



# Early American Silver at the Currier Museum of Art

## Citation

Galliher, Allison. 2015. Early American Silver at the Currier Museum of Art. Master's thesis, Harvard Extension School.

## Permanent link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:24078350>

## Terms of Use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at <http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA>

## Share Your Story

The Harvard community has made this article openly available.  
Please share how this access benefits you. [Submit a story](#).

[Accessibility](#)

Early American Silver at the Currier Museum of Art

Allison L. Galliher

A Thesis in the Field of Museum Studies  
For the degree of Master of Liberal Arts in Extension Studies

Harvard University  
Extension School

November 2015

© Allison L. Galliher 2015

## Abstract

This project-based thesis has added five stops and an introduction to American Silver to the Currier Museum of Art's mobile tour. The Museum has an extensive silver collection but has very little information readily available for its visitors in the galleries. This thesis provides those visitors with information about the Currier's American silver collection. It uses the Currier's current mobile application as a template while incorporating museum education teaching methods to create an engaging tour.

The thesis begins with a history of silver in America from Colonial times to the start of the nineteenth century. This time period is best represented in the Currier's American silver collection. The thesis discusses the role and development of the silversmith as a craftsman as well as the social history of silver in America during this period. It also discusses the use and advantages of using mobile technology in the museum setting. Many visitors already own mobile devices. Museums can take advantage of visitors' familiarity with these tools by creating programs specifically for this technology.

The tour itself is based on teaching methods outlined by the museum educator George E. Hein in his book: *Learning in the Museum* (1998). These methods are used to build upon the standards set by the Currier Museum of Art's "Audience Engagement and Interpretation Philosophy" in order to make the tour more engaging for visitors. Articles by museum technology professionals Robert Stein and Nancy Proctor were also consulted when researching the best practices for mobile tours. Their work lays out many key elements for successful mobile applications including the use of media assets, stops where these assets are experienced and the connections used to move between the stops.

The accessibility benefits of mobile technology for visitors, especially the use of audio recordings for visitors with disabilities, are also discussed and were taken into account when creating the tour.

## Acknowledgements

I could not have completed this thesis without the help and support of many individuals. Katherine Burton Jones, Assistant Director and Research Advisor, Museum Studies Program, Harvard University Extension School who offered guidance, support and help through the entire thesis process. Barbara McLean Ward, Ph.D. Director/Curator Moffatt Ladd House and Garden, Portsmouth, NH, was the thesis director for the project. I am grateful for her expertise and guidance, and for advising me on content, as well as for her help with the editing of multiple drafts of the thesis and the tour scripts.

I am also grateful for the support of the Currier Museum of Art's staff who helped make this project possible and available to the public, including, Leah Fox, Director of Interpretation and Audience Engagement; Karen Papineau, Registrar; Andrew Spahr, Director of Collections and Exhibitions; Megan McIntyre, Tour Programs Administrator; Steve Konick, Director of Public Relations & Marketing; and Cynthia Mackey, Associate Registrar.

## Table of Contents

Abstract.....	iii
Acknowledgements.....	v
List of Figures.....	vii
I. Introduction.....	1
II. The Role and Development of Silver and the Silversmith.....	6
III. Silver in American Society.....	18
IV. Mobile Technology and Informal Learning: The Currier Museum of Art’s Mobile Tour .....	27
Mobile Technology.....	27
Informal Learning at the Currier.....	31
Creating and Evaluating the Tour.....	35
V. Tour Scripts.....	41
VI. Conclusion.....	58
Bibliography.....	61

## List of Figures

Figure 1. “Largeworker’s workshop, detail” <i>Encyclopedie; Recueil de Planches, vol 8</i> .....	9
Figure 2. John Coney. Porringer. 1705. Silver. Currier Museum of Art, Manchester, New Hampshire.....	10
Figure 3. John Coney. Sugar Box. 1680. Silver. Currier Museum of Art, Manchester, New Hampshire.....	11
Figure 4. “Sand Bag” <i>Encyclopedie; Recueil de Planches, vol 8</i> .....	12
Figure 5. Paul Revere, Sr. Creampot. 1750. Silver. Currier Museum of Art, Manchester, New Hampshire.....	15
Figure 6. Advertisement from <i>The Massachusetts Centinel</i> . December 14, 1785.....	16
Figure 7. Paul Revere, Jr. Beaker. 1790-1800. Silver. Currier Museum of Art, Manchester, New Hampshire.....	17
Figure 8. Unknown Maker. Sugar Box. 1678-1679. Silver. National Museum Cardiff. Cardiff, Wales.....	19
Figure 9. Seth E. Brown. Child’s Cup. 1835 – 1840. Silver. Currier Museum of Art, Manchester, New Hampshire.....	21
Figure 10. Samuel Edwards. Spout Cup. Circa 1733. Silver. Currier Museum of Art, Manchester, New Hampshire.....	22
Figure 11. Joseph Foster. Pair of Standing Cups. 1790. Silver. Currier Museum of Art, Manchester, New Hampshire.....	24



Figure 12. Paul Revere, Jr. Liberty Bowl. 1768. Silver. Museum of Fine Arts, Boston,  
Massachusetts.....26

Figure 13. Screen Shot. Survey. [Currier.toursphere.com](http://Currier.toursphere.com).....38

## Chapter I

### Introduction

The Currier Museum of Art is a world-renowned art museum located in Manchester, New Hampshire. The Museum is accredited by the American Alliance of Museums (AAM) and features an impressive collection of European and American art. Like many New England art museums, the Currier has an extensive collection of American silver. The collection ranges from utilitarian pieces found in many households across Colonial America, to one-of-a-kind, non-functional sculptural pieces, modern flatware and hollowware (“Collections”).

The Currier has more than six hundred pieces of American silver in its collection. This includes a substantial amount of Colonial-era silver as well as numerous pieces of modern silver, many by living artists (“Collections”). According to Andrew Spahr, Director of Collections and Exhibitions at the Currier, the Museum has recently made an effort to tie the two time periods together. During the past few years Spahr and the Currier’s curators have been working to acquire pieces from the nineteenth and twentieth centuries to help bridge this gap (Spahr). Nonetheless the bulk of the Museum’s collection focuses on early American silver made before 1840.

The Museum has continued to acquire additional early silver pieces with a strong provenance and connection to New England. While the provenance and basic background of the objects are known, the museum only provides standard labeling information to visitors in its galleries. This information includes a date, material, the silversmith’s name and acquisition details (“Collections”). Recently, the Museum

augmented its website with additional art historical and contextual information on selected objects as part of a 2014 Collections Access Project (“Collections”). The research and information provided by the Museum’s project, however, is only available on the website.

Leah Fox, Director of Interpretation and Audience Engagement at the Currier Museum of Art expressed interest in providing visitors with more information about the silver collection in its galleries. This thesis was created to fill that gap and is designed for the Currier’s mobile application, which is easily accessible to visitors within the Museum. The thesis compliments the Collections Access Project by incorporating information on the artists, techniques, and cultural significance in a way that engages visitors and encourages the visitor to interact with the collection. The thesis also builds upon the Currier’s goal of providing visitors with additional information. While the stops currently available on the Museum’s mobile application include many types of objects this thesis focuses only on American silver.

This thesis includes five stops on specific works in the Museum’s collection and a sixth stop that serves an introduction to American silver. The pieces chosen are from the Colonial period through the start of the nineteenth century, the time period that best represents the bulk of the Museum’s silver collection (“Collections”). All of the pieces of silver included in the tour were handmade before technological advancements led to an increase of mass produced objects (Victor 23). Traditional silversmiths hand-forged their objects from a silver alloy of approximately ninety-two and a half percent silver and seven and a half percent copper (generally referred to as sterling silver) (Hood 18). They used hammers, stakes, and specialized tools that they

often created themselves in order to handcraft these silver objects (B. Ward, “Forging”25). In the Colonial period, silver had an important role in social and religious rituals and was a tangible expression of one’s wealth and standing in the community (G. Ward, “An Handsome Cupboard” 33). The mobile tour consists of short concise interpretations that address these themes. The five stops that feature pieces in the collection also include physical descriptions of each of the objects.

The Museum’s Interpretive Plan, particularly the section on “Audience Engagement and Interpretation Philosophy,” served as a guide for writing the tour. The Interpretive Plan sets basic institutional standards for presentation and interpretation of the Museum’s exhibits including addressing a range of learning styles and helping visitors feel comfortable and welcome in the Museum. The “Audience Engagement and Interpretation Philosophy” sets overarching goals to guide educational experiences for all visitors such as “creating an environment of inquiry, encouragement and excitement” (2). This document also sets specific goals for family, adult, children, and educator’s experiences while learning in the Museum. This thesis took into account goals set for adult audiences, described by the Museum as everything “from beginning viewers to culturally minded members” (“Audience Engagement” 2). These goals, including using works of art as primary inspiration, were incorporated into the tour and will be discussed in greater detail in Chapter IV.

The educational theory of constructivism discussed by museum education expert George E. Hein was also taken into account when writing the tour. Constructivism, which focuses on experienced based-learning, will be discussed in Chapter IV (Hein 7). The silver tour created for this project uses this theory to build

upon the Museum's current tour style and Interpretative Plan standards. The tour invites visitors to further discover the silver collection by looking closely and asking questions about the objects. The tour asks visitors to make comparisons between the objects on the tour, and others on view in the galleries, and to think about the objects by making connections to the visitor's own life experiences.

Technology in the museum setting can benefit both the museum and the visitor. This tour was designed for use on the Currier's current mobile application, available on both smartphones and on the Internet. The Boston-based firm, TourSphere, hosts the application for the Currier ([Currier.toursphere.com](http://Currier.toursphere.com)). When reviewing the layout of the Currier's mobile application research by museum technology professionals Robert Stein and Nancy Proctor was consulted. Stein and Proctor identify core elements that are necessary for a successful mobile tour such as the use of media assets, stops where these assets are experienced, and connections that are used to move between each of the stops (Stein and Proctor). A separate article by Stein also informs how museums can use mobile tours to improve the quality of content available to visitors by having scholarly information easily accessible (Stein, "Chiming in").

The Currier Museum has recently added iPod touch devices for visitors to check out from guest services (McIntyre). The tour is also available for anyone to download to his or her own handheld device. This allows the Museum to reach a larger audience while providing accessibility to those who need it, including visitors with disabilities. In June of 2015 the New Hampshire Association for the Blind awarded the Currier Museum of Art with its annual Access Award. The Museum was

presented the award because of its effort to enhance access for visitors who are visually impaired (“News”). The stops created for this thesis provide additional material that increases the access for visually impaired Museum visitors. The institution is also able to save time and money by adding the silver tour to its current mobile application.

The Museum’s need for this addition to its mobile application was evident based on the lack of information available about the Museum’s silver collection inside the gallery. A combination of historical research, a review of the literature on museum interpretation methods, and the development of the final tour using technology were all important steps in the thesis project. The result provides the Currier with an easily accessible in-gallery mobile tour that engages visitors to look closer at and interact with the Museum’s American silver collection.

## Chapter II

### The Role and Development of Silver and the Silversmith

The first silversmiths who practiced in America brought their knowledge of the craft with them from Europe. The training required to become a silversmith was based on the apprentice system (Hood 15). Apprentices trained with a master for a specific period of time, usually five to seven years. Most apprentices began their training at the age of fourteen. The master silversmith taught the craft of metalworking to the apprentice while the apprentice learned the skills required, and provided labor for the shop (Hood 17). After completing the apprenticeship most new silversmiths continued working for their masters as journeymen or day laborers (B. Ward, "Forging" 24).

Two of the earliest silversmith partners in the colonies working in this fashion were John Hull (1624 – 1683) and Robert Sanderson, Sr. (1608 – 1693). Both learned the trade in England before arriving in New England (Kane 567). The silversmith partners trained a number of apprentices including some of the most well-known and respected American silversmiths of the early eighteenth century (Kane 883). These include John Coney (1655 – 1722) and Paul Revere, Jr. (1734 – 1818) whose works are part of the Currier Museum of Art's collections and will be discussed in this and the next chapter.

Early New England silversmiths worked in small workshops that were tailored to their craft. A silversmith's workshop usually consisted of a single room in, or adjacent to, the silversmith's home (B. Ward, "Forging" 30). The workshop featured a forge, where the silversmith would heat the silver, as well as workbenches and stations

used throughout the creation process. Most silversmiths' shops also had a display area for small silver items that were kept in stock and sold in the shop (Hood 18).

A silversmith's tools were specialized for the unique techniques used in the trade. The earliest New England silversmiths would have brought tools with them from Europe. Others had to import tools from Europe, purchase tools from estates, or even create their own tools (B. Ward, "Forging" 25). Tools included hammers, scales, anvils, tongs, shears, files, and many others. Each task, such as engraving, casting, or raising, required specific tools based on the process used.

Silver appears in nature as an ore and has been mined and refined for centuries. Compared to other metals, silver has a relatively low melting point and is malleable and ductile making it a fairly easy metal to work (Lanford 3). But one hundred percent silver is too soft to be generally durable, and most early silver is an alloy of approximately ninety-two and a half percent silver and seven and a half percent copper, the content of sterling silver (Lanford 4).

Because of silver's qualities, including its purity, durability, and rarity silver had inherent value and thus many nations used silver for their coinage. International trade between the colonies and other countries led to an influx of these coins, which provided American silversmiths with their primary source of silver. They also used recycled pieces of silver wares as a source for silver (Fales, "Early American Silver" 197).

The silversmith melted these coins and scraps of silver in a fired clay ceramic or graphite crucible placed in the forge (B. Ward, "Forging" 10). Large bellows were used to supply more oxygen to the fire to help raise the temperature to above 1,763 degrees



Fahrenheit, the melting point of silver (Moreno 1054). A flux of borax was added to the crucible to keep the silver from oxidizing (B. Ward, "Forging" 10). The silver reached the desired temperature for pouring at approximately 1,800 or 1,900 degrees (Silversmiths of Williamsburg Video 6:53). The molten silver was poured into a preheated ingot, or mold (Fales, "Early American Silver" 203).

After the ingot cooled, the silversmith hammered the silver into a flat sheet. This process was done on a large forging anvil that often weighed more than one hundred pounds (B. Ward, "Forging" 10). This was one of the most physically demanding parts of the creation process requiring at least two workers. The constant hammering makes the silver brittle, and it must be annealed, or reheated, to prevent cracking (Fales, "Early American Silver" 204). Once the sheet of silver was the correct thickness the silversmith placed the silver sheet on an anvil. Small hammers with flat polished faces, called raising hammers, were used to begin shaping the piece up into a bowl like shape (B. Ward, "Forging" 11).

As the piece took shape the silversmith would then switch to hammering the exterior of the object. The silversmith would use a variety of hammers, stakes (iron tools with various contours inserted in an anvil or tree trunk) and anvils (large iron forms) to help shape the piece (B. Ward, "Forging" 11). Vises and wood blocks were often used to hold the stakes and anvils. The silversmith held the piece tightly over a stake with one hand while using his hammer in the other to move the silver and form the shape of the piece (Silversmith of Williamsburg Video 16:25). In figure 1, silversmiths can be seen working at different stages of the process. The silversmith in detail A is pouring molten silver into a mold. The two silversmiths in detail E are

working together to hammer out a sheet of silver. Detail B depicts a silversmith working the exterior of an object with a large anvil secured in a tree stump.



Figure 1. "Largeworker's workshop, detail" *Encyclopedie; Recueil de Planches, vol. 8.*

Nearly all of the early American silver objects in the Currier's collection were created in this manner. This includes a silver porringer by John Coney dated 1705 (figure 2). The thickness of the silver can be seen in this finished piece. The piece is remarkably thin given that it would have been hammered up by hand by John Coney, or more likely an apprentice or journeyman working in his shop. The uniform thickness of the piece takes time and talent for the silversmith to achieve. The major decorative element, the handle, is cast. Casting will be discussed later in this chapter.



Figure 2. John Coney. Porringer. 1705. Silver.  
Currier Museum of Art, Manchester, New  
Hampshire.

After the silversmith had created the basic shape of the piece, surface decoration including chasing and embossing would be done (B. Ward, "Forging" 13). Hammering from the inside of the vessel created embossing. In John Coney's 1680 sugar box the lobed ovals circling the body of the piece are embossed (figure 3).



Figure 3. John Coney. Sugar box. 1680. Silver. Currier Museum of Art, Manchester, New Hampshire.

Embossed decoration was often given definition and elaboration by outlining the raised areas with a chasing tool. The silversmith held the pointed chasing tool against the surface of the object, and incised the surface by striking the tool with a hammer. Chasing tools could be used to create continuous lines around embossed decoration and could be used to add decorative depressions to the surface of the metal (Moreno 1057). Before this could be done safely, the object would be filled with pitch, a clay-like substance that would protect it from being pierced or damaged (Fales, “Early American Silver” 205). The silversmith would have rested the object on a leather sand-filled bag (figure 4) to support the object while hammering the chasing tool against the surface of the object (Moreno 1057). Chasing was used to create the fluted markings between each oval lobe on Coney’s sugar box.

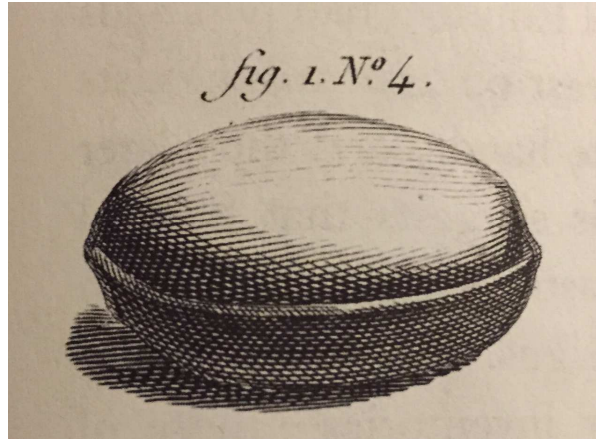


Figure 4. "Sand Bag" *Encyclopedie; Recueil de Planches, vol 8*

Once the body of the piece resembled its finished form, the other parts were added. Parts including bases, handles, finials, and spouts were cast in sand molds and soldered to the body (Fales, "Early American Silver" 205). Sand molds were created by packing wet sand into frames, pressing metal patterns into the sand, and clamping the frames together to create a closed mold, usually with only a small opening into which the silver was poured. Given the soft texture of the sand molds silversmiths could not re-use these, but they did re-use the metal patterns from which they were made. Spouts, bases, and other hollow parts were cast in two sections and soldered together (Silversmith of Williamsburg Video 31:35). Cast parts made in this way required extensive finishing, as they emerged from the mold in a rough state. Once the parts were cleaned and finished, the silversmith soldered the cast parts to the body of the piece using a soldering lamp and blowpipe (Moreno 1077).

After the piece was assembled and all surface decoration was complete, a small lightweight hammer, called a planishing hammer, would be used to smooth out the surface of the silver. This process removed all of the variations in the thickness of the metal created by the hammering processes. It was then polished smooth. A variety of solutions and techniques were used including polishing it with rouge, a red polishing clay, and rubbing it with a burnishing stone. This would create the smooth lustered surface of the finished piece (B. Ward, "Forging" 15). After it was polished it would then be engraved. Engraving was a specialized task in which the silversmith used a small sharp tool to remove a small amount of silver to form a decorative image or text. Patrons often requested engraved decorations with family significance such as the initials of the person or persons for whom the piece was made (Moreno 1057).

One of the last steps in the creation process was striking a maker's mark into the piece (Fales, "Early American Silver" 205). The maker's mark was always that of the master silversmith of the shop, even if an apprentice or journeyman did most of the work. Laws in the colonies did not require maker's marks as they did in Britain. Most silversmiths kept this tradition as a way to guarantee the quality and craftsmanship of their work. Many silversmiths also scratched the weight of the piece into the surface of the object. The weight of the piece was important because the cost of the piece was calculated based on the weight of the silver and the cost of the labor and skill put into the piece. The final piece would then be ready for the patron who had ordered it (Fales, "Early American Silver" 197).

The time and talent put into creating handmade silver objects, along with the high cost of the metal, made silver objects a luxury. Because of the limited market and

an unstable economy, many artisans, including silversmiths, ventured into other businesses to supplement their incomes. It was the goal of most artisans to become merchants, and eventually gentlemen. Since silversmiths were producers of luxury goods they often did business with many of the most affluent members of society (B. Ward, "Forging" 28). This expanded their connections within society and helped give many silversmiths opportunities outside the silversmithing business.

John Coney had one of the largest and most prolific silver shops during his time. More than 225 surviving pieces of silver bear Coney's maker's mark showing his knowledge and dedication to the craft (Kane 316). His success was in part due to the large number of journeymen and apprentices working in his shop. Coney also had prominent citizens, churches and organizations for clients. This included Samuel Sewall (a judge and wealthy New England businessman) and Harvard College. In 1722, the Colony of New Hampshire commissioned Coney to engrave plates for its bills of credit (Kane 319).

One of the apprentices Coney took on was Apollos Rivoire (1702-1754). Born in southwestern France, Rivoire anglicized his name after his passage to Boston becoming known as Paul Revere, Sr. (Kane 848). Revere arrived in Boston and was apprenticed to Coney when he was thirteen years old (Kane 848). After learning the craft, Revere opened his own silversmithing shop and trained his son Paul Revere, Jr. (1734-1818) in the practice (Federhen 795). One example of Revere, Sr.'s work on display at the Currier Museum is a cream pot dated 1750 (figure 5).



Figure 5: Paul Revere, Sr. Cream pot. 1750. Silver. Currier Museum of Art, Manchester, New Hampshire.

In 1754 Paul Revere, Jr. inherited his father's silver shop and continued to carry on the family business, becoming a leading Boston silversmith. Revere, Jr. is best known for his political and civic involvement, which helped him become a successful merchant and climb to the social rank of a gentleman (during this time period a successful businessman and respected member of society was often referred to as a gentleman) (Federhen 795). Revere diversified the goods he produced and imported as well as the services he provided. He became increasingly interested in technological innovations and was known to have owned one of the first silver flattening mills—a device used to create sheets of silver—in New England (Victor 23).

By 1785 Revere advertised a wide variety of items available for purchase in his shop including cutlery, brass candlesticks, looking glasses, carving knives, and a number of pewter and silver wares (figure 6). Revere also branched out into making clock jacks (cooking mechanisms used to rotate meat over a fire), printing hat bills, and even producing false teeth (Federhen 799-802). Eventually he turned over the silversmithing



portion of his business to his son Paul Revere, III, and started a lucrative brass and iron foundry and a copper rolling mill with another son, Joseph Warren Revere. Paul Revere, Jr's ambitious business ventures, interest in technological advancement, and community involvement helped him to become a successful craftsman and entrepreneur who achieved the status of gentleman in his later years (Federhen 799-802).

**Paul Revere,**  
 Directly opposite LIBERTY-POLE,  
**A** GENERAL assortment of Hard-  
 Ware, consisting of  
 Pewter, Brass, Copper, Ironmongery, Cut-  
 lery, Jappaned and Plated Wares,  
*Among which are,*  
 A few neat Brass Sconces, of one, two and  
 three branches,  
 3-pint plated Coffee-Urns, and Coblets,  
 Very neat jappaned Tea-Trays, in sets,  
 Brass Candlesticks, Looking-Glasses,  
 Patent-Jacks, Carving-Knives, &c. &c. &c.  
*All which will be sold at the lowest advance  
 for cash.*  
 The GOLD. and SILVER-SMITH'S  
 business carried on in all its Branches.

Figure 6: Advertisement from *The Massachusetts Centinel*.  
 December 14, 1785.

One technological innovation Revere adopted was the use of flat rolled sheets of silver. These sheets and the flattening mills that produced them became available in the colonies as early as the 1730s (Victor 23). Sheet silver allowed silversmiths to cut flattened pieces of silver and solder them together to create hollowware forms, skipping the raising process all together (Victor 25). A silver beaker by Paul Revere, Jr. dated 1790-1800 in the Currier collection is an example of a piece made using rolled sheet

silver (figure 7). The body of the beaker shows its thin and perfectly smooth appearance and vertical striations created by this process.



Figure 7. Paul Revere, Jr. Beaker. 1790-1800.  
Silver. Currier Museum of Art, Manchester,  
New Hampshire.

Silversmiths like Paul Revere, Jr. worked in a very specialized craft. The techniques and tools used were based on traditional practices. As times and styles changed, silversmiths adopted technological improvements such as the rolling mill. Branching out into other business ventures enabled silversmiths to supplement their incomes and expand their customer base. Traditional ways of creating silver objects continued to be the standard until the early nineteenth century. While some silversmiths continued to work in this manner, the use of technological innovations dramatically changed the silver creation process and altered the life and work of many silversmiths.

## Chapter III

### Silver in American Society

During the seventeenth and eighteenth centuries ownership of silver in America had financial, social, and family significance. Silver was expensive and only the wealthiest Americans owned it in any notable quantity. Silver ownership conveyed one's wealth and high social status. Those who could afford silver displayed it proudly and used it often (G. Ward, "An Handsome Cupboard" 35).

Silver was a symbol of both fashion and tradition. Many colonists desired silver objects to be designed and created in the most up-to-date styles. Some silver items were even melted down and re-created to reflect newer styles. English styles were the standard for inspiration due to English political and economic influence (Fales, "Early American Silver" 4). Many silversmiths imported silver items including tobacco boxes, rings, and other small items (B. Ward and G. Ward 71). Silversmiths would model much of their work after the styles of these pieces (Fales, "As Good As Sterling" 39). Inspiration also came from new silversmiths immigrating to America and bringing new trends and techniques with them (B. Ward and G. Ward 77). The practice of passing silver objects from one generation to the next also followed European tradition. It goes without saying that all of the silver objects that still exist today played an important role in someone's family, or in local or institutional traditions and were thus saved from the melting pot.

A sugar box by silversmith John Coney is an example of one item that was fashioned after English styles (figure 3). This piece, made about 1680, is one of the most impressive pieces in the Currier's American silver collection. The sugar box is one of only ten American made vessels known to exist. This box is very similar in design to examples in London that date about five years earlier (Kane 53). An example of one of these London designed sugar box is currently in the collection of the National Museum Cardiff in Cardiff, Wales (figure 8). During the time Coney created the piece that is now on display at the Currier Museum he employed many English trained silversmiths, including Nathaniel Gay. It is highly likely that Gay assisted in the design and creation of the piece given his knowledge and experience of English styles (Kane 53).



Figure 8. Unknown Maker. Sugar Box. 1678-1679. Silver. National Museum Cardiff. Cardiff, Wales.

In an article focusing on similar objects created by Boston silversmith Edward Winslow during the first decade of the eighteenth century, historian Edward J. Nygren discusses the decoration and form of these sugar boxes. During the seventeenth century sugar grew increasingly popular and was steadily imported from the West Indies along

with coffee, tea and chocolate. Sugar was commonly added to these three beverages to reduce their bitterness (Dufour). The amount of sugar being imported into America during the seventeenth century began steadily increasing. While this drove down the cost of sugar it was still only within the reach of the wealthiest colonists until the early eighteenth century (Nygren 39). Most households could not afford sugar and used maple syrup or honey to sweeten food and drink (Earle 86). According to Nygren the large size of this vessel therefore demonstrates the wealth of its owner, and the significance of its contents (Nygren 39).

In his article Nygren states that the form and decoration of these boxes are symbolic of marriage, fertility, and eternity. Sugar was particularly valued because in addition to being a pleasant sweetener, it was also thought to promote procreation and was believed to be especially nourishing to the unborn child. The oval, womb-like shape and the egg-shaped lobes on the body of the box suggest the female fertility and conception (Nygren 42). The coiled snake that sits atop the box is a symbol of eternity, and serves as a warning against anyone who would disturb the relationship between a husband and wife, as the serpent came between Adam and Eve. These symbols of fertility, marriage and eternity indicate that the piece may have been given as a wedding present to a newly married couple (Nygren 39 - 42).

Silver was traditionally presented to mark important life occasions. Silver rattles, cups, spoons, whistles and bells, and other objects were popular gifts for the birth of a child as a way to welcome them into the privileged life you hope they will have (figure 9). Tea and coffee sets, flatware, and other silver pieces have also been traditional wedding gifts. An example of this in the Currier Museum's collection includes a tea set by Arthur J. Stone from 1925 (Fales, "Early American Silver" 171). Silver or gold mourning rings were often given out at funerals in memory of the deceased, engraved with the deceased's initials and date of passing (Fales, "Early American Silver" 167). One example of a mourning ring is a silver and gold ring given in memory of John Crowninshield, a wealthy sea captain, now in the Massachusetts Historical Society's collections. The inscription reads, "J. Crowninshield 25 May 1762" ("John Crowningshield Mourning Ring"). Many of these traditions have remained true even today. While mourning rings are no longer common, silver cups or spoons are still given at the birth of a child and silver flatware is still a traditional wedding gift.



Figure 9. Seth E. Brown. Child's Cup. 1835-1840. Silver. Currier Museum of Art, Manchester, New Hampshire

Another example of silver presented for a special occasion in the Currier Museum's collection is a silver spout cup by Samuel Edwards (1705 – 1762) (figure 10). It is believed that this piece was created around the time the silversmith and his wife married in 1733. Their engraved initials on the bottom of the vessel suggest that Edwards created the piece as a wedding gift for his wife Sarah ("Collections"). The piece is also engraved on one side "M REED" for Samuel and Sarah Edwards's granddaughter Martha Reed Ropes. This indicates that this cup, like many silver objects, was passed down through the maternal side of the family (Brown 65).



Figure 10. Samuel Edwards. Spout Cup. Circa 1733. Silver. Currier Museum of Art, Manchester, New Hampshire.

Silver played an important role in church rituals. Its purity and durability made it ideal for use in religious rituals (B. Ward “In Feasting Posture” 3). Even in New England Congregational Churches, which shunned the lavish accouterments of the Anglican and Roman Catholic ceremonies, communion vessels made of other materials such as pewter, ceramic, or glass were viewed as temporary objects until silver replacements could be obtained (B. Ward, “In a Feasting Posture” 3).

Churches acquired silver objects in a number of ways. Most often they were purchased with money from donations specifically designated by the donor, or from donations allocated by the church deacons to be used for this purpose (B. Ward, “In Feasting Posture” 14). Occasionally donors would give gifts of previously owned domestic silver (B. Ward, “In Feasting Posture” 14). Congregational churches amassed sets of communion silver over long periods of time, sometimes over a period of eighty to one hundred years (B. Ward, “In Feasting Posture” 21).

Churches practiced communion in different ways depending on their denomination. The types of communion vessels used also varied based on the church (B. Ward, “In Feasting Posture” 3). Many churches preferred to use different types of vessels as a way to convey social distinctions among those taking communion (B. Ward, “Continuity and Change” 118). In most cases the deacons of the church were the ones who made the final decision on the type of vessel to be commissioned (B. Ward, “In Feasting Posture” 14).

Two communion vessels from Brattle Street Church in Boston, Massachusetts are now part of the Currier Museum’s collection (figure 11). These vessels are two of six identical standing cups made by Joseph Foster for the church in 1790. Over a time span



of approximately one hundred years, beginning in the early 1700s, the church acquired a total of twenty-eight pieces of silver for its communion service. These pieces were added to the collection when parishioners made donations and bequests (B. Ward, “In Feasting Posture” 15). When the church added these six cups to their collection of communion vessels, they already owned an impressive amount of silver. The Brattle Street Church was founded on the belief that everyone should be welcome to take communion (hence the large quantity of vessels). The church had multiple forms of communion vessels, including standing cups, tankards, and beakers. Each form would have been passed within a different social class to convey the social distinctions within the church (B. Ward, “Continuity and Change” 118).



Figure 11. Joseph Foster. Pair of Standing Cups. 1790. Silver. Currier Museum of Art, Manchester, New Hampshire.

Silver has also played a role in commemorating athletic, military, and civic achievements (Fales, “Early American Silver” 167). Many organizations have traditionally commissioned and presented silver objects as a way to honor their members or members of the community. Government officials and grateful citizens often gave silver pieces to military heroes as a reward for their bravery and success in battle (Fales, “Early American Silver” 175). Winners of sporting events are also traditionally presented with silver trophies. This is still the case for many sports organizations, including the National Hockey League, which has presented the Stanley Cup trophy to the League winner since 1892 (“Stanley Cup Fast Facts”).

Presentation pieces have been created in all shapes and sizes including cups, platters and unique trophies. The Liberty Bowl by Paul Revere, Jr. is one example that was commissioned in 1768 by the Sons of Liberty to honor the members of the Massachusetts House of Representatives who took a major step leading to the American Revolution (“Sons of Liberty Bowl”) (figure 12). Presentation pieces like this bowl were one way to publicly honor the achievements of civil leaders (G. Ward, “A Handsome Cupboard” 35).



Figure 12. Paul Revere, Jr. Liberty Bowl. 1768. Silver. Museum of Fine Arts. Boston, Massachusetts.

Beginning in the nineteenth century the social role of silver began to change. In the first half of the 1800s new technology and advancements changed the way silver was produced. Discoveries of silver in the American West increased the quantity of silver available on the American market (B. Ward, "The Most Genteel" 19). These changes led to transformations in the role silver played in social and family life. Importance began being placed on other objects and silver ownership no longer conveyed one's wealth, social and family status in the same way it had in the previous two centuries.

The research discussed in this, and the previous chapter, provides the context for objects discussed in the mobile tour. This information was combined with educational and technological research discussed in the next chapter to create the scripts for the mobile tour.

## Chapter IV

### Mobile Technology and Informal Learning: The Currier Museum of Art's Mobile Tour

#### Mobile Technology

The use of mobile technology in the museum has become increasingly popular due to the rise of wireless devices like smartphones and tablets. With the use of mobile technology a visitor's access to information has become instant. Museums including the Currier have prime opportunities to interact with visitors and provide more information about their collections through the use of this technology. Mobile technology also allows the museum to provide content to visitors with disabilities, such as the visually impaired. The Currier Museum of Art currently has a mobile application that features more than fifteen stops throughout the Museum ([Currier.Toursphere.com](http://Currier.Toursphere.com)). This thesis has provided an additional five stops on pieces in the Currier's American silver collection, as well as an introduction to American silver.

By using a mobile platform for the tour, visitors are able to view and learn about the Currier Museum's collection while using familiar tools. A 2013 Pew Research Center survey reported that ninety-one percent of adults own a mobile phone, up from eighty-three percent in 2011 (Smith). Eighty-six percent of adults use their cell phone, tablet, or other mobile device to access the Internet (Smith). Mobile applications allow cell phone users to access the Internet and view content that is specifically formatted for smaller screens. When iTunes first launched in 2008 an estimated 55 million

application downloads took place within the first two months. By 2011, 18 billion applications had been downloaded, and by 2014 that number was estimated to rise to over 185 billion (Mansfield 232). The increased use of this technology opens up additional channels of communication for museums and visitors. A mobile application tour is another, indirect way, to connect visitors with a museum's collection through a platform they already own and are familiar with.

The Currier Museum took advantage of this technology by hiring Boston-based TourSphere, a mobile application developer, to create a tour that is delivered through a smartphone application. The application features an easy-to-use layout that allows visitors to learn more about preselected works in the Museum's collection ([Currier.toursphere.com](http://Currier.toursphere.com)). Users can search by an artist's name or by the location of the object within the gallery. A reference number on the Museum label also allows visitors to easily look up objects while they are visiting the Museum ([Currier.toursphere.com](http://Currier.toursphere.com)).

Each object page within the application includes a high-resolution photo, basic information about the artwork (name, date, artist, material, and size), and the location of the piece within the Museum. It also includes an audio description, titled "Listen to Description" that provides people not physically in the museum, as well as visitors with disabilities, the opportunity to hear a clear visual description of the artwork. A "Read About the Artwork" section gives a brief interpretation of the object that is then read aloud in the "Learn About the Artwork" section ([Currier.toursphere.com](http://Currier.toursphere.com)).

The audio descriptions are especially important for visitors with disabilities. The Currier Museum was recently presented with the New Hampshire Association for the Blind's 2015 annual Access Award. According to George Theriault, the

Associations President and CEO, the Currier Museum earned the award because of its audio tour and the Museum's "hard work and dedication they have exhibited to make art accessible to the visually impaired community." The detailed descriptions in the "Listen to Description" section were cited as being an important part of making the arts accessible by all visitors including those who are blind or visually impaired ("News").

The "Listen to Description," "Learn About the Artwork," and "Read About the Artwork" sections of the tour all provide the visitor with another way to discover the objects going beyond what is written in the gallery labels. Further information on many pieces in the Currier's collection can be found on the Museum's website, but this information is not easily accessible for those visitors in the galleries. The mobile application already includes numerous objects in the Currier's collection (Currier.toursphere.com). This project-based thesis will add five additional stops on the Museum's American silver collection as well as an introduction to American silver.

When planning for the current layout the Currier Museum uses for this mobile application the research of Robert Stein, Deputy Director of the Dallas Museum of Art, and Nancy Proctor, Deputy Director for Digital Experience and Communications at the Baltimore Museum of Art, was consulted. Stein and Proctor lay out three core elements for a successful mobile tour in their co-authored article "TourML: An Emerging Specification for Museum Mobile Experiences." The three core elements necessary for any successful tour are: the inclusion of media assets, stops where these assets are experienced, and the connections used to move between each stop (Stein and Proctor).

The layout of the Currier Museum's mobile application includes these three core elements. Media assets including images, text, and audio are used within the tour.

These assets are combined to create a “stop” for each of the objects included. The connection, or the “navigation or flow from one stop to another,” is chronological for this American silver tour (Stein and Proctor). The stops added by this thesis were written to be followed in this order to trace the progression of American silver over a period of more than one hundred years. However, they can be experienced alone or out of order, and are written to highlight connections with other objects in the gallery that feature similar details and styles. This creates a “two-way” relationship between stops according to Stein and Proctor. This relationship is important so visitors can move back and forth between stops without feeling lost if they access them out of order (Stein and Proctor). These core elements along with how visitors receive online information are important for museums to consider.

In his article “Chiming in on Museums and Participatory Culture” Stein discusses the information available to visitors on the internet. Stein believes that curators and museums, have a responsibility to provide accurate and accessible content on objects while encouraging visitors to connect with and appreciate objects in their collection (“Chiming in” 218). He believes that an increase in blogs, unofficial websites and Wikipedia articles have changed the way museum visitors are receiving and exchanging information (Stein, “Chiming in” 217). In providing the visitor with this mobile tour the Currier is able to share scholarly information with visitors for each of the stops included. The tour asks the visitor to look closer and appreciate each of these objects, and make comparisons to other objects in the Currier collections. This is beneficial for both visitors and the museum. Visitors are receiving accurate information, and the museum is able to align the information with its mission.

According to Stein, aligning information given to visitors with a museum’s mission is another important element of a mobile tour (“Blow Up Your Digital Strategy”). To accomplish this, the Currier Museum’s Interpretive Plan, specifically the “Audience Engagement and Interpretation Philosophy” was used for guidance while developing the silver tour. This document sets the Currier’s standards for a variety of educational opportunities including tours, programing, art classes, interpretation and the mobile tour (“Audience Engagement” 1).

The “Audience Engagement and Interpretation Philosophy” lists several over all goals including,

- Address[ing] a range of learning styles and interests through creative interpretation, studio instruction and programing.
- Provide[ing] opportunities for discovery that connect visitors with Currier resources and inspire people to continue their relationship.
- Help[ing] audiences feel comfortable and welcome at the Museum and Art Center through creating an environment of inquiry, encouragement and excitement (2).

#### Informal Learning at the Currier

This silver tour was designed with an adult audience in mind. The Currier describes adult visitors as everything from “beginning viewers to culturally minded members” (“Audience Engagement” 2). The museum lists additional goals for adult experiences including “offer[ing] a range of enriching interpretive experiences using works of art as primary inspiration,” as well as “Build[ing] upon the range of levels of prior knowledge adult audiences bring to the museum experience” (“Audience



Engagement” 2). These goals were all taken into account when designing the silver tour. The tour itself is an interpretive experience that provides users with the opportunity to learn about the history, background, and significance of each piece. The knowledge users acquire will allow them to further appreciate and enjoy these pieces, as well as others in the Museum’s collection.

This tour is also meant to build upon the knowledge that visitors bring with them to the museum, one of the specific goals for adult visitors in the “Audience Engagement and Interpretation Policy” (2). The “Learn About the Artwork” section of each stop provides a deeper understanding of the objects in the context of their use, history and significance. For example, the script for the Paul Revere, Jr.’s cann explains “the cann was a common style of drinking vessel during the 1700s, with a simple style, bulbous body, and scrolled handle.” Some visitors will already have the knowledge to compare this form with tankards or standing cups. The script also provides a brief description of what a cann is for visitors who know little about drinking vessel styles. The script encourages visitors to think about drinking vessels and to look at the other objects on view in the Museum and compare the differences between each of the styles.

This goal, for the Museum and the tour, to build upon the knowledge each visitor brings with them to the Museum, relates to the theory of constructivism discussed by George E. Hein, a leading museum education expert and professor emeritus at Lesley University in Cambridge, Massachusetts. While the previous stops on the Currier’s mobile application tour did not take this theory into account, it was used for guidance when creating the silver tour.

Constructivism is the idea that all learners construct their own understanding of ideas and knowledge to make meaning of what they are learning (Hein 179). When discussing constructivism Hein states that museums are places best suited for informal education where self-directed learning enhances a visitor's experience (7). The museum educational theory that best relates to this project is that of "discovery learning" or active learning (Hein 30). This theory invites visitors to interact with material and to explore the information provided in the exhibit to come to an understanding of the material, in this case the silver collection. For museum educators this means structuring the exhibit and learning environment so visitors can reach logical conclusions (Hein 38). Exhibits organized to respond to this style of learning will often ask questions and encourage visitors to think about the displays before "telling" them what they see (Hein 33).

The mobile tour for this thesis was created in a style that follows many of the basic guidelines for this style of discovery learning. By interacting with the components of the mobile application visitors can collect facts and concepts that allow them to see the importance of each object. The "Learn About the Object" section for each stop invites visitors to compare the silver object discussed to other objects on display in the Museum. For example, the script written for the silver porringer made by John Coney refers to other porringers on display in the gallery that are made of pewter. It invites the visitor to discover and compare the surface of the silver and pewter pieces and asks why they think the surface texture is different. The script then goes on to explain the differences in the creation process and how this alters the surface texture of each piece.

Adult learners are the target audience for this mobile tour. According to Hein, adults learn best when they can make connections between the exhibition and the experiences they bring with them to the museum (144). One example of this is found in the introduction to the tour where the visitor is asked to think about silver objects in their homes today. It reads, “You may recall jewelry, coins, or an old box of spoons in your Grandmother’s cabinet.” By relating silver to a context with which the visitor may be familiar, the visitor is allowed to relate to the subject, and thereby learning is facilitated. According to Hein this makes the museum visit and the object being discussed more memorable and influential to the visitor (144).

Providing information that is easy for the average visitor to follow and understand is also important when developing a tour. Kathleen McLean is an experienced museum exhibit planner who has worked with museums including the Brooklyn Children’s Museum and the Oakland Museum of California. McLean believes that text and audio material in exhibits and tours should be clear, logical, and organized (7). Using audio clips, photographs, and written text can help keep visitors interested but not overwhelmed (McLean 109). According to McLean, word count and audio length should also be taken into account in order to keep visitors’ attention (109). For this tour, audio portions are no more than two minutes and the written text has been kept to fewer than three hundred words.

## Creating and Evaluating the Tour

An effective writing and editing process helped contain the information and material in the scripts. Multiple rounds of editing took place for the tour. These began with the submission of a first draft to Leah Fox, Director of Interpretation and Audience Engagement and Megan McIntyre, Tour Programs Administrator. They edited the draft, keeping with the Currier's "Audience Engagement and Interpretation Philosophy," and then it was given to Andrew Spahr, Director of Collections and Exhibitions for review. After the staff at the Currier finished editing the draft was returned with comments for improvement.

Thesis director Barbara Ward, an expert in American silver, also read the scripts, provided feedback on the content and accuracy of the scripts, and worked on multiple drafts of the scripts. During this revision process a date was set for the first run through of the audio recording. Steve Konick, Director of Public Relations and Marketing at the Currier, served as the voice for the recording. The recording was done at the museum with professional public speaking audio equipment, a laptop, and recording software called Audacity. Since the Museum does not have a recording studio on site the recording was done in the Museums library in between stacks of books to help with noise vibration. The text for each stop was read aloud and recorded at least twice by Konick. Some sentences or paragraphs were repeated more often if the reader felt it was not adequate, or if there was any noise in the background. This first run through of the tour lasted about one and a half hours.

After more research and writing of the thesis had been completed it was agreed that further changes needed to be made to the scripts. Once the thesis has been completed and thesis director Barbara Ward approves the scripts they will then be given to the Currier Museum for the final recording. A second recording will then be scheduled so these changes can be applied. After the final recording is completed Megan McIntyre will work on the final implementation process. Using the recording software Audacity, the clips will be pieced together paying close attention to pronunciation, pauses and the flow of each section. This lengthy process will require much time and be completed after the thesis has been submitted and finalized.

The Currier has the ability to monitor the success of the tour in a number of different ways. The TourSphere program allows Museum employees to login to a dashboard that provides analytics on visitor use. The dashboard monitors the number of times the application itself is downloaded and opened on a mobile device. They are able to track the number of people who read and/or listen to each stop. The Currier staff monitors the dashboard on a monthly basis to record results (McIntyre).

The Museum has recently purchased iPod Touch players that are available for visitors to use while in the galleries. The iPods are preloaded with the Museum's mobile tour and locked so they can only be used for this purpose. This addition provides visitors who do not have access to a smart phone, or those who do not wish to download the application, the opportunity to access the information while visiting the Museum. According to Megan McIntyre this also allows Museum staff to track how many visitors are using the mobile application in the galleries (McIntyre).

McIntyre stated that the iPods have been utilized by many guests but she was not able to provide specific numbers available given how new the program is. Museum staff at the guest services counter record information on all of the visitors who use this feature. This includes personal information (taken from their driver's license) as well as the total time they used the iPod and the battery usage for the device. Specifics can then be compared to the reporting provided in the TourSphere dashboard to see how many people are using the Museum's technology instead of personal smartphones (McIntyre). The in-house iPod usage as well as the TourSphere dashboard are currently the only ways the Currier tracks the usage of the mobile application.

The Museum also uses a short summary evaluation included within the mobile application to track how satisfied visitors are with the tour (figure 13). Museum evaluation professional Randi Korn discusses this type of summative evaluation in her article "Studying Your Visitors: Where to Begin." This assessment is typically a formal survey that asks visitors questions about their experience with specific components of an exhibit. These types of surveys are important because they can help determine the overall

effectiveness of the exhibit and exhibit components (Korn 5).

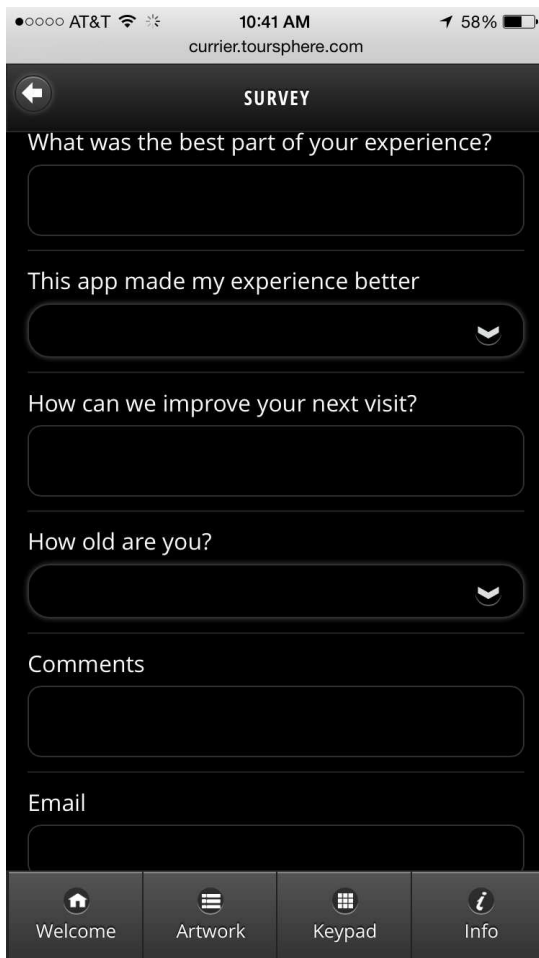


Figure 13. Screen shot. Survey. Currier.toursphere.com

Korn states that by asking specific questions such as “What meaning (in the broadest sense) has the visitor created from his/her experience?” and “Which parts of the exhibit were most compelling?” museums are able to determine what visitors have learned and compare visitor responses to the goals of the exhibit or program (5-6). The Currier Museum’s survey asks visitors about their experience using the mobile application. It asks “what was the best part of your experience” as well as “How can we improve your next visit” (Curier.toursphere.com). These questions help Museum

employees determine what sections resonated strongest with visitors and what can be improved upon.

Museum staff have expressed interest in improving their evaluation process. According to Megan McIntyre the mobile application survey is optional and not often utilized by users (McIntyre). This could be due, in part, to the fact that the link for the survey is only on the “Welcome” tab of the application. If the link were available throughout the application and within each stop it might have higher completion rates. One or two additional questions could also be added to provide the Museum with further feedback. Examples of questions that could be included relating to the silver tour are “Did this tour help you learn about how silver objects were created?” and “Did this tour increase your interest in American silver?” These questions would help determine how satisfied visitors are with the silver portion of the mobile tour.

Further tracking would also provide the Museum with information on how they could improve upon the tour and the use of mobile technology to interact with visitors. According to Korn, museums can accomplish this by watching visitors in the gallery and interviewing visitors (6). By observing visitors, Currier Museum staff can see if the tour is engaging them to look closer at the object in front of them as well as other objects in the gallery. Interviews also could be done when visitors who use the iPods return them to guest services. This would allow Museum staff to gather more information on how useful and engaging visitors find the mobile application.

The continued interest the Currier Museum has in improving their mobile tour and in-gallery offerings is evident from the additions and improvements they have recently made to the program. The final silver tour created for this project-based thesis



adds to these improvements while building upon current Museum philosophy and providing the best methods of interpretation and interaction for visitors. The pre-set layout of the mobile application was used after confirming that it follows the best current practices for tours of this kind. The “Audience Engagement and Interpretation Philosophy” that sets overarching goals to guide educational experiences in the Currier Museum was taken into account, along with the educational theory of constructivism and discovery learning. The main goal of the tour and thesis was to provide an engaging and accurate look into the history of American silver and the Currier Museum of Art’s American silver collection that is beneficial to both the Museum and visitors.

## Chapter V

### Tour Scripts

Below are scripts for the additional stops that will be added to the Currier Museum of Art's mobile tour. These include five stops on objects in the Museum's American silver collection and an introduction to American silver. Once approved by the thesis director they will be given to the Currier Museum of Art to include in their mobile application.

#### **Introduction**

When you think about silver objects in our homes today you may recall jewelry, coins, or an old box of spoons in your Grandmother's cabinet. What meaning do these objects have to you and your family? In Colonial times, objects such as these had a cultural significance that was much different than we see today. Unlike the silver-plated objects familiar to us today as "silver," which are in fact base metal objects electroplated with a thin layer of silver, American silver objects from the 1700s were made of solid sterling silver—that is ninety-two and half percent silver. These silver objects were highly valued and ownership of silver pieces had financial, social, and family significance.

Silver was a symbol of both fashion and tradition. Objects were often commissioned for weddings, births, church services, and other special events. What items are customary to give at weddings or births today? Early Americans cherished

their family's silver and it was often handed down through generations. When you look at the silver objects here in the Currier's galleries you will see that many are engraved to track a family's history.

Silversmiths who created these highly sought after objects were skilled craftsmen who often spent up to seven years training as apprentices. They used specialized tools and techniques to create each handmade piece. These silver pieces were functional as well as a decorative. Each piece here in the Museum's collection tells a story of tradition and cultural significance.

**Sugar Box, 1680**

**John Coney (1655 – 1722)**

**Silver**

**5 3/8 in. x 8 7/8 in. x 7 1/8 in.**



**Description:**

This ornate oval Sugar Box is approximately the size of a small casserole dish. Four small scrolled feet support the elaborately decorated body. Smooth convex oval lobes cover the body reflecting light and attracting attention.

Looking at it from above you see a hinged lid that slightly overhangs the body and features a border of small circular lobes separated by fluted markings. The front center of the lid features a decorative heart-shaped fastener that closes over the center lobe of the vessel. The lobes are polished smooth and are given further definition by being surrounded with a matte-finish background created by pouncing the surface of the object with a small metal punch. Ornate oak leaves decorate the top of the cover.

Take a closer look at the lid and notice a delicate handle made of a coiled serpent with an open mouth and forked tongue. The serpent's head extends half way down the left side of the lid, and its tail down the right side. Why did the silversmith choose this type of decoration for a box that was meant to hold sugar?

**Learn About the Artwork:**

This eye catching sugar box is one of the earliest pieces of American silver in the Currier's collection. Take a look at some of the other silver objects in the gallery, are any other works as elaborately decorated as this? While sugar is commonplace in kitchens today, only the wealthiest colonists could afford it in Colonial America. Those who could afford sugar displayed it in elaborate boxes such as this. This box is one of only ten American sugar boxes from the 1600s and early 1700s still known to exist today and it is the largest made by Boston silversmith John Coney.

Stylish high-quality European items strongly influenced Colonial artists and craftsmen. Luxury items including similar style English sugar boxes influenced the design of this sugar box. Coney employed many apprentices and journeymen in his shop. It is believed that he employed an English trained silversmith, Nathaniel Gay, around the time this box was created. Gay's knowledge of English styles may have contributed to the design and production of the box.

Look closely at the box, why would people in the 1600s feel that this was an appropriate object in which to store sugar? What do we know about the symbolic meaning of its form and decoration? Let's take a look. Sugar was believed to have procreative powers, and strengthen children in the womb. The oval shape, bulbous body

and egg-shaped lobes represent the role of female fertility and conception. Thus, we can see that the decoration and form of the piece are symbolic of marriage, fertility, and eternity. What does this symbolism tell us about why this object may have been made? These symbols indicate that the piece may have been given as a wedding present to a newly married couple.

Looking closely you will see a coiled snake that sits atop the box. Why would there be a serpent on top of such an object? What images does this conjure up? Do we feel as if we might be bitten if we tried to open the box? This serpent has been interpreted by art historians as a warning to those who may interfere in the relationship between man and wife, as the serpent in the Garden of Eden divided Adam and Eve. What else could it mean? What symbols would we associate with sugar? What does the use of symbolism tell us about the differences between us, and colonists in the 1600s?

**Porringer, circa 1705**

**John Coney (1655 – 1722)**

**Silver**

**1 7/8 in. x 8 3/8 in. x 5 1/2 in.**



**Description:**

The body of this porringer is made up of a large circular bowl measuring just over five inches in diameter and just under two inches tall. The sides of the body curve slightly outward and the rim of the bowl stands straight and supports a decorative flat handle on one side. The handle is fashioned in a treelike shape, with symmetrically arranged geometric cut-outs. The wide end of the handle is soldered to the bowl.

A number of decorative cutouts adorn the handle. The initials “E and H” are engraved in the center of the handle, probably the initials of the original owner. Directly across from the handle, a small crescent-moon-shaped decoration is engraved on the outside of the bowl. The surface is polished smooth and has no other ornamentation.

**Learn About the Artwork:**

Many families owned porringers in Colonial America. Documents indicate that porringers were commonly used for liquid or semi-liquid foods, such as chocolate and stews or soups. What objects in your own home do you use in similar ways? A porringer was the type of object you would use every day, so most were made of inexpensive materials, including many of the pewter examples on display in the gallery. Wealthier households owned silver porringers like this one created by John Coney. Why would people invest in silver porringers like this one if it was an everyday object? Do you have objects for everyday use, and some held for special occasions?

The simplicity of this piece, compared to Coney's elaborate sugar box on display at the beginning of this gallery, allows one to see the uniform thickness and quality of the piece, but also calls our attention to the slightly irregular nature of the surface. By contrast, the pewter objects in this gallery display a different type of surface. Why is this? What can the surface texture tell us about the differences in these pieces? Pewter objects were cast in metal molds, while the bodies of silver pieces were raised up from a flat piece of silver using small hammers. When you look closely at the surface can you see the irregular surface resulting in the use of these small hammers? Silver is highly malleable and ductile, meaning that it can be literally stretched out by hammering. However, if hammered too long, it will become brittle and crack unless re-heated or "annealed."

There is, however, a portion of this porringer that was made in a mold. But, unlike pewter, which was cast in metal molds, the silver handle on this porringer was made by



pouring molten silver into a sand mold. Many small parts that you can see on other silver objects in this gallery, such as, bases, handles, finials, and spouts, would have been cast in a similar way. Castings were rough when they came out of the mold. They were then polished to attain the smooth surface needed for the finished piece. If you look closely, though, you can detect small pits in the surface of the cast parts.

After soldering the cast handle to the bowl of the porringer, the silversmith would then engrave any surface decoration and add a maker's mark as the last step. Thinking about all of these steps how much time do you think it would create an object like this? An object like this one, as simple as it looks, would have taken a silversmith a week to complete. How do you think this process and the time required compares to silver pieces created today? What advancements and changes in technique and do you think have influenced this process?

**Covered Spout Cup, circa 1733**

**Samuel Edwards (1705 – 1762)**

**Silver**

**5 5/8 in. x 5in. x 3in.**



**Description:**

This delicate, specialized vessel stands less than six inches tall. A molded foot supports a pear-shaped body that measures only 3 inches in diameter at its widest point. Looking at the stepped-domed cover you will see that an urn-shaped finial tops the vessel.

A long thin spout follows the curve of the body and sweeps outward to the tip. Opposite the spout is a delicate double-scrolled handle fashioned in the Rococo style. The

cast handle balances the symmetry of the vessel and measures five inches across to the tip of the spout. Looking closely at the front of the vessel, you will notice engraving that reads “M REED” in decorative script.

### **Learn About the Artwork:**

Silversmith Samuel Edwards was one of the most successful Boston silversmiths of his time. The initials of the silversmith and his wife Sarah’s are engraved on the bottom of the vessel. This leads us to believe that the silversmith made this spout cup for his wife around the time of their wedding in 1733. Knowing this and looking at the delicate size and tiny spout on this cup what do you think it would have been used for? As a wedding gift perhaps the cup represents the couple’s future, from having children to growing old together. Is this the type of object that comes to mind when you think of a wedding gift? How would a gift like this compare to the cultural norms of today’s society?

Spout cups were specialized vessels most often used for feeding children or the elderly. The thin delicate spout made it easy for the user to drink small amounts of liquid gradually. Only a few silver spout cups are known to exist; most were made of earthenware, china, or non-precious metal. Why would a vessel like this be made of silver?

The piece descended through the family, and bears an inscription for Samuel and Sarah Edwards’s granddaughter, Martha Reed Ropes. Looking closely you can see her name “M REED” engraved on the side of the cup. If you look at some of the other silver objects in the gallery you will see that many are engraved. Silver heirlooms such as this

piece were often engraved for the people who owned them. What are we able to learn about the cup from the engraving? One thing that we learn is that it was passed down through the maternal side of the family. What might have made a spout cup an appropriate gift for a woman? What objects in your home have been passed down through your family?

**Cann, 1770-1790**

**Paul Revere, Jr. (1734 – 1818)**

**Silver**

**5 ¾ in. x 5 3/8 in. x 4 in.**



**Description:**

This pear-shaped drinking vessel stands less than six inches tall. The vessel is not decorated but is smoothly polished and reflects light. A concave foot supports its body. A double-scrolled handle, sometimes referred to as an "earhandle," is attached to the body. It features a decorative leaf motif sitting atop the upper scroll, and terminates in a c-scroll

near the base of the vessel. The basic design characteristics are typical of the form that underwent little change with evolving styles.

### **Learn About the Artwork:**

This type of drinking vessel was referred to as a cann in the eighteenth century. It was a common form of drinking vessel during the 1700s with a simple style, bulbous body, and scrolled handle. When you look at the other styles of drinking vessels in the gallery what differences do you notice? How does the size of this cann compare to that of the tankards on display? How does it compare to drinking vessels you use today? Canns were created to be individual drinking vessels, compared to tankards, which were communal drinking vessels that would have been passed around, from one person to another.

When you hear the name Paul Revere what comes to mind? Paul Revere, Jr. is most commonly known for his patriotic midnight ride which the poet Henry Wadsworth Longfellow embellished upon in the 1860 poem “Paul Revere’s Ride.” But did you know that in addition to earning a spot in American history, Revere was one of Boston’s most accomplished and respected silversmiths of his generation?

Revere learned the silversmithing trade from his father, Paul Revere, Sr. (1702 – 1754), whose shop he inherited in 1754. As a prominent silversmith in Boston, Revere was known for crafting a wide range of objects from the opulent, to the most basic, as seen here. Revere was heavily involved with the Revolution, and was even a leader of the Sons of Liberty. One of his most famous Revolutionary works is the well-known print depicting the Boston Massacre. To diversify his business, Revere branched out into other

pursuits, including printing, a bell foundry, the manufacture of rolled copper, and even making false teeth.

Many unwanted silver objects were melted down and fashioned into new objects. However a remarkable number of Revere, Jr.'s works survive today. This includes forty cans attributed to him. Why do you think so many of Revere, Jr.'s works have survived? Could it be because of his celebrity status Revere's pieces were spared from entering the melting pot? What types of items created today do you think will be saved and cherished because of the people associated with them?

**Covered Standing Cup - Pair, 1790**

**Joseph Foster (1759 – 1839)**

**Silver**

**Each - 9 3/4 in. x 3 1/2 in. x 3 1/2 in.**



**Description:**

These identical urn-shaped standing cups stand less than ten inches tall and are three and a half inches in diameter. Each sits on a circular foot that merges into a tall stem with a midband of incised lines.

Taking a closer look at the highly polished urn shaped body you will notice “Property / of / Brattle Street Church / Boston” engraved in a simple font on the front of each vessel. The engraving on each cup is surrounded by a floral motif. A smooth domed



lid slightly overhangs the body of each cup and is topped with a small acorn-shaped finial.

**Learn About the Artwork:**

Church commissions account for a significant portion of the surviving examples of early American silver. Most communion vessels were paid for with donations or bequests of money specifically given for the creation of silver communion vessels. Can you think of any objects in religious or community groups that you are part of are supported by donations and bequests of money?

These vessels are two of six identical standing cups made by Joseph Foster for the Brattle Street Church in 1790. The cups were part of a larger twenty-eight-piece communion set acquired by the church over a period of approximately one hundred years. Why do you think the church would have such a large number of silver communion vessels? Were that many people attending church and participating in communion rituals?

The Brattle Street Church was a progressive congregational church founded in 1699 with the belief that everyone should be welcome to take communion. How would this inclusiveness affect members of the church and the number of objects it kept on hand?

Parishioners included many notable patriots including John Hancock, John Adams, and Abigail Adams. Because all members of the congregation could take communion, the Brattle Street Church needed a large number of communion vessels. In purchasing these six cups in 1790, the church leaders anticipated that the rapid growth of

the church would continue. This was unfortunately not the case and in 1876 the church closed its doors. Most of its twenty-eight piece communion set is now in Museum collections throughout the United States. What could have caused this change from having the church expand rapidly to closing its doors completely? Can you think of other examples where changes in society or family practices have had such an impact?

## Chapter VI

### Conclusion

This thesis has provided the Currier Museum of Art with five additional steps for its mobile tour focusing on the Museum's American silver collection as well as an introduction. The process was broken down into a number of steps including historical research on the history and culture of silver, educational and mobile tour research, and implementing the tour. The end product provides Museum visitors with an engaging and accessible tour of the Museum's American Silver Collection.

The research on the history of American silver for this thesis focused on both the role and development of the silversmith as a craftsman and the social importance of silver in Colonial and early America through the first half of the nineteenth century. Research focused on silversmiths who worked in the traditional fashion of hand crafting objects with specialized tools. The economic and social importance of silver throughout America is complex. Silver played a significant role in many social, religious, civic and family rituals. This portion of the research was used to provide history and context on specific pieces of silver in the Museum's collection in order to help visitors have a better understanding of American silver.

Educational and mobile tour research also played a large part in the implementation of the tour scripts. George Hein's educational theory of constructivism, which focuses on experienced-based learning, was used as a guide for the scripts. The Currier Museum's Interpretative Plan, and its "Audience Engagement and Interpretation Philosophy" were also consulted to be sure the tour scripts fit within the Museum's

standards and practices. These documents set Museum standards for presentation and interpretation of exhibits within the Museum, including addressing a variety of learning styles and helping visitors feel comfortable and welcome in the museum. While the format for the audio tour was previously set by the museum, audio tour techniques written about by Robert Stein and Nancy Proctor were consulted. This assured that the Museum's audio tour followed best practices such as the use of core elements including media assets, stops that feature these assets, and connections that move visitors between these stops. All of these approaches helped create the best content and layout possible for the tour.

There were also many lessons learned while developing this project-based thesis. The research done on the history of silver as a social and artistic form was lengthy and in-depth. The time required for this research, as well as the research on educational methods and technology took much longer than originally planned. The review process was much more time consuming and difficult than anticipated, in part due to the number of people involved. Five people, in addition to the author of this thesis, reviewed multiple copies of the tour scripts. This led to many opinions, suggestions, and revisions. While the end product benefited greatly from this, the process ended up being a larger collaboration than expected. The research and review process also lengthened the original schedule and more time was needed to finish the thesis.

Other lessons, including the creative use of the library book stacks as a recording studio, were also learned along the way. Using the library led to interesting obstacles during the recording session because the library is used regularly by staff. The staff

bathrooms at the Museum are also located directly above the library. This required a pause in the recording session each time the pipes in the ceiling above filled with water.

After the silver stops are implemented, the Currier Museum's staff will monitor the silver tour along with the other stops on their mobile application using the TourSphere dashboard, the iPod checkout sheets, and the summative evaluation survey. There are other ways Museum staff may begin measuring the success of the tour including interviewing visitors and observing visitors in the galleries. These methods would allow Museum staff to gather more information and help improve any further additions to the tour.

While there were challenges along the way, the resulting tour is a product with which all involved parties, including the Currier's employees are pleased. Staff members at the Currier have expressed gratitude for providing the Museum with these additional stops on the mobile tour. It provides visitors with accessible, engaging and accurate information while they are in the galleries and supports the Museum's Interpretive Plan for audience engagement.

## Bibliography

- “Audience Engagement and Interpretation Philosophy.” *Currier Museum of Art*. Manchester, New Hampshire: n.p., n.d. Print.
- Bigelow, Francis Hill. *Historic Silver of the Colonies and its Makers*. New York: The Macmillan Company, 1917. Print.
- Bjerke, Gene. “Silversmith of Williamsburg.” Online Video. *Youtube*. YouTube, 28 Jun. 2013. Web. 19 Aug. 2014.
- Bolger, Burke. *In Pursuit of Beauty: Americans and the Aesthetic Movement*. New York: Rizzoli. 1986. Print.
- Brown, Michael K., Katherine S. Howe, David B. Warren. *Marks of Achievement: Four Centuries of American Presentation Silver*. New York: Harry N. Abrams, Inc. Publishers, 1987. Print.
- Bridenbaugh, Carl. *The Colonial Craftsman*. New York: Dover Publications INC., 2011. Print.
- Burnham, John P. “‘You Shall Not Crucify Man on a Cross of Gold’ Silver and Money in America.” *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 10-14. Print.
- Bushman, Richard Lyman. “The Complexity of Silver.” *New England Silver & Silversmithing 1620-1815*. Ed. Jeannine Falino and Gerald W.R. Ward. Boston, MA: The Colonial Society of Massachusetts, 2001. 1-15. Print.
- Carpenter, Charles H. Jr. *Gorham Silver 1831-1981*. New York: Dodd, Mead. 1982. Print.
- Currier.toursphere.com. Currier Museum of Art, n.d. Web. 1 Dec. 2013.
- “Collections.” *Currier.org*. Currier Museum of Art, 2010. Web. 1 Dec. 2013.
- Currier Gallery of Art. *Bulletin – January 1956*. Manchester, New Hampshire: n.p., 1956. Print.
- Donnelly-Smith, Laura. “Get Smart(phones.)” *Museum* May-June 2010: 33-34. Print.
- Dufour, Phillippe Sylvestre. *c*. London: William Crook, 1685. Print.

- Earle, Alice Morse. *Home Life in Colonial Days*. New York: The Macmillan Company, 1898. Print.
- Ensko, Stephen G.C. *American Silversmiths and Their Marks*. New York: Dover Publications INC., 1948. Print.
- Fairbanks, Jonathan L. "Paul Revere and 1778: His Portrait and the Liberty Bowl." *New England Silver & Silversmithing 1620-1815*. Ed. Jeannine Falino and Gerald W.R. Ward. Boston, MA: The Colonial Society of Massachusetts, 2001. 135-151. Print.
- Falino, Jean and Gerald W.R. Ward. *New England Silver and Silversmithing 1620 - 1815*. Boston: University Press of Virginia, 2001. Print.
- Fales, Martha Gandy. "As Good As Sterling' Art in American Silver." *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 39-45. Print.
- . *Early American Silver*. Funk and Wagnalls Publishing Company, Inc., 1970. Print.
- Falk, John. *Identity and the Museum Visitor Experience*. Walnut Creek, California: Left Coast Press, 2009. Print.
- Felger, Donna, Dorothy T. Rainwater, and H. Ivan Rainwater. *American Silverplate*. Atglen, PA: Schiffer Publishing, 2000. Print.
- Fisher, Leonard Everett. *Colonial American Craftsmen: The Silversmiths*. New York: Franklin Watts, 1964. Print.
- Fisher, Matthew, and Jennifer Moses. "Rousing the Mobile Herd: Apps that Encourage Real Space Engagement". *Museums and the Web 2013: April 17-20*, Eds. N. Proctor and R. Cherry. Portland, OR. Web. 15 Jan. 2015.
- Fox, Leah and Sharon Matt Atkins. *Currier Museum of Art: Interpretive Plan*. Manchester, New Hampshire: n.p., October 2007. Print.
- Franklin, David. "Of Pixels and Paintings: Gallery One, ArtLens and the Role of Technology in Museums." *Huffington Post*, sec. Arts and Culture: May 29 2013. Web. 15 Jan. 2015.
- "John Crowningshield Mourning Ring." *Masshist.org*. Massachusetts Historical Society, 2015. Web. 15 Jan. 2015.

- Hannah, A.C. *The International Sugar Trade*. New York: John Wiley & Sons, Inc., 1997. Print.
- Hein, George E., *Learning in the Museum*. New York: Routledge, 1998. Print.
- Hood, Graham. *American Silver*. New York: Praeger Publishers, 1971. Print.
- Hood, Marilyn G. "Staying Away: Why People Choose Not to Visit Museums." *Museum News* 61, no.4 (1983): 50-57. Print.
- Hooper-Greenhill, Eilean. *The Educational Role of the Museum*. London: Routledge, 1994. Print.
- Housen, Abigail. "Three Methods for Understanding Museum Audiences." *Museum Studies Journal* 2, no. 43 (1987). Print.
- Johnson, Anna, et al. *The Museum Educator's Manual: Educators Share Successful Techniques*. Lanham, MD: AltaMira Press, 2009. Print.
- Kane, Patricia E. ed. *Colonial Massachusetts Silversmiths and Jewelers*. New Haven, CT: University Press of New England, 1998. Print.
- Kauffman, Henry. *The Colonial Silversmith: His Techniques and His Products*. New York: Galahad Books, 1969. Print.
- Korn, Randi. "Studying Your Visitors: Where to Begin." *History News* 49:2 (March/April 1994). Web. 3 July 2015.
- Lagoudi, E., and C. Sexton. "Old Masters at Your Fingertips: The Journey of Creating a Museum App for the iPhone & iTouch." *Museums and the Web* 2010. 13-17 April 2010, Eds. J. Trant and D. Bearman. Denver. Toronto: Archives & Museum Informatics, 2010. Web. 15 Jan. 2015.
- Lanford, William A. "'A Mineral of that Excellent Nature' The Qualities of Silver as a Metal." *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 3-9. Print.
- Mansfield, Heather. *Social Media for Social Good: A How-To Guide for Nonprofits*. New York: The McGraw-Hill Companies, 2012. Print.
- McIntyre, Megan. Personal interview. 30 June 2015.
- McLean, Kathleen. *Planning For People In Museum Exhibitions*. Ann Arbor, Michigan: Association of Science-Technology Centers, 2009. Print.



- McRaney, D. Lynn, and John Russick, eds. *Connecting Kids to History with Museum Exhibitions*. Walnut Creek, CA: Left Coast Press, 2010. Print.
- Moad, Charles, and Robert Stein. "What's On TAP? Strategies for keeping pace with rapid changes in mobile technology". *Museums and the Web 2012*: April 11-14, San Diego, CA. Web. 15 Jan. 2015.
- Montgomery, Charles F. *A History of American Pewter*. New York: Weathervane Books, 1973. Print.
- Moreno, Edgard. "Glossary of Tools, Supplies, and Processes Used by Silversmiths and Jewelers." *Colonial Massachusetts Silversmiths and Jewelers*. Ed. Patricia E. Kane. New Haven, CT: University Press of New England, 1998. 1053-1083. Print.
- "News." *Sightcenter.org*. New Hampshire Association for the Blind, 2015. Web. 3 July 2015.
- Nutt, Elizabeth. Personal Interview. 11 Aug. 2014.
- Nygren, Edward J. "Edward Winslow's Sugar Boxes: Colonial Echoes of Courtly Love." *Yale University Art Gallery Bulletin, Vol. 33, No. 2, Studies in American Art*. Autumn 1971: 38-52. Print.
- Percoco, James A. *A Passion For The Past: Creative Teaching of U.S. History*. Portsmouth, NH: Heinemann, 1998. Print.
- Phillips, John Marshall. *American Silver*. New York: Dover Publications, INC., 2001. Print.
- Proctor, Nancy. "The Museum *Is* Mobile: Cross-Platform Content Design for Audiences on the Go". *Museums and the Web 2010*. April 13-17. Denver. Toronto: Archives & Museum Informatics, 2010. Web. Jan 15, 2015.
- Puig, Francis J. *English and American Silver in the Collection of the Minneapolis Institute of Arts*. Minneapolis: Institute, 1989. Print.
- Purcell, Kristen. "Half of adult cell phone owners have apps on their phones". PewResearch Internet Project: November 2, 2011. Washington, DC. Web. 15 Jan. 2015.
- Quimby, Ian M.G. "How America Really Looked." *The American Art Journal* 7.1 (1776): 68-81. *JStor*. Web. 31 Mar. 2011.
- Sachatello-Sawyer, Bonnie. *Adult Museum Programs: Designing Meaningful Experiences*. Lanham, MD: AltaMira Press, 2002. Print.

- Simon, Nina. *The Participatory Museum*. Santa Cruz, California: Museum 2.0, 2010. Print.
- Smith, Aaron. "Usage and Adaptation." PewResearch Internet Project: April 3, 2014. Washington, DC. Web. 15 Jan. 2015.
- "Sons of Liberty Bowl." 1768. Silver. Museum of Fine Arts, Boston. MFA Collections. Web. 10 April 2015.
- Spahr, Andrew. Personal interview. 14 May 2014.
- "Stanley Cup Fast Facts." *CNN*. CNN Library, 26 June 2014. Web. 9 Jan. 2015.
- Stein, Robert. "Blow Up Your Digital Strategy: Changing the Conversation about Museums and Technology". *Museums and the Web 2012*: April 11-14, San Diego. Web. 15 Jan. 2015.
- . "Chiming in on Museums and Participatory Culture." *Curator: The Museum Journal*: April 2012, 215-226. Blackwell Publishing Ltd. Web. 14 Jan. 2015.
- Stein, Robert, and Bruce Wyman. "Nurturing Engagement: How Technology and Business Model Alignment can Transform Visitor Participation in the Museum." *Museums and the Web 2013*: January 31, 2013, Silver Spring, MD. Web. 17 Jan. 2015.
- Stein, Robert, and Nancy Proctor. "TourML: An Emerging Specification for Museum Mobile Experiences". *Museums and the Web 2011*: April 6-9, Philadelphia. Web. 15 Jan. 2015.
- Stern, Jewel. *Modernism in American Silver; 20<sup>th</sup>-Century Design*. New Haven, CT: Yale University Press, 2005. Print.
- The J. Paul Getty Museum. *Guide to Adult Audience Interpretive Materials: Permanent and Rotating Collections and Changing Exhibitions*. Los Angeles, CA: The J. Paul Getty Trust, 1999. Print.
- Venable, Charles L., *Silver in America: 1840 – 1940 A Century of Splendor*. Dallas, TX: Harry N. Abrams, Inc. Publishers, 1995. Print.
- Victor, Stephen K. "'From the Shop to the Manufactory' Silver and Industry, 1800-1970." *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 23-32. Print.

- Ward, Barbara McLean and Gerald W.R. Ward, eds. *Silver in American Life: Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Boston, MA: David R. Godine, 1979. Print.
- Ward, Barbara McLean. "Continuity and Change in New England Church Silver and Communion Practices, 1790-1840." *New England Silver & Silversmithing 1620-1815*. Ed. Jeannine Falino and Gerald W.R. Ward. Boston, MA: The Colonial Society of Massachusetts, 2001. 113-132. Print.
- . "Forging the Artisan's Identity: Tools and the Goldsmithing Trade in Colonial Massachusetts." *Colonial Massachusetts Silversmiths and Jewelers*. Ed. Patricia E. Kane. New Haven, CT: University Press of New England, 1998. 5-43. Print.
- . "In a Feasting Posture" *Winterthur Portfolio* Spring 1988: 1-24. Print.
- . "'The Most Genteel of Any in the Mechanic Way' The American Silversmith." *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 15-22. Print.
- Ward, Gerald W.R. "'An Handsome Cupboard of Plate' The Role of Silver in American Life." *Silver in American Life. Selections from the Mabel Brady Garvan and Other Collections at Yale University*. Ed. Gerald W.R. Ward and Barbara McLean Ward. Boston, MA: David R. Godine, 1979. 33-38. Print.
- Waters, Deborah Dependahl. "From Pure Coin: The Manufacture of American Silver Flatware 1800-1860." *Winterthur Portfolio* Vol. 12 1977: 19-33. Print.
- Wetterlund, Kris. *If You Can't See It Don't Say It: A New Approach To Interpretive Writing*. Minneapolis, MN: Museum-Ed. n.d. Print.