lady while engaged in conversation. This sort of etiquette guide was much less formal, and people with poor literacy skills could have understood it visually. For example, Figure 3 depicts a man standing in front of a fireplace and warming his backside. Not only is he blocking the entire warmth of the fire from others in the room, but he also appears to have his hands down the backside of his pants. McLean (1850) writes, "Of course no one having the slightest pretensions to Gentility will omit this elegant acquirement" (McLean 1850). Another example is shown in Figure 4. Three men have just finished a meal, and all sit picking food out of their teeth. McLean (1850) satirically comments, "We particularly recommend this interesting occupation after Meals being indicative of great cleanliness and delicacy."

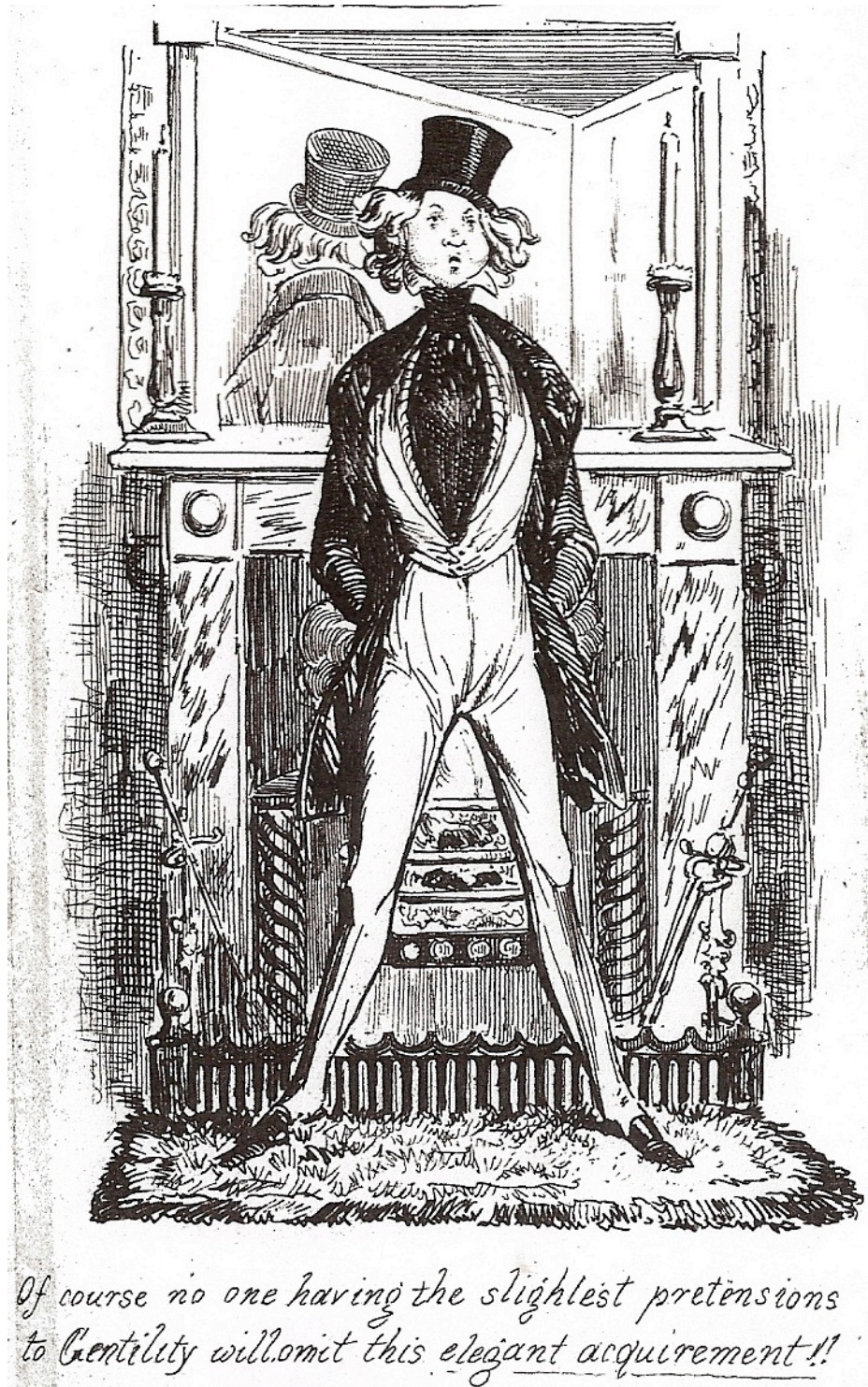


Figure 3. Satirical illustration of a man standing in front of a fireplace with his hands down the back side of his pants (McLean 1850).



Figure 4. Satirical illustration of a man picking his teeth with a fork at the dinner table (McLean 1850).

Other courtesy literature used in this study was found in contemporary magazines like *Harper's New Monthly Magazine* and *Godey's Lady's Book*. Similar to the etiquette guides, the magazines were chosen based on their publication dates. For instance, this study examined all issues of *Harper's New Monthly Magazine* for the year 1850. *Harper's New Monthly Magazine* was published in order to bring together a coherent magazine that would showcase the “the Periodical Literature of the present day” by literary talent who normally published their work in a variety of reviews, magazines and newspapers of the day (*Harper's New Monthly Magazine* 1850:1). This publication pays “[c]onstant and special regard...to such articles as relate to the Economy of Social and Domestic Life, or tend to promote in any way the education, advancement, and well-being of those who are engaged in any department of productive activity” (*Harper's New Monthly Magazine* 1850:2). The publishers “seek, in every article, to combine entertainment with instruction, and to enforce, through channels which attract rather than repel attention and favour [sic], the best and most important lessons of morality and practical life” (*Harper's New Monthly Magazine* 1850:i).

Newspapers

Although the first printing press was established in England in 1476, this was several centuries before regularly printed newspapers were available to the public, both in England and its colonial offspring (Emery 1972:5). The printing press allowed for the broad dissemination of texts, wresting their control from clerics and the elite, all the while transforming their content (Hides 1997:15). Merchants, traders and manufacturers benefited from the circulation of newspapers because their publication meant that current market prices were available on a regular basis; the newspaper acted as a mediator between producer and consumer (Emery 1972:12).

Coffee houses and taverns served as another medium for news exchange (Emery 1972:24; Leone 2005:51). These business establishments were the hub of gossip exchange and political debate, and it was here that buyers, sellers and retailers could read newspapers and inquire about the arrival and departure of ships exporting and importing consumer goods (Emery 1972:24; Leone 2005:50). However, as McLean (1850) depicts in his satirical etiquette book, shown in Figure 5, there were unspoken rules about reading newspapers in taverns. It was not good manners to read the paper for an extended period of time while others waited their turn. This may have been why newspapers were also read aloud in taverns (see Leone 2005:51).



Figure 5. Satirical illustration of a man reading a newspaper in a tavern while others wait for him to finish (McLean 1850).

During the latter part of the eighteenth century and into the early part of the nineteenth century, newspapers became more readily available to the American

public (Emery 1972:37-48). Early newspapers were printed on a wooden hand press that was relatively slow compared to later printing machines, as it required 13 distinct operations to produce one 'token,' or a four page publication printed on both sides of two pieces of paper (Emery 1972:47-48; Leonard 1986:1). Each page was hand fed into the press and left to dry before the other side could be printed, which was a time-consuming process (Leonard 1986:14). After the 1820s, however, the range of printed material grew tremendously because with the Industrial Revolution came cheaper paper and more efficient printing machines (Emery 1972:160).

Friedrich Koenig was the first to successfully harness steam power to a printing press in London in 1811, and the press was perfected in 1830 by the American David Napier (Emery 1972:160). R. Hoe & Co. used the Napier press as a prototype for the Hoe press. The steam powered Hoe press reduced the cost of production dramatically, and this, coupled with cheaper paper, meant that publishers could sell newspapers to the public as cheap as a penny; hence, the birth of the "penny paper" (Emery 1972:160-160). By 1855, the Hoe press had been so improved that it could print 20,000 sheets an hour (Emery 1972:202).

Newspapers have tended to adhere to a broad format in terms of form and content. According to Emery (1972:3), a true newspaper: 1) must be published at least once a week; 2) must be printed mechanically rather than handwritten; 3) must be affordable to the general public, regardless of class; 4) must have a scope of interest to the general public, rather than special interest groups; 5) must be readable by those with ordinary literary skills; 6) must be up-to-date with technical development; and 7) must have stability. By the mid-nineteenth century, newspapers had also largely adopted the format whereby written sections appeared authorless in publication. This was done in order so that the writings and opinions contained within the paper could be seen as belonging to those who read it (Leone 2005). Additionally, according to Mrozowski (1988:189), newspaper commentary prior to the twentieth century seems to have embodied only male opinion. Similarly, since most newspapers were published in the cities, they did not necessarily reflect the views of those in the hinterlands.

Newspapers are useful in archaeology because they were part of daily life and they provide a mirror for it (see Chapter 3) (Leone 2005:51). According to Mrozowski (1988:184), newspapers act as "outlets for commentary and opinion on a variety of political, economic, and social issues." In this way, they are useful in providing a context to wider happenings in society.

Newspapers were used for advertisements and provide a glimpse of international exchange (Mrozowski 1988:184). For instance, James Delgado (2006, 2009) used Mickle & Co. advertisements from the *Daily Alta California* to identify the wide variety of international commodities stored onboard the *General Harrison* storeship. He cross-referenced newspaper advertisements and similar objects recovered archaeologically to identify where these objects may have originated.

Ceramics were often advertised in newspapers (Mrozowski 1988:185; Mazrim and Walthall 2002). In this way, newspapers can help with dating ceramics and can indicate different types of markets which merchants endeavoured to penetrate such as labourers or women (Mrozowski 1988:185). As Robert Mazrim (2002) demonstrates in “*Queensware By the Crate*” *Ceramic Products as Advertised in the Saint Louis Marketplace*, ceramic advertisements in newspapers can also provide an idea as to what types of ceramics archaeologists should expect to find in a certain region at a certain time.

Newspapers examined as part of this study provided useful information about the day-to-day happenings in Canton and San Francisco, such as shipping arrivals and departures, current market prices and current events. Though a number of English-language newspapers were published in Canton during the first half of the nineteenth century, including the *Canton Register* (1827-1843), the *Chinese Courier and Canton Gazette* (1813-1833) and the *Canton Press* (1838-1844), this study examined every issue of the *Canton Register* because it was the most comprehensive of these newspapers in relation to the consumer market at Canton. The *Canton Register* was first published by Jardine Matheson & Company in 1827 and continued publication until 1843. The first issue reads,

Our principal endeavour [sic] will be, to present a copious and correct price-current, of the various articles, native, or foreign, in the market; in addition to which, the sales, prices, and states of foreign markets, connected with our own, will be duly noticed, and particularized...The arrivals and departures of vessels, and other shipping information of interest, will also form a standing article in our columns (*Canton Register* 8 November 1827:1).

It contained current market prices, shipping arrivals and departures, current events both in Canton and abroad, as well as commentaries on Chinese society. It also contained several articles specific to American trade at Canton.

Before 1850, only a handful of San Francisco newspapers were in circulation. The first California newspaper, the *California Star*, was published between 1847 and 1848 (Holliday 2002:32). The *California Star* ceased publication in 1848 because its staff migrated to the gold fields (Beiber 1948:10). The *California Star* was not examined as part of this thesis because it ceased publication before *Frolic's* wrecking event. The newspaper with probably the highest circulation in California at the time of *Frolic's* wrecking was the *Daily Alta California* (1841-1891). This newspaper was not only abundant in advertisements by local merchants, providing a general idea about the types of goods available in the San Francisco consumer market, but it also contained shipping intelligence, giving an idea as to how many ships entered the harbour on a given day. This study examined every issue within two months before and after *Frolic's* wrecking event, identifying advertisements for consumer goods shipped from China. Other San Francisco newspapers began publication during the mid-1850s, such as the *Daily Morning Call* (1856-1913), the *Morning Globe* (1855-1858) and the *Daily Sun* (1853-1857), to name a few, and, as such, were not examined because their publication did not commence until after the time period under examination.

Conclusion

This thesis has employed the use of three broad types of historical sources: material culture (museum collections and artifact assemblages), images and documentary sources (etiquette books, newspapers and magazines). Though each type of source presents particular benefits to the study of the past, all three types also present their own biases and limitations. Museum displays, though easily accessible to the general public, present a bias towards elite culture and formal activity. Artifact assemblages, on the other hand, do not discriminate, as people of all walks of life leave an archaeological signature. At the same time, however, images and documentary sources are often used to ascribe greater depth and context to material culture. This study attempts to take an inclusive view of the American-China trade, and as such has combines multiple material culture and historical sources in a way that offers more insight than each would on its own.